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**AIR COMMAND
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STUDENT REPORT
THE US AIR FORCE IN KOREA:
PROBLEMS WHICH HEMDERED THE
EFFECTIVENESS OF AIRPOWER
MAJOR ROGER F. KROPF 89-1430
"insights into tomorrow"

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EXECUTIVE SUMMARY

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"insights into tomorrow"

REPORT NUMBER 89-1430

AUTHOR(S) MAJOR ROGER F. KROPF, USAF

TITLE THE US AIR FORCE IN KOREA

I. Purpose: To examine the role of the US Air Force in the Korean War, with emphasis on problems encountered. These problems hindered the effective use of airpower and provide insight and perspective for examining problems encountered in today's Air Force.

II. Problem: Specific areas examined in this paper are the joint theater command structure, air superiority, air-ground coordination, Navy-Air Force cooperation, air interdiction, and air basing.

III. Data: The failure to develop a true joint theater command structure not only contributed to other problems, but inhibited the development of solutions. The theater command headquarters interfered with air targeting and Army requests for air support,

CONTINUED

contributing to problems in air-ground coordination and close air support. Additionally, AF-Navy coordination was a problem through most of the war and control of Naval aviation resources was an issue. A true joint staff should have assisted in resolution of these problems. The war also demonstrated the importance of air superiority in a theater of operations. Korea demonstrated the importance of integrating air interdiction into the theater campaign and the need to combine interdiction with ground force maneuver. Finally, the requirement for long, concrete runways to support jet aircraft hindered the effective employment of jets and increased dependence on older aircraft such as the F-51, which could operate out of primitive airstrips.

IV. Conclusion: The Air Force encountered numerous problems in the Korean War. Common to many of these problems was the lack of a true joint command structure. With today's emphasis on jointness, a look at the Korean War gives some useful perspective on problems encountered in joint affairs. Korea also gives insight into air superiority, air interdiction, and air basing.

V. Recommendations: The Air Force should continue its Project Warrior emphasis on military history. History gives perspective and insight into the nature of war and problems facing today's Air Force.

GLOSSARY

AFFE	Army Forces Far East
AI	Air Interdiction
BAI	Battlefield Air Interdiction
CAS	Close Air Support
CCAF	Chinese Communist Air Force
CCF	Chinese Communist Forces
CINCAFFE	Commander in Chief, Army Forces Far East
CINCFE	Commander in Chief, Far East
CINCNAVFE	Commander in Chief, Naval Forces Far East
EUSAK	Eighth US Army Korea
FEAF	Far East Air Force
FEC	Far East Command
SAF	Fifth Air Force
GCC	Ground Component Command
GHQ	General Headquarters (HQ Far East Command)
JOC	Joint Operations Center
NAVFE	Naval Forces Far East
NKFA	North Korean People's Army
ROK	Republic of [South] Korea
TACP	Tactical Air Control Party
UN	United Nations

Chapter One

INTRODUCTION

The North Korean People's Army (NKPA) invasion of the Republic of Korea (ROK) on 25 June 1950 found the United States military in a deplorable condition with little conventional capability (6:29). The newly established United States Air Force had spent its limited budget on strategic nuclear systems and neglected the tactical forces which had been so decisive in World War II. The Far East Air Force (FEAF), based in Japan, and its Fifth Air Force (SAF) had conducted few joint exercises to practice air-ground coordination with the Eighth Army (18:384). Within a month the NKPA drove the United Nations (UN) forces to a small perimeter around the port of Pusan. Despite the poor condition of these US and ROK forces, airpower made the difference that prevented disaster and complete defeat during the initial NKPA invasion. Lieutenant General Walton H. Walker, the commander of Eighth US Army in Korea (EUSAK) at the start of the war, stated, "If it had not been for the air support we received from the Fifth Air Force, we should not have been able to stay in Korea" (16:384-395). While the USAF was a major factor in helping to ensure the independence of South Korea, there were numerous errors committed by the US forces, including the Air Force, that resulted in ineffective application of airpower.

War is a complex endeavor, and the problems encountered were often interrelated. Addressing them in separate chapters artificially breaks apart some of these complexities but makes them easier to deal with. For example, the failure to develop a true joint theater command structure is a common thread which not only contributed to other problems, but inhibited the development of solutions to the problems. Another area examined is the importance of air superiority in a theater. Additionally, problems in air-ground coordination led to degraded close air support, and AF-Navy coordination remained difficult through most of the war. A true joint staff should have assisted in the resolution of these problems. Air interdiction had an important role in the war and Korea gives examples of both successes and failures. Finally, problems with air base availability hindered the effective employment of air power and give us a sobering view of our dependence on air bases.

This paper examines these problem areas of the "Forgotten War." While the history of a war that ended 36 years ago cannot give us solutions to current problems, it can provide perspective and insight into problems, and a basis for asking the right questions. The intention of this paper is to provide that insight.

Chapter Two

THE JOINT COMMAND STRUCTURE

At the root of ineffective application of airpower during the Korean War was the command structure of the Far East Command (FEC) of General Douglas MacArthur, the Commander in Chief, Far East (CINCFE). That it was not a true joint structure contributed greatly to problems in the use of airpower. In the words of the official USAF history:

Certainly, at the outset of the Korean war, the defective theater command system prevented the fullest employment of airpower, delayed the beginning of a comprehensive air-interdiction program for more than a month, and ... caused confusion and loss of effectiveness at the very time that every single aircraft sortie was vital to the survival of the Eighth Army in Korea (11:55).

Since the UN structure mirrored the US structure and was a minor factor, only the US command structure will be addressed.

One of the lessons of World War II was the need for a joint command structure for command of a theater. A joint headquarters, with expertise from all three services, oversees the three subordinate ground, air, and naval commands, insuring the most efficient, coordinated, and synchronized employment of the theater commander's resources (15:96-97). Unfortunately, in the Korean War, the lack of a true joint command structure resulted in inefficiencies in the application of military power.

MacARTHUR'S COMMAND STRUCTURE

As CINCFE, MacArthur and his unified theater headquarters (usually referred to as GHQ), actually had dual responsibility as the unified theater headquarters and as the HQ ground component command (GCC). The unified command GHQ was essentially an Army staff with inadequate representation of the Navy and Air Force (14:54). In the words of Maj Gen D. P. Weyland, investigating problems in Korea in Oct 1950:

The GHQ staff of Cincfe [sic] is essentially an Army staff and cannot be considered a joint staff. With the exception of the Commander-in-Chief, few of the staff previously held command positions higher than that of the regiment or the division ... very few, if any, of the GHQ staff previously had experience which included the tactical handling of air. The lack of air representation has made it difficult to realize the most efficient and timely employment of air power in Korea (19:1).

