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The central argument of this paper concerns itself with the extent that current U.S. Army and U.S. Air Force principles and procedures provide for the effective conduct of AirLand warfare at the operational level of war under modern conditions. This paper was written by Major Stephen T. Rippe, USA, and contains 155 pages.

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interdependent air and ground forces, originating with the 1943 publication of FM 100-20, was based upon the British system developed by Field Marshal Montgomery. Organizationally, this system was designed to function at the operational level of war. This paper determines that the WW II criteria for joint operational effectiveness were primarily based upon the collocation of headquarters and joint planning at the operational level.

An overview/comparison of current joint Army/Air Force doctrine as expressed in General Operating Procedures for Joint Attack of the Second Echelon (J-SAK) and that of NATO establishes that fundamental differences exist regarding joint planning levels, air apportionment, and the air and ground component structure. A conceptual modern battle scenario is used to update the historically derived criteria and to compare the relative effectiveness of J-SAK and NATO principles for air/ground operations. The thesis concludes that generic principles must provide the foundation upon which our joint procedures are built: air superiority in consonance with the campaign plan, joint planning at the operational level, BAI as a direct support combat resource, and mission oriented air requests.

AN ARMY AND AIR FORCE ISSUE: PRINCIPLES AND PROCEDURES FOR AIRLAND WARFARE

A PERSPECTIVE OF OPERATIONAL EFFECTIVENESS ON THE MODERN BATTLEFIELD

A thesis presented to the Faculty of the U. S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

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STEPHEN T. RIPPE, MAJOR, USA
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The central argument of this paper concerns itself with the extent that current U. S. Army and U. S. Air Force principles and procedures provide for the effective conduct of AirLand warfare at the operational level of war under modern conditions. This paper was written by Major Stephen T. Rippe, USA, and contains 155 pages.

An examination of the evolution of joint doctrine in WW II, focusing on the North African Theater, establishes that our present system of coequal and interdependent air and ground forces, originating with the 1943 publication of FM 100-20, was based upon the British system developed by Field Marshal Montgomery. Organizationally, this system was designed to function at the operational level of war. This paper determines that the WW II criteria for joint operational effectiveness were primarily based upon the collocation of headquarters and joint planning at the operational level.

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TABLE OF CONTENTS

CHAPTER ONE

THESIS OVERVIEW

INTRODUCTION

General William W. Momyer, United States Air Force (retired), stated in his book Air Power in Three Wars: ". . . the flexibility of air power and its capacity to concentrate large quantities of fire power in a short time make it a most desirable addition to an army or navy. As a consequence, these two forces have sought the division of air power, placing it under their control when needed for their own mission."[1] Momyer's statement illustrates an unresolved joint U. S. Army and U. S. Air Force conceptual issue that has been reemphasized by the Army's AirLand battle doctrine: the most effective means to control and use air power. Focusing on the control and use of air power, the central question examined in this paper is: To what extent do current U. S. Army and U. S. Air Force principles and procedures provide for the effective conduct of AirLand warfare at the operational level of war under modern conditions?

The following definitions provide a basis upon which to view the remainder of this paper:

- Doctrine. According to Field Manual, 100-5, Operations; "An Army's Operational Concept is the core of its doctrine. It is the way the Army fights its battles and campaigns, including tactics, procedures, organizations, support, equipment, and training . . . . The Army's basic operational concept is called AirLand Battle doctrine."2 According to Air Force Manual 1-1,

Basic Aerospace Doctrine; "Aerospace doctrine is a statement of officially sanctioned beliefs and war fighting principles which describe and guide the proper use of aerospace forces in military action."3

- Operational Level of War. The operational level of war encompasses the movement, support, and sequentia employment of large military formations (usually corps and above) in the conduct of military campaigns to accomplish goals directed by theater strategy or other higher military authority. It is the connecting link between strategy and tactics.

- Principle. Webster's unabridged dictionary defines principle as, "A general or fundamental truth: a comprehensive and fundamental law, doctrine, or assumption on which others are based or from which others are derived."4

- Procedure. Webster's defines procedure as, "A particular way of doing or of going about the accomplishment of something."5

- Synchronization. Synchronize is commonly defined as "to occur at the same time." Synchronized joint military operations result from an all pervading unity of effort by air and ground forces. They are characterized by a concentration of combined arms combat power that complement and reinforce each other at a decisive point in time and space based upon an operational concept.

The essence of AirLand warfare is the combined effort of all ground and air forces directed against the enemy in a coordinated plan that includes deep, close-in, and rear battles.[6] According to Lieutenant General Jack Galvin, ". . . Both ground and Air Force commanders must have a common view of how the battle will be fought. . . . Although the U. S. Army has put great emphasis on AirLand battle in recent tactical developments, the tendency has

been to continue going our separate ways in the ground and air forces; that is, to neglect joint planning and execution, especially of battlefield air interdiction."[7] It is almost a given that we cannot afford to neglect the joint planning and execution of AirLand warfare without jeopardizing our ability to fight and win. In order to win, the principles and procedures upon which joint planning and execution are based must provide for the effective conduct of AirLand warfare at the operational level of war. It is only through an effective joint operational doctrine that we will be able to synchronize our air and ground forces to concentrate the maximum amount of combat power, based upon an operational concept, at a decisive point in time and space against enemy forces. That is why this paper is relevant today; based upon current threat capabilities, it will take the combined effort of all our air and ground forces to fight and win on the modern battlefield.

THESIS ORGANIZATION

Chapter Two focuses mainly on the development of joint principles and procedures in North Africa during World War II. Before 1943, United States tactical air forces were employed much like artillery.[8] Our air forces were subordinated and decentralized to army unit control.[9]

Two of the important inherent capabilities of air power were therefore reduced: flexibility of operations and concentration of fire power.[10] The effectiveness of Air Force and Army joint doctrine originated with the British and slowly evolved into our own joint procedures. According to R. J. Overy, in his book The Air War 1939-1945: ". . . only when the command tactical relationship was firmly established along the lines of greater cooperation and understanding of the exercise of air power were the Allies able to use their dominant numerical position to advantage, not only in Tunisia but in Italy and Western Europe."[11] It was from the British North African experience that the Army published Field Manual (FM) 100-20, Command and Employment of Air Power.[12] This field manual established the principle that land power and air power are coequal and interdependent forces.[13] Following an overview of the evolution to Field Manual 100-20, this chapter briefly summarizes the effectiveness of this doctrine during 1944-45 in the European Theater and establishes the significant criteria for operational effectiveness that caused the AirLand campaign(s) to succeed.

As a second step, Chapter Three of this paper examines our current joint AirLand warfare doctrine and the significant conceptual differences that exist between this doctrine and the "unofficial" doctrine of NATO's

Allied Air Forces Central Europe (AAFCE). It does this through a comparison of the significant differences between the manner in which the joint U. S. Air Force and U. S. Army publication General Operating Procedures for Joint Attack of the Second Echelon (J-SAK) prosecutes AirLand warfare and the manner in which Army and Air Forces in Central Europe prosecute AirLand warfare. (Milestone events occurred in November and December of 1984 when the Air Force and Army Chiefs signed the J-SAK Joint Service Agreement and the Commanders of TAC, TRADOC, and REDCOM signed the J-SAK procedures manual; thus making it joint doctrine.) This chapter also analyzes this doctrine to determine possible explanations concerning why it exists as written. Additionally, this overview should establish a conceptual framework of principles and procedures upon which the modern battle scenario in Chapter Four is built.

Once a review of our current joint principles and procedures in Europe is completed, Chapter Four of this paper examines the validity of these principles and procedures by means of a conceptual, modern battle scenario. The purpose is to determine whether or not principles and procedures are adequate to meet the demands of fast paced operations on today's battlefield. This determination establishes modern criteria for operational effectiveness that cause an AirLand campaign to succeed. Simply put, it outlines how procedures at the operational level permit

concentration of AirLand combat power in time and space to support the AirLand warfare operational concept.

As a final step, this paper compares those procedures examined in Chapter Three with the criteria for operational effectiveness as established in Chapter Two and in Chapter Four. This comparison allows a determination of the adequacy or inadequacy of our doctrine to support AirLand warfare at the operational level of war.

SUMMARY

As stated by Major Robert C. Ehrhart in his article "Some Thoughts on Air Force Doctrine":

> Both doctrine and the implementation of doctrine are dependent on history. The broad perspective that history can provide enables the astute observer to differentiate more clearly between the fundamental principles and the more transitory methods of putting them into effect.14

Historically, the fundamental air power principles of flexibility, concentration, and sustainment of effort have been implemented by various procedures. The procedural methods of putting these principles into effect have been directed toward attaining the most effective control and use of air power in support of AirLand warfare. In short, this paper examines the validity of current principles and procedures. It does not ask all of the questions or

provide all of the answers. In many areas it only scratches the surface. Hopefully, it will make you think. Also, hopefully, it provides an increased understanding of how the Army and Air Force will fight the next war and of the effectiveness of our current principles and procedures in the conduct of AirLand warfare at the operational level.

CHAPTER 1

END NOTES

[1]Momyer, William W., Air Power in Three Wars (Washington D. C.: Department of the Air Force, 1978), p. 39.

[2]Field Manual 100-5, Operations (Department of the Army, 1982), p. 2-1.

[3]Air Force Manual 1-1, Basic Aerospace Doctrine (Department of the Air Force, 1984), p. V.

[4]Webser's Third New International Dictionary (unabridged) (Springfield, Massachusetts: G and C Merriam Company, 1976), p. 1803.

[5]Ibid., p. 1807.

[6]Galvin, John R. Lieutenant General, "Warrior Preparation Center, USAF/Army Hammer Out Close Cooperation," The Armed Forces Journal, August 1984, p. 102.

[7]Ibid., p. 102

[8]Busico, Roger P. Major, Battlefield Air Interdiction: Air Power for the Future (Ft. Leavenworth: Command and General Staff College, 1980), p. 1.

[9]Overy, R. J., The Air War 1939-1945 (New York: Stein and Day, 1980), p. 69.

[10]Ibid., p. 69.

[11]Ibid., p. 69.

[12]Theater General Board, Tactical Air Force in the European Theater of Operations, Study 54 (HQ, U. S. Forces European Theater: U. S. Army, 1945), p. 2.

[13]Kohn, Richard and Harahan, Joseph P. (editors), Air Power: Air Superiority in WWII and Korea (Washington D. C.: Office of Air Force History, 1983), p. 5.

[14]Ehrhard, Robert C., "Some Thoughts on Air Force Doctrine," The Air University Review (Maxwell AFB: Air University, March - April, 1980), p. 37.

CHAPTER TWO

WW II DEVELOPMENT OF JOINT AIR/GROUND DOCTRINE

INTRODUCTION

Chapter Two examines the World War II evolution of the principles and procedures concerning air and ground force relationships. An understanding of how and why these principles and procedures evolved is helpful when evaluating current doctrine. LTG Elwood (Pete) Quesada, the Commander of the IX Tactical Air Command in 1944 and 1945, describes this evolution as follows:

> Prior to the outbreak of World War II, Tactical Air Power was virtually an unknown factor in the armed forces . . . none of these ideas were ever developed into a concrete doctrine for actual application in waging war . . . we began with almost a complete vacuum and ended with a concrete, highly developed doctrine that provided a complex, but efficient, team of air and ground forces.1

The success of Allied Forces was, to a great degree, the result of two developments. The first development was how to gain and maintain air superiority.[2] The second development was a system of effective cooperation between air and ground forces.[3] Additionally, the three basic missions of tactical air power - counter air, interdiction, and close air support - emerged from World War II (See Appendix 1 for definitions).[4] As succinctly stated by Air Force Manual 1-1, Basic Aerospace Doctrine, "To place

aerospace doctrine in perspective and to understand better its evolution, it is useful to understand the roots of basic doctrine and to trace its development since that era."[5] To this end, Chapter Two initially examines the development of joint principles and procedures concerning air and ground relationships in North Africa during World War II. As stated in Chapter One, it was as a result of the British North African experience that the Army published Field Manual 100-20, Command and Employment of Air Power, which established the fundamental principle that land power and air power are coequal and interdependent forces.[6] Next, this chapter briefly summarizes the effectiveness of this doctrine in the European Theater of Operations during 1944-1945 and, finally, establishes the significant criteria for operational effectiveness that caused the AirLand campaigns to succeed.

NORTH AFRICA

The North African Campaign of World War II was instrumental in the development of United States doctrine concerning how to organize and employ air power in theaters of war.[7] Prior to the invasion of North Africa, Field Manual 1-5, Employment of Aviation of Army,

advocated that the requirements of the supported ground command would be the determining factor in the selection of air operational objectives. By doctrine, aviation was to be used as a tool of the ground commander and would normally be attached for operational command and control. This manual was written with the strategic defense of the Continental United States as its primary concern. Operationally, the concept was to employ aviation in support of ground forces much the same as artillery. Field Manual 31-35, Aviation in Support of Ground Forces, published in 1942 after the creation of the Army Air Forces, somewhat refined this concept but still treated aviation support conceptually much the same as artillery. It stated that aviation in support of ground forces would normally be composed of Air Support Commands which are component parts of Air Forces and would be attached to or support an army in the theater.[8] After the invasion of North Africa, it became apparent that our doctrine for AirLand warfare, especially regarding air and ground force relationships, was inadequate.[9] An air support command was the initial organization that functioned with either a field army or a corps.[10] For example, in 1942, the Army Air Force's XII Air Support Command was attached to II Corps.[11]Air Support Commands, therefore, were doctrinally attached to an army formation and worked for the ground force commander.[12] The ground force commander, normally

corps or higher, was given the authority to decide how to employ these assets, including decisions on target priorities.[13] By January 1943, it had become evident that a change in principles and procedures was necessary. Because of the doctrine, there was not a centralized, concerted effort to gain air superiority in the theater of operations.[14] Therefore, our air power was employed everywhere and effectively concentrated nowhere. As a result, the efficiencies gained by synchronizing combat power to support specific operational objectives were significantly reduced.

Meanwhile, by early 1943, the British had developed more effective principles and procedures for AirLand warfare. This had not been easy. Initially ineffective against the Axis Forces, they had to rethink their AirLand doctrine. Colonel Bonner Fellers, a U. S. Military observer in North Africa, cabled the following report to the War Department in June of 1942 after the capture of Tubruk by the Germans:

> With numerically superior forces, tanks, aircraft, artillery, and transports, reserves of all classes, the British Army has twice failed to defeat the Axis in Libya . . . . . Its tactical conceptions were constantly faulty; it neglected completely the use of combined arms . . . . The only remaining certain and effective method of destroying Rommel is to unify Air and Army Commands, to reorganize the VIIIth Army under new leadership and new methods.15

The British did, in fact, reorganize the Eighth Army under new leadership. This new leadership instituted AirLand warfare principles and procedures concerning how air and ground forces should be related to each other that were much more effective. On 13 August 1942, Bernard Montgomery assumed command of the Eighth British Army. By January of 1943, Montgomery had driven Rommel from El Agheila and had led the Eighth Army into Tripoli. Air Vice Marshal Sir Arthur Coningham commanded the British Desert Air Force that supported the Eighth Army.[16] According to Lieutenant General (U. S. Air Force retired) Pete Quesada, "Coningham was the first air force guy who established tactical air doctrine as supportable doctrine which everybody accepted . . . he overcame the concept of using aviation as artillery."[17] Coningham believed that in AirLand warfare the Army and Air Force must work together to concentrate combat power in time and space. His air force defeated the German Air Force in the western desert and provided close air support for the breakout of El Alamein.[18] Unlike the U. S. Army Air Forces, the Royal Air Force had been an independent force since 1918. Therefore, in Coningham's view, army/air force equality was a fundamental concept. Coningham and Montgomery made this concept highly effective in an operational context.

In January of 1943, two significant events occurred. First, at the Casablanca Conference, among other

agenda items, Roosevelt and Churchill agreed on the reorganization of all air power in the Mediterranean Theater. Secondly, Montgomery held his "Tripoli Conference." At this conference he distributed his pamphlet Some Notes on High Command in War. This pamphlet, basically, outlined Montgomery's AirLand warfare philosophy. These events provided the foundation upon which FM 100-20 was built.

The reasons for the reorganization of air power in Northwest Africa were not clear-cut. The British wanted the U. S. XII Air Support Command under the command of a British Theater Air Commander and not under the command of an American Army Corps Commander. As previously noted, there were obvious operational shortcomings that demanded a more efficient use of tactical air assets. However, from the American perspective, politics and personality played a major role in this decision. Since the main business of the conference was to decide in which theater the enemy would be engaged in 1943, Roosevelt's decision to agree to the British proposal for reorganization of Mediterranean AirLand forces could be readily viewed as a compromise.[19] In any event, the reorganized Northwest Africa Tactical Air Force was commanded by Air Vice Marshal Sir Arthur Coningham, who fought as a coequal with the reconstructed 18th Army Group. Along with the restructuring of the Air Forces, the restructuring of the 18th Army Group placed

all ground forces, including the British First Army, the British Eighth Army, the American II Corps, and French XIX Corps, under the command of a Theater Ground Component Commander.[20] In the Northwest Africa Tactical Air Force, the XII Air Support Command was coequal with the American II Corps and French XIX Corps, the Desert Air Force was coequal with the British Eighth Army, and the 242 Group was coequal with the British First Army.[21] Air Marshal Tedder, the commander of the newly formed Mediterranean Theater Air Command, stated in his memoirs, With Prejudice, how he had decided to call this newly formed organization a Tactical Air Force:

> Long experience determined me to avoid the use of the title 'Air Support Command' for Coningham's charge. I found intense opposition to the title of 'Tunisian Command' and so came to the conclusion that the functional title 'Tactical Air Force' was the right one. The retention of the title 'Twelfth Air Support Command' in Central Tunisia was a sop to sentiment which I thought it necessary to allow.22

The British not only institutionalized the phrase "tactical air force" but also formally institutionalized the concept that army and air forces are "coequal and interdependent forces." The African Theater, at that time, had coequal air and army component commanders. Additionally, the interface between air and army forces was at the tactical air force - field army level.[23] It was at this level that commanders made the major AirLand warfare

decisions concerning the hour-by-hour changes in an operation.[24] Above the army level, commanders were concerned with long range plans and general campaign strategy; at the army/tactical air force level, campaign plans were translated into specific goal oriented actions.[25] It follows that the operational level of war was practiced at the field army level.

In the Army Ground Forces Study No. 35, Army Ground Forces and the Air-Ground Battle Team, published in 1948, Colonel Kent Roberts Greenfield stated, "The drive to obtain this high declaration of doctrine <FM 100-20> received its decisive impulse from General Montgomery's Notes on High Command in War, to which Marshall's attention was invited . . . as furnishing material for a new statement of written doctrine."[26] The significant conceptual ideas from Montgomery's Notes derived through practical combat experience follow:

- All that is required is that the two staffs, army and air, should work together at the same H. Q. in complete harmony, and with complete mutual understanding and confidence.
- The commander of an army in the field should have an Air H. Q. with him, which will have direct control and command of such squadrons as may be allotted for operations in support of his army.
- But through this Air H. Q., the Army commander can obtain the support of the whole air striking force in the theater of operations, because of the flexibility of air power.

- It follows that control of the available air power must be centralized, and command must be exercised through RAF channels.27

The American officer primarily responsible for infusing Montgomery's principles and procedures into American doctrine was Brigadier General L. S. Kuter.[28] On 12 May 1943, the same day Axis forces in North Africa surrendered, Kuter sent a letter from the Northwest Africa Tactical Air Force through channels to the Commanding General, Army Air Forces. Kuter explained in detail the problems with U. S. Army Air Force organization, principles, and procedures (see basic letter at Appendix 2). He also highlighted the successful application of Montgomery's principles and the effectiveness of the January 1943 reorganization. Kuter wrote in the summary paragraph of his letter that the organization of American air units in North Africa from November 1942 through February 1943 had proven unsound in battle due to the central ideas concerning the relationship and employment of air and ground forces. Kuter further wrote that after the reorientation of these ideas and the reorganization of the air units under the British model, a much higher degree of combat effectiveness had been achieved.[29]Kuter's letter supported the principles and procedures of Montgomery and Coningham concerning the unity of air power. Their theory had stood the test of battle.[30] Only three months after the reorganization of Allied AirLand forces, and the

refinement of their operational methods, the Axis forces in North Africa were forced to surrender. Coequal and interdependent forces had proven to be the most effective method for commanding and controlling air power in a theater of operations.[31] On 20 July 1943, FM 100-20, personally written by Kuter, was published.

FM 100-20

According to the 1984 edition of Air Force Manual 1-1, Basic Aerospace Doctrine, FM 100-20 is viewed as the Air Force's "Declaration of Independence."[32] In 1943, this "declaration" did not receive unanimous support. The War Department published it over the objections of the Army Ground Forces Commander, General McNair.[33] The ground forces did not take exception to certain generalized statements taken from Montgomery's notes.[34] What the ground forces feared was a dogmatic, inflexible application of the centralized control of air power in a theater.[35] The central thesis of the Army Ground Force argument as outlined in Army Ground Forces Study No. 35 was that a rigid doctrine centralizing the control of air power under an air commander would, in fact, impair the ability of the U. S. Army as a whole to mass ground and air power, when and where needed, to fight and win.[35] In

short, ground commanders where afraid that they would not have air power when and where they needed it to support ground actions because air commanders would be concentrating their assets to fight an air war.[37] Air commanders, however, believed that ground commanders would decentralize their air assets into small packets making it impossible to maintain air superiority or to mass air power in support of a specific ground operation.[38] The basic reason joint doctrine evolved the way it did was because the Air Force proponents "won their case" based primarily upon the recent experiences in North Africa and the success of British organization, principles, and procedures in that theater.

On 21 July 1943, Field Manual 100-20, Command and Employment of Air Power, was published. This manual superseded Field Manual 1-5, Employment of Aviation in the Army, and was regarded as rendering Field Manual 31-35, Aviation in Support of Ground Forces, obsolete.[39] FM 100-20, as previously mentioned, stated that land power and air power are coequal and interdependent forces. This was a radical departure from previously accepted American ideas concerning air and ground relationships. FM 100-20 established the principle that "the command of air and ground forces in a theater of operations will be rested in the superior commander charged with the actual conduct of operations in the theater, who will exercise command of

air forces through the air force commander and command of ground forces through the ground forces commander."[40] Finally, this manual institutionalized the prioritization of air power effort in a theater of operations:

- First Priority - To gain air superiority <currently referred to as Counter Air>.
- Second Priority - To prevent movement of troops and supplies into and within theater <currently referred to as Air Interdiction and Battlefield Air Interdiction>.
- Third Priority - To participate in a combined effort of air and ground forces <currently referred to as Close Air Support>.

