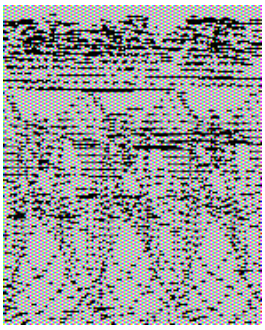

A Matter of Trust

Close Air Support Apportionment and Allocation for Operational Level Effects

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THESIS PRESENTED TO THE FACULTY OF
THE SCHOOL OF ADVANCED AIRPOWER STUDIES,
MAXWELL AIR FORCE BASE, ALABAMA, FOR COMPLETION OF
GRADUATION REQUIREMENTS, ACADEMIC YEAR 1994–95.

Air University Press
Maxwell Air Force Base, Alabama

November 1997

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Contents

Abstract

Doctrinal differences over the employment of airpower are as old as military aviation itself. One particular area of contention has been close air support (CAS). The two primary issues related to CAS are its command and control and responsiveness. Soldiers have argued that ground commanders should control their own aircraft, because ownership assures that airpower directly responds to their needs. Airmen have maintained that airpower should be centralized under a single air commander to allow for its flexible theaterwide employment. During World War II, Korea, Vietnam, and Desert Storm, ground commanders demanded greater influence over airpower employment. Concurrently, the Air Force disagreed with the Navy and Marine Corps over centralized versus decentralized control of air assets. These two issues of command and control and responsiveness are embodied in the process of apportioning and allocating CAS. In all conflicts since World War II, the United States has had the luxury of an overabundance of air assets. Despite a façade of centralization, airpower was parceled out to fill nearly everyone's needs. This avoided the need for any difficult choices. This study follows the history of CAS since World War II to examine how it has been apportioned and allocated in the past. It then examines the current joint air operations process. It is the contention of this study that the current system, rooted in its historical past, does not fully employ CAS to its optimum potential. The historical view of CAS has been as a tactical measure, with limited localized effects. However, properly integrated and coequal with the ground scheme of maneuver, it can have operational level effects. This study examines two theories of the use of CAS at the operational level and then recommends changes to the view of CAS and the process for its apportionment and allocation.

About the Author

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Chapter 1

Introduction

Power is not revealed by striking hard or often, but by striking true.

—Honoré de Balzac

Ever since the First World War when the first fighter pilot descended to strafe the enemy trenches on the western front while returning from a dawn patrol, close air support (CAS) has been a constant element of modern warfare. Although it did not have a decisive impact on the course of the war, the issue of ground attack by aviation was the focus of a controversy between the air and ground arms. The traditional land power advocates wanted the continued subordination of airpower to the will of the ground force commander. The airpower zealots sought its freedom from such tethers to conduct independent and war-winning operations. The airpower moderates sought tactical support operations with greater flexibility for mass attack arising from centralized control. Even in the current era of gentlemanly jointness, elements of this dichotomy continue. Ground force commanders decry a lack of air support. US Air Force commanders contend that the battle can be won with strategic attack or that they can best support the US Army through the interdiction of enemy men and materiel.

This study focuses on a narrow section within this larger debate. Specifically, the issue is close air support and, in particular, how best to apportion limited CAS assets within a theater to achieve the objectives of the joint force commander (JFC). The thesis of this study is that the current joint doctrine concerning the apportionment of CAS assets is insufficient (and possibly counterproductive) for the accomplishment of campaign goals. Before developing the framework for this analysis, it will be beneficial to begin by examining what close air support is and what is meant by apportionment.

Before defining close air support, it is best to determine what is meant by the generic term *support*. Joint Publication (Joint Pub) 1-02, *Department of Defense Dictionary of Military and Associated Terms* defines support as: "1. The action of a force which aids, protects, complements, or sustains another force in accordance with a directive requiring such action. 2. A unit which helps another unit in battle. Aviation, artillery, or naval gunfire may be used as a support for infantry. 3. A part of any unit held back at the beginning of an attack as a reserve. 4. An element of a command which assists, protects, or supplies other forces in combat."[1] Close air support is a subset of military support in general and its application may fall within all

four possible definitions. In the current vernacular of joint doctrine, however, there is more than an implied subordination of close air support to the desires of the ground force commander. This is a problem for the true integration of the air and ground efforts and will be addressed further in this study.