Clearly the failure to have a joint theater headquarters had a major impact on the effective application of airpower.

MacArthur never formed a GCC (Army Forces Far East, or AFFE), but initially kept X Corps (formed for the Inchon invasion) separate from the Eighth Army (3:609) and directed both ground components from 700 miles away in Tokyo (16:42). When he finally placed X Corps under Eighth Army in December 1950, AFFE was still not formed -- GHQ continued to perform this role (11:44). As a result, MacArthur had all commanding generals report to him through his Army dominated GHQ (11:45). This essentially put the air and naval component commands under the ground component command (See Figure 1). To make matters worse, MacArthur remained isolated from his staff (6:33) and did not work closely with his principal subordinates and commanders (16:142). In particular,

**UNIFIED FAR EAST COMMAND
ORGANIZATION OF FORCES IN KOREA**

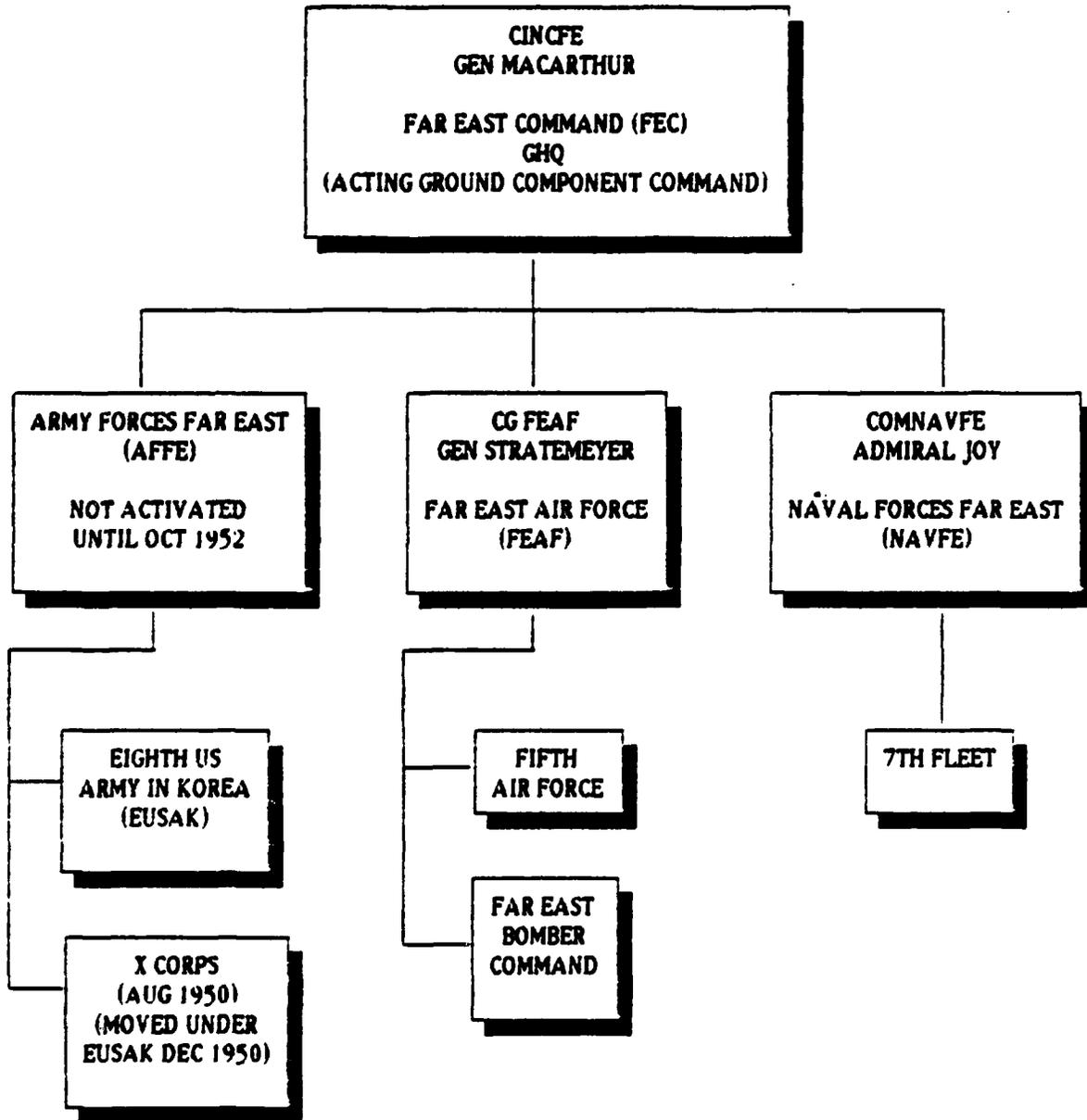


FIGURE 1

General Walker did not have a close working relationship with MacArthur and GHQ, and was visibly hostile towards MacArthur's Chief of Staff and future X Corps commander, Major General Edward Almond (6:36). These traits were nothing new with MacArthur; he showed them during World War II.

MacARTHUR'S WORLD WAR II COMMAND STRUCTURE

MacArthur's stature and the Navy's suspicions of him led to a division of responsibility in the Pacific Theater in World War II, rather than a single unified command (17:144-146). In his Southwest Pacific Command, MacArthur surrounded himself with a staff of trustworthies (some say sycophants) known as the "Bataan Gang" and kept his theater headquarters far from the front (17:146). His first air commander, Lt Gen George Brett, was ineffective and relieved, but his replacement by General George C. Kenney resulted in the successful integration of airpower into the campaign. MacArthur still had an Army staff instead of a joint staff, but in Kenney found an air commander whom he trusted and left alone to run the air campaign (17:226-227). The credit for MacArthur's successful use of airpower in World War II must largely be credited to the forcefulness and exceptional abilities of General Kenney. The Korean War brought out the basic flaws of MacArthur's command structure.