EUROPEAN THEATER

Theater General Board Study No. 56, Air Power in the European Theater of Operations says that the fundamental principles and doctrine of the command and employment of air power as directed in FM 100-20 "were adhered to in the European Theater and were proved sound."[41] The Air Force organizational structure for this theater was based directly upon the British North African model. In fact, a British officer, the Deputy Supreme Commander, Air Chief Marshal Sir Arthur Tedder, exercised the general direction of all Air Force operations in the European Theater.[42] Furthermore, the Theater Air Component Commander of the Tactical Air Forces was another British officer, Air Marshal Leigh-Mallory. As Commander of the

Allied Expeditionary Air Forces, the Second British Tactical Air Force and the Ninth U. S. Air Force were under Mallory's command. (The Allied Expeditionary Air Force was dissolved on 15 October 1944 because, primarily, there was not a theater ground component headquarters with which it could function. Nothing resembling a theater component air command remained.)[43] By June of 1944, numbered Tactical Air Commands had been formed to fight with each of our Field Armies and numbered Air Forces with Army Groups.[44] The largest Tactical Air Component in the European Theater was the U. S. Ninth Air Force, formed on 16 October 1943, and commanded by an American, Lieutenant General Lewis H. Brereton.[45] The U. S. Ninth Air Force worked with the 12th Army Group. It consisted of the IX Tactical Air Command, which fought with the First U. S. Army, the XIX Tactical Air Command, which fought with the Third U. S. Army, and the XXIX Tactical Air Command, which fought with the Ninth U. S. Army.

The Tactical Air Commands had their forces shifted among the Armies as Army requirements changed. Fighter Bomber Groups were assigned to Tactical Air Commands to meet operational requirements.[46] The control of these Fighter Bomber Groups was exercised by the commander of a Tactical Air Command.[47] The flexibility of this command and control system allowed the Air Force Commander to con-

centrate air power in support of operational decisions.[48]

Theater Board Study No. 56 described this process:

> . . .The Air Force Commander issued broad directives for the execution of priority one, two, or three type missions <the priorities as outlined in FM 100-20>, indicating the area of responsibility of each tactical air command and usually the size of the force to be employed. This was based on the tactical situation and the scale of intended effort by the armies as indicated by the army group commander. The commander of the tactical air command prepared his air plan by allocating the necessary force to missions as required by directives from the air force commander and his own local tactical air situation. Close cooperation missions <currently referred to as close air support> resulted from joint planning by commanders of the tactical air command and the army. Request for air effort beyond the resources of the tactical air command . . . were submitted to the tactical air force headquarters by the commander of the tactical air command.[49]

The fundamental principle of coequal and interdependent forces had resulted in a flexible, effective organizational structure that could modify procedures as practical experience and innovation dictated.

CRITERIA FOR OPERATIONAL EFFECTIVENESS

The misapplication of air power at the beginning of the North African campaign caused a re-examination of AirLand warfare doctrine by the British. The fundamental

air power problem that had to be solved before air forces could effectively support AirLand warfare was how to gain and maintain air superiority. Inter-service rivalries, personalities, and coalition warfare politics aside, the air superiority issue caused the British to structure their AirLand forces to take the maximum advantage of the inherent flexibility of air power. It was this flexibility that allowed air power to rapidly concentrate on the battlefield. With the reorganization of forces in the North African theater and the publication of Montgomery's Notes on High Command, which led to the publication of FM 100-20, the Americans had established an AirLand warfare doctrine for what they determined to be the most effective control and use of air power. The Army Commander now had an established, battle proven doctrine that allowed concentration of combat power in time and space to support an operational concept. The forces in the European Theater of Operations were organizationally structured in support of that doctrine. This organizational structure allowed for the continued development of more effective procedures such as those for visual markings, a thorough air/ground liaison system, joint planning, and an air-ground tactical fighter control/communications system. According to Army Ground Forces Study No. 35 the primary reasons for operational success were the close tie-in between Armies and Tactical Air Commands through the employment of a

thorough liaison system and adjacent air and ground headquarters. The study goes on to state that the majority of air missions performed "continued to be those planned jointly in the combined operations centers at army-tactical air command level."[50] Therefore, the centralization of air power at the operational level allowed the army and air component commanders to concentrate most effectively their combat power in consonance with the goals established by higher authority. As outlined by Montgomery in his Notes: The air and army staffs must work together in the same headquarters, with complete mutual understanding and confidence.[51] The practical way out of air and ground mutual distrust was to organizationally perfect coordination and air/ground relationships. This coordination allowed the operational (army) commander to conduct warfare under the protection of air superiority while still maintaining the flexibility to rapidly concentrate air power on the battlefield.

The specific, significant criteria that caused the AirLand campaigns to succeed follow:

- Headquarters were collocated at the operational level (army/tactical air command). The interface of the air and ground component commanders was at the field army/tactical air command level because the system was organizationally designed to support AirLand warfare at the operational level. A combined operations center was formed which jointly planned AirLand operations.

- The air and ground organizations were structured to support the fundamental concept of air superiority while taking into account the air

force flexibility to concentrate combat power rapidly.

- Cooperation and mutual understanding of air and ground forces greatly increased their operational effectiveness. For example, the XIX Tactical Air Command developed a close relationship with Patton's Third Army. Instead of accepting missions on a target by target basis, the XIX TAC accepted the mission of protecting and watching the Third Army right flank along the Loire River while the Army moved across France. It was successful.

- Air forces were not under the command or control of ground forces.

- Organizational flexibility allowed fighter bomber groups to be shifted among tactical air commands to support operational requirements.

In addition to the criteria outlined above, the personalities of the Allied leaders were a dynamic force, albeit difficult to capture, that certainly had a significant impact upon the doctrine, organizational structure, and very effectiveness of the AirLand forces themselves. Furthermore, the impact of practical experience and innovation can be largely measured only through conjecture. Yet, as is characteristic of the American people, the "system" took advantage of practical experience and encouraged innovation. Simply put, it worked.

SUMMARY

The AirLand warfare principle of coequal and interdependent air and ground forces in the conduct of

operations can be directly traced to the Second World War. The principles and procedures developed in North Africa through experience, and solidified with the publication of FM 100-20, were proven to be operationally sound. Practical men under trying circumstances had developed a workable solution to the problem of doctrine for air and ground forces. They organized and structured their forces accordingly and changed their thinking concerning how air and ground forces should be related to each other. The coordination of effort between the ground forces and the tactical air forces was highly effective.[53] The Allies enjoyed a tremendous operational advantage because of the air superiority maintained by the Allied Air Forces.[54] Air superiority, both before and after the invasion of Normandy, allowed the Allies a degree of operational mobility and logistical freedom from air attack that was nearly "absolute insofar as any threat from the Luftwaffe was concerned."[55] Basically, from 22 June 1944 onward, the Luftwaffe was not a serious operational threat.[56] Furthermore, interdiction of the enemy's lines of communication profoundly affected the relational force balance on the ground.[57] Aerial reconnaissance was effectively developed and served as a force multiplier for the ground commander. A quotation from Army Air Forces in World War II, Europe: Argument to V-E Day succinctly describes the success of AirLand Warfare operations in World War II:

> It is not intended to suggest that the air force won the war, or even that they could have won single-handedly a war deliberately planned, on the principle of interdependent land, sea, and air forces. Rather, the purpose is to emphasize that the final triumph owed much of its completeness to an extraordinarily effective coordination of the ground and air effort.58

The doctrinal principles of FM 100-20 proved themselves sound in battle. Our current Air Force/Army command and control organizational arrangements and relationships were built upon these principles and procedures. Chapter Three examines contemporary joint doctrine.

CHAPTER TWO

END NOTES

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CHAPTER THREE

CONTEMPORARY JOINT DOCTRINE

INTRODUCTION

Chapter Three examines our contemporary joint Air-Land doctrine. In November of 1984, the J-SAK Joint Service Agreement was signed by the Air Force and Army Chiefs of Staff and in December of 1984 the procedures manual was published. These significant documents are among our first statements concerning how air and ground forces will jointly conduct modern warfare. It is significant because since the end of World War II, the Army and Air Forces have become separate services, have had separate interests, and have followed separate paths. However, as stated in Chapter One, it is only through an effective joint operational doctrine that we will be able to synchronize our air and ground forces, concentrating the maximum amount of combat power against enemy forces at a decisive point in time and space based upon an operational concept. This chapter examines our current joint AirLand warfare doctrine and the significant conceptual differences that exist between this doctrine and the "unofficial" doctrine of NATO's Allied Air Forces Central Europe (AAFCE). Finally, this chapter analyzes this doctrine to determine possible explanations concerning why it exists as written. The intention of Chapter Three is to

provide the background information and conceptual framework upon which the modern battle scenario in Chapter Four can be built.

DEFINITIONAL EXPLANATIONS

The following definitional explanations are integral to a clear understanding of this chapter.

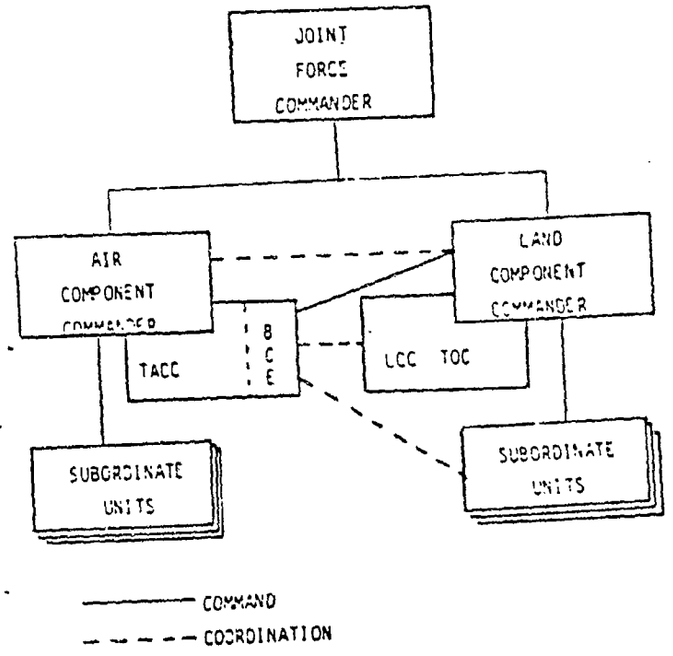
> - Air Apportionment. The J-SAK states: "Air apportionment is the determination and assignment of the total expected tactical air effort by percentage or priority that should be devoted to the various tactical air operations or geographic areas for a given time. Air apportionment is based upon priorities established by the joint force commander during consultation with the subordinate commanders and is designed to assure optimum distribution of limited assets which perform a wide range of missions. The air apportionment process apportions the tactical air effort among the following missions: air interdiction <AI>, counterair <CA>, close air support <CAS>, tactical surveillance and reconnaissance, tactical airlift, and special operations. The LCC <land component commander> influences the air apportionment recommendation by keeping the ACC <air component commander> informed of the ground situation, status of planned and ongoing maneuver operations, and current and projected reconnaissance and attack objectives and priorities. The air apportionment recommendation is accomplished by the ACC and submitted to the JFC for approval The resulting JFC decision establishes the basis for executing the tactical air effort."1

- Battlefield Air Interdiction (BAI). The Joint Service Agreement states: "Air interdiction (AI) attacks against land force targets which have a near term effect on the operations or scheme of maneuver of friendly forces, but are not in close proximity to friendly forces, are referred to as battlefield air interdiction (BAI). The primary difference between BAI and the remainder of the air interdiction effort is the near term effect and influence produced against the enemy in support of the land component commander's scheme of maneuver. BAI attacks require joint coordination at the component level during planning and may require coordination during execution. BAI is executed by the air component commander as an integral part of a total air interdiction campaign."2

- Battlefield Coordination Element (BCE). According to the Joint Service Agreement: "The BCE is a Land Component Commander (LCC) liaison element which is collocated with the Tactical Air Control Center (TACC). The BCE processes land forces' requests for tactical air support, monitors and interprets the land battle situation for the TACC, and provides the necessary interface for the exchange of current intelligence and operational data . . . Detailed Air force planning for execution of battlefield air interdiction is conducted at the Tactical Air Control Center (TACC), in coordination with the Battlefield Coordination Element (BCE)... The TACC of the ACC <air component commander> and the BCE of the LCC <land component commander> are the staff agencies which exchange detailed operational and intelligence information to accomplish the coordination for J-SAK operations (see Figure 3-1)."3

- Subapportionment. Per the Joint Service Agreement, "Subapportionment is a process of expressing, by percentage, the portion of the air interdiction effort projected

to be flown against battlefield air interdiction (BAI) targets."5



Command and Control [4]

Figure 3-1

J-SAK - GENERAL

Air Force Manual 1-1, Basic Aerospace Doctrine, states that as a crucial element in interdependent air and ground forces, air power can be the decisive element in warfare, and commanders must design their organizations and plans to maximize the effects of this relationship.[6] The J-SAK is a joint attempt to strengthen this interdependent Army and Air Force relationship. In scope, the J-SAK is "applicable to the employment of Army and Air Force interdiction assets to direct, disrupt, delay, or destroy enemy second echelon forces."[7] The stated objective of joint attack of second echelon targets is to divert, disrupt, delay, and destroy the enemy's capability to wage war by altering the momentum of his effort. This gives commanders at the forward line of own troops (FLOT) the time and space necessary to fight the FLOT battle while senior headquarters plan for follow-on operations.[8] The following paragraphs describe the specifics of this joint doctrine.

J-SAK - RESPONSIBILITIES

The J-SAK is built upon the fundamental principle of coequal and interdependent air and ground forces in a theater of operations. As such, it carefully defines

command responsibilities. It is important to understand the verbiage that describes these air and ground relationships because the words themselves have been carefully agreed upon by the two services. The joint force commander (JFC) exercises operational command through the subordinate component commanders and is responsible for the apportionment of air assets and the assignment of land assets.[9] It is the joint force commander (JFC) that establishes the theater guidance and objectives for the interdiction campaign.[10] The subordinate land component commander (LCC) and air component commander (ACC) consult with each other concerning, among other things: schemes of maneuver, priorities of tactical air support, and the air apportionment recommendation.[11]

The land component commander exercises command of all assigned land forces in a joint force. The J-SAK, for clarity, addresses the theater land component structure as a field army land component commander with several subordinate corps. The land component commander:

- establishes the priority for tactical air support to each subordinate corps and provides this to the tactical air control center (TACC) through the battlefield control element (BCE).
- establishes a BCE which works for and is responsible to the land component commander and is located at the TACC.
- is responsible for nominating interdiction targets, that interest the land component, to the air component commander.12

The air component commander exercises command of all assigned air forces in a joint force. The air component commander exercises control over the assigned air forces by means of the tactical air control system (TACS) and its senior control element, the tactical air control center (TACC).[13] It is the air component commander that is responsible for developing the air apportionment recommendation and submitting this recommendation to the joint force commander for approval. The air component commander is also responsible for the planning and execution of the air interdiction campaign. Therefore, air interdiction planning and execution, by doctrine, is not a joint responsibility.

J-SAK - OPERATIONS

To synchronize an attack against enemy second echelon forces, coordination must take place within and across service lines among several levels of command.[14] The theater command and control process must ensure that the joint force commander's intent is translated into the most effective control and use of AirLand forces.

The air component provides close combat support and general support air power to the land component within the theater guidance and objectives set by the joint force

commander.[15] Close combat support is provided by close air support missions. General support of the land component is provided by the maintenance of air superiority and by the interdiction of second echelon forces. Therefore, general support is provided by counter-air and air interdiction missions. It is important to understand that from an Air Force perspective, battlefield air interdiction is a part of the entire air interdiction campaign and not a separate effort.

The joint force commander decides upon the air apportionment recommendation developed by the air component commander. Although it may be difficult since their headquarters are not doctrinally collocated, the air component commander and land component commander consult each other concerning this recommendation. Since their headquarters are not collocated, it is the tactical air control center (TACC) and battlefield control element (BCE) that normally accomplish this consultation and coordination in lieu of the commander's themselves. Joint planning by the staffs of the air and ground component commanders does not occur.

The air apportionment decision established by the joint force commander designates the priority or percentage of effort for air interdiction and may subapportion part of this effort for battlefield air interdiction. According to the J-SAK, whatever the

decision regarding the percentage of effort directed against battlefield air interdiction, its scope will "not be described or bounded in geographical terms."[16] Additionally, since battlefield air interdiction is part of the theater interdiction campaign, once targets are identified and prioritized by land forces, it is planned at the tactical air control center (TACC).[17] The Joint Service Agreement further states that: "Planning for missions in support of land force units operating beyond the FLOT parallels that of AI and BAI in terms of force packaging. Final attack for those sorties flown in close proximity to friendly forces will follow close air support operations."[18] Therefore, air power planning and execution in support of maneuver beyond the forward line of own troops (FLOT) will employ a combination of CAS and BAI procedures.

The land component commander recommends to the joint force commander which "land" assets will be used in support of the interdiction campaign. The air component commander also recommends through the TACC to the BCE which targets should be engaged with land component assets. When interdiction is accomplished with land component assets, the land component commander must coordinate with the air component commander through the BCE to the TACC.

J-SAK TARGET LISTS/DIVERSIONS

The Joint Service Agreement, in summarizing the interdiction targeting process, states that there will be separate AI and BAI target lists. These lists will be prioritized and integrated at the TACC. The land component commander can nominate targets to the air component commander's AI target list. The land component commander also develops and updates the BAI target list. "These targets are normally identified and prioritized through army echelons and are nominated to the TACC through the BCE. The LCC's target prioritization designates the relative weight of BAI effort to subordinate commands (usually corps). [19] Therefore, the land component commander cannot designate BAI targets. He nominates targets which are prioritized and selected by the air component commander's TACC. Our contemporary doctrine, in short, depends on the principle of consultation for the synchronization of air/ground combat power.

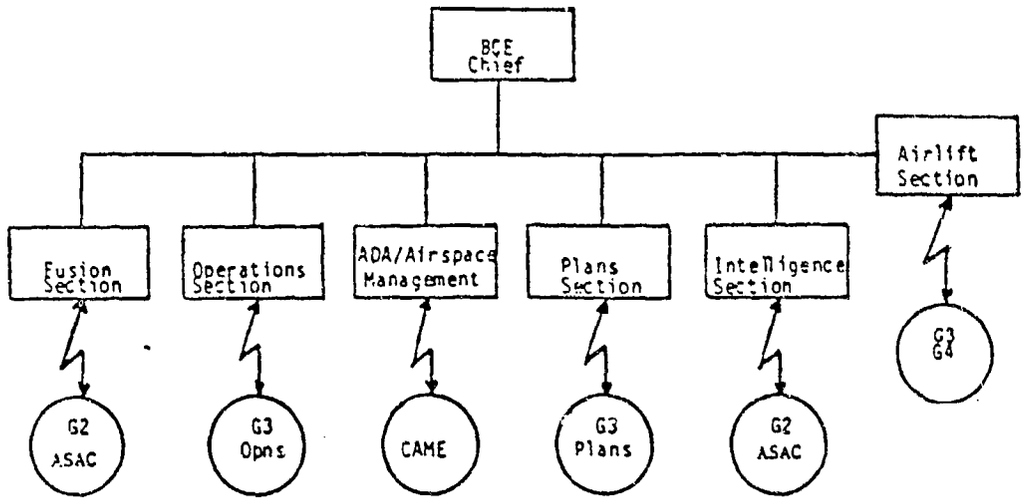
The air component commander has the authority to divert an attack from any target. The implication is that the TACC has the authority to divert BAI sorties. When diverting, the only requirement is that the TACC inform the BCE. Essentially, because the air component retains the centralized control of all air power assets and is

responsible for the entire air interdiction campaign, the air component is given the full authority to divert BAI sorties which are part of this air interdiction campaign. The significance of this principle is that, from the perspective of the land component, air power resources vital for operational success may be absent at a critical point in time and space.

J-SAK - CORPS, DIVISION, TACTICAL AIR CONTROL PARTY (TACP), AND AIR SUPPORT OPERATIONS CENTER (ASOC)

According to J-SAK, it is the corps that orients primarily on the operational level of war. Although true as a generalization, corps operations can range from purely tactical, to tactical and operational, to purely operational. Nevertheless, the J-SAK states that the orientation on the operational level of war involves "conducting campaigns and battles, closely monitoring battles fought by subordinate divisions, assisting with resources when required, and seizing and exploiting the initiative when planned windows of opportunity open for friendly offensive action."[20] If the corps cannot attack targets with its organic assets, it must forward prioritized targets through the BCE to the TACC. Therefore, the planning for BAI targets is focused at corps level because

corps second echelon targets are primarily attacked with tactical air.



CTOC-BCE Interface [21]

Figure 3-2

(Figure 3-2 illustrates the interface between elements of the Corps Tactical Operations Center and the Battlefield Control Element.)

Divisions orient primarily on the tactical level of war.[22] Their planning horizon, 24 hours vice 72 hours for a corps, requires the availability of more near real-time information. Per the J-SAK:

> The division battle staff, with the assistance of the TACP, identifies and prioritizes targets for attack within the division area of influence. As enemy forces begin to commit to specific avenues of approach, divisions begin attacking targets within their capabilities and request support from corps as required. The division staff works with the TACP located at division to provide the commander advice on the capabilities and limitations of tactical air to support division operations. Divisions forward their requests for tactical air support to the corps for inclusion in the corps tactical air requests.23

The TACP is found at every army level from corps through maneuver battalion. The TACP is not a joint planning cell. The TACP offers advice concerning air power assets and capabilities. Additionally, the TACP assists in the development of AI targets, BAI targets, and other air power requirements.