What is close air support? The term *close air support* can be used to include all air attacks that are coordinated with the supported ground forces. High-altitude bombing of enemy positions by heavy bombers in advance of friendly forces or attack helicopter support of troops in contact with the enemy can be fairly called close air support.[2] Col John A. Warden III takes a similarly broad view of close air support as, "Any air operation that theoretically could and would be done by ground forces on their own, if sufficient troops or artillery were available."[3] This definition, although useful, connotes the old view of ground attack aviation as nothing more than flying artillery. There in lies the rub.

Joint doctrine is supposed to offer "a common perspective from which to plan and operate, and fundamentally shape the way we think and train about war."[4] A comparative examination of joint CAS doctrine to service doctrines, however, shows some discrepancies. Joint Pub 1-02 defines close air support as, "Air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces."[5] This recent joint iteration includes Army and Marine attack helicopters as CAS assets for the first time. It also seems to portray a more balanced approach to the use of air and ground actions. This coequality is largely absent in the individual service approaches to CAS.

Looking at the service perspectives on CAS, we begin with the US Army. Field Manual (FM) 100-5, *Operations,* which states that "close air support (CAS) missions support land operations by attacking hostile targets close to friendly ground forces. CAS can support offensive operations with preplanned or immediate attacks." In these first few lines, CAS could easily be replaced by the word *artillery*. It further states, "CAS can enhance ground force operations by delivering a wide range of weapons and massed firepower at decisive points." Again, read bigger artillery. The glimmer of hope, from this author's perspective, for the proper application of CAS emerges in the final lines of the Army's description of CAS. "It can surprise the enemy and create opportunities for the maneuver or advance of friendly forces through shock action and concentrated attacks. CAS can also protect the flanks of friendly forces, blunt enemy offensives, enhance economy-of-force operations, and protect the rear of land forces during retrograde operations."[6] The shock action of CAS allows for maneuver, but nothing is said about the possibility of maneuver allowing for the shock application of CAS.

The US Navy's view of CAS is that it "supports amphibious and land operations with massed firepower, requiring detailed integration with the ground scheme of maneuver. CAS requires close coordination during tasking, planning and execution. CAS is a force multiplier, enabling the supported commander to mass combat power decisively. Traditionally, the Navy has

been a provider of CAS, but can be a recipient of CAS as well, in support of naval operations."[7] CAS can again be equated with artillery, or perhaps naval gunfire. There is the dim hope of the integration with the ground scheme of maneuver, but many airmen would fear that the ground scheme is driving the operational train. Finally, there is an obligatory, budgetary statement as to the Navy's need to continually provide CAS, as they have always done in the past.

The US Air Force's perspective on CAS is equally disappointing. Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, defines CAS as:

> The application of aerospace forces in support of the land component commander's objectives. At times, CAS may be the best force available to ensure the success or survival of surface forces. Since it provides direct support to friendly forces in contact, close air support requires close coordination from the theater and component levels to the tactical level of operations. Close air support should usually be massed to apply concentrated combat power, should create opportunities, and should be planned and controlled to reduce the risk of friendly casualties.[8]

The US Air Force continues to be reluctant to provide CAS, considering it the least effective application of airpower.[9] If truly given the choice, the Air Force would only do CAS in extremis. Its effects are considered the briefest of any force application mission and have the least impact at the campaign level. This is because the Air Force, despite its talk of coordination with the land component commander, views CAS as strictly a tactical mission. Close air support can prepare the conditions for or reinforce ground successes, which continues the subordinate role of airpower. It is only in the final view lines of AFM 1-1's presentation of CAS that we see hope for the proper integration of CAS. "In effect, close air support can provide another maneuver element for employment in cooperation with surface combat elements."[10] If CAS is another maneuver element, then perhaps it may be *supported by* the ground maneuver element as opposed to *supporting* it. That would be true equality and provide a better way to accomplish the JFC's mission.