PROBLEMS OF THE JOINT COMMAND STRUCTURE

In Korea, the Far East Command operated for two and a half years without a true joint headquarters. This awkward command structure, overcentralized in Tokyo, greatly hindered the

coordination of joint forces and communication between forces (10:389). A typical failure caused by this was in air targeting. Instead of air targeting being performed by FEAF, the air component command, GHQ formed the GHQ Target Group and tried to direct air operations from Tokyo (11:45). The Target Group did a poor job of targeting due to the lack of air targeting expertise of its Army-dominated membership (14:54). As an example, 20% of the first 220 targets designated were nonexistent, such as the rail bridges at Yongwol and Machari--two towns without railroads at all (11:52). A GHQ Target Selection Committee, which included high level USAF and USN personnel, improved performance somewhat, but it depended on the FEAF Formal Target Committee, with Navy, 5AF, and Far East Bomber Command representatives providing expert targeting. This FEAF Committee did not get full authority for air targeting, as properly invested in an air component command, until the summer of 1952, two years into the war (14:54). The overall effect of this confusion was that the fully integrated use of joint forces was never realized against the enemy.

Another result of GHQ interference with the control of airpower was the hindrance of Eighth Army requests for air support. GHQ directed the ground forces to not contact 5AF for air support, but rather to channel all requests through GHQ in Tokyo. This entailed long and ponderous communications links from EUSAK to GHQ to FEAF and finally to 5AF. As a result, early in the war it took about four hours to channel requests for air support from Eighth Army to Fifth Air Force (11:45), one factor inhibiting prompt and effective air support for the Eighth Army

and contributing to the problems with air-ground coordination discussed in Chapter 4.

A typical example of lack of communications and failure of the joint command structure was the 5AF abandonment of Yonil Airfield on 13 August 1950. Although the Army was defending the field, which was never attacked, the Army was not involved in the decision to abandon the field. Fearing a possible attack, FEAF ordered the 5AF to abandon the field and move its air resources to Japan. An astounded MacArthur and GHQ found out about it from a United Press report, too late to reverse the move (3:329).

Another problem caused by the lack of a true joint HQ staff was that Navy-Marine air resources were not effectively integrated with the overall air effort (11:49), resulting in problems to be discussed in Chapter 5. Additionally, the lack of a joint staff hindered effective integration of air interdiction into the theater campaign, discussed in Chapter 6.

In a review of the command structure after taking over as CINCFE in the spring of 1952, General Mark W. Clark recognized the poor organization of the Far East Command. He formed and activated AFFE, the ground component command, in October 1952, and it began functioning in January 1953. While General Clark formed a true joint staff at FEC, which was an important improvement, he still took over as CINCAFFE, and FEAF was still not given authority over all theater air resources. Not wanting to bring in another senior Army general, General Clark continued as both the theater and GCC commander (11:490-491).

SUMMARY

The Korean war demonstrated the problems encountered by improper organization of a joint command. The official USAF history notes:

The Korean war was the first conflict to test the unified military forces of the United States. Although the U.S. Joint Chiefs of Staff had directed the Far East Command to provide itself with a joint command staff adequate to ensure that the joint commander was fully cognizant of the capabilities, limitations, and most effective utilization of all the forces under his command, the United Nations Command/Far East Command operated for the first two and one-half years of the Korean war without a joint headquarters. Practically all of the interservice problems which arose during the Korean war could be traced to misunderstandings which, in all likelihood, would never have arisen from the deliberations of a joint staff. In the absence of the joint headquarters staff, the full force of United Nations airpower was seldom effectively applied against hostile target systems in Korea (11:693).

Clearly a joint commander must organize and staff a joint command structure in accordance with well-established doctrine. The failure to do so will result in inefficiency and failure of the theater commander to harness the synergistic effects of well-coordinated ground, air, and naval forces.

Chapter Three

AIR SUPERIORITY

In keeping with doctrine well established in World War II, General Stratemeyer, FEAF commander, viewed air superiority as the highest priority (11:31; 14:113). FEAF maintained air supremacy over most of Korea during the war but was seriously challenged by the Chinese. FEAF did not always maintain air superiority over MIG Alley and at times had to put restrictions on other air missions due to the air threat.

Although the priority of air superiority is certainly Air Force gospel, there is always a need to emphasize its importance. We have not fought without air superiority since World War II. Eisenhower's deputy, Air Chief Marshall Tedder said after World War II, "... the outstanding lesson of the late war was that air superiority is the prerequisite to all war winning operations, whether at sea, on land, or in the air" (14:111). Despite this importance on establishing air superiority, there is likely to be heavy pressure from competing needs for airpower in a theater war, and the air component staff must impress its importance and priority on a possibly reluctant joint staff. As war began in June 1950, FEAF rapidly moved to establish air superiority.

BATTLES FOR AIR SUPERIORITY

In Korea, the USAF achieved air superiority immediately and fought to maintain it throughout the war. Air superiority, almost taken for granted by ground forces (13:258-259), allowed our troops to maneuver free from the threat of enemy air attack and reconnaissance (14:115). It also permitted effective interdiction and close air support, key elements which enabled Eighth Army to defeat numerically superior enemy ground forces throughout the war (14:114).

The initial air superiority campaign began on 29 June 1950 with an attack on Heijo airfield at Pyongyang, the North Korean capital, by 18 B-26 bombers. By 20 July 1950, with minimal effort, the small North Korean Air Force of 132 combat aircraft had been destroyed and air superiority established (11:98-102).

On 1 November 1950, a new threat to air superiority arose-- the introduction of the MIG-15 fighter. In the next several months, the MIG-15s, combining with new base facilities in China and a radar net, had the capability to challenge UN air superiority. Indeed, the US did not have any aircraft in the theater which could match the MIGs. Fortunately, the lack of skill and aggressiveness by the Chinese in employing these resources gave the USAF time to bring in F-86 fighters to counter the threat. Nonetheless, the Chinese Communist Air Force (CCAF) was able to battle for local air superiority in the area along the Yalu river where their sanctuary airfields were located -- the famed MIG Alley (11:243-250).

In early 1951, the CCAF began to challenge FEAF again. When

the Chinese forces captured Kimpo and Suwon in January, F-86s were moved to Japan and did not have the range to provide air superiority (6:652-653). These fields were soon recaptured by UN ground offensives, but the CCAF buildup continued. On 12 April 1951, MIG-15 fighters shot down three B-29s and General Stratemeyer directed the bombers to stay out of MIG Alley (11:299-300). By June 1951, the CCAF had over 1050 combat aircraft, including 445 MIG-15s, and had obtained local air superiority in MIG Alley (11:285). The value of air superiority is apparent by the alarm the CCAF threat created among the Air Force and Army leadership (11:285). The concern of ground commanders over the threat of air attack was demonstrated when the Eighth Army commander, General Matthew Ridgway, warned his troops to be ready for air attacks by the CCAF. Meanwhile, FEAF close air support and interdiction were greatly reduced due to the air threat (6:653).