The purpose of an ASOC is to coordinate and direct close air support and tactical air reconnaissance. The ASOC is under the operational control of the TACC and is normally collocated with the corps tactical operations center.[24] The J-SAK states that an ASOC performs two primary functions: the exchange of combat information between air and ground forces and the coordination and

execution of close air support missions.[25] Although the land force planning for BAI targets is focused at corps level, the ASOC is not a joint planning cell where the Air Force and Army can operationally plan the synchronization of forces. This is significant because the air and ground component staffs do not jointly plan for the synchronized use of combat power on the battlefield. Instead, because of the fundamental air power principle of centralized control and the inherent flexibility of air power, we have jointly established procedures which are intended to communicate the intent of commanders at various organizational levels. The following section examines the more significant of these procedures.

PLANNING AND COORDINATION TIME LINE

The method the Air Force uses to implement tactical air support of AirLand warfare is the air tasking order (ATO). The ATO is issued by a TACC and is normally valid for a 24-hour period. Although the ATO covers a specific period, the planning process is continuous. The planning event time-line, as described in the J-SAK, approximates when events should occur in the planning and coordination process. The J-SAK allows individual theaters the flexibility to designate specific event times. A summary of the critical events from this time-line follows:

Approximate Time Prior To ATO Effective Period	Event
72+ hours	- JFC issues concept
	- ACC establishes tentative apportionment recommendation after consultation with LCC, to include expected BAI effort
	- LCC establishes tactical air priority for subordination corps
	- ACC develops theater interdiction targets
72 hours	- BCE informs corps concerning LCC's BAI priorities which corps use for operational planning
48 hours	- LCC again consults with the ACC, through the BCE-TACC, concerning the air apportionment recommendation

The J-SAK procedures manual describes this consultation process as follows:

> "In consulting with the LCC on the recommended apportionment, the ACC identifies the forecast percentage of priority of effort for CAS, CA, and AI to be BAI. Based on land force plans and tactical air support needed, the LCC consults with the ACC on development of the apportionment recommendation. The LCC provides his BCE and the corps . . . the revised BAI forecast and initial CAS forecast."26

36 - 30 hours	- ACC issues apportionment decisions made by the joint force commander to the TACC

Approximate Time Prior To ATO Effective Period	Event
	- LCC has tactical air priorities confirmed and distributed to subordinate corps
30 hours	- BCE informs corps concerning the specific number of sorties based on allocation
	- Corps provide BAI priority of effort to subordinate units
24 hours	- Divisions start to submit BAI targets to corps
	- Corps provides updated AI and BAI target lists to the BCE
12 hours	- The TACC publishes the Air Tasking Order
Less than 12 hours	- Targets are continually refined so that the TACC and wings have a maximum of two hours prior to takeoff for mission planning (this time period is theater SOP dependent)
ATO 24 hour Effective period	- Wings execute ATO. Targets continue to be refined

It now becomes readily apparent that the above procedures probably require continuous consultation and coordination to cause the effective prosecution of AirLand warfare. Two important points concerning these procedures deserve emphasis. First, the corps commander knows 30 hours prior to the ATO effective period how many sorties he will have available. This time becomes especially critical to a

corps because operational plans are probably already at the subordinate unit level prior to 30 hours. Second, the J-SAK procedures manual states that tactical air support requests may now be submitted in the form of mission oriented air requests. This statement is not contained in the Joint Service Agreement. However, this procedure has tremendous implications for the Air Force institutionally and for the land component commander's ability to integrate air power and land force operations. Because of their importance, these issues are subsequently examined in detail.

J-SAK COMMUNICATIONS

The communications to support J-SAK AirLand warfare depend upon the interoperability of both army and air force systems. The J-SAK advocates that the theaters themselves should develop their own specific procedures. However, multi-channel systems provide the primary method of theater communications with single channel netted radios used to provide redundancy (see Figure 3-2). The J-SAK summarizes communications support as follows:

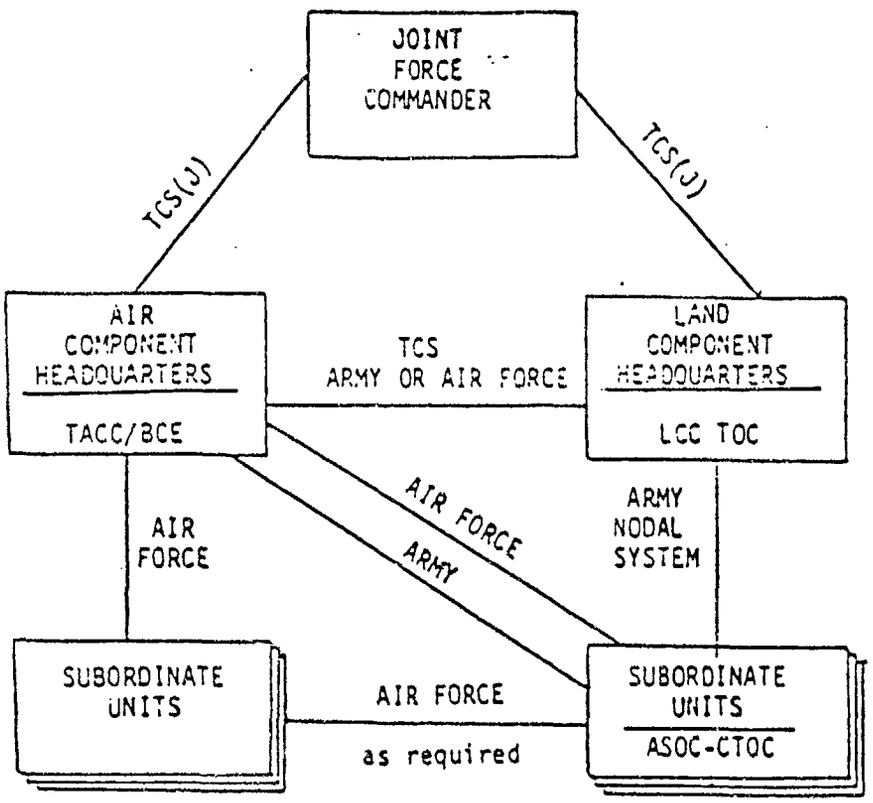
- The defense communications system (DCS), joint theater communications system (TCS(J)), corps area system, and the tactical air control system provide communications media.

- TCS(J) provides the primary means of communications from the joint headquarters to the component commands. The JFC designates the component responsible for the TCS(J) (normally the army, under the dominant user concept).

- The system between the TACC-BCE and the land component headquarters is established as part of the theater communications system (TCS).

- Two systems provide redundancy between the CTOC and TACC-BCE to enhance reliability.

- An Air Force high frequency communications central is a dedicated radio system between the TACC and the ASOC. It may be used as standby equipment, as an interim system during displacement of the multi-channel system, or if range of multi-channel systems is exceeded.27



Multi-Channel Systems[28]

Figure 3-3

J-SAK - SUMMARY

The J-SAK, as previously stated, is intended to employ AirLand forces to divert, disrupt, delay, or destroy enemy second echelon forces. The following issues summarize the key elements in the interim J-SAK procedures:

- The joint force commander establishes theater guidance and objectives for the interdiction campaign and makes the air apportionment decision.

- The land component commander and air component commander consult and coordinate with each other. They command coequal and interdependent forces.

- The air component provides close combat support (close air support). He provides general support (counter air and air interdiction) by the maintenance of air superiority and interdiction.

- Battlefield Air Interdiction is a subapportionment of air interdiction and <u>not</u> a separate effort.

- Tactical Air Control Center and Battlefield Control Element conduct consultation and coordination. Joint planning by the staffs of the air and ground component commanders does not occur. Therefore, there is no joint planning or execution at the operational level.

- The Air Support Operations Center is not a joint planning cell. Its purpose is to coordinate and direct close air support and tactical air reconnaissance.

- The scope of BAI will not be described or bounded in geographical terms.

- The Tactical Air Control Center has the authority to divert any BAI mission.

- Normally accepted corps planning horizon is 72 hours. The joint force commander makes his apportionment decision 30-36 hours prior to the Air Tasking Order (ATO) effective period. Corps is informed of specific air sortie numbers 30 hours prior to ATO effective period.

- Tactical air support requests may be submitted in the form of MISSION ORIENTED REQUESTS. (For example, delay the 2d Motorized Rifle Division north of the Yellow River for five hours.)

- The land component commander prioritizes BAI targets. The air component commander prioritizes AI targets and makes final interdiction target selection.

CENTRAL EUROPE - GENERAL

The stated purposes of the operational doctrine described in ATP-27(B), Offensive Air Support, reflect those of one of its historical antecedents, FM 100-20:

- Gain and maintain air superiority.

- To prevent the movement of enemy forces into and within the theater and to destroy these forces once in theater.

- To assist in ground force objectives through joint operations.29

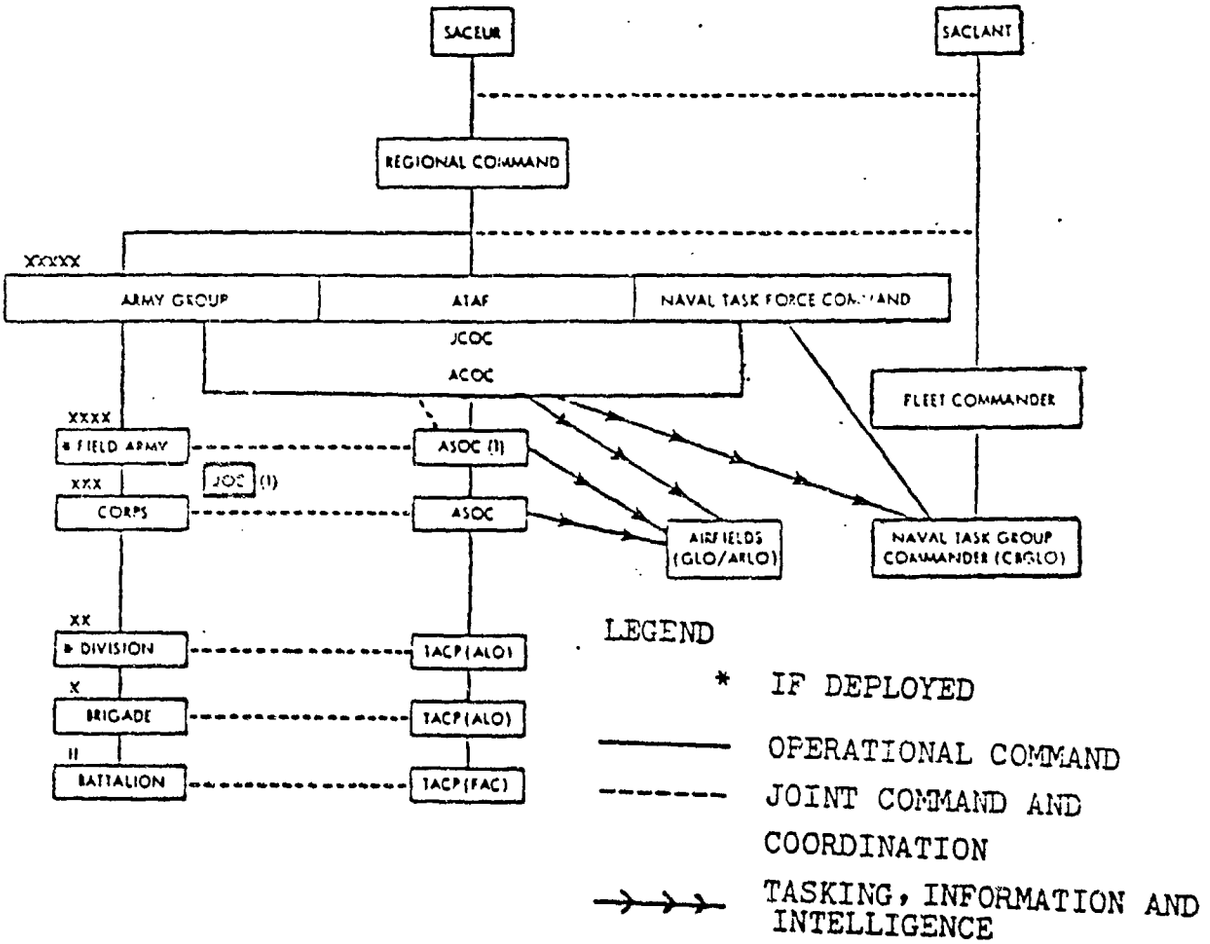
It is the fundamental principle of air superiority first, with limited resources for simultaneous tactical air missions, that has driven the conceptual thinking concerning how best to employ air power. ATP-27(B) describes the unclassified, generic principles and procedures that NATO employs to solve this dilemma. The

following paragraphs describe the Central European organizational structure and, then, the significant conceptual differences between those principles and procedures in the J-SAK and those in Central Europe.

CENTRAL EUROPE - ORGANIZATIONAL STRUCTURE

Although the end result may be the same, the command, control, and liaison agencies existing in Central Europe and the functions performed at each level are somewhat different from those defined in the J-SAK. The Central European battlefield is characterized by a highly complex, coalition warfare environment where the efforts of several nations must be combined into a single theater campaign plan. As such, different principles and procedures have been developed to solve the problems associated with air and ground relationships in maneuver warfare. Figure 3-4 illustrates the generic NATO structure; while Figure 3-5 illustrates the Allied Air Forces Central Europe (AAFCE) organizational and support structure. Of significance is the fact that in Central Europe, the AAFCE serves as the air component headquarters which exercises command of all assigned Air Forces. Second Allied Tactical Air Force (2ATAF) fights with the Northern Army Group (NORTHAG) while the Fourth Allied

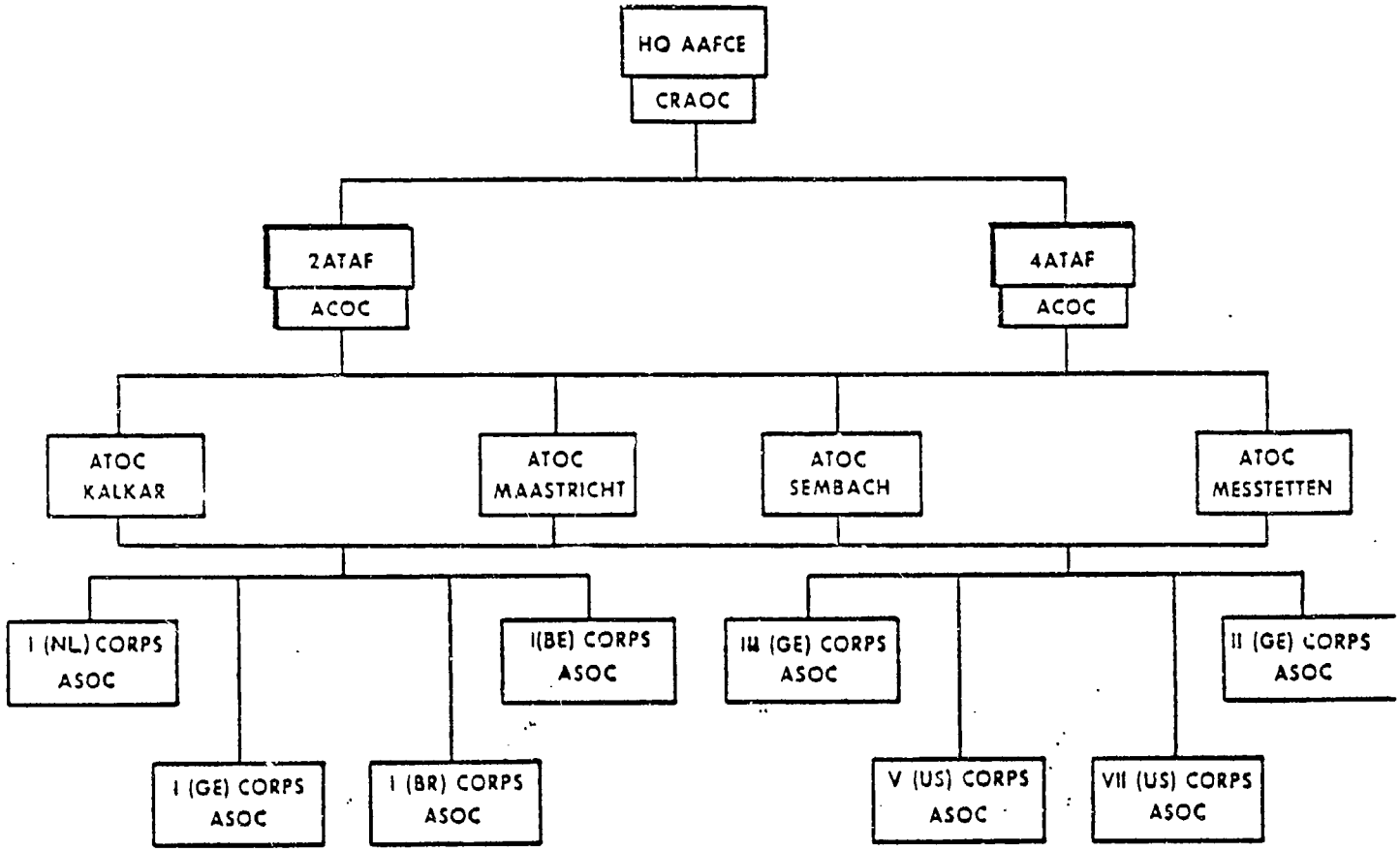
Tactical Air Force (4ATAF) fights with the Central Army Group (CENTAG). However, in Central Europe there is no land component headquarters that exercises command of all assigned land forces.



NOTE (1) Different agencies are used in some regions.

General NATO Structure[30]

Figure 3-4



AAFCE Organizational Structure [31]

NATO UNCLASSIFIED

Figure 3-5

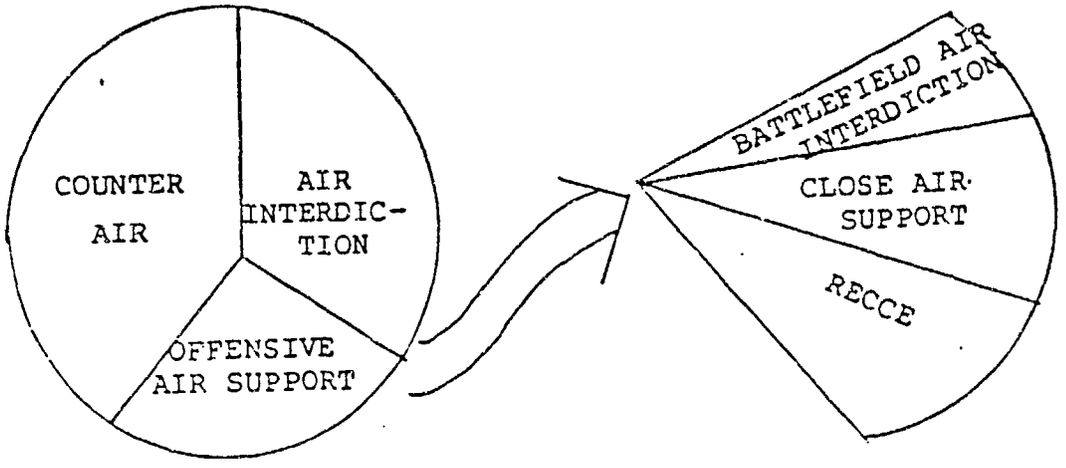
The Joint Command Operations Center (JCOC) is basically an allied joint operations staff at the Army Group/Allied Tactical Air Force (ATAF) level. The Central Region Air Operations Center (CRAOC) is the operations element for AAFCE which has overall operational control of all central region air forces. The Air Command Operations Center

(ACOC) is essentially NATO's version of the TACC. According to General Glenn K. Otis, Commander, U. S. Army Europe, "While there is no NATO equivalent to the TACC/BCE (their function is spread between Corps/ASOCS, ATOCS, CENTAG/4ATAF and even AFCENT/ AAFCE elements) the essence of the TACC/BCE is now in the collocated Army Group/4ATAF HQ."[32] Additionally, because of the inherently difficult command and control problems generated by the magnitude of the forces and aircraft in Central Europe, the Allied Tactical Operations Center (ATOC) exists as a subordinate air operations center (see Figure 3-5). An ATOC would normally have tactical control, which in NATO terminology means detailed and local direction and control, over the air assets allocated to them from the ACOC. It is the ATOC that would task flying units with mission requirements and also direct the execution of OAS missions. Simply put, the ACOC plans the war. The ATOC executes it.

CENTRAL EUROPE - CONCEPTUAL DIFFERENCES

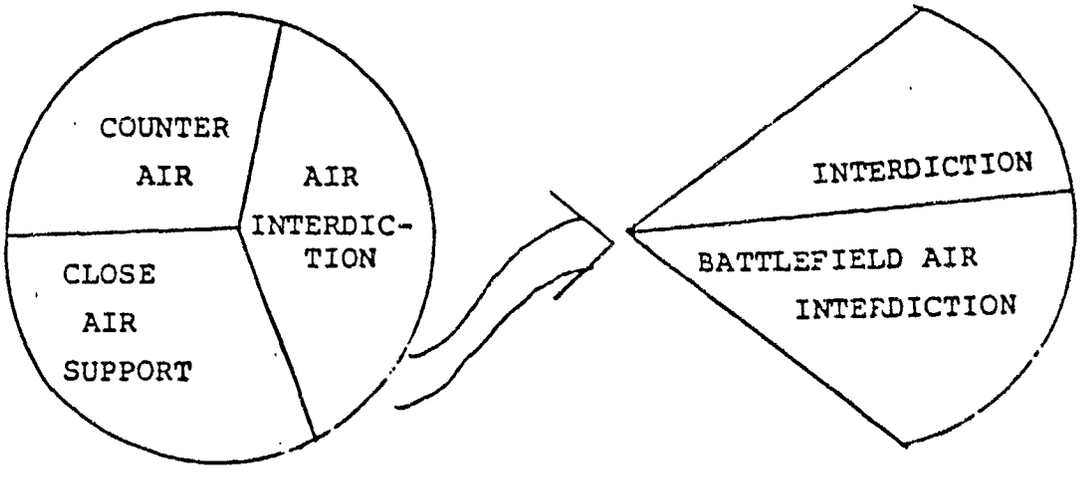
There are three fundamental, conceptual differences between the way the Army and Air Force's J-SAK doctrine prosecutes AirLand warfare and the way in which the Army and Air Force in Central Europe prosecute AirLand warfare.