Finally, the US Marine Corps considers CAS its bread and butter mission. Fleet Marine Field Manual (FMFM) 5-41, *Close Air Support*, states that "the Marine Corps fights using maneuver warfare through the application of combined arms. CAS is fully integrated with other supporting arms to support the Marine air-ground task force (MAGTF) commander's plan. The MAGTF commander uses CAS at the decisive place and time to achieve local combat superiority or take advantage of battlefield opportunities. *CAS is employed for operational effectiveness and is used to weight the main effort*" (italics added).[11]

There are several salient points here for our discussion. The first is that the Marines plan the use of combined arms in an integrated fashion. This would tend to imply a coequality, however, CAS is still a supporting arm. The most important item for future reference is that the Marines view CAS for its operational effectiveness and its applicability to the weight of the main effort.

Further, the person selected to be the MAGTF commander is often an aviator. These are ideas which are lacking in the other service's interpretations of CAS.

Having examined all these different joint and service perspectives, it would be useful at this point to synthesize them into a form that will be used throughout the remainder of this work. The fundamental hypothesis is that CAS should be viewed as a force at the operational level of war, not simply as a single A-10 striking a green jeep in the tree line. Its application should be coordinated beginning at the operational level and down to the tactical, not vice a versa. CAS should be massed against the enemy's decisive points. Its psychological and physical shock effects can therefore work as force multipliers. Airpower, and CAS in particular, is itself a form of vertical maneuver and envelopment. It must therefore be seamlessly integrated with the maneuver of the ground forces, such that the two are synergistic. The ground maneuver serves to dislocate the enemy for CAS's destruction, or CAS dislocates the enemy for destruction by the ground forces. The relationship and magnitude of the two will depend on the particulars of the situation. The point is that CAS should not always be subordinated to the ground scheme of maneuver.

Now that we have fully described the nature of close air support, we must now deal with how it should be apportioned at the theater level. Apportionment, in its simplest sense, is the act of dividing and assigning things according to some plan or proportion. In the era of only 20 USAF fighter wing equivalents and for the purpose of this study, apportionment is how to best use limited CAS assets to accomplish the JFC's military objectives. According to Joint Pub 3-56.1, *Command and Control for Joint Air Operations*, in the joint lexicon air apportionment is, "The determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations and/or geographic areas for a given period of time."[12] Within this definition lie three issues. The first is the importance of CAS as a mission within the theater objectives of the joint force. Which is more important at the time, air superiority, strategic attack, air interdiction, et cetera? The second is how many of the CAS-capable aircraft of the joint air operations force should be devoted to the CAS mission at any one time. The third is how those CAS sorties should be divided within the theater. Should each division receive an equal percentage, should they be prioritized among divisions and distributed in decreasing percentages, or should the ground element comprising the weight of effort for the campaign receive the overwhelming bulk? This study answers these questions.

To form the basis of analysis regarding these questions, we must first examine the historical background. Chapter 2 explores how CAS has been apportioned in previous historical joint campaigns. Chapter 3 describes how the current process operates for the apportionment of close air support within an area of responsibility (AOR), paying particular attention to the role of the joint force air component commander (JFACC). It relies heavily on current service and joint doctrine. Chapter 4 compares two different military theorists, Liddell Hart and Tukhachevskii, concerning their views on the

employment of CAS as an operational asset. Finally, in chapter 5, the author summarizes the argument and makes recommendations regarding the apportionment and employment of close air support as an operational level asset in the future.

Notes

1. Joint Publication (Joint Pub) 1-02, *The Department of Defense Dictionary of Military and Associated Terms,* 23 March 1994.
2. Peter C. Smith, *Close Air Support: An Illustrated History, 1914 to the Present* (New York: Orion Books, 1990), vii.
3. John A. Warden III, *The Air Campaign: Planning for Combat* (Washington, D.C.: Pergamon-Brassey's, 1989), 87.
4. Joint Pub 1, *Joint Warfare of the US Armed Forces,* 11 November 1991, 6.
5. Joint Pub 1-02.
6. Field Manual (FM) 100-5, *Operations,* June 1993, 2-19.
7. Joint Pub 3-09.3, "Joint Tactics, Techniques, and Procedures for Close Air Support," Reformatted Draft Pub, 17 February 1995, A-1.
8. Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force,* vol. 1, March 1992, 13.
9. Ibid.
10. Ibid.
11. Fleet Marine Field Manual (FMFM) 5-41, *Close Air Support and Close-in Fire Support.*
12. Joint Pub 3-56.1, *Command and Control for Joint Air Operations,* 14 November 1994, GL-5.