By July 1951, the F-86s had prevailed over the MIG-15s, and the CCAF gave up this air offensive, including their attempts to maintain bases in North Korea (11:312). On 1 September 1951, however, the CCAF began a new air offensive (11:403), again challenging the USAF and causing great consternation within the USAF leadership (11:412). Repeated CCAF attacks on B-29 missions forced them to fly only at night, greatly reducing their bombing accuracy (11:416). Since the Chinese bases could not be bombed due to political considerations, the USAF fought for air superiority with a combination of fighter sweeps and as escorts of strike missions. By December 1951, the CCAF again yielded air superiority, although MIG-15s continued to challenge the F-86s in

MIG Alley (11:418).

By June 1952, the CCAF had 1000 fighters and 830 other aircraft, including 100 of the new IL-28 light bombers, mostly based in China. A large air defense network, including radar and anti-aircraft artillery, had been established. This air threat again greatly concerned the UN command, and the improved night intercept capability of the CCAF threatened the B-29s. With increased potential to challenge US airpower and turn the tables on the US, on 1 August 1952 the CCAF again resumed the offensive, but they still showed a lack of skill in employing their considerable resources to advantage. Combined with the superior skill of the US pilots, improved versions of the F-86, and US ground radar coverage, this again resulted in FEAF domination of the CCAF (11:505-515, 607-617).

SUMMARY

Although FEAF maintained air supremacy over most of Korea during the war, they were seriously challenged by the Chinese. Had the Chinese employed their resources with more skill, FEAF would have been hard pressed at times. As it was, FEAF was not always able to claim air superiority over MIG Alley, had to put substantial limits on B-29 missions, and were sometimes forced to restrict close air and interdiction missions.

The contribution of air superiority may be best summed up by the enemy. The Chinese stated, "If we had had a strong air support, we could have driven the enemy into the sea and the

protracted defensive battles ... should have been avoided" (11:285). Instead, UN ground forces were free to maneuver and receive air support by close air support, interdiction, reconnaissance, and transport. Air superiority is vital to the accomplishment of these other air missions and must be given first priority--being under air attack will be a rude shock to US troops and airmen. In the joint command structure, there will be competing pressures for air resources. The Air Force must establish and maintain air superiority as its most important contribution to the theater campaign. Without air superiority in the Korean War, problems such as those with air-ground coordination of close air support would have been inconsequential.

Chapter Four

AIR-GROUND COORDINATION AND CLOSE AIR SUPPORT

In Korea, the Air Force experienced major problems in air-ground coordination and close air support (CAS). Although lack of a true joint command structure contributed to these problems, there were major Air Force and Army shortcomings which were primary causes. Entering the Korean war, the Air Force was a nuclear strike force which had neglected tactical coordination with the Army. FEAF's primary mission was the air defense of the Far East, especially Japan (11:2). FEAF and its Fifth Air Force (5AF) had conducted minimal and not very realistic training with the Eighth Army (11:61).

First it must be noted that terminology of close air support has changed. During the Korean War, close support included what is now called battlefield air interdiction (BAI), an important factor in not crediting close air support with the contributions of interdiction. Additionally, FEAF had major difficulties in control of close air support. Finally, the initial deployment of light infantry by the UN against NKPA armored forces created a great need for CAS to make up for lack of sufficient organic firepower.

CLOSE AIR SUPPORT TERMINOLOGY

The definition of CAS has changed since the Korean War. In World War II and Korea, the distinction between CAS and what we now refer to as battlefield air interdiction (BAI) was not made. As an example, air strikes made by Air Force and Marine air against an enemy column of 200 vehicles in support of a Marine offensive in August 1950 were considered close support of ground forces. The official Army history noted, "When the ground troops reached the scene later in the afternoon, they found 31 trucks, 24 jeeps, and 45 motorcycles, and much ammunition and equipment destroyed or abandoned" (3:275). The lack of troops in contact, the time lapse, and the lack of direct ground control of the air strikes indicate this support was what is now termed BAI. Similarly, the support of XIX Tactical Air Command (TAC) in Third Army's offense through Western France is usually considered CAS. However, the description of these operations clearly combines elements of CAS and BAI:

The TAC's fighter-bombers simultaneously cooperated in the siege of Brest, gave column cover to armored spearheads racing towards and beyond Paris and, in a bold move, were entrusted by General Patton with full responsibility for guarding the Third Army's long, exposed right flank along the Loire River. The mission of guarding the flank - carried out by vigilant reconnaissance and by fighter-bomber attacks on any masses of German troops which appeared to menace the Third Army "line" - was carried out with such [great] success ... (15:29).

It is important to make this distinction, so as not to credit CAS with what BAI accomplished. During the initial NKPA invasion, BAI made the most important contribution to stopping the NKPA armor, although it was then termed "close support" (8:59-61). Armed reconnaissance, usually conducted by F-84s trolling roads and

railroads for lucrative targets, is also BAI. For the purpose of this paper, CAS will refer to air support directly supporting ground forces in contact and controlled by forward ground controllers or airborne controllers.

CONTROL OF CLOSE AIR SUPPORT

FEAF entered the Korean war with only rudimentary tactical air control capabilities. They sent two Tactical Air Control Parties (TACPs) to Korea immediately to support the Republic of Korea (ROK) troops, but these were inadequately equipped and not well trained. The radios at hand were old, worn out, WW II equipment and very fragile. The jeep-mounted radios could not take the beating from the rough Korean terrain and were constantly breaking down and difficult to repair. The TACPs were unable to get to the front lines with working equipment, and if they did, their unarmored jeeps and radios were extremely vulnerable to enemy fire. The result was an inability to get far enough forward to direct effective air strikes (11:80). Additionally, the Army had failed to develop adequate communication nets for tactical air requests and liaison, forcing the Army to use (and overload) the Air Force tactical air direction network (11:107-108). The sum total of these problems was a ploddingly slow network which inhibited rapid response to immediate needs for CAS.