First, the most significant difference is the fundamental disagreement over the concept of air apportionment. NATO does not view BAI as part of AI as does the J-SAK. The J-SAK advocates the concept of direct combat support through CAS. It also advocates general support to land forces through counter air and air interdiction missions. NATO advocates direct support through the use of offensive air support (OAS). Offensive Air Support is "that part of Tactical Air Support of land operations that consists of Tactical Air Reconnaissance, Battlefield Air Interdiction, and Close Air Support, which are conducted in direct support of land operations."[33] Therefore, in NATO, when the joint force commander makes his apportionment decision, it is based upon general priorities that are translated into specific percentages or sorties at the Allied Tactical Air Force/Army Group level. BAI is not subapportioned as part of the air interdiction effort. Rather, it is apportioned to the army group commander as part of offensive air support (OAS) which makes it a direct support asset. Figure 3-6 illustrates the NATO air apportionment principle while Figure 3-7 illustrates that of the J-SAK.[34]



NATO Air Apportionment

Figure 3-6

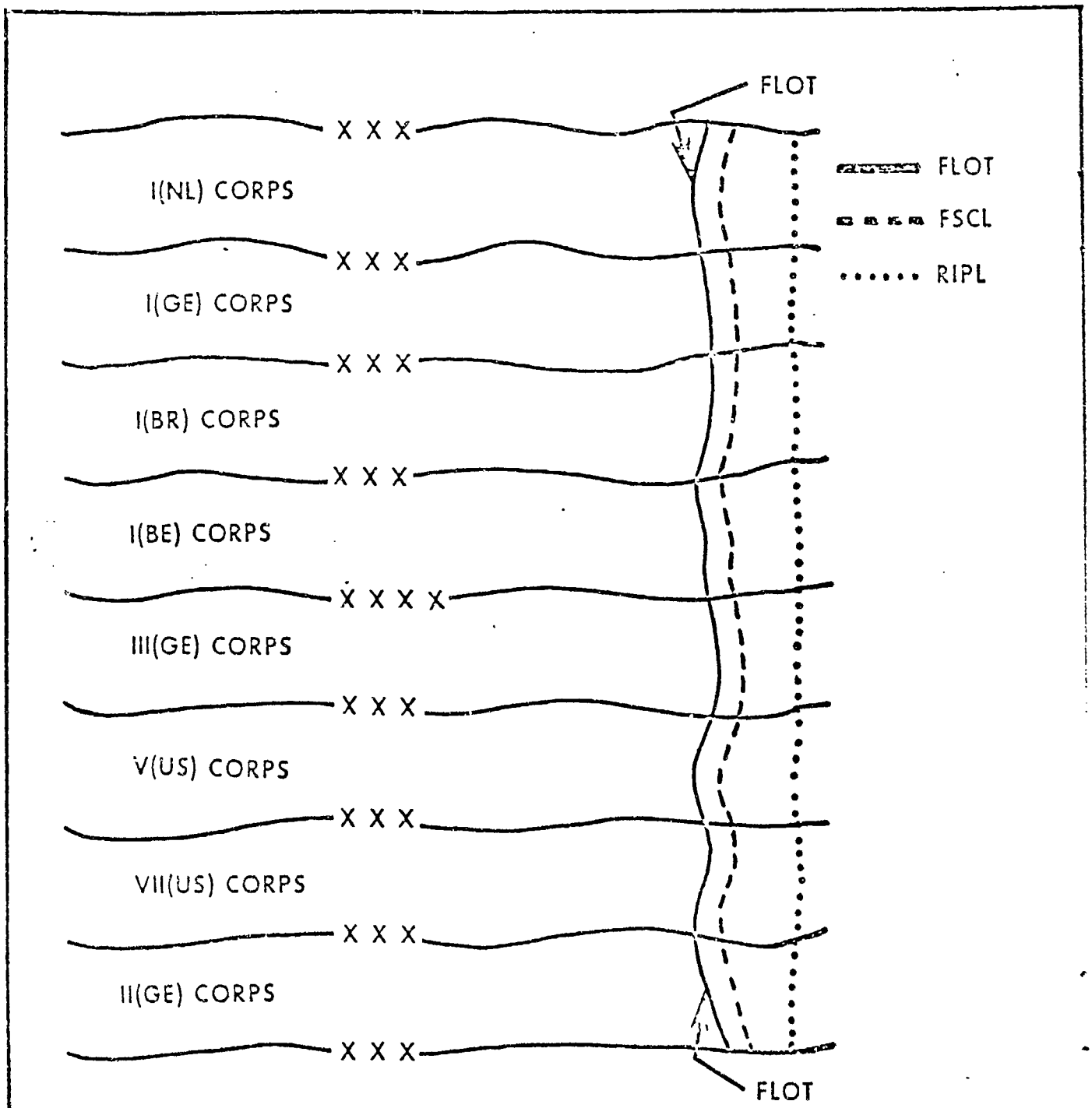


J-SAK Air Apportionment

Figure 3-7

Second, the Joint Service Agreement specifically states that the scope of battlefield air interdiction (BAI) will not be described or bounded in geographical terms. However, in Central Europe, because BAI is in direct support of the operational commander, the Reconnaissance and Interdiction Planning Line (RIPL) delineates an area forward of the Fire Support Coordination Line (FSCL) in which the corps commander is responsible for BAI. The area beyond the RIPL is targeted for AI missions by echelons above corps. The RIPL, in short, is an operational planning line that assists in the synchronization of forces in support of AirLand warfare. It essentially defines the corp-level area of responsibility (see Figure 3-8).[35]

Third, the Central European procedures for offensive air support do not allow for tactical air support on a MISSION ORIENTED BASIS. Although this procedure is not contained in the Joint Service Agreement, it is contained in the J-SAK manual itself. This seemingly innocuous procedure has tremendous implications for Army and Air Force mutual support and cooperation. It also has tremendous implications for the Air Force as an institution and would affect, as a minimum, their entire approach to training (mission vis-a-vis target mentality).



Orientation of the Eight Allied
Corps Within AFCENT

Figure 3-8

WHY?

The most effective control and use of air power has been an issue since the First World War. Experience suggests that the fundamental air power principles of flexibility, concentration, and sustainment of effort were greatly enhanced by the creation of coequal and interdependent air and ground forces that functioned in collocated headquarters. The barometer of their effectiveness can be measured by the results of AirLand warfare. The achievement of these results depended to a large degree on the amount of cooperation that has existed between these forces. Our current systems, in fact, are based upon mutual cooperation and a series of procedures that attempt to maximize the principles mentioned above. Politics and inter-service rivalries aside, the basic problem that has confronted all joint AirLand doctrinal thinking has been how to make the best use of the scarce air power resources while simultaneously supporting ground forces and maintaining air superiority. Our documents exist as currently written in an attempt to solve this dilemma. The J-SAK Joint Service Agreement and procedures manual are a significant step forward. These documents formally recognize that both air and ground forces are necessary to fight and win on the modern battlefield and are an attempt to provide a generic, joint doctrine which

establishes a conceptual framework within which theater specific procedures may fit.

The J-SAK apportionment principle has its roots in World War II where air superiority was an operational necessity and where interdiction was managed at the Army/Army Group level. As previously stated, in Central Europe, the theater specific apportionment principle is currently approached from a fundamentally different perspective. It recognizes the necessity for the maintenance of air superiority and also the necessity for offensive air support (OAS) in direct support of the operational commander. Simply put, practical soldiers attempting to solve the problem of how best to synchronize AirLand warfare in Central Europe have instituted different methods to achieve their objectives. Chapter Four examines these methods.

CHAPTER THREE

END NOTES

[1]TAC-TRADOC. General Operating Procedures for Joint Attack of the Second Echelon (J-SAK) (HQ USAF Tactical Air Command, U. S. Army Training and Doctrine Command, and U. S. Army Readiness Command, 31 December 1984).

[2]U. S. Army and U. S. Air Force, Joint Service Agreement for the Joint Attack of the Second Echelon (Washington, D. C.: Headquarters Department of the Army and Air Force, November 1984), p.2

[3]Ibid., p. 2.

[4]J-SAK, p. 2-3.

[5]Joint Service Agreement, p. 3.

[6]Air Force Manual 1-1, Functions and Basic Doctrine of the United States Air Force, (Washington, D.C.: United States Government Printing Office, 1984), p. 1-3.

[7]Joint Service Agreement, p. 4.

[8]Ibid.,p. 4.

[9]J-SAK, p. 2-1

[10]Joint Service Agreement, p. 8.

[11]J-SAK, p 2-3.

[12]Ibid., p. 2-4.

[13]Ibid., p. 2-5.

[14]Ibid., p. 1-4.

[15]Joint Service Agreement, p. 4.

[16]Ibid., p. 4.

[17]Ibid., p. 4.

[18]Ibid., p. 4.

[19]Ibid., p. 5.

[20]J-SAK, p. 4-1.

[21]Ibid., p. 4-1

[22]Ibid., p. 4-2.

[23]Ibid., p. 4-2

[24]Ibid., p. 4-2.

[25]Ibid., p. 4-2.

[26]Ibid., p. 5-3.

[27]Ibid., p. 6-1, 6-2.

[28]Ibid., p. 6-2.

[29]North Atlantic Treaty Organization Military Agency for Standardization (MAS), ATP-27(B), Offensive Air Support (HQ, NATO, 15 November 1983), p. 1-1.

[30]Ibid., p. 5-6.

[31]Allied Air Forces Central Europe (AAFCE) Manual 80-2, Offensive Air Support (NATO Restricted) (Ramstein, Germany: HQ AAFCE, 15 March 1982), p. 12.

[32]Otis, Glenn K. "NATO Ground/Air Principles and Procedures," Letter, HQ, U. S. Army Europe, 2 November 84.

[33]ATP-27(B), p. 1-2.

[34]Hamilton, David, MAJ, Close Air Support and Battlefield Air Interdiction in the AirLand Battle (Fort Leavenworth: Command and General Staff College, MMAS Thesis, 1983), p. 46.

[35]AAFCE, Offensive Air Support, p. 2-3.

CHAPTER FOUR

A PERSPECTIVE OF OPERATIONAL EFFECTIVENESS

INTRODUCTION

The purpose of Chapter Four is to deduce criteria for joint operational effectiveness as examined in the context of a conceptual battle scenario. To provide background information, this chapter initially overviews aircraft capabilities vis-a-vis joint planning levels, Soviet air/ground operations, North Atlantic Treaty Organization (NATO) vs. Warsaw Pact capabilities, corps operations, and the Central European battlefield.

AIRCRAFT CAPABILITIES VIS-A-VIS JOINT PLANNING LEVELS

As stated in Chapter One, it is a given that we cannot afford to neglect the joint planning and execution of AirLand warfare without jeopardizing our ability to fight and win. The principles and procedures upon which joint planning and execution are based must provide for the effective conduct of AirLand warfare at the operational level of war. It follows that the organizational level at which joint AirLand warfare is planned may have a significant impact upon the outcome of a future war. To maximize our force effectiveness, we must ensure that we

take a systemic, functional approach to our doctrines. During World War II, air apportionment was essentially conducted below the theater level by the army group/tactical air force. Today, J-SAK advocates the elevation of this process to the joint force commander/theater level. On the surface, considering the tremendous advance in aircraft technology and the resultant increase in the capability to concentrate on the battlefield, the elevation of joint planning to the theater level would appear to make good sense. However, upon investigation, it may not adequately address air and ground interface requirements.

The inherent ability of air power to concentrate rapidly, which provides a flexible combat power resource, has been discussed in detail in the previous two chapters. It would seem logical to assume that there is a definite, traceable correlation between the combat radius of aircraft and the level at which the employment of this resource is planned. Table 4-1 examines the combat radius and ordnance capability of selected United States World War II and contemporary tactical combat aircraft.

WWII		Contemporary
P38 LIGHTNING[1]		F4 Phantom[4]
2000 lbs		16,000 lbs
230 miles	*	300 miles
P40E Kittyhawk[2]		F15E Eagle[5]
600 lbs		16,000 lbs
300 miles	*	300 miles
P47D Thunderbolt[3]		A10 Thunderbolt II[6]
2500 lbs		16,000 lbs
315 miles		250 miles

* Although published figures are higher, experienced pilots maintain that 300 miles is a more realistic figure.[7]

TABLE 4-1

An examination of Table 4-1 illustrates the fact that the combat radius of tactical fighter aircraft, without refueling, has not changed significantly since World War II. What have changed significantly are the accuracy of ordnance delivery, ability to refuel aerially, speed, and the amount of ordnance that can be carried by one aircraft. Admittedly, the combat radius capability of the contemporary aircraft in Table 4-1 is a worst case estimate that assumes a low altitude ingress and egress with afterburner usage and no aerial refueling. However, the comparison is somewhat enlightening.

As previously discussed, during World War II the operational level of war was at the field army level. It was at this level that the army and the tactical air command staffs jointly planned operations. The World War

II battalion in the defense could be expected to control about 400 acres.[8] Currently, because of more powerful weapons and better mobility, contemporary divisions have 10 times more firepower than their WWII counterparts.[9] A present day battalion in the defense in Germany would be expected to control as much as 18,000 acres; an area which gives it an operational radius at least 40 times greater than its WWII counterpart.[10] Carrying this argument one step further, the contemporary corps would be responsible for an area approximately 13 times greater than the WWII field army. Because of this increase in lethality and the resultant area of responsibility, the corps has supplanted the army in the conduct of operational warfare.

The significance of this argument is that altnough the corps is responsible for an area much larger than the WWII field army, the combat radius of tactical aircraft in support of the corps has not increased proportionally; when compared with the Second World War, this radius currently appears to be inversely related to the level at which joint planning occurs. There are many variables to the equation that determine at what level joint AirLand warfare planning is conducted. The J-SAK advocates joint planning at the joint force commander level, while in Central European NATO joint planning is conducted at the Army Group/Allied Tactical Air Force level. In short, this cursory examination affirms that the combat radius of

aircraf which is a main determinant in their ability to concentrate on the battlefield in support of an operational concept, is not logically connected to the level at which the joint employment of this resource is planned. This may be an example of doctrinal thinking regarding joint planning levels being out of synchronization with the objective realities of the situation.

The Soviets have carefully considered objective realities in designing their functional system for air and ground operations. The following section briefly examines Soviet air/ground operations.

SOVIET AIR/GROUND OPERATIONS - AN OVERVIEW

In December of 1981, General Colonel F. Gayvoronskiy, Deputy Commandant of the General Staff Academy in Moscow, summarized the major operational elements that are required to execute a rapid, destructive conventional operation:

> Under present day conditions when only conventional weapons are used in the conduct of the offensive, effecting a penetration could require the application of large masses of artillery, aircraft, and tanks; thorough suppression of the enemy's numerous anti-tank weapons; and protection of the attacking forces from air strikes, including strikes by combat helicopters. To increase the tempo of the offensive and stop the approach of enemy reserves towards the penetration sectors,

> it will be necessary to make air and missile strikes throughout the depth of the enemy's defenses and make wide use of airborne (air assault) landings.11

The Soviets are organized to exploit their numerical superiority and their overall offensive strategy which takes advantage of their capability to concentrate large numbers of troops and equipment.[12] In order to breach defenses rapidly and maintain offensive momentum, Warsaw Pact doctrine advocates the use of massed, high speed, heavily armored forces at a time and place of their choosing.[13] During offensive operations, the advanced penetration element and the first echelon maintain pressure on the defense in an attempt to find its weakness. Then second echelon forces and Operational Maneuver Groups (OMGs) are used for exploitation. According to General Bernard W. Rogers, Supreme Allied Commander Europe:

> Pact forces can be expected to employ highly mobile exploitation formations at army and army group (front) levels. These combined-armed forces, called Operational Maneuver Groups (OMGs), are designed to penetrate deeply into the rear of NATO's defense in order to seize critical objectives, cut lines of communications and to limit the ability of NATO forces to respond, especially with our theater nuclear forces.14

The Soviet offensive would probably be conducted in three major phases: "the air operation, the anti-air operation and rapid, deep OMG-led penetrations on the ground."[15] The

purpose of the air operation would be to neutralize the bulk of NATO's air and nuclear capability.[16] Shortly following the start of the air operation, ground forces would attack with large scale OMG-led raids in conjunction with air assault and airborne landings into the depths of NATO's defenses.[17] Simultaneously, the anti-air operation would seek to protect the air and ground forces throughout the entire depth of the battlefield.[18] Follow-on forces would then conduct exploitations in an attempt to conclude the war rapidly.[19] The Soviets are convinced that they can win conventionally. Their entire structure is designed for fast tempo operations which can be executed to defeat NATO forces, presenting them with a fait accompli, before NATO can execute a nuclear option.[20]

The Soviet armed forces are organized into five separate components: the Strategic Rocket Forces, the Ground Forces, the Air Forces, the Air Defensive Forces, and the Naval Forces.[21] Conceptually different from the United States organization of forces, all except the Naval Forces are included within the generic term Soviet Army.[22] Unclassified, specific details of current organizational changes within the Soviet defense structure are not available.[23] However, Soviet forces are organized into three main theaters: the Western, the Southern, and Far Eastern, with a Central Strategic Reserve which consists of the Moscow, Volga, and Urai Military Districts (MD).[24]

The Western Theater, which is the strongest with the most modern equipment, also includes the non-Soviet Warsaw Pact forces and is divided into three Theaters of Military Operations (TVD).[25] Although a 1984 National Defense Review article by Victor Suvorov "Strategic Command and Control, the Soviet Approach" stated that a TVD is a military-geographical zone and not a military-operational headquarters, most unclassified sources maintain that the TVD provides "stategic planning and operational control for continental, oceanic, and intercontinental forces (missile forces, SSBN and bombers) assigned to them."[26] Furthermore, most analyists agree that the Soviets designed the TVD to eliminate the operational pause that occurred between frontal operations in World War II; it is intended to operationally synchronize multi-front operations. During time of war, the East European Warsaw Pact divisions would be incorporated within the Soviet Army operational structure. The basic operational command subordinate to a TVD is the front. Based upon current deployments, "the Western TVD could have four fronts: two in East Germany, one in Czechoslovakia, and one in Poland. The two fronts in East Germany total 12 tank and 13 motor rifle divisions; three motor rifle divisions less than two typical fronts. In Czechoslovakia and Poland the total would be 14 tank and 16 motor rifle divisions; two tank divisions above the 'normal' level. Reinforcements could

be quickly available from the Belorussian MD, which contains 10 tank and four motor rifle divisions."[27] Therefore, a front which is roughly equivalent to a US/NATO army group could be composed of between three to five armies depending upon the Soviet analysis of mission, enemy, troops, terrain, and time (METT-T).[28] The Soviet ground forces form two types of armies which are roughly equivalent to a US/NATO corps: combined arms armies and tank armies.[29] The combined arms army will normally contain a majority of motorized rifle divisions while a tank army will contain a majority of tank divisions formed together in a mix of three to six divisions per army.

Soviet Air Forces have three main components: Frontal Aviation, Long-Range Aviation, and Military Transport Aviation (see Figure 4-1). Soviet Frontal Aviation is comparable to the United States Air Force Tactical Air Command.[31] It has approximately 6,000 combat aircraft that are assigned to military districts within the USSR and to the Western Theater TVDs.[32]

A typical Soviet front has an assigned Aviation of the Front. This organization has also been referred to as a Tactical Air Army. The organizational structure for this Aviation of the Front is not fixed. However it would routinely include fighter, fighter-bomber, bomber, reconnaissance, and helicopter transport regiments.[33] Furthermore, evidence currently exists that the front

ORGANIZATION OF THE SOVIET AIR FORCE

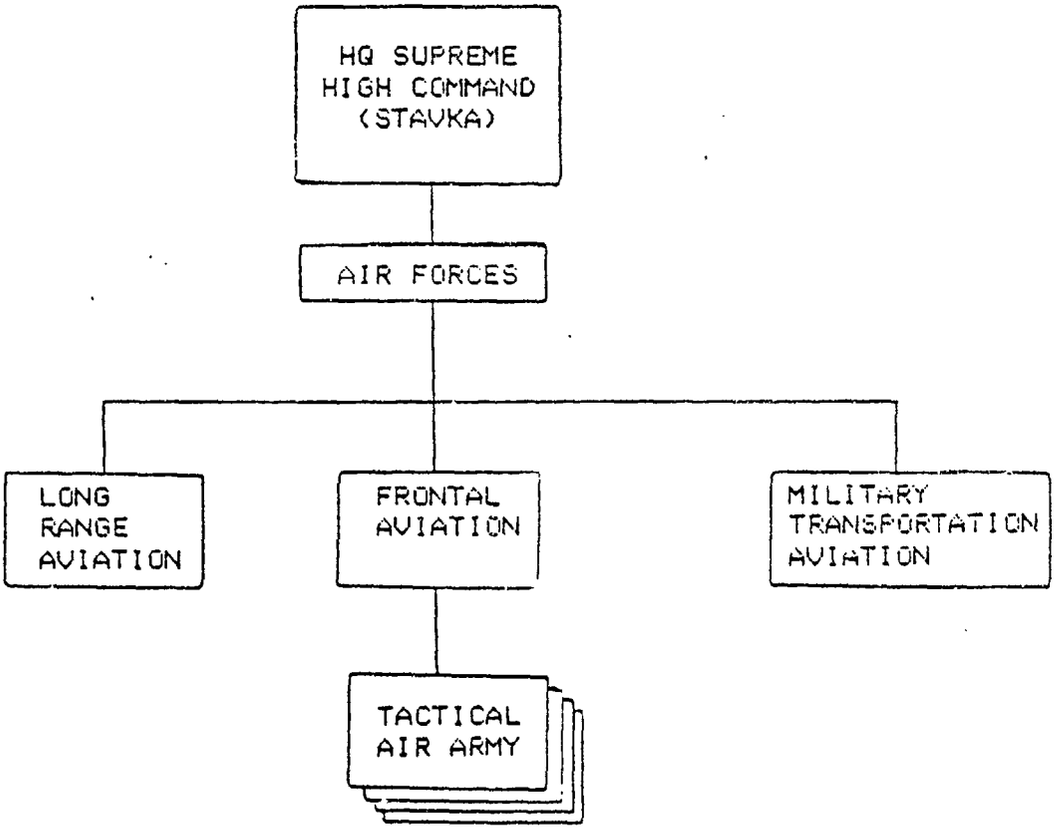


Figure 4-1[32]

commander may subordinate his SU-25 Frogfoot attack aircraft, which perform the equivalent role of NATO's A-10, to the army level for operations.[34] The planning and preparation of air support before an offensive begins is driven by the front commander's orders to his army commanders. The front commander's concept of operation, as approved by higher authority, is the focus of the entire combined arms effort. According to FM 100-2-1, The Soviet Army, Operations and Tactics, the front commander's order specifies ". . . the air units to be committed, the ground armies to be supported and the time of attack."[35]