Chapter 2

The History of Close Air Support

Those who seek to plan the future should not forget the inheritance they have received from the past, for it is only by studying the past as well as drawing for the future that the story of man's struggle can be understood.

—Sir Winston Churchill

Examining military history is not meant to provide cookie-cutter solutions based upon past experience. It is, however, meant to provide insights to what has and has not worked in the past. Clausewitz saw military theory and military history as intertwined. He defined military theory as an analytical investigation leading to a close acquaintance with the subject; applied to military history. Its purpose is to look at the ends and means and phases of warfare in a critical inquiry. Theory should, therefore, be limited by experience (actual history). The knowledge required is simple, but difficult to apply, and when applied it is done as a natural talent, from within, not as a thought process from learned activity. Knowledge must be absorbed into the mind that it almost ceases to exist in a separate, objective way. He sees from history (the Prussian generals imitating Frederick the Great) the failure awaiting commanders as they imitate using routine versus commanders who use talent and genius (the imagination) and succeed in the new and different situation of battle in which they are involved.[1]

With these thoughts in mind we will now critically inquire into how CAS was apportioned in previous wars. Because of CAS's limited impact on the ground war, World War I is briefly addressed. However, excellent examples are available from World War II, Korea, Vietnam, and Desert Storm. It is not the intention of this chapter to cover every operation in every campaign, but to focus on the major campaigns in which large air and ground forces worked in concert to achieve a common military objective.

World War I

The air arms of the First World War were dominated by tactical aviation and the concerns of the ground commander. During the Great War, however, the role of the air weapon was not a major one. Apart from the role of observation, it did not substantially figure in the development of the positional warfare on the western front. It did, however, contribute to the

maintenance of the stalemate. By the end of the First World War, the airplane had shown promise for the future, as an element of combined arms warfare. It displayed a flexibility of application, a degree of mobility, and a psychological impact that surpassed the expectations of even its prewar supporters.[2] In the interwar years, however, the growth of CAS theory stalled while the doctrine of daylight high-altitude precision bombardment grew to maturation.

World War II

In 1940 Air Corps FM 1-5, *Employment of Aviation of the Army*, noted that "fighters were 'not suitable' for ground attack 'other than personnel or light material' except for temporary employment during emergencies."[3] It further, rather bluntly, stated, "Support aviation is not employed against objectives which can be effectively engaged by available ground weapons within the time required. Aviation is poorly suited for direct attacks against small detachments or troops which are well-entrenched or disposed."[4]

The realities of war began to soften these views. Air Corps FM 1-10, *Tactics and Techniques of Air Attack*, published in 1940, reflected the initial reports coming from Asia and Europe in which modern military aviation forces were engaged in battle. It emphasized the importance of command, control, and communications, particularly with friendly armored forces, using prearranged signals, pyrotechnic devices, and panels. Its most emphatic point was on the need for direct radio communication between armor and air units.[5] The stunning defeat of France and initial Nazi success in Russia forced the United States Armed Air Force (USAAF) to come to grips with the problems of air support of land armies. Air operations during the 1941 Carolina and Louisiana maneuvers further highlighted the need for focused attention on future air-ground coordination and air support of the land battle.[6] Unfortunately, the lessons were slow in being assimilated.