The total inadequacy of tactical air-ground coordination and the initially permissive air environment led FEAF to equip T-6 aircraft as airborne Tactical Air Coordinators, called

"Mosquitoes" (11:60-61). These Mosquitoes, along with other steps such as assigning TACPs to every regiment and setting up a tactical air control net for Eighth Army, improved Air Force CAS. Of course, in a high threat environment such slow, unarmed aircraft are very vulnerable, and by the summer of 1951, the improved Chinese defenses forced FEAF to restrict the Mosquitoes to within two miles of friendly lines (11:463). Additionally, the very limited radios of the Mosquitoes quickly led to saturation under heavy usage, a problem which especially bothered the Navy (see Chapter 5).

As the tactical air control system was improved, its continuing deficiencies were covered up by the decreasing importance of CAS due to the improved organic firepower of the ground forces and the change from a fluid war of maneuver to a static front over the second six months of the war (10:393). This stalemate on the ground lasted throughout the rest of the war. FEAF continued to provide CAS during the static phase of the ground war, mainly for the maintenance of the control system and to keep in practice should it be really needed. The ground commanders still wanted CAS, although FEAF felt air interdiction was more important with a static front. Even with the static ground environment, CAS was not very responsive--in May and June 1951, the Marines, now integrated into Eighth Army and without their own organic air support, were involved in the heaviest fighting on the front. FEAF support averaged 113 minutes response time--hardly responsive to any true emergency need (11:465-467).

Overall, the Army and Air Force failed to find a satisfactory way to provide timely response and front line control of air

strikes (11:707-708). This was finally revealed in the last months of the war, when the Chinese mounted one last offensive and the army needed CAS. As the official Navy history noted:

... the close support request net clogged almost at once ... strikes followed requests by as much as 17 hours. Again ... the control system collapsed as JOC duty officers ... rammed aircraft in large numbers into the threatened sectors. Once more ... the main responsibility [was put on] the Mosquitos [sic] which, in the fluid situation, once more demonstrated their inability to keep track of friendly positions and important targets (10:455).

Clearly the ability to rapidly respond to emergency needs for CAS was never established in Korea.

LIGHT INFANTRY AND CLOSE AIR SUPPORT

In Korea, the Army essentially entered the war with piecemeal commitment of light infantry against an NKPA invasion backed by significant armor forces. Normally the army uses organic artillery and armor to provide close-in firepower, but they entered Korea inadequately equipped, and viewed Korea as unsuitable terrain for tanks (6:57). Additionally, the ROK army was lightly armed, more as a police force than as an army (6:44). This use of light infantry against the armored NKPA forces in the first months of the war led to the need for heavy air support, a condition the Marines train for.

The Marines, in their amphibious role, were essentially light infantry and lacked adequate organic artillery and armor. Their doctrine called for dependence on CAS to provide fire support. Substituting for artillery, CAS was used very closely (within 50-200 yards). The Army, however, preferred artillery for very close

support and usually used CAS farther from troops (beyond 1000 yards), where ground controllers were of limited use. In contrast to the pre-war relationship between FEAF and Eighth Army, Navy-Marine aviation worked closely and well with the ground Marine units, training extensively and realistically together (12:42-46).

The US commitment of light infantry forces against the armored forces of the NKPA resulted in the need for a disproportionate amount of CAS sorties. CAS was undoubtedly an important factor in the war, as evidenced by the comments of Maj Gen William Kean, commander of the US 25th Division, after two days of heavy fighting in September 1950: "The close air support rendered by Fifth Air Force again saved this division as they have many times before" (3:476). The official Army history noted:

In the first month of the Korean War, close air support was a vital factor in preventing the North Koreans from overrunning all Korea, and in gaining for the United States the margin of time necessary to bring in reinforcements and accumulate the supplies needed to organize the Pusan Perimeter ... the U.N. ground forces in Korea were receiving proportionately more air support than had General Bradley's Twelfth Army Group in World War II (3:256).

In Korea, CAS was most needed early in the war when the US and ROK essentially committed light infantry forces against an armored offensive. Nonetheless, it must be remembered that this close support included what we now call BAI. Indeed, most tanks killed by airpower were killed by BAI sorties, not CAS (8:59).

Besides being unable to stand up to armor, the UN forces were consistently outmaneuvered in the fluid situation as the NKPA drove down the Korean peninsula. The tendency of US forces to deploy near the roads and not take the high ground aided the enemy in their typical offensive tactic of envelopment or double

envelopment, cutting off the rear lines of communication, disrupting the rear areas and often overrunning the artillery (6:--). In the first six months of the war, US artillery was repeatedly overrun, with "scandalous" losses of field pieces (6:576). This forced CAS to pick up some of the slack in close fire support. In the fluid situation of the first six months of Korea, artillery was vulnerable to enemy forces, and it will likely be more vulnerable against a modern, mechanized foe. Indeed, CAS may be the only available heavy firepower available in our rear areas (2:79).

SUMMARY

In the Korean War, the Air Force faced problems with air-ground coordination and the need for CAS created by the commitment of light infantry forces. Today there remain many issues in CAS, indicating that we are likely to encounter similar problems in a major theater war. Some of the problem areas highlighted in the 1987 USAF symposium on close support include doctrine, organization, coordination, targeting, weapons, training and command, control, and communications (2:2-3). In light of these issues and past problems such as those experienced in Korea, it would appear that the Air Force needs to take a hard look at its CAS doctrine and capabilities. A new aircraft in itself is not likely to solve these problems.

Chapter Five

COORDINATION WITH NAVAL AVIATION

The problems of air-ground coordination in the Korean war were compounded by the inability of FEAF to adequately communicate and coordinate with Naval (including Marine) aviation. Although routine interservice problems were handled with no problem, clashes in doctrine of control of tactical airpower between USAF and Naval aviation were not solved in Korea (10:385). Again, the lack of a joint command structure contributed to these problems and the failure to completely resolve them.

COORDINATION OF CLOSE AIR SUPPORT

One of the immediate things noticed by ground forces was how much better than the Air Force the Navy-Marine support was. The Marines, with their dependence on close air support in the absence of organic artillery and armor, worked closely and well with Navy-Marine airpower, training extensively and realistically together. The result was that Marines had very effective air-ground coordination and CAS while depending on the Navy and FEAF for air superiority (12:42-46). It seems no coincidence that captured enemy troops said they most feared "the blue airplanes" of the Navy and Marines (12:50). Of course the Marines had a major advantage in that its brigade (eventually a division) had its own dedicated Marine air wing, a concept too cost-prohibitive for the

much larger forces of the Air Force and Army. This dedicated air support assumes air superiority, and since the geographical area is limited, there is no need to rapidly concentrate airpower in other areas of the theater. The Marine dependence on air instead of artillery and their limited front led to having aircraft on air alert for 5-10 minute response, while the broad front covered by the Air Force required them to be on-call, with typical response times of 40 minutes (11:120-123). Still, trouble didn't start until the Navy ran into the FEAF air-ground control network. The need to check in with the Joint Operations Center (JOC) for assignment to a target area required aircraft to fly within 10-15 miles of the JOC in Taegu for assignment to a controller up to 200 miles away. This greatly limited options and time on station (10:389). When the Navy aircraft did arrive, the T-6s added to their problems.