Lieutenant General (Retired) John H. Cushman stated during a December 1983 seminar at Fort Leavenworth that in this air operation, frontal aviation would be used to open corridors through NATO air defense belts . . . . Artillery missiles would suppress air defenses and command centers . . . Fighters and fighter bombers would then have the ability to pass through open corridors to attack deep counter-air targets.[36] General Cushman also pointed out that current US/NATO joint AirLand warfare doctrine does not match the integration and detail of this Soviet operational thought . . ." The Soviet approach to military organizations is integrated, functional, and comprenensive. It emphasizes unity of purpose and unity of command."[37] In short, the Soviet front commander (approximately equivalent to a US/NATO army group commander) has at

Aviation of the Front

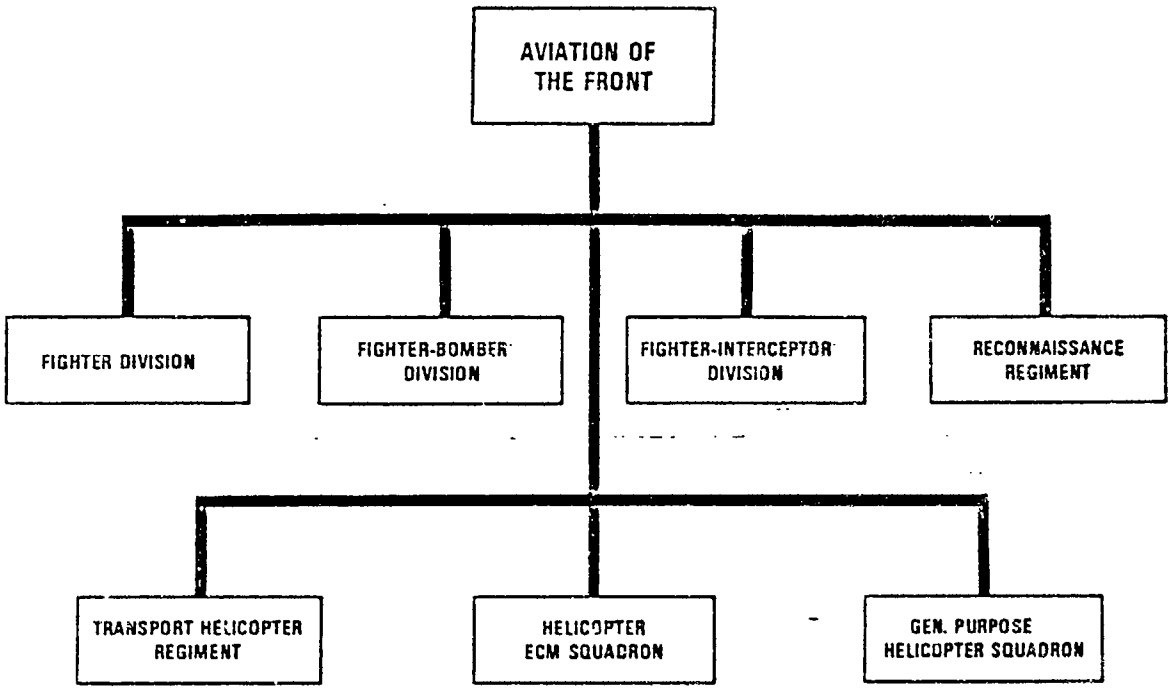


Figure 4-2

Fighter Division

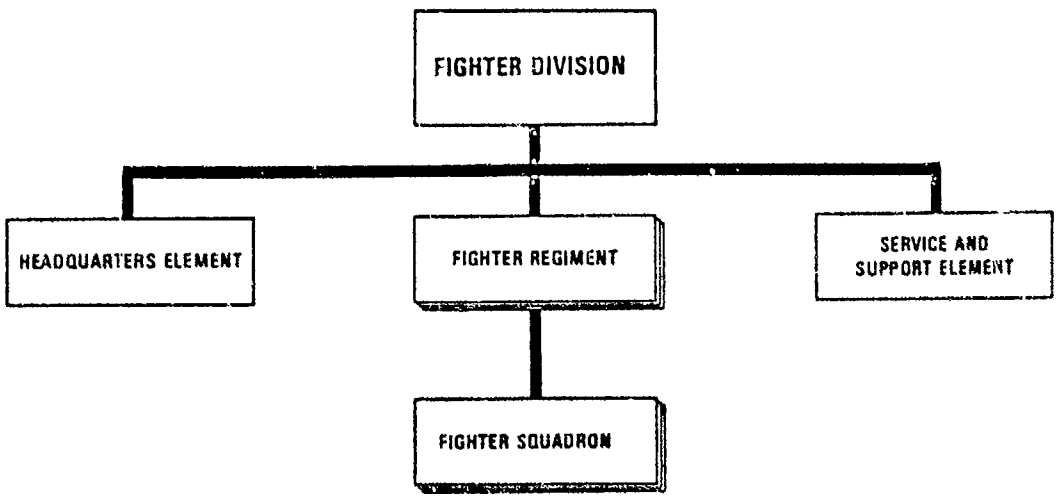


Figure 4-3

Notes:[38]

Aviation of the Front has no fixed organization and may be tailored to meet specific needs.

Fighter, fighter-bomber, and fighter-interceptor divisions have basically the same structure as a fighter division.

A fighter squadron normally consists of 12 aircraft divided into three flights.

the operational level all of the combat power under his command to accomplish goals as directed by theater strategy or other higher military authority. This difference between the U. S. and Soviet approach is fundamental; the Soviet operational level commander does not have a coequal air commander with whom coordination must be made. Air and Ground Forces are not, in the Soviet view, coequal and interdependent. Rather, they are both subordinate to the operational dictates of the front commander. The significance of this is that because of the Soviet functional approach, the necessity for U. S. joint doctrinal thinking to effectively integrate air and ground operations has increased exponentially.

NATO VS WARSAW PACT CAPABILITIES

Depending upon the source, the numerical imbalance which exists between the Warsaw Pact and NATO in combat aircraft may be as much as approximately 2.3:1 in favor of the Soviets.[39] This figure, however, includes only European based aircraft. The Soviets have three other significant advantages: first, secure and relatively short reinforcement routes, and second, many more military airfields for deployment of their air power resources.[40] Additionally, one significant advantage not reflected in

aircraft capabilities and their numerical superiority is that the weapons in service and the tactical doctrines for their use are standardized throughout the Warsaw Pact.[41]

The technology gap, which once gave NATO a qualitative edge over Warsaw Pact numbers, is closing. According to Air Marshall Sir Patrick Hine, the 2d Allied Tactical Air Force Commander:

> Aircraft such as the (SU24) Fencer, of which there are almost 400 facing us in the central region, are capable of reaching targets deep into western Europe, and of delivering their weapons, even in bad weather, with an accuracy comparable to our own. In the air defence role, Foxbat E (MIG-25) is now based in East Germany; and the Russian "F-18 ski," (MIG 29) the Fulcrum, is likely to be deployed forward within the next two years. The (SU27) Flanker, which looks similar to the U. S. F-15, may also appear in the forward area before too long.42

The fourth generation fighters mentioned above, the MIG 29 and SU27, both have look-down, shoot-down radar, a technology based upon Soviet access to the F-14's radar system in Iran.[43] In short, Soviet Air Force capabilities can no longer be characterized as short-legged, day only, with marginal crew training standards.[44] General Lew Allen Jr., former U. S. Air Force Chief of Staff, summed up the narrowing technology gap when he stated, "We now see a shift wherein this force is becoming more potent with a significant offensive striking capability with ranges that cause the U. K. no longer to be regarded as a sanctuary,

and with a capability of at least doing some attacking in night and bad weather conditions."[45]

The ability of NATO's forces to provide ground support to the maneuver commander would probably depend upon their ability to survive the air attacks and ground based air defenses of the Warsaw Pact.[46] William P. Mako stated in a 1983 study for the Brookings Institution that because NATO has fewer airfields and aircraft shelters than the Warsaw Pact, it would probably be at some disadvantage in waging its counterair campaign, however ... "NATO has been deploying new fighters, such as the F-15 and F-16; <and> . . . airborne warning and control systems (AWACS) are expected to give NATO a considerable advantage in battle management."[47]

The Airborne Warning and Control System, an integral part of the Tactical Air Control System, causes problems for Soviet air operations.[48] As of late 1984, 12 of the 18 E-3A AWACS planned for NATO had been delivered. According to James H. Hansen in an 1984 article published in International Defense Review, "Cruising over the western part of West Germany, AWACS can detect low-altitude targets deep in East German and Czechoslovak airspace. It can detect higher targets almost to the western borders of the USSR according to press reports. Accordingly, AWACS can help to deny the Soviet/Pact air forces the element of surprise in mounting attacks."[49]

NATO does still enjoy a narrowing margin of overall electronic superiority and probably had greater flexibility in comand and control in combat conditions.[50]

Any attempt to assess the conventional balance between NATO and the Warsaw Pact using comparisons of combat units or technological capabilities contains a large amount of uncertainty.[51] There are numerous, dynamic characteristics that make a clear-cut advantage difficult to evaluate; to name a few: doctrine, training, morale, geographical advantage, leadership, initiative, quality of equipment and units, and logistical support.[52] William P. Mako also succinctly addresses this problem in his 1984 Brookings study:

> Projections based upon a range of expert opinion about the military potential of both NATO and the Warsaw Pact forces indicate that neither side could count on achieving a decisive numerical edge. Under these circumstances, the outcome of a conflict could well hinge on factors other than numbers of troops and weapons. In some areas, such as air power, NATO seems to enjoy advantages that could compensate for numerical shortcomings in ground combat power.53

The essence of this discussion is that although the Pact may be somewhat numerically superior, neither side really has a clear-cut advantage. It is our ability to conduct joint AirLand warfare that will decide the outcome of some future conflict. Tables 4-1 and 4-2, from the 1984 book NATO Under Attack, support this assertion by

providing an interesting comparison between numbers and technology.[54] During World War II the operationally deficient French were defeated by German forces that were inferior in most categories of numbers and technology. The U. S. and NATO must counter what may be Soviet advantages by a superior joint operational doctrine. This superior joint operational doctrine is fundamental to battlefield success in the resource constrained, political environment within which democracies exist.

The balance, in numbers and technology, in the battle of France, 1940.

	France	Germany	Advantage held by
Numbers			
Men	3,500,000[a]	2,800,000	France (loser)
Tanks	3,800	2,574	France (loser)
Aircraft	2,100	3,000	Germany (victor)
Antitank guns	12,600	12,800	Indecisive
Technology			
Tanks	SOMUA	PzKW III	France (loser)[b]
Aircraft	Bloch152	Mel09	Germany (victor)
Antitank guns	47mm	37mm	France (loser)[c]

a. Includes French, British, Dutch, and Belgian ground/air forces in northeastern France and the Low Countries.
b. In terms of tank-versus-tank combat.
c. In terms of armor penetration versus opposing enemy tank armor.

Table 4-2

The balance, in numbers and technology, in a future conventional war in Central Europe.

	NATO	Warsaw Pact	Advantage held by
Numbers			
Men	738,000[a]	899,000[b]	Pact
Tanks	7,000[c]	20,500	Pact
Aircraft	2,251	3,950[d]	Pact
Antitank weapons	Large	Large	Indecisive[e]
Antiaircraft weapons	Moderate	Large	Pact
Technology			
Tanks	M60	T62	Indecisive
Aircraft	F4	MiG 21	NATO
Antitank weapons	TOW, LAW	SAGGER, RPG	Indecisive
Antiaircraft weapons	ROLAND, MARDER	ZSU-23/4	Indecisive

a. Does not include French forces.

b. Includes East German, Polish, Czech, and Soviet forces in those countries in peacetime.

c. Does not include French tanks.

d. Includes tactical bombers, fighter bombers, fighter interceptors, and reconnaissance aircraft. From International Institute for Strategic Studies, The Military Balance 1979-1980 (London, 1979), p. 11.

e. Both sides emphasize antitank weapons. The defensive strategic stance of NATO is reflected in the greater numbers of helicopter (TOW) and fixed-wing aircraft (A-10/GAU-8) antitank weapons.

Table 4-3

CORPS OPERATIONS - AN OVERVIEW

It is the army commander's campaign plan that "provides the concept of operations and objectives which will allow the corps commander to put his own plans in perspective vis-a-vis the overall army objective and the operations of adjacent corps."[55] Corps operations will require the synchronization of air and ground combat power.[56] That is why the corps commander must understand the overall air campaign plan, the overall theater interdiction campaign plan, and the resultant, expected apportionment of air resources. The allocation and use of air combat power by the army commander must fit within both the objectives of the various corps campaign plans and the objectives of the joint force commander's theater campaign plan. The army commander's intent must be clearly communicated to the corps commanders. The corps commander must understand how his corps fits into the army's mission in support of theater goals and how the army commander visualizes mission accomplishment.

Corps operations, therefore, are conducted in consonance with the army commander's campaign plan.[57] Current doctrinal thinking and objective realities posit that corps campaigns, such as would be conducted in Central Europe, generally consist of sequential phases which can be described as defensive, offensive, and exploitation.[58]

National strategy, such as our forward defense in Europe, dictates that the initial phase of a campaign would be operationally defensive. The objective of this phase is to reduce the tempo of the attacking force, to create an opportunity for offensive action(s), and to force the enemy to change his plan.[59] Once the attacker's tempo is disrupted, and he is forced to alter plans, the corps has an opportunity to regain the initiative and to force further enemy reaction.[60] The objective of the offensive phase is to sustain the initiative by rendering the enemy's first operational echelon combat ineffective.[61] During the exploitation phase, operational maneuver is conducted to accomplish army level objectives in consonance with the army commander's campaign plan. Therefore, each phase of the campaign plan must be designed to accomplish sequential objectives which build upon one another to accomplish the corps mission as assigned by the army commander. Additionally, each separate phase of the campaign plan is conducted with the understanding that the rear, close, and deep battles are "inextricably linked."[62] The Operational Concept For Corps Deep Battle describes this relationship:

> The key to this relationship between rear, close and deep battles is to avoid sub-optimization of any one region, and to allocate resources and establish priorities with the objective of the overall plan in mind . . .63

To fight and win, the corps commander must be able to synchronize his combat power in time and space as dictated by the flow of the battle. This synchronization of combat power is the corps commander's primary task; he must isolate and focus his efforts on the deep threat.[64] Table 4-4 illustrates the focus of each echelon of command and the depth of the battlefield in terms of the time that enemy formations are beyond the FLOT.[65]

AREAS OF INFLUENCE/INTEREST

TIME BEYOND FLOT (HRS)

LEVEL OF COMMAND	INFLUENCE	INTEREST	ENEMY ECHELON OF PRIME CONCERN
BATTALION	3	12	Lead Regts of Attacking 1st ECH Divs
BRIGADE	12	24	1st & 2d ECH Regts (1st ECH Div)
DIVISION	24	72	1st ECH Div of 1st ECH Army
CORPS	72	96	2d ECH Div of 1st ECH Army

Failure to achieve the required depth on the battlefield results in insufficient space and time to plan for and conduct proactive operations.

Table 4-4

The army and corps campaign plans must counter the two Soviet characteristics of aggressive offensive orientation and numerical superiority.[66] These campaigns plans must be proactive. Actions must alter the Soviet troop control and decision process, which essentially means disrupting follow-on forces, to cause the enemy to react to our actions. Figure 4-4 provides a summary of the analysis process that the corps commander and his staff might use to develop their proactive campaign plan.[67] The proactive options that arrive as output consider friendly means against enemy responses.[68] The object is to counter the enemy's ability to interfere with each proposed friendly course of action.

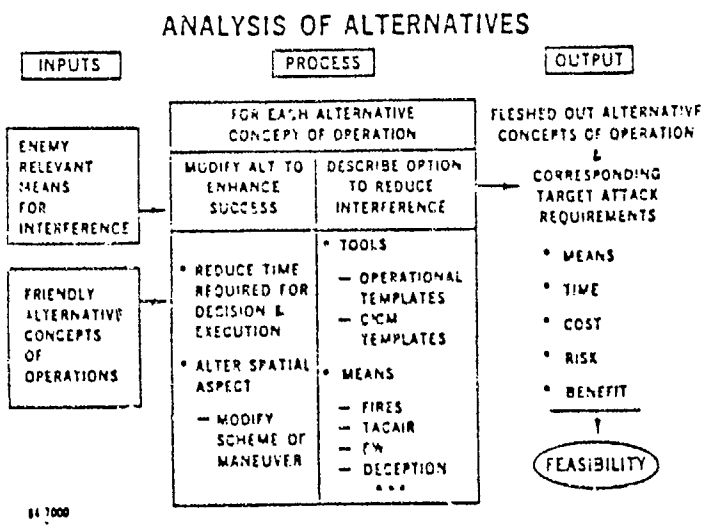


Figure 4-4

To be successfully proactive, the corps commander and his G3 both during planning and during the course of the battle must continually ask themselves five basic questions:[69]

- Where are we tactically?
- Where are we operationally?
- Where are we relative to the higher HQ plan?
- What is the most dangerous thing that the enemy can to do us that would prevent accomplishment of the corps mission?
- Given the above, what opportunities are there that can be exploited to achieve the corps operational mission?

The outputs from the above analysis will result in decisions regarding: forces, times, priorities, and locations.

The corps is the level of command where information from national systems and tactical systems is combined to form an accurate intelligence picture of the threat in depth.[70] As indicated in Figure 4-4, the corps uses this information both to plan future operations and to disrupt follow-on forces while the battle at the FLOT is underway. According to FM 32-20, Military Intelligence Group, in the corps area of influence the corps commander, to plan and conduct a proactive campaign, must have the locations of "enemy division and army command posts, NBC

delivery systems, radioelectronic combat units, logistic installations, communications, and frontal aviation operations centers."[71] Although specific capabilities are classified, the corps obtains this information from a variety of sources:[72]

- Subordinate divisions.
- Armored cavalry regiments.
- Corps MI units.
- Adjacent corps.
- Tactical air reconnaissance.
- Echelons above corps.
- National systems.

Therefore, the corps must integrate information from all sources to conduct a successfully proactive campaign. Generally, because of current capabilities, information that the corps receives beyond its area of influence will be provided by higher headquarters or national systems.

Finally, the result of the intelligence effort must be to determine where, when, and in what strength the main attack will occur. The corps campaign plan must shape the battle at the FLOT so that the campaign can become proactive and proceed logically to its offensive and exploitation phases. The significant point when considering the synchronization of air and ground combat based upon intelligence information is target value analysis.[73] The value of a given set of targets or enemy

capabilities is a function of their ability to influence the corps campaign at a given point in time and space. This is why AirLand warfare must be jointly conducted in consonance with the overall operational goals in the context of the theater campaign plan. Without the joint employment of forces in accordance with a single operational concept, we greatly reduce our ability to synchronize our combat power against high value target sets.

CENTRAL EUROPE - AN OVERVIEW

The lack of depth in the central region has a great influence on current campaign planning. According to U. S. Ground Forces and the Defense of Central Europe, "The lack of depth in the region discourages plans for wide-ranging defensive maneuvers of the kind the Germans executed in Russia during World War II":[74]

- From the East German border to Hamburg is less than 40 kilometers.
- From the East German border to the Rhine-Ruhr industrial area is less than 150 kilometers.
- From the East German border to Frankfurt is approximately 100 kilometers.
- Thirty percent of the West German population and 25 percent of its industrial base is within 100 kilometers of the border.

This strategy of forward defense is inherently risky. The Commander of Northern Army Group has stated that he has been ordered to defend "as far to the east as possible."[75] This forward defense with a lack of operational depth increases the risk of penetration and encirclement.[76] However, any attempt to change this overall strategy would be politically unfeasible within NATO.[77] Therefore, because of this theater's geographical characteristics, the synchronized use of air forces in consonance with the army campaign plan becomes even more important. The projection of air power through counter air, air interdiction, close air support and battlefield air interdiction can add operational depth to the battlefield. The synchronized execution of AirLand warfare is an absolute necessity, _especially_ in a theater with a forward defensive orientation and a lack of operational depth.

CONCEPTUAL BATTLE SCENARIO - OVERVIEW

The following scenario describes various air and ground AirLand warfare situations that could occur during the three phases of a corps campaign. The graphics and situations posited are based upon the illustrative example contained in the _Operational Concept for Corps Deep Battle_.[78] As such, the situations and criteria for operational effectiveness are descriptive in nature, and

not the result of a battle simulation. A battle simulation would align forces, "fight" the battle, and produce results that are somewhat empirical. This discussion, however, based upon the material previously presented in this paper, examines the possible battlefield implications of our current joint principles and procedures. The principal focus of this examination is:

- Air apportionment.
- Mission vice target lists.
- Use of the RIPL (Reconnaissance and Interdiction Planning Line).

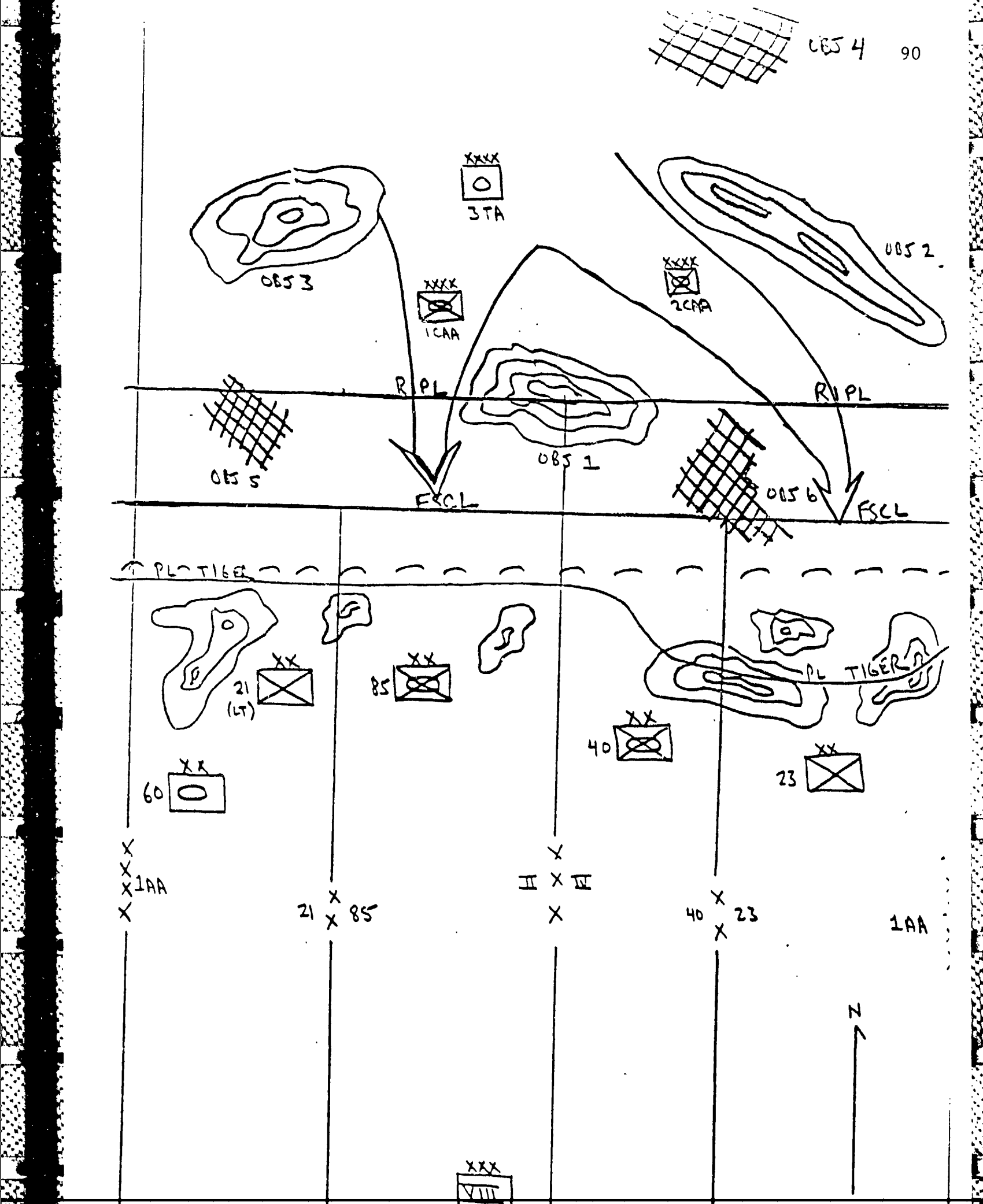
The criteria used to evaluate the above issues are:

- Responsiveness to corps commander's ability to synchronize combat power on the battlefield.
- Ability to support the air component commander's overall air campaign plan.
- Ability of the air campaign plan to support the goals of the theater campaign plan.

THE SCENARIO

The situation and army commander's concept follows:

The scenario begins on 15 December 198__ with an attacking Soviet front approaching a deployed blue army somewhere in Central Europe. The FLOT has stabilized as indicated on Figure 4-5. Relative air parity has existed to date. Intelligence collection efforts from a variety of


OBS 4
OBS 3
3TA
OBS 2
1CAA
2CAA
R PL
R PL
OBS 1
OBS 5
OBS 6
FSCL
FSCL
PL TIGER
PL TIGER
21
(LT)
85
40
23
60
1AA
21
85
II
III
40
23
1AA
N
VIII

sources and the subsequent analysis of data indicates that the front's main effort will be in the zone of the 85th Division, with a probable secondary effort in the zone of the 23d Division. The attacking front contains three armies, two combined arms armies in the first echelon and a follow-on tank army in the second echelon. A frontal OMG has not been identified.

The First Allied Army, which consists of II Corps and IV Corps, is defending as indicated in Figure 4-5. VIII Corps, positioned in depth in the army sector, is the army operational reserve. II Corps, on the left, consists of the 85th Mechanized Division, the 21st Infantry Division (Light), and the 60th Armored Division as the corps operational reserve. IV Corps, on the right, consists of the 23d Light Infantry Division, the 40th Mechanized Division, and has no operational reserve. Fourth Allied Tactical Air Force, which is the coequal air component fighting with First Allied Army, has E3-A AWACS aircraft operating as part of its Tactical Air Control System. To date, communications between the Corps, First Allied Army, and Fourth Allied Tactical Air Force have been effective.

The Army Commander's concept of operations is based upon the objectives of the Joint Force Commander's theater campaign plan. The Joint Force Commander has ordered the First Allied Army to render the attacking

front combat ineffective and seize the key line of communication center at objective 4. This supports the operations of the adjacent army and places the theater in an excellent position to defeat the Soviet follow-on fronts. The Army Commander's three phased campaign plan concept follows:

- Initially, First Allied Army defends; the purpose of which is to create an opportunity for offensive action and to force the enemy to shift the intended employment of his follow-on tank army to the east into the IV Corps sector. First Allied Army must control the battle at the FLOT. IV Corps will delay for 48 hours back to PL Tiger and hold at PL Tiger. This will cause the enemy to reinforce success and shift the focus of his main effort. Since this will not be a linear battlefield, corps commanders may allow penetrations of PL Tiger to execute their corps campaign plans. The important point is that the army show unyielding strength in the (West) II Corps sector and exploitable weakness in the (East) IV Corps sector.

- Once the enemy shifts the focus of his main effort toward the IV Corps sector, II Corps will have the opportunity to destroy the first echelon combined arms army through operational maneuver.

- Exploiting success, II Corps and VIII Corps will envelop the second echelon tank army and seize the key communications network at objective 4.

IV Corps:

- Conduct defensive operations in zone.

- Delay for 48 hours back to PL Tiger. Hold at Tiger.

II Corps:

- Initially defend the sector.

- Conduct operational maneuver to render the 2d echelon divisions of the lst echelon combined arms army combat ineffective.

- Control key terrain at objective 3.

- Be prepared to exploit success to objective 4.

- Be prepared to pass VIII Corps to the south of objective 3. On order, follow and support the VIII Corps exploitation to secure objective 4.

VIII Corps:

- On order conduct offensive operations through II Corps sector to envelop and destroy the 2d echelon tank army.

- Be prepared to continue the exploitation toward objective 4.

The Commander of the Fourth Allied Tactical Air Force has outlined his air campaign as follows:

The mission of the Fourth Allied Tactical Air Force is to defeat the attack of enemy forces, both air and ground, as far to the east as possible. The objectives in support of this mission are to obtain air superiority, protect friendly command and control, maximize air support to the army component, and maintain a friendly nuclear capability. Therefore, the initial response of the Fourth Allied Tactical Air Force is to provide for the defense of NATO air bases by achieving either general or limited air superiority by defeating phase one of the Soviet offensive, the air operation. Once air superiority is achieved to a degree that will allow an acceptable amount of operational freedom, dual mission capable aircraft will be increasingly re-roled to perform other missions. Based upon coordination with the First Allied Army Commander, Fourth Allied Tactical Air Force will recommend air apportionment to the AAFCE (Allied Air Forces Central Europe) Commander that provides for both the maintenance of air superiority and supports the critical ground maneuver of II Corps and VIII Corps. The purpose of the theater air interdiction campaign is to slow, disrupt, and delay follow-on forces by the interdiction of reserve forces, transportation nodes, communication facilities, supply points, and industrial facilities. It is essential that Fourth Allied Tactical Air Force synchronize its air interdiction campaign based upon the ability of high value

target sets to influence both the theater and army ground campaign plans.

CONCEPTUAL BATTLE SCENARIO - DISCUSSION

The remainder of this discussion will examine the joint operational effectiveness of II Corps.

Phase I. Thirty hours prior to the commencement of operations, the II Corps Commander received a confirmation of the sorties available. The contemporary principles and procedures contained in J-SAK and practiced in Central European NATO to arrive at this allocation would have been fundamentally different.

J-SAK:

- The J-SAK principle of air apportionment would have the Air Component Commander responsible for the entire theater interdiction campaign.

- Targeting is a continuous, dynamic process. II Corps forwarded its request for BAI targets to the BCE approximately 30 hours prior to the start of operations. The Fourth Allied Tactical Air Force Commander and his staff, the TACC, then prioritized their targets in accordance with the objectives of the theater air campaign and in coordination with the Ground Component (through the BCE).

- The Fourth Allied Tactical Air Force Commander decided to order the combat aircraft allocated for II Corps BAI missions to delay the 1st Combined Arms Army's second echelon divisions north of the corps FSCL for 24 hours. This would present a picture of unyielding strength in the II Corps sector and separate enemy units at the FLOT from their follow-on forces, thereby reducing the tempo of these attacking forces.

- Since the Air Component Commander is responsible for the <u>theater</u> air interdiction campaign, there was no use made of a planning line, such as the RIPL, within which the corps would <u>focus</u> its intelligence collection assets, planning efforts, and target analysis to synchronize combat power according to the Corps Commander's campaign plan.

- There was no joint planning at the operational level. There was joint coordination and consultation at the component level. However, the army component and air component coordinated through subordinate staffs, the BCE and TACC.

<u>NATO</u>:

- The air apportionment decision recognized the principle of Offensive Air Support. Therefore, the II Corps Commander was responsible for the joint air and ground force planning for the use of BAI and reconnaissance (RECCE) against high value target sets. The

Corps Commander would designate, not recommend, the attack of BAI targets.

- The Corps Commander and his Staff used the RIPL to focus their BAI efforts.

- The Army Group and Tactical Air Force Staffs are collocated; therefore, joint planning was conducted at the operational level, since II Corps in Phase I was basically conducting a tactical operation.

Discussion:

The successful execution of Phase I depended upon a myriad of factors. The Army Commander's campaign plan, which intended to show strength in the west and relative weakness for the east, required subtle execution and a closely coordinated synchronization of available combat power. Since one of the main concerns of the Joint Force Commander was the threat air operation, he approved the recommendation of the Air Component Commander to apportion the majority of the tactical air effort into the roles of counte air and defensive counter air in an attempt to defeat the threat air and attain air superiority. The Joint Force Commander approved the plans of the 1st Allied Army Commander and, as such, intended to commit available resources for execution. The Army Commander ensured that his subordinate Corps Commanders understood his intent and did not focus only on the threat in their corps sectors.

Phase II and III.

Phase I was successful. The counter air campaign through solid intelligence collection, good early warning, and the concentration of air resources defeated the initial Soviet air operation and local air superiority was obtained. II Corps controlled the battle at the FLOT. The II Corps Commander was able to synchronize the BAI assets he had available to slow, delay, and disrupt the second echelon divisions. The Soviet front commander, sensing weakness in the east, decided to alter his plan and have the 3d Tank Army follow the 2d Combined Arms Army to exploit success (see Figure 4-6).

On 17 December 198____, the II Corps Commander seized a "window of opportunity" and ordered 60th Armored Division to counterattack. The counterattack by the 60th Armored Division to destroy the 2d echelon divisions and control the key terrain at objective 3, was the priority, operational effort for the First Allied Army. The IV Corps Commander, familiar with the Army Commander's intent, knew that the air effort would be weighted in II Corps' favor. Although local air superiority had been obtained, the Fourth Allied Air Force Commander still had to maintain a somewhat reduced counter air and defensive counter air effort. The Army Commander, concerned about IV Corps' ability to hold at Tiger, was anxious to follow the success of 60th Armored Division with the VIII Corps

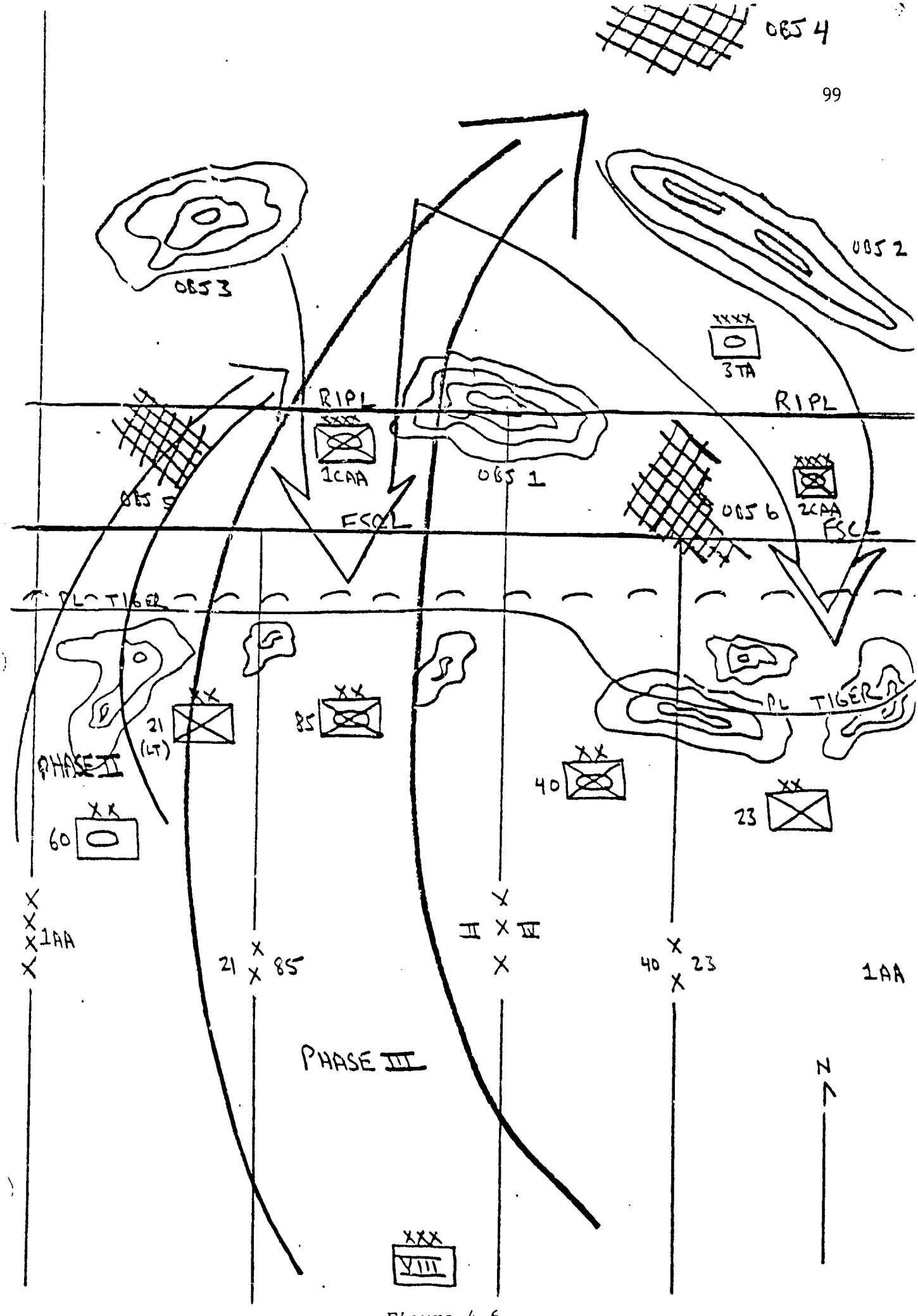

OBS 4
OBS 3
OBS 2
3TA
RIPL
RIPL
1CAA
OBS 1
OBS 5
OBS 6
2CAA
FSCL
FSCL
PL TIGER
PL TIGER
21
(LT)
85
PHASE II
40
23
60
1AA
21
85
II
III
40
23
1AA
PHASE III
VIII
N

Figure 4-6

exploitation. Once again, J-SAK and Central European NATO's principles and procedures would have been fundamentally different:

J-SAK:

The Air Component Commander was responsible for planning the interdiction efforts in support of the maneuver of the 60th Armored Division. The BCE received the corps BAI and AI target lists on 15 December and continuously updated the lists as new information was received. The Fourth Tactical Air Force and First Allied Army coordinated through the BCE/TACC concerning the synchronization of combat power in support of this operation. The BAI targets were part of the theater interdiction campaign; therefore, the Air Component Commander was the approval authority. The Corps Commander assigned II Corps the majority of Close Air Support (CAS) sorties.

- Because this deep maneuver would create highly fluid situations, the Corps Commander requested that the air component accept the mission of interdicting key road networks to cause confusion and prevent the second echelon divisions from maneuvering against the 60th Armored Division.

- During the exploitation phase, the priority of air effort would shift to VIII Corps. Although the VIII Corps Commander had identified tentative BAI targets, he had no definitive guidance concerning where to focus his

BAI planning efforts because the Air Component Commander was responsible for the entire air interdiction campaign. As a result, there was no definitive area within which to focus planning efforts.

NATO:

- As the Army main effort, II Corps received the majority of Offensive Air Support. The II Corps Commander, focusing on the operational maneuver of the 60th Armored Division, planned his BAI sorties to synchronize the maximum amount of combat power against the second echelon threat divisions.

- A series of phase lines were established that served as on order RIPLs. This enabled the corps to focus its BAI planning efforts in conjunction with the "decision triggers" necessary for the maneuver of the 60th Armored Division. Additionally, during Phase III, the on order RIPLs allowed a smooth air power transition as VIII Corps passed through II Corps and continued to exploit north. The RIPL was an additional control measure that enabled the VIII Corps Commander and Staff to focus their planning efforts.

Discussion:

The defeat of the Soviet front in Phases II and III was the result of an aggressive AirLand warfare army campaign conducted in consonance with theater objectives. Many variables influenced the outcome of this proactive

campaign. The air and ground coordination necessary to conduct the division and corps deep maneuver was highly intensive. The entire ground campaign plan hinged on the ability of the air component to obtain at least local air superiority thereby allowing ground formations the freedom to maneuver without significant tactical air threat interference. Once air superiority was obtained, air and ground forces fought together under a single operational concept to achieve the campaign goals.

JOINT DOCTRINAL IMPLICATIONS

The following section briefly examines the joint doctrinal implications of J-SAK vice NATO as described in the preceding scenario according to the following, previously mentioned, criteria:

- responsiveness to corps commander's ability to synchronize combat power on the battlefield.
- Ability to support the air component commander's overall air campaign plan.
- Ability of the air campaign plan to support the goals of the theater campaign plan.

J-SAK:

- Responsiveness to Corps Commanders ability to synchronize combat power on the battlefield:

The Air Component Commander was responsible for the entire theater interdiction campaign. According to J-SAK, air interdiction planning and execution is the responsibility of the air component commander. Since the theater interdiction campaign includes both NORTHG and CENTAG, the responsiveness to a single corps commander's ability to synchronize combat power on the battlefield was dysfunctional and depended upon perfectly communicated intentions across the spectrum of multi-corps operations.

Mission type orders (auftragstaktik) to the Fourth Allied Tactical Air force were fundamental to success. Without a certain amount of mission execution by the air component, the complicated procedures for passage of interdiction target lists and their approval would have to function almost perfectly to result in the effective synchronization of combat power. Furthermore, the time-lag between target passage and target attack in a fluid situation would only serve to de-synchronize the effects of combat power.

- Ability to support the air component commander's overall air campaign plan:

The principles and procedures outlined in J-SAK would appear to effectively support the air component commander's overall air campaign plan. However, without joint operational planning it is doubtful that the theater commander's intention could be effectively translated

into a cohesive plan suitable for multi-army group/corps operations.

- Ability of the air campaign plan to support the goals of the theater campaign plan:

The theater campaign plan provides the single operational concept upon which joint forces are employed. Since there is no land component commander in Central Europe, the air component commander (Allied Air Forces Central Europe) has no headquarters with which to jointly plan operations. Therefore, the air component (AAFCE) may issue operational guidance to subordinate Air Forces based upon one interpretation of the theater commander's intentions while the army groups interpret somewhat differently the same intentions. Since J-SAK provides for joint coordination and consultation below the joint force commander level, air and ground operations may not be synchronized with a single operational concept. The benefits derived through joint planning do not exist. Therefore, the abilities of the joint force to synchronize combat power are reduced.

NATO:

- Responsiveness to Corps Commander's ability to synchronize combat power on the battlefield:

Because BAI is a part of offensive air support (OAS) and not part of AI, the air component commander was not responsible for the entire theater interdiction

campaign. In this multi-corps environment, the corps commanders had the ability to designate BAI targets that would support their campaign plans. In a resource constrained theater, this allowed the corps commanders to focus their interdiction planning efforts and to synchronize the employment of combat power in time and space according to a single operational concept.

Without mission-type target execution (auftragstaktik) by the Fourth Allied Air Force, the procedures established for BAI target identification and BAI target list passage had to function perfectly. In a fluid combat environment "target list procedures" may not provide the responsiveness necessary to disrupt, delay, or destroy enemy follow-on forces.

The use of the RIPL fit within the context of offensive air support. It provided a means by which the BAI and AI planning efforts could be separated, thus avoiding duplication of effort. Furthermore, as previously mentioned, the RIPL allowed the II Corps Commander to focus his BAI planning efforts to synchronize combat power in consonance with the operational concept. However, with the use of the RIPL as a planning and control measure, the First Allied Army Commander had to ensure that his corps commanders did not focus their BAI target interest only within their areas of influence. The Army Commander had to also ensure, through joint planning with the Fourth Allied

Tactical Air Force Commander, that the individual corps BAI targets mutually supported adjacent corps and were integrated into the theater interdiction campaign. Without the use of the RIPL there would have been no definitive division of BAI area responsibility. Furthermore, BAI would have been much more difficult to synchronize in support of the maneuver of the 60th Armored Division and VIII Corps.

- Ability to support the air component commander's overall air campaign plan:

The Fourth Allied Tactical Air Force was assigned the mission of defeating the attack of enemy forces, both air and ground, as far to the east as possible. The objectives of obtaining air superiority, protecting friendly command and control, maximizing air support to the army component, and maintaining a friendly nuclear capability required a functional concept jointly planned to achieve the campaign objectives of the Theater Commander. The collocation of First Allied Army and Fourth Allied Tactical Air Force Headquarters was fundamental to the success of this operation. Additionally, the Army Commander, because of the joint air and ground planning at his level, had the ability to provide available BAI sorties to his subordinate corps in consonance with his campaign plan. Joint planning, collocation of headquarters, and the ability to synchronize air and ground forces through a

thoroughly coordinated interdiction campaign allowed the air component commander the flexibility to effectively concentrate his combat power.