The Air Force 4- and 8-channel VHF radios on the T-6 did not have adequate capacity, especially compared with the better Navy 12- and 20-channel sets (12:42-46). Two of the T-6 channels were set to ground party frequencies, leaving two (or at best six) frequencies for working air control (10:389). When a real need arose, JOC would swamp the sector, leaving the T-6s and their few radio channels overloaded (10:455). An example of the ineffectiveness of working CAS with the Navy is the action report from the aircraft carrier Philippine Sea,

For this vessel the subject of close support is a touchy one. The inability to establish good communications with any controllers has limited its effectiveness. There is apparently no such thing as radio discipline. If a pilot has something to say he just tries to cut out whoever is on the air. Too many tactical air controllers and differ-

ent support flights are on the same channels. With the present ground situation as it is [that is, fluid] it is mandatory that the pilots be informed exactly as to their mission. In the past this has not been done and has resulted in inefficient use of aircraft from this vessel engaged in close support operations (12:45).

Due to the poor payload and lack of loiter time of the Japan-based FEAF F-80s, Navy aircraft would often have to hold while F-80s made their runs. Many times the Navy aircraft could never even make contact with the Mosquitoes. Navy Captain John Thatch "... just couldn't believe [communications] could be so bad ... the pilots would come back and say 'We couldn't help ... We were there and we couldn't get in communications ... '" (12:45-46).

CONTROL OF NAVAL AIR RESOURCES

Compounded by the lack of a true joint command structure, the question of unified command of all theater airpower remained an Air Force-Navy issue throughout the war. Lt Gen George E. Stratemeyer, commander of FEAF, insisted on operational control of all naval air operating out of Japan or flying over Korea. The Navy, however, although mainly supporting the theater ground forces in Korea, also had responsibility for control of the sea, sea lines of communication, fleet defense, and the defense of Formosa (14:57). In light of these responsibilities, the Navy was not willing to subordinate its air resources to an air component commander. This fundamental doctrinal difference on control of theater airpower never was satisfactorily resolved during the war (10:385), although an acceptable working relationship was finally established. This problem will likely arise again in any US joint service operation of long duration.

On 8 July 1950, General Stratemeyer requested operational control over all naval aviation flying over Korea. He felt that to coordinate carrier and FEAF operations over Korea, he needed to control naval air operations, "including the targets to be hit and the area in which they operate" (11:49). When COMNAVFE, Admiral C. Turner Joy, objected, Stratemeyer further clarified his desire that by control, he meant, "the authority to designate the type of mission, such as air defense, close support of ground forces, etc., and to specify the operational details such as targets, times over targets, degree of effort, etc., within the capabilities of the forces involved" (11:49). Again, he stressed that to get the most out of airpower resources, FEAF needed operational control of all FEAF and NAVFE air resources to ensure deconfliction of targets and effective coordination of all air efforts. The Navy again did not agree, and in an 11 July 1950 meeting, an agreement was made for FEAF to have "coordination control" over Navy air--a new term with different meanings to the Air Force and Navy (11:50).

In the Navy view, their air had to support the sea campaign first. Although in Korea there was virtually no battle for the sea, there was significant concern over a Communist invasion of Formosa, for which the Navy was responsible. Rather than be restricted and controlled by the theater commander, the Navy wanted to be able to use its airpower as it saw the need. Because of this, the Navy saw themselves in a supporting role, rather than under operational control, a position that allowed more freedom to do as they pleased. They interpreted the mysterious term "coordination control" as fitting their supporting force role.

While this arrangement can satisfy short contingency operations, a long term theater air campaign will be greatly hampered by lack of unity of command of the air resources (14:57-59).

To solve coordination problems, NAVFE requested exclusive areas of operation for Navy air, close to the east coast of Korea, where the carriers operated. The problem with this was that the limitation of naval airpower to a geographical area eliminated the capability to mass firepower at the most critical points in the theater, and lost flexibility in massing airpower on the most important targets. For instance, many of the highest value air interdiction targets were outside the naval area, thus degrading air interdiction efforts (14:57-59).

Part of the problem in integrating naval air into the theater air battle was the large amount of communications required by the large centralized FEAF system. Carriers had limited communications capabilities, often operated under radio silence, and were unable to handle high-volume FEAF communications (11:49). One example of the incompatibility of the high-volume Air Force communications with the limited Navy capacity was a FEAF radio message in November 1950 which gave the air plan for one day. Sent to the carrier task force, it required over 30 man-hours to process (10:387).

These problems were partially a result of the interservice battles during the unification of the services after World War II, when the Air Force "won" complete responsibility for air interdiction. As a result, the Navy had no plans to use their air in long-term land campaigns (10:111). The lack of training for

interdiction and the major differences in employing CAS hindered coordination and cooperation between the Navy and Air Force. Ultimately both services must share in the blame for their failure to work together. On the Navy side, as a result of the bitter interservice disputes after World War II, there existed a deep-seated distrust of the Air Force. The Navy did not always make an effort to cooperate with FEAF even when FEAF was eager to work jointly (10:392-393).

As the war progressed, Air Force-Navy cooperation did improve significantly. Cooperation was greatly aided by improved Navy representation at both the 5AF Joint Operations Center and the FEAF Targeting Committee, both of which became solid joint operations (14:59; 10:392-393). Nonetheless, fundamental differences were never completely worked out.

SUMMARY

Problems in coordination of Naval and Air Force aviation and fundamental differences in the issue of control of air resources contributed to less than optimal employment of airpower in Korea. The troubles with control of Naval air in a theater campaign will likely occur again. In Vietnam, and even in smaller scale operations such as Grenada and the 1982 Libya raid, Naval air resources were again given separate geographical regions for operations. Without serious attention to working jointly, including realistic training exercises with Marine and Naval Aviation to ensure compatibility and testing of joint procedures for coordinating close air support, the US will likely face poor utilization of air resources and ineffective joint operations

again in the future. The next time it could cost even more than in Korea, where overwhelming superiority in sea and air power covered up many mistakes.