- Ability of the air campaign plan to support the goals of the theater campaign plan:

The Central European theater is structured basically as it was during World War II. There are two Army Group Headquarters, each of which fights with a coequal and interdependent Allied Air Force. There is no land component commander; however, there is an air component commander (AAFCE) much the same as existed during the initial phases of the Second World War's European Campaign. Granted, things have become more complicated in Central Europe's multi-national coalition environment, but the basic structure remains the same as it did forty years ago. Currently, the theater commander issues broad guidance that is translated into operational campaign plans at the Army Group/Allied Tactical Air Force level. NATO principles and procedures recognize that the theater commander cannot possibly micro-manage daily air apportionment decisions. Furthermore, it also recognizes that the air component commander cannot possibly micro-manage the interdiction effort for the entire theater. The theater commander's broad air priority guidance and campaign plan provides the basis upon which

the Army Group and Allied Tactical Air Force Commanders formulate their plans.

In the preceding scenario, the air campaign plan was functionally designed to support the goals of the theater commander. The counter air and interdiction efforts provided the concentration of combat power in consonance with the First Allied Army campaign plan. Offensive air support provided the II Corps Commander the ability to synchronize combat power in support of his operational plan. However, the presence of an air component headquarters without a coequal land component headquarters could be dysfunctional without a clear understanding by the AAFCE Commander regarding the Joint Force Commander's intent.

CRITERIA FOR OPERATIONAL EFFECTIVENESS

- Success of the counter air campaign and the ability to maintain at least local air superiority was fundamental.

- The complexity of this operation points to the fact that joint planning at the army level was probably necessary to conduct this functional AirLand warfare multi-corps campaign. Without the collocation of Fourth Tactical Air Force and First Allied Army staffs, coordination and communication of intent would have to be "text

book style" for success. Battle attrition and communications loss, which are just two of the many frictions of war, would have greatly reduced First Allied Army's ability to operate in fast moving, fluid, multi-corps situations where coordination was conducted through a TACC/BCE, IAW J-SAK procedures.

- The First Allied Army Commander's campaign plan was the basis of the entire corps operation. The Army Commander had to ensure that his Corps Commanders did not focus only on their corps areas of interest. Rather, they had to plan with a perspective vis-a-vis the army plan.

The necessity for the Fourth Allied Tactical Air Force Commander, First Allied Army Commander, and II Corps Commander to understand completely the Joint Force Commander's goals were also fundamental.

- The First Allied Army Commander, to request air support realistically and plan his ground campaign, had to understand the Fourth Allied Tactical Air Force Commander's campaign plan and how the two fit together according to the Joint Force Commander's concept.

- The ability of the II Corps Commander to effectively synchronize air and ground combat power in accordance with his campaign plan was crucial to success. During Phase I, the II Corps Commander used the limited BAI sorties that he received to slow, delay, and disrupt

the second echelon divisions of the first echelon army. Since the priority of effort was directed toward the counter air campaign, the BAI sorties available were synchronized against high value target sets.

- The cooperation and mutual understanding of air and ground forces greatly increased their operational effectiveness. The acceptance of mission oriented air requests by the air component was fundamental to their ability to successfully accomplish the objectives of the air campaign plan.

SUMMARY

Chapter Four initially examined the organizational levels at which joint planning is coordinated and determined that the combat radius of aircraft, which is a main determinant in their ability to concentrate on the battlefield in support of an operational concept, is not logically connected to the level at which the joint employment of this resource is planned. As a second step, the threat overview concluded that the difference between the U. S. and Soviet approach is fundamental; the Soviet operational level commander does not have a coequal air commander with whom coordination must be made. Because Soviet air and ground forces are both subordinate to the

operational dictates of the front commander, the necessity for U. S. joint doctrine to effectively integrate air and ground operations, thereby overcoming its inherently dysfunctional nature, has greatly increased. As a third step, the brief overview of corps operations posited that Army and Corps campaigns must counter the two Soviet characteristics of aggressive offensive orientation and numerical superiority. Actions must alter the Soviet troop control and decision process, which essentially means disrupting follow-on forces, to cause the enemy to react to our actions. Finally, Chapter Four deduced the criteria for operational effectiveness necessary to fight and win on the modern battlefield. These criteria are not procedurally oriented; rather, they are fundamental principles applicable to modern AirLand warfare. Without air and ground agreement concerning the fundamental joint principles necessary to fight and win issues such as air apportionment, joint planning levels, mission vice target lists, and the use of the RIPL (Reconnaissance and Interdiction Planning Line) will continue unresolved in our joint doctrinal thinking. In short, the use of procedures to conduct AirLand warfare in the absence of agreement concerning fundamental joint principles is a dysfunctional approach to the issue.

The historical model examined in Chapter Two is fact. The essence of this argument then becomes which of

our current principles and procedures based upon the World War II criteria and the modern operational scenario criteria are most applicable to modern AirLand warfare. Chapter Five, therefore, concludes this paper with a discussion concerning the adequacy or inadequacy of our doctrine to support AirLand warfare at the operational level of war.

CHAPTER FOUR

END NOTES

[1]Jane's - All the World's Aircraft, 1945-46 (New York: Jane's Publishing Company LTD, 1946) p. 273.

[2]Ibid., p. 233.

[3]Ibid., p. 301.

[4]Jane's All the World's Aircraft, 1978-79 (New York: Jane's Publishing Company LTD, 1984) p. 373.

[5]Jane's - All the World's Aircraft, 1983-84 (New York: Jane's Publishing Company LTD, 1984) p. 432.

[6]Ibid., p. 375.

[7]Interview with MAJ Donald M. Krempel, U. S. Air Force Section, CGSC, January 4, 1985.

[8]Gorman, P. F. General USA, "What the High Technology Edge Means," Defense 83 (Washington, D.C.: U.S. Government Printing Office, June 1983) p. 26.

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CHAPTER FIVE

This chapter reviews, in summary form, the gist of the argument developed so far and provides this author's answer to the question.

In a 1984 article, "Targeting Soviet Forces," Lieutenant Colonel Donald M. Mercer stated in simple terms the problem facing our joint doctrinal thinkers, "The success of AirLand battle hinges on attacking the critical elements of enemy formations with the maximum means available in the minimum amount of time."[1] A recurring theme throughout this paper has been that to achieve this synchronization of AirLand forces the U. S. Army and U. S. Air Force must practice a joint doctrine that enables them to concentrate the maximum amount of combat power based upon an operational concept at the decisive point in time and space against enemy forces. Therefore, in support of this theme, the central question examined in this paper has been: Focusing on the control and use of air power, to what extent do current U. S. Army and U. S. Air Force principles and procedures provide for the effective conduct of AirLand warfare at the operational level of war under modern conditions?

Chapter Two examined how the AirLand warfare principle of coequal and interdependent air and ground forces developed in World War II. The principles and procedures

developed in North Africa through experience, and solidified with the publication of FM 100-20, were proven to be operationally sound. Practical men had developed a workable solution to the problem of operational joint doctrine for air and ground forces. They designed a system that would gain air superiority as a first priority and then attack targets in consonance with a campaign plan. The most significant criteria that caused the AirLand campaigns to succeed, as established in Chapter Two, were:

- Air and ground organizations were structured to support the fundamental concept of air superiority while taking into account the air force flexibility to concentrate combat power rapidly.
- Headquarters were collocated at the operational level (army/tactical air command).
- The interface of the air and ground component commanders was at the field army/tactical air command level because the SYSTEM WAS ORGANIZATIONALLY DESIGNED TO SUPPORT AIRLAND WARFARE AT THE OPERATIONAL LEVEL.

The air/ground interdependent and coequal system, as originally designed by General Bernard Montgomery and reflected in FM 100-20 was intended to function at the operational level of war. Montgomery summarized in a few words how he solved the air/ground coordination and cooperation problem:

> All that is required is that the two staffs should work together at the same HQ in complete harmony, and with complete mutual understanding and confidence.2

Chapter Two concluded that our current air and ground command and control organizational arrangements and relationships were built upon the principles and procedures established in the Second World War.

Chapter Three examined our current joint AirLand warfare doctrine, as established by the J-SAK, and the significant conceptual differences that exist between this doctrine and the "unofficial" doctrine of NATO's Allied Air Forces Central Europe (AAFCE). The J-SAK, most significantly, establishes that:

- The land component commander and air component commander consult and coordinate with each other. They command coequal and interdependent forces.

- The air component provides close combat support (close air support). He provides general support (counter air and air interdiction) by the maintenance of air superiority and interdiction.

- Battlefield Air Interdiction is a subapportionment of air interdiction and <u>not</u> a separate effort.

- The Tactical Air Control Center and Battlefield Control Element conduct consultation and coordination. Joint planning by the staffs of the air and ground component commanders does not occur. Therefore, there is no joint planning or execution at the operational level.

- Tactical air support requests may be submitted in the form of MISSION ORIENTED REQUESTS. (For example, delay the 2nd Motorized Rifle Division north of the Yellow River for five hours).

- The land component commander prioritizes BAI targets. The air component commander prioritizes AI targets and makes final interdiction target selection.

NATO, however, based upon the principle of air superiority first, with limited resources for simultaneous tactical air missions, has established fundamentally different principles and procedures for modern AirLand warfare:

- The army group/tactical air force headquarters are collocated and jointly plan operations.
- BAI is not part of AI. It is apportioned as part of Offensive Air Support and is a direct support asset.
- The air component commander does not manage the entire theater interdiction campaign; rather, he is responsible for the interdiction planning for those targets/missions beyond the Corps/Army Group RIPL.

Chapter Three concluded that Central European principles and procedures for AirLand warfare are approached from a substantially different perspective, recognizing the maintenance of air superiority, and also the necessity for offensive Air Support in direct support of the operational commander.

Chapter Four deduced criteria for joint operational effectiveness as examined in the context of a conceptual battle scenario. As background information, Chapter Four determined that:

- The combat radius of aircraft, which is a main determinant in their ability to concentrate on the battlefield in support of an operational concept, is not logically connected to the level at which the joint employment of this resource is planned.
- The difference between the U. S. and Soviet approach is fundamental because the Soviet air and ground forces are both subordinate to the

operational dictates of the front (approximately equivalent to U. S. Army Group) commander.

- Army and corps campaigns must counter the two Soviet characteristics of aggressive offensive orientation and numerical superiority through a disruption of follow-on forces.

At the conclusion of the conceptual battle scenario, the most significant criteria for joint operational effectiveness that were deduced in Chapter Four suggested that fundamental air and ground joint operational principles from World War II remain basically valid today:

- Air superiority is fundamental.
- Joint planning and collocation of staffs are key.
- The corps commander must have the ability to synchronize effectively air and ground combat power in accordance with the operational campaign plan. As a result, the corps commander must be able to designate BAI targets and have an area within which to focus his planning efforts.

Chapter Four concluded that these criteria are not procedurally oriented. They are fundamental principles applicable to modern AirLand warfare. Without agreement concerning fundamental joint principles, J-SAK vice Central Europe, the use of "official procedures" prescribing the joint conduct of AirLand warfare is a dysfunctional approach to the issue.

Conceptually, the Army and Air Force view the term "doctrine" differently. Doctrine, in Army terms, conceptually translates into "how the Army fights." Doctrine, in Air Force terms, conceptually translates into "a statement

of officially sanctioned beliefs and war fighting principles." Simply put, the Army will fight wars based upon its doctrine while the Air Force may fight its wars based upon "theater specific doctrines" that will be more specific than that which is "officially sanctioned."

General Lew Allen, Jr., a former U. S. Air Force Chief of Staff, summed up the importance of focusing the majority of our joint doctrinal efforts on our most dangerous threat when he stated in 1982, "We are thus faced with a confrontation which we must fully address. As far as the United States is concerned, Europe is the central focus of that confrontation."[3] This seems to create a paradox for the Air Force. While Europe provides the most dangerous high intensity battlefield threat, and indeed the resultant justification for many of the U. S. Air Force's procurement efforts, there still exist fundamental differences between "officially sanctioned" joint doctrines and those established for Central European AirLand warfare.

The J-SAK Joint Service Agreement and Procedures Manual is a significant step forward in U.S. Army and U.S. Air Force "jointness." These documents are among our first joint statements concerning how air and ground forces will conduct modern warfare. Not intended to be theater specific, the intention of J-SAK is to provide a generic joint doctrine which allows a theater the flexibility to

modify this doctrine in accordance with its specific requirements and peculiarities. The single greatest flaw with J-SAK is that it attempts to establish procedures without establishing fundamental principles for AirLand warfare.

Without overstating the case, the significant point missed in most doctrinal debates when addressing at what level joint planning should occur, is that the corps is now recognized as the organizational level at which operational warfare is usually conducted. Therefore, it is at this level that joint planning by "two staffs . . . at the same HQ in complete harmony" should occur. J-SAK, however, advocates coordination and consultation at the air and land component level and makes no provisions for joint planning at the corps/operational level. Central Europe recognizes the necessity for joint planning and has therefore collocated the Army Group and Tactical Air Force Staffs. However, even in Central Europe, there is no institutionalized method for joint planning at the corps level when and if a corps would conduct operational level warfare. In short, the principle should be joint planning and collocation of headquarters at the operational level regardless of the organizational level at which operational warfare occurs. Our current joint doctrine is inadequate because it establishes only coordination and consultation at the operational level.

The J-SAK formally recognizes the concept of an air and land component commander in a theater of operations. This principle may be effective in a theater with one or two corps or possibly a single army group. However, if Central Europe is the focus of our readiness efforts, it seems dysfunctional to advocate a doctrine that is unworkable in that theater. There was no land component commander in Central Europe during World War II and, by definition, there is no land component commander in Central Europe today. Furthermore, although there is an air component commander in Central Europe (Commander of Allied Air Forces Central Europe), the procedures outlined in the J-SAK further complicate AAFCE's role in theater level warfare. Since the AAFCE Commander has no land component headquarters with which to plan, it is critical that the AAFCE Commander have the same understanding of the theater commander's intent as the army group commanders. Otherwise, the air effort may be out of synchronization with army group campaign plans. Our current joint doctrine is inadequate because it establishes the specific principle of a land component commander in a theater of operations and procedurally builds upon this principle. Therefore, not only do we have a joint doctrinal principle that cannot be universally applied, it does not apply to the theater in which we face our most dangerous threat, Central Europe.

Air superiority is fundamental. It is how best to employ the limited resources for simultaneous tactical air missions that has driven the conceptual thinking concerning how best to employ air power. Once again, the system was originally designed at the operational level of war to gain air superiority first and to attack targets in consonance with the operational campaign plan. Following this line of thought, it then makes good sense to separate BAI from AI. This gives the operational commander the ability to focus his planning efforts and designate targets/missions which synchronize combat power. BAI should be commanded and controlled by the Air Force. BAI should only be allocated to a corps in consonance with an army campaign plan agreed upon through joint planning with the corresponding air commander's staff. BAI is nothing more or less than another combat power resource used to accomplish an operational objective. The NATO principle of air apportionment recognizes and reflects the historical framework upon which AirLand warfare was built. Therefore, our current joint doctrine, as established by J-SAK, is inadequate concerning the synchronization of combat power at the operational level of war. Simply stated, the J-SAK principle that the air component commander is responsible for the entire theater interdiction campaign, and, therefore, designates BAI targets prioritized by the operational commander does not give the operational commander

the ability to focus planning efforts and synchronize combat power in consonance with an air/ground campaign plan.

To conduct modern AirLand operations effectively we cannot keep a "target list mentality." Patton illustrated the validity of mission oriented air requests in fast moving, fluid situations when the XIX Tactical Air Command protected the Third Army's right flank as it moved across France. The J-SAK recognizes the necessity for mission oriented air requests. This is a significant step forward and represents a milestone in our joint ability to conduct modern operational warfare. The institutionalization of this principle will have tremendous implications for the Air Force. Mission oriented air requests will undoubtedly change their approach to training (mission vice target) and will more <u>functionally</u> integrate the Air Force into campaign planning and execution.

The thesis of this paper based upon the previously presented rationale is that although the J-SAK has significantly enhanced inter-service dialogue and is an important step forward in "jointness," the joint doctrinal principles and procedures as practiced in Central European NATO most closely approximate historical antecedents and provide for the most effective conduct of AirLand warfare at the <u>operational</u> level of war under modern conditions. This argument is not based upon a Central European doctrine that is theater specific; rather, it is based

upon fundamental principles and procedures for AirLand warfare, as reflected in historical fact, that should be roughly applicable to all theaters at the operational level of war.

Finally, the solution to our joint, generic AirLand warfare doctrine should recognize fundamental criteria for war fighting based upon historical fact and procedurally adapted to modern circumstances. The essence of these joint doctrinal principles at the operational level of war are reflected in the following five criteria which are necessary, although not sufficient, conditions for operational success:

- The campaign plan drives all air and ground activities.
- Air superiority is fundamental and must be obtained in consonance with the goals of the campaign plan.
- Air and ground staffs should be collocated and jointly plan at the operational level.
- Air Force acceptance of missions as part of the overall campaign plan vice target by target requests is key to our joint ability to execute AirLand warfare doctrine.
- The operational commander must have the ability to synchronize effectively air and ground combat power in consonance with an operational campaign plan.

Our joint AirLand warfare doctrine as established in J-SAK must provide a fundamental framework of generic principles and procedures required to target and attack Soviet forces. As currently written, fundamental principles are

not established. The J-SAK should be descriptive vice prescriptive, establishing doctrinal principles applicable to all theaters with a focus upon our most dangerous threat, that of the Soviets in Central Europe. The five criteria mentioned above do provide a fundamental framework of principles which can be procedurally adapted to specific theaters. Furthermore, these criteria closely reflect historical precedent and closely approximate those principles already established for AirLand warfare in Central Europe.

Hopefully, this paper has indeed made you think about our joint doctrine and its implications on the modern battlefield. Also, hopefully, it has provided an increased understanding of how the Army and Air Force intend to fight the next war and the effectiveness of our current principles and procedures to prosecute this war successfully. In developing our joint doctrine we must never forget that the difference between the U. S. approach to AirLand warfare and the Soviet approach is fundamental: the Soviet air and ground forces are both subordinate to the operational dictates of the frontal commander. Therefore, to overcome this difference our coequal and interdependent air and ground forces must be employed with doctrinal principles that effectively synchronize our forces based upon a single operational concept at a decisive point in time and space. Both the

the U. S. Army and U. S. Air Force have common interests. Both services want to fight and win. Both Services want a highly functional joint doctrine that maximizes the flexibility of air power to concentrate on the battlefield. The J-SAK, as previously mentioned, is a significant step forward. It provides a specific point of departure in the thinking concerning our joint AirLand warfare operational doctrine. Now is the time to capitalize on our common interests and to develop fundamental joint principles. The Soviets are not omnipotent. We can indeed fight and win. As with the French in World War II, it is a matter of doctrine, not numbers.

END NOTES

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[2]Allen, Lew Jr. General, "U. S. Air Power," U. S. Military Power in the 1980s, (London: McMillian Press LTD, 1983) p. 115.

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APPENDIX 1

DEFINITIONS

Air Allocation. "Allocation is a function of the air component commander which is based on and refines apportionment by converting the broad directives of the joint force commander into gross numbers of sorties for application to each tactical mission."[1]

Air Interdiction. "Air interdiction operations are conducted to destroy, neutralize, or delay enemy ground or naval forces before they can be brought to bear against friendly forces."[2]

Combined Force. A force formed "between two or more forces or agencies of two or more allies."[3] Often used in World War II terminology to describe a "joint force."

Component Commander. "The senior officer of each service assigned to a unified command."[4] The land component commander exercises command of all assigned land forces in a joint force and the air component commander exercises command of all assigned air forces in a joint force.

Counterair Operation. "Counterair operations are conducted to gain and maintain air superiority by destroying or neutralizing an enemy's air capability."[5]

Joint Force. "A general term applied to a force which is composed of significant elements of the Army, the Navy, or the Marine Corps, and the Air Force, or two or more of these services operating under a single commander authorized to exercise unified command or operational control over joint forces."[6]

Tactical Air Control Center (TACC). "As the combat operations center of the ACC, <air component commander>, the TACC supervises the activities of assigned and attached air forces and monitors the actions of both friendly and enemy forces . . . . The TACC is the operational facility in which the ACC and elements of his tactical headquarters operations and intelligence staff have centralized the functions of planning, direction, and control over tactical air resources. Personnel at the TACC conduct Air Force tactical planning in coordination with the BCE, as appropriate, on the selection of weapons systems, units, force package composition . . . times on target, ordnance selection, and the myriad associated details of tactical air control arrangements. The TACC dispatches air tasking messages and/or tasking orders to

the flying units, air support operations centers (ASOC) located at the corps headquarters, and other appropriate agencies of the TACC."[7]

Tactical Air Control Party (TACP). "The TACP is an Air Force control element stationed with and supporting an Army combat unit. TACPs are located with corps, division, brigade, and battalion levels and are tailored in manning and skills to Army unit to which they are attached. . . . The TACP provides the interface between the Army unit to which it is attached and the Tactical Air Force unit providing tactical air support. The TACP advises the ground commander on the capabilities and limitations of tactical aircraft and weapons and assists in planning for tactical air support."[8]

Tactical Level of War. "Tactics are the specific techniques smaller units use to win battles and engagements which support operational objectives . . . . At corps and and division, operational and tactical levels are not clearly separable."[9] The tactical level of war usually refers to units of division size of smaller.

Second Echelon. The J-SAK Service Agreement defines the second echelon as: "Enemy ground military formations

not directly engaged in the battle at the FLOT and positioned behind the forces in contact as a reserve force, a Soviet-style second echelon, an operational maneuver group, or a follow-on force. These include combat forces, combat support, combat service support, and associated command, control, communications, and intelligence (C3I) elements."[10]

APPENDIX 1

END NOTES

[1]RB 110-1, U. S. Air Force Basic Data. (Ft. Leavenworth: CGSC, 1983), p. 4-28.

[2]Ibid., p 4-18.

[3]Armed Forces Staff College Publication 1, Joint Staff Officers Guide. (Norfolk: AFSC, 1983), p. II-3.

[4]Ibid., p. II-2.

[5]RB 110-1, p. 4-16.

[6]AFSC-1, p .II-5.

[7]TAC-TRADOC-REDCOM. General Operating Procedures for Joint Attack of the Second Echelon. (HQ, USAF Tactical Air Command, U. S. Army Training and Doctrine Command, and U.S. Army Readiness Command, 31 December 1984), p. 3-1, 3-2.