Chapter Six

AIR INTERDICTION

Air interdiction (AI) in Korea had a major impact on defeating numerically superior forces. Unfortunately, air interdiction seems to be poorly understood and requires continual relearning, as shown by the attempts of Operation "Strangle" in Korea, the efforts to interdict supplies over the Ho Chi Minh trail in Vietnam, and the current attempts to use military forces to interdict drug traffic. First, AI cannot completely isolate the battlefield. Additionally, an "air interdiction campaign" cannot be effective if isolated from the theater campaign.

At the most basic level, the purpose of air interdiction is to "delay, disrupt, divert, or destroy an enemy's military potential before it can be brought to bear effectively against friendly forces" (1:3-3). Too often, however, the destruction of enemy supplies is viewed as an end in itself. If victory is not achieved, destruction of large amounts of enemy supplies is in vain. Therefore, it is crucial that interdiction be an integrated part of a joint air-ground-sea campaign. Lt Col Price Bingham describes how it contributes to victory:

Air interdiction does, indeed, make its contribution by either destroying enemy forces or delaying and disrupting their movement; however, in order for either effect to contribute fully to the successful outcome of a campaign, air interdiction and ground maneuver must be synchronized so that each

complements and reinforces the other. Synchronization is important because it can create a dilemma for the enemy that has no satisfactory answer. His dilemma is this: if he attempts to counter ground maneuver by moving rapidly, he exposes himself to unacceptable losses from air interdiction; yet if he employs measures that are effective at reducing losses caused by air interdiction, he then cannot maneuver fast enough to counter the ground component of the campaign. Thus, regardless of the action the enemy chooses to take, he faces defeat (5:17-18).

Thus, to make a major contribution to victory, air interdiction must be coordinated with ground force maneuver. Clearly it has a major role to play in AirLand Battle. The Korean War had some unique factors which affected air interdiction, and provides examples of both effective and ineffective air interdiction.

FACTORS AFFECTING AIR INTERDICTION IN KOREA

Korean geography is somewhat favorable for air interdiction. It is a 400 nautical mile (nm) long peninsula varying in width from about 100 nm to about 300 nm. Its extremely mountainous terrain results in over 85 percent of Korea being unsuitable for vehicles. At the time of the war, there were few roads and railroads, increasing dependence on the existing network. The depth of most rivers varies from deep (between March and September) to fordable at other times. During winter many rivers (including the Yalu) freeze over (8:43).

An important factor affecting interdiction was the sanctuary the UN extended to Chinese territory, allowing build up of vehicles and supplies in China. Additionally, the Communist soldiers needed few supplies by US standards, and were able to use manpower to carry supplies and to implement effective countermeasures such as camouflage, restricting travel to night,

and deploying repair teams for rails, roads, and bridges (8:58). Finally, the static front that developed and the reduced need for ground maneuver limited the effectiveness of AI.

EFFECTIVE AIR INTERDICTION

As the war broke and UN forces retreated to establish the Pusan perimeter, FEAF began conducting air interdiction to cut off the lengthening NKPA supply lines. In combination with long lines of communication and heavy ground fighting, the interdiction greatly reduced the fighting capability of the NKPA and resulted in extreme shortages of men and virtually all supplies, including arms, ammo, fuel, and food (6:239). The bombing of bridges is usually emphasized in this AI campaign, but AI in the form of armed reconnaissance, usually by Naval and FEAF fighter-bombers, had a major impact. Fighters roamed the roads and rails, looking for lucrative targets and strafing and rocketing trains and convoys. For example, on 10 July 1950, an F-80 discovered a convoy backed up behind a downed bridge. Calling in additional air, a combination of F-80s, F-82s, and B-26s destroyed 117 trucks, 38 tanks, 7 half-tracks, and killed numerous soldiers (11:91). From the enemy soldier's viewpoint, the effect was devastating. One prisoner described such an attack; "En route from Kwangnung area the 8th division was attacked many times by aircraft and lost ten 76mm field guns, three 122mm howitzers, 20 tanks, and 50 trucks loaded with ammunition and equipment" (11:175). This is similar to the experiences of World War II, when armed reconnaissance by fighter-bombers was very effective in interdicting enemy ground

forces en route to the battlefield in what we now call BAI (15:24). Interdiction alone did not lead to victory, however. It was the combination of this continual air interdiction with ground maneuver (the Inchon landing) and ground offensives (the Eighth Army breakout from Pusan) that resulted in the rout and destruction of the NKPA (11:700-701; 18:387).

Besides helping destroy the NKPA, air interdiction made another significant contribution to the UN effort. When the Chinese Communist Forces (CCF) intervened in the war late in November 1950, the restrictions on CCF maneuver created by interdiction allowed Eighth Army to break clear and retreat to prepared defenses. For nearly three weeks the Eighth Army was out of contact while air interdiction sorties hammered the CCF (11:261).

Finally, throughout the war, AI forced the enemy to travel at night, limiting his maneuver, distance traveled, and supply availability (7:5; 11:171), reducing the CCF capability to mount or sustain offensives (14:170). Meanwhile, air superiority allowed US forces freedom to maneuver unhindered by enemy airpower. Air interdiction made a significant contribution to victory, however, only when it was combined with maneuver of ground forces.

UNSUCCESSFUL AIR INTERDICTION

Despite these successes of air interdiction, the Air Force and Army demonstrated their incomplete understanding of AI by conducting "Operation Strangle" in isolation from significant ground maneuver over the period of ten months from August 1951 to

May 1952. "Strangle" followed a road interdiction effort in conjunction with an Eighth Army offensive in the summer of 1951. Initially successful, the road interdiction efforts faded in effectiveness as the offensive reached its objectives and halted. Looking for more effective targets, FEAF developed a plan to destroy the enemy railroad system. They believed that this interdiction effort would so weaken the enemy that they would have to withdraw close to the Chinese border to shorten their supply lines. It soon became obvious that "Strangle" could not win the war alone and these expectations were unrealistic (11:433-442). This effort to impact the stalemate by cutting off the supplies of enemy ground forces was an indication of the incomplete understanding of air interdiction. AI could not end the war alone because the UN was unwilling to commit the forces (and take the casualties) needed to maneuver and take the offensive -- key elements in an AI campaign (6:931; 18:393). As the USAF official history notes:

As was the case in World War II, the best time for an interdiction campaign was when the ground situation was fluid, the fighting intense, and the enemy's logistical needs were greatest (11:704).

Air interdiction must be integrated into the overall theater commander's plan to have the most impact.

SUMMARY

There were unique factors which affected air interdiction in the Korean War, in some ways making it easier, such as the limited road and rail network and mountainous terrain. Other factors such as the sanctuary provided by China inhibited interdiction. The

enemy was generally able to develop countermeasures, however. There were cases of successful and unsuccessful interdiction, demonstrating the importance of integrating air interdiction efforts into the overall theater campaign. AI could not win the war by itself. To make significant contributions to victory, air interdiction must be synchronized with ground maneuver to obtain the theater commander's objectives. Interdiction, like all applications of airpower, is also dependent on the availability of adequate air bases, a problem throughout most of the Korean War.

Chapter Seven

AIR BASING PROBLEMS

The Korean War was the first experience with the runway requirements of jet aircraft in war. The need for long, reinforced concrete runways had major impacts on air operations and requirements for aviation engineers to build and maintain suitable runways. The war demonstrated the problems that can be encountered by inflexibility in air basing. Considering the worldwide commitment of USAF and the many regions of the world with inadequate airfields, the problems of Korea provide food for thought on our capabilities to operate from remote, primitive fields as well as with our air bases under major attack.

AIRCRAFT PERFORMANCE AND RUNWAY CAPABILITIES

The Air Force was moving into the jet age in 1950. Unfortunately, there were no fields long and reinforced enough in Korea, and only four in Japan, to support the Air Force's new jet aircraft (11:59). Flying from Japan, the F-80 was at the edge of its range, had virtually no loiter time, and could only carry a pathetically small bomb load. Few F-80s carried even the small 100-pound bombs; in the first four months of the war they averaged only 20 pounds of bombs per sortie (9:4). Although aircraft modifications offering improvements were rapidly made, and by June 1951 F-80s were averaging over 1000 pounds of bombs per

sortie (9:4), this lack of ability required the USAF to pull hundreds of World War II vintage F-51s out of mothballs for air-ground missions. F-51s and P-47s were both considered for the missions, but there were simply not enough P-47s available (12:40-41). Although the P-47 was preferred because of its toughness and survivability, in its stead the F-51 could still carry significant ordnance, had a long loiter time, and could operate from primitive runways (11:112).

As the front changed throughout the war, the older planes were flexible enough to use primitive runways reinforced with metal matting, while those jets which had moved from Japan to Korea were tied to a few large fields--with major consequences when they fell into enemy hands. For example, when Seoul fell again in January 1951, FEAF lost the large jet air bases at Kimpo and Suwon. In anticipation of a possible evacuation of Korea by all US forces, jets were also moved to Japan from Pusan, Taegu, and other bases. The F-86s were back in Japan, where they no longer had the range to provide air superiority and protect the Eighth Army from air attack. The only airpower available for CAS and AI were F-51s, B-25s, and B-26s operating out of the primitive Korean airfields, thus greatly reducing FEAF capabilities (6:652-653).

AVIATION ENGINEER CAPABILITIES

FEAF was consistently short of aviation engineer units--the troops who build and repair runways (11:71,389). The need for reinforced runways to handle jet aircraft required significantly

more time and effort than runways for older aircraft such as the F-51. Runways required 4.5 engineer battalion-months to build as compared to 1.5 in World War II (11:635). These figures are deceptive, however, as large engineering units could rapidly construct runways suitable for forward operations of fighter-bombers in World War II. For example, in the Normandy landings, an emergency landing field was completed by 2115 hours on the day of the landing. A transport field was built and operating three days after D-day, and in five days, four engineer battalions were working on airfields. Sixteen days after the initial landings, five fighter-bomber groups were operating out of Normandy airfields. Within 24 days, nine airfields were completed with 7 more under construction (15:21). In comparison, it took from June to December 1952 to build the new 9000 foot concrete jet runway at Osan-ni (11:635).

SUMMARY

The lack of adequate airfields was a limiting factor in FEAF's air war. There were not enough airfields capable of handling jet aircraft, and there were never enough engineers to build and repair runways. The official USAF history notes, "In two years of war in Korea no single factor had so seriously handicapped Fifth Air Force operational capabilities as the lack of adequate air facilities" (11:498). These lessons are crucial in light of our dependence on large airfields today, which require enormous time and resources to build, and the areas of the world, such as the Middle East and the Pacific, with vast expanses between airfields. We must ask questions about the importance of

movement and mobility in war, and our need for aircraft, such as the A-10 and AV-8B, which can operate out of rugged forward operating locations, where they are more responsive, can carry heavier payloads, have longer loiter times, and can fly high sortie rates in support of ground forces without aerial tanker support. It also points out how vulnerable we are to airfield attack in a European war--especially since the Soviets believe a key factor in defeating the USAF in Europe is to attack and neutralize our airfields (4:34). If airfields were a limiting factor in a war with total air superiority, airfield survivability and operability clearly need more attention as factors in the tactical air war equation and as considerations in future aircraft development and acquisition.

Chapter Eight

CONCLUSIONS

When the Korean War opened, the US military had limited conventional capabilities. Airpower was crucial in the early days of the war to prevent the total defeat of UN forces. Nonetheless, numerous problems resulted in less than optimal application of the available air resources.

The failure to develop a true joint theater command structure not only contributed to other problems, but inhibited the development of solutions. The theater command headquarters interfered with air targeting and Army requests for air support, contributing to problems in air-ground coordination and close air support. Additionally, AF-Navy coordination was a problem through most of the war and control of Naval aviation resources was an issue. A true joint staff should have assisted in resolution of these problems. The war also demonstrated the importance of air superiority in a theater of operations. Korea demonstrated the importance of integrating air interdiction into the theater campaign and the need to combine interdiction with ground force maneuver. Finally, the requirement for long, concrete runways to support jet aircraft hindered the effective employment of jets and increased dependence on older aircraft such as the F-51, which could operate out of primitive airstrips.

This paper examined these problem areas of the Korean War.

Many of them were similar to problems we see in peacetime today and are likely to encounter again in war. With today's emphasis on jointness, the Korean War is useful for examples of problems encountered in joint affairs. History can provide perspective and insight into issues facing today's Air Force. It was the intention of this paper to provide such insight.

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