[8]Tactical Air Command Manual 2-1, Tactical Air Operations. (Langley Air Force Base: Headquarters Tactical Air Command, 15 April 1978), p. 3-7.

[9]Department of the Army, Field Manual (FM) 100-5, Operations. (Washington, D. C.: U. S. Government Printing Office, 1982), p. 2-3.

[10]U. S. Army and U. S. Air Force, Joint Service Agreement for the Joint Attack of the Second Echelon. (Washington, D. C.: Headquarters, Department of the Army and Air Force, November 1984), p. 4.

NORTHWEST AFRICAN TACTICAL AIR FORCE HEADQUARTERS

May 12, 1943.

SUBJECT: Organization of African Air Forces.

TO : Commanding General, Army Air Forces, Washington, D. C. (Through Channels)

I. SUMMARY

The organization of the air units in North Africa for the support of ground forces from November 1942 through February 1943 proved to be unsound in battle. During that period the failure to achieve a satisfactory degree of success in fighting in the air, on the ground, and in concert was due to a considerable extent to the unsound air-ground organization and its effect on air support operations. In consequence a sweeping reorientation and reorganization of the air effort was directed. A satisfactory degree of success in battle by both air and ground forces has resulted. These radical changes should be reflected in the organization of our air forces, and particularly in the training and equipment of additional air units, and of replacements without delay.

Briefly the recommended immediate action which is believed to be within the province of the Commanding General, Army Air Forces consist of the following: to initiate the inactivation of all Air Support Commands and the formation of select tactical and strategical reconnaissance squadrons with special equipment high performance aircraft and special training for exclusive service to the ground forces; to direct the revision of all army air force publications to delete the statement, inference or implication that any air force unit except reconnaissance squadrons can normally be expected to operate under the legal command or practical control of any surface force commander excepting only the supreme commander who conducts the whole campaign; and initiate a review of present overall air force organization wherein the present (numbered) air forces, and their compartmented Bomber, Fighter, and Air Support Commands will be replaced by (task) Air Forces to consist of the Air Divisions, Commands, Wings, and Groups as necessary to accomplish the Air Force's specific job.

II. DISCUSSION

1. Unsuccessful Situation, November 1942 to February 1943.

a. Organization. 242 Group, R.A.F. equipped with fighters (Spitfires), fighter-bombers (Hurribombers), night-fighters (Beaufighters and night-bombers (Hisleys) was stationed with and was ordered to support the 1st Army initially and was subsequently similarily employed with V Corps. XII Air Support Command with fighters (P-40s, P-39s and

Spitfires), light bombers (A-20s) and a ground strafing observation unit (P-39s) was attached to II Corps. Late in January the Headquarters Allied Air Support Command was placed in control of 242 Group and XII Air Support Command. It was stationed with Headquarters, First Army and was directed to support First Army. Thus throughout this period, the current American concept of Support Aviation was in vogue and there were large numbers and several types of aircraft under the virtual command of ground commanders down to include Corps Commanders.

b. Concept and Employment, General. During this period the allies had more aircraft than the axis. However, the superior air power inherent in our greater numerical advantage was never developed nor employed. The fact has never been more clearly illustrated that greater numbers of aircraft than the enemy possesses do not automatically confer any advantage unless those greater numbers are organized under proper air forces command. The question "Who is containing whom?" was most embarassing during this period. The overall effect of the unsound organization and operational concept of our air effort was graphically illustrated by the fact that the enemy was permitted to move, in lightly escorted and unarmed transports, as many as one thousand men per day from Italy and Sicily to airdromes in Tunisia which were only 80 miles distant from our own air bases. By air and by sea the enemy transported about 150,000 men with their armor and equipment, and supported and then maintained them almost wholly from airdromes and seaports within the range of our supporting air forces.

During this period a sizeable number of combat units were at all times assigned to 242 Group, and XII Air Support Command, and were employed in direct support roles to the neglect of the proper offensive task of obtaining air superiority and thus assisting the theatre task as a whole. This in spite of the doctrine set forth in Paragraph 3b FM 31-35 that states that other types (than observation) are assigned or attached to Air Support Commands "as the situation requires." Each ground commander naturally and properly viewed the ground (and air) operations on his immediate front as of paramount importance and insisted that his air support forces be employed almost exclusively on his front. Each commander agreed that superiority in the air was necessary, but that the air war which could gain that superiority should be fought by someone else's air force. In contrast the axis air forces were moved freely up and down the front and were ordinarily able to strike in force against only such opposition as our local air units could muster. From the viewpoint of the ground commander, the condition was habitually too precarious on his immediate front to permit "the diversion of the air units allocated to support his ground forces from their direct support tasks to distant air force missions."

The foregoing broad statements are supported by the general course of the campaign during this period which terminated with the abandonment of Gafsa, evacuation of the Thelepte and Sbeitla air base areas and with the 10th and 21st Panzer Divisions moving on Tebessa and Le Kef through the Kasserine gateway. These broad statements are supported in specific detail by numerous incidents in the official records of which the following are selected as most striking:

(1) Air Umbrella. When an offensive to dislodge two battalions from the Faid Pass was being planned, it was estimated that the enemy might assemble 24 Stukkas to dive-bomb [illegible] forces. The ground commander

Lukka" cy of Recruit.

insisted that a friendly fighter patrol be kept circling over the battle area during all daylight hours on the two successive days of the operation as a prerequisite to taking offensive action or even to planning to attack. It was explained that our fighter strength and time and distance factors would permit us to maintain only twelve fighters on such a patrol and that that patrol should interfere with but could not prohibit 24 determined Stukkas from delivering an attack. It was clearly explained by the highest air commander in this theater, that the provision of this "umbrella" which itself was of questionable value, would also automatically prohibit using any of the many light bombers at hand against either the Stukkas at their bases or any hostile ground targets and would furthermore prohibit any reconnaissance whatsoever over the defiles through which reserves were expected or through which the enemy might withdraw. The ground commander insisted upon the umbrella thus emasculating all the offensive power and ignoring all of the reconnoitering capabilities of the sizeable air force at his disposal for one defensive function of doubtful value.

(2) Ground Commanders' evaluation of strategic value of air bases.

When Rommel was East of Tripoli, the Thelepte air bases permitted operations by short range aircraft deep into the hostile rear. This strategi or tactical advantage was repeatedly stressed by the air men. Nevertheless, through February 1943, the ground forces were deployed with their main strength in the defensively strong natural terrain in the far North from Medjez-el-Bab to Djebel Bargou and Gafsa and the Thelepte air bases were surrendered.

(3) Misuse of aviation equipment. At a time when the air-borne interception equipment in the Beaufighter airplane was in the most secre category, a number of Beaufighters were assigned to XII Air Support Command to permit operations against night intruders over the air bases and ground installations within II Corps area. Orders through air channels prohibited the use of Beaufighters over hostile territory. The Corps Commander directed that the Beaufighters be employed over hostile territory in front of II Corps. The air commander informed the ground commander of the prohibition against such employment. The ground commander stated that it was his function to give orders, not to receive them, and regardless of air channel instructions he ordered the Beaufighters to take off. The Beaufighters took off. This action obviously prejudiced the effectiveness of allied night interception all over the world for very limited advantages in a local situation of no world wide importance.

(4) Misuse of air units. The Bisley light bomber was an obsolete airplane. It was slow and practically defenseless and suitable for use as a night intruder only. In that role, however, it was very effective because of the experience, skill and leadership in the Bisley Wing. An army commander ordered a daytime attack by a Bisley squadron on objectiv defended by German fighters. The Bisley Wing-Commander protested becaus of the unsuitability of his aircraft and the disproportionate hazard involved. The Army Commander insisted that the mission be performed. especially able squadron was selected and dispatched. Every Bisley was shot down.

(5) Incompatibility of airplane range and local ground commanders interest. Aircraft at the disposal of II Corps were idle but were held in readiness for an action which might have developed. XIX Corps was being attacked by a force of unknown size in an area 70 miles Northward. Very difficult and mountainous terrain separated II and XIX Corps. XIX Corp's call for air reconnaissance was refused by II Corps because of lack of immediate interest or of responsibility for operations so far distant in terms of ground movement.

c. Resultant employment of classes of Aviation.

(1) Fighters. As a general rule all fighters were used defensively on covering missions. P-38s were used in small strength to "cover" heavy and medium bombers from bases deep within friendly territory to their objectives and all the way back to their bases. On anoth extreme, all of the fighters in the XII Air Support Command would have been required to mount a 48 hour "umbrella" over elements of II Corps had not the plan to dislodge two German Battalions from Faid been cancelled. Even at the end of this period, adequate radar control of fighters had not yet been provided. As a general statement no proper use was made of our offensive fighter weapon; it was continually misused on defensive jobs, and habitually in units too small to assure a degree of success proportionate to the expected (and actual) losses.

(2) Observation. The 68th Observation Group (P-39s and A-30s) was in this theatre during the majority of this period. It was equipped, supplied, manned, staffed and trained to a much higher degree than the 81st Fighter Group (P-39s) and at least equal to 47th Light Bombardment Group (A-20's). While the battle raged up and down our 250 mile front where the terrain and communication were both so difficult that highly mobile specialized air observation would have been of extreme value, the 68th Observation Group remained at Oujda, training, cooperating with the maneuvers of the Fifth Army and (actuall; because of proximity and absence of more profitable occupation) patrolling Oran Bay for hostile submarines. The 81st Fighter Group and the 47' Light Bombardment Group were meanwhile rushed into and fully engaged in the battle. The reason for this apparent gross blunder is again one of organization and concept. If the 68th Observation Group had been moved to the battle area to perform the observation for which it was trained, without properly controlled fighter cover, German fighters would have destroyed it quickly and easily. On the other hand an efficiently organized and operated fighter control unit operating over the battle area would have permitted suitable high performance reconnaissance airplanes to carry out reconnaissance operations in a satisfactory manner, and with far fewer airplanes than the number provided in the observation group.

The organization and concept of observation aviation was naturally the result of successive maneuvers where reality was not well appreciated. Actual tactical and strategic reconnaissance operations within this theatre have been performed much more effectively by the tactical reconnaissance (Tac/R) which have been developed by the R.A.F. during two years of battle experience. Action has been taken separately and will be pursued to provide each corps with its own select highly trained and especially equipped squadron for its own

air observation and photographic reconnaissance operations. Similarly strategic r connaissance and photographic mapping should be provided the theatre or senior ground force headquarters.

(3) Light Bombardment. Exhorbitant loss rated due to flak on early missions at low altitudes by both light and medium bombard ment has been accepted as proof that each must operate at altitudes of 8000 to 12,000 feet in defended areas. Our light bombardment units had no bombsights or bombardiers. Experience in one situation had been taken as a criterion of what can or cannot be done in all situations. Light bombardment should be capable of operations at both medium and low altitudes.

(4) Heavy and Medium Bombardment units. While not components of the Air Support Command, heavy and medium bombardment unit in accord with our Army Air Force policies, were frequently placed under the operational control of the Support Command. At that time we found these units capable of daytime operations but only against fixed, clearl identified objectives--all details of which had to be known many hours i advance. These units were of no use whatsoever against fleeting targets in the battle area. Again the error is in our concept of an "air suppor command which is a portion of an air force normally excluding heavy and medium bombardment airplanes. It is undeniable that the power of the bombardment airplane must be made available for the real emergency in th battle area.

2. Air Ground Organization for Successful Battle.

a. Reorientation. During late January and early February, plans were laid and a radical reorganization and reorientation of air and ground command, responsibility and function was implemented on February 18, 1943. In the battle area there appeared the Headquarters, 18th Army Group to plan and to direct the ground efforts of the 1st and 8th Armies, and there appeared Headquarters, Northwest African Tactical Air Force to plan and direct air force (not "support force") operations in the battle area.

b. Ground Operations. The weight given to air-base requirem by the 18th Army Group is self-evident in Hq. 18th Army Group Operation Instruction No. 1, dated 20 February 1943. (Copy attached and marked ANNEX No. 1.)

c. Air Operations. The concept of an independent air force working with a large ground force is self-evident in General Operational Directive, NATAF, dated 20 February 1943 and in "Outline Operational Pl NATAF, dated 8 March 1943. (Copies appended and marked ANNEX No. 2 and ANNEX No. 2A respectively).

d. Effectiveness. Recent military history attests the effect ness of this organization. From November through February, German ground and air units ranged up and down our fronts, thrusting into weakness everywhere and strength no where, and meeting in the air and on the ground relatively small units of our ground and air forces. Whe the reorganization was placed in effect, Rommel's armor was in the Kasserine Valley threatening Tebessa, Le Kef, and incidentally, secon contingently Constantine or Algiers. Two months later [illegible] armor was backed into the Tunis

plane and, on April 19, the Northwest African Tactical Air Force initiated the air phase of the final battle to [illegible]. More conclusive proof of military effectiveness could not be exemplified. (For details of air-ground combat, see Northwest African Tactical Air Force Operational Plan and Final assault on Tunis dated 16 April 1943, and Appendix "A" thereto, and First Army Operation Instruction Number 37 dated 19 April, 1943 and Appendix "A" and Engineer Instruction thereto, all attached and marked ANNEX No. 3, 3A, and No. 4, 4A, and 4B respectively.

3. Lessons Learned. The basic underlying cause of the ineffectiveness of air support operations was our inability to concentrate our air effort on particular objectives. Too much aviation was available at all times to ground forces for direct support missions even in periods of inactivity and not enough was available for use in attaining air superiority. Three reasons are presented for this:

a. Organization.

b. Influence of ground commanders.

c. Shortage of equipment.

(a) Organization. The present organization of an air force along fixed functional lines is erroneous. Composite forces organized for particular tasks are required. For instance, certain forces organized f strategical bombings require their own fighter units. A forces organized for operations over the battle area required a unit similar to an air defense wing. Another force organized for coastal defense required an air defense (Fighter Command) units and sea search units. Total air effort in a theatre of operations is difficult of attainment if the Air Force within the theatre is organized rigidly as is the tendency if formed into a Bomber, Fighter and Air Support Command. It is suggested that the organizational lessons learned by the R.A.F. in the Battle of Brittain have been applied too broadly and are not appropriate in a mobile situation.

With particular reference to so-called air support operations, there was formed the Tactical Air Force. In the Lybian campaign, there was organized the Western Desert Air Force. Both of these Forces controlled air operations in direct support of ground forces and all air operations over the battle area. They were organized to emphasize the job of attaining air superiority as the best support that can be furnished to ground forces and as the first mission which must be accomplished to make all others possible. In this lies the difference between the U.S. conception of an Air Support organization and the present organization existing in this theatre.

The basic element of the Tactical Air Force is that which furnishes a radar fighter cover under which air reconnaissance, direct support bombing, and ground operations can take place unmolested by hostile aviation. The 3rd Air Defense Wing was located so as to "see" the battle area, and if possible the advance enemy airdromes to permit efficient direction and control of the fighter patrols. It obviated the need for accompanying fighters for reconnaissance and bombing

missions and the desire for standing fighter cover over our [illegible] and our airdromes. Also through this fighter [illegible] reconnaissance and bombing missions could be carried [illegible] to avoid hostile fighters. It should be emphasized that in this role, the Air Defense Wing is not oriented for defense of a locality but for control of offensive operations. Action to rename this particular unit is being taken separately.

(b) Influence of ground commanders. It is desired to discuss this openly as it is a matter of as much concern to ground forces as to air forces. Much of the difficulty was due to inexperience from which the ground forces suffered as severely as the air forces. Fear of a Stukka attack was out of all proportion to the material damage inflicted. This resulted in demands for local fighter cover over all movements and local operations. This cover, in addition to being inefficient, prohibited the offensive use of aviation to attain air superiority. When ground troops become seasoned to air attacks, it is anticipated that demands for local cover will decrease as they did in the Middle East. However, as long as the U. S. Air Forces are a part of the Army, these demands are extremely difficult to resist.

Another insistent demand from the ground forces is that, for the sake of morale, our front line troops must be able to see their supporting airplanes. Apparently the only airplanes seen are enemy airplanes. It is easy to appreciate this attitude but against this it is difficult to resist as long as air forces are an integral part of the Army. A cure would be possible by an educational program but the delay involved is dangerous.

The influence of the ground commander also manifests itself in the allocation of aircraft to tasks. The high commander, who is usually a ground officer, is influenced by the subordinate ground commander to a greater extent than he is by the air commander and so the requests of the former for direct support aviation are sympathetica received at the expense of a concentration of the air effort. Again it is desired to point out that even a reconnaissance mission detracts from a concentrated air effort as it normally requires fighter protecti in some form.

It is sincerely believed that there was insufficient realize tion of the importance of airdrome locations in the ground plan or opera tions. This is an item of terrain which has to be given equal consider tion with mountain ranges, river lines, etc., in the disposition of ground troops. Preliminary ground offensives normally have to be under taken for the purpose of securing airdromes for the main offensive.

The conception of an air-ground battle wherein ground support is given equal weight with air support can become an actuality only when neither the ground commander nor the air commander are subordinate to the other. Both must play a mutually supporting role. In our servi where seniority and discipline are inseparable, honestly coordinate effort becomes almost impossible between a ground commander and air support commander. (For further elaboration see comments by Air Marsha Coningham appended and marked ANNEX No. 5.) The paradox that the separation of the Army and Army Air Force would bring closer unity

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between ground forces and air forces is acknowledged. That paradox is clearly supported by the effective employment of aviation with an indire support of ground forces during the campaign of the 8th Army and Western Desert Air Force from Cairo to Tripoli and the striking success of the 18th Army Group and the Northwest African Tactical Air Force in the Tunisian campaign.

(c) Shortage of equipment. This factor played a large part in the ineffectiveness of early air support operations. It requires no discussion here except to point out that no provision is made for an aircraft warning service and fighter control in our Air Support Command set-up.

(d) Air Support set-up. A general tendency did exist to assign disproportionately large air units to thedefense of harbor and other rear areas installations. Any such assignment obviously reduces offensive air effort in the forward areas. The air offensive has been found to provide the most effective defense of rear or other installations.

4. Conclusion.

(a) It is clear that a modern battle is not fought or won by a ground force alone or by a naval force alone. Any modern successful battle consists of a battle in the air which must be won before the surface battle is begun. If the air battle has been won the surface forces are freed from effective hostile air attack and the offensive power of the free air force can be applied directly in support of the surface forces. Modern battles are fought as intensively in the air as on the ground. They are combined battles in which the air forces are placed in a supporting role no more often than the ground or naval forces. Each carries out its part of the task to attain the common goal.

This conception cannot be applied if one force is subordinated to another. An air force coordinate with the ground force and the naval force is the only solution by which the three forces can be made to play coordinate roles. Page 3 of the pamphlet "Some Notes on High Command in War" (attached and marked ANNEX No. 6) is cited as evidence that this conclusion has also been reached by at least one successful allied ground commander.

The effectiveness of the support rendered 18th Army Group by the coordinate air force working with the allied armies is attested by the commander 18th Army Group on May 8,1943, in annex No. 7 appended hereto.

(b) The designation of a small part of an air force as supporting aviation is erroneous as it tends to hinder concentration of the entire air effort on the particular task at hand.

(c) A rigid functional organization of air forces is unsound as air operations cannot be divided into exclusive functions.

III. RECOMMENDATIONS.

1. Doctrine. Rewrite the War Department publications to delete all references to the supporting role of aviation and to stress the coordinate role of air, land and sea forces. The operations of each force to be controlled by an expert in the furtherance of the common mission assigned by highest authority. This does not conflict with the principle of unity of command.

2. Organization. The group should be the largest organically homogeneous unit specifically designated "bombardment", "fighter" etc. Wings, divisions, air commands, and air forces should be headquarters designed to control an air task force organized to carry out a specific air job. The only exception to this may be a wing headquarters similar to the present defensive, immobile Air Defense Wing. To expedite administrative procedure, wings and commands should be purely tactical headquarters organized to direct and coordinate tactical operations only. To a limited extent, the composition, if not the organization of the various numbered air forces already reflect the tasks which they are expected to accomplish.

The ineffectiveness of observation groups should be accepted as proved in this theatre and maximum effort should be made to elevate the position of our present observation aviation to a much higher level by the immediate formation of truly proficient tactical and strategical reconnaissance squadrons and photo mapping squadrons.

L. S. KUTER

Brigadier General, U.S.Army.

Deputy Commander.

APPENDIX 3

CHRONOLOGY

The following chronology is included to give the reader a quick reference guide to place World War II events into proper historical perspective, with a particular emphasis on the publication dates of our joint air/ground doctrine.1

1 September 1939	Poland invaded by Germany.
3 September 1939	Declaration of war on Germany by France, Great Britain, Australia, and New Zealand.
15 April 1940	FM 1-5, Air Corps Field Manual, Employment of Aviation of the Army published.
22 June 1941	Germany invades USSR.
15 August 1941	Atlantic Charter is signed by Churchill and Roosevelt.
7 December 1941	Japanese bomb Pearl Harbor.
9 April 1942	FM 31-35, Basic Field Manual, Aviation in Support of Ground Forces published.
24 July 1942	Agreement reached by British and American Chiefs of Staff concerning TORCH.
7 November 1942	Allied TORCH landings in North Africa.
January 1943	Montgomery holds Tripoli Conference to review desert lessons learned.
14 January 1943	Casablanca Conference. Reorganization of air power agreed on by Roosevelt and Churchill.
14 February 1943	Battle of Kasserine Pass begins.
18 February 1943	Northwest Africa Tactical Air Force formed.

12 May 1943	Surrender of all Axis Forces in North Africa. General von Arnim taken prisoner. U. S. Air Corps Officer, BG Kuter sends report on organization of American Air Forces to CG, Army Air Force (see Appendix 2).
1 July 1943	FM 100-20, Field Service Regulation, Command and Employment of Air Power published.
3 September 1943	Allies land in Italy.
16 October 1943	9th Air Force constituted.
1 January 1944	Establishment of U. S. Strategic Air Forces in Europe.
March 1944	Operation STRANGLE, first major air interdiction campaign, begins in Italy.
4 June 1944	U. S. Fifth Army enters Rome.
6 June 1944	Allies invade Normandy.
12 July 1944	Operation COBRA begins.
19 August 1944	U. S. forces under Patton reach Seine.
16 December 1944	Germans launch attack in Ardennes.
16 January 1945	Bastogne salient eliminated.
23 April 1945	Russians enter Berlin.
8 May 1945	V. E. day.

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