The 1941 maneuvers, along with additional observers' reports from Europe, were used for a final doctrinal statement on air support. In April 1942 FM 31-35, *Aviation in Support of Ground Forces*, was more concerned with the organization than the techniques of air support. No plans or priorities for operational employment were given. CAS was clarified only by the statement that, "Air support targets on the immediate front or flanks of supported units are generally transitory targets of opportunity."[7] This manual attempted to create a workable ground-air support system, but did so in appearance only. Control was established by a network of air support parties, air support control centers, and an air support command, which consolidated communications between the ground forces and the air forces. This structure had the façade, but not the function of a modern tactical air control system. It was cumbersome and flawed in both concept and execution. Its major weakness was its emphasis on corps-level air support. The corps commander

and staff had their own “mini” air force on call for their use. In execution, this resulted in the tendency to be too concerned about one’s own forces, to the detriment of other friendlies. Further, there was a built-in tendency to try to stem enemy air and ground attacks at the forward line of troops (FLOT), instead of striking deeper and more effectively at the enemy’s rear.[8]

The attack doctrine going into the North African campaign provided that an air support command was attached to an army formation and directed by the overall ground force commander. Tactical airpower was adapted to the demands of ground battle. As such, there was no concerted effort to gain air superiority over the theater of operations.[9] The Americans entered the Maghreb with ideas of centralized command of airpower, the primacy of air superiority, the importance of the offensive, and a low priority to ground support. Their doctrine was not substantially different from the British. The devil, however, was in the details. Luckily, the Western Desert Air Force, under Air Marshal Sir Arthur Coningham, were masters of the details. They also had the combat experience to speak authoritatively. With the change in command structure after the Casablanca Conference, reemphasized by the Kasserine debacle, Carl A. Spaatz became the air component commander and had continuous operational control over all air assets. Collocation of air and ground headquarters significantly improved coordination.

The lessons of the North African campaign were embodied in FM 100-20, *Command and Employment of Air Power*. Its first section loudly proclaimed: “LAND POWER AND AIR POWER ARE CO-EQUAL AND INTER-DEPENDENT FORCES; NEITHER IS AN AUXILIARY OF THE OTHER.”[10] The missions of a tactical air force were rank-ordered in priorities. FM 100-20 stated that an air campaign must consist of three phases, corresponding to the three priorities. First, gain the necessary degree of air superiority. Second, prevent the movement of hostile troops and supplies into the theater of operations or within the theater. Third, participate in a combined effort of the air and ground forces, in the battle area, to gain objectives on the immediate front of the ground forces.[11] This third priority, however, was extremely vague and open to a great deal of interpretation.

Operation Overlord was conducted according to the targeting priorities established by FM 100-20. However, centralized control of airpower was sacrificed due to national rivalries, doctrinal and personality disputes among airmen, and the desires of ground force commanders.[12] American concerns and distaste for Field Marshal Bernard Law Montgomery, coupled with his own preferences, led Gen Dwight D. “Ike” Eisenhower to assume and retain the role of ground force commander as well as supreme commander. Because of this dual-hatting, the air component was permanently subordinate to the ground force commander. Centralized control of airpower under the Allied Expeditionary Air Force (AEAF) was also a façade. United States Strategic Air Forces in Europe (USSTAF) and particularly Air Chief Marshal Sir Arthur Harris’s RAF Bomber Command played to their own sheet of music, unless browbeaten by Ike. Luckily, air commanders at the tactical air force level, Ninth Air Force and British Second Tactical Air Force, worked together

closely. In the battles of France, the Ninth Air Force cooperated with the 12th Army Group, while subordinate tactical air commands developed very close relationships with the various supported field armies.[13]

The inherent flexibility of airpower is considered its greatest asset. To the USAAF, this meant the ability to shift the weight of effort of air assets from one target to another within its functional area. The US Army's interpretation was different. To them it meant the ability to shift resources from strategic and interdiction missions to the tactical support of troops engaged in a ground battle. Two factors kept these command, doctrinal, and definition differences from causing serious problems in the Battle for France. First, the strategic air campaign against Germany had ensured theaterwide air superiority by March 1944. Second, the prodigious industrial and personnel output of the United States guaranteed an abundance of aircraft and aircrew resources. This wealth mitigated the need for any difficult decisions as to apportionment and weight of effort. A responsive, though decentralized, tactical air control system was developed. Even though CAS was still a tertiary mission, the numbers of fighter-bombers available led to de facto operational control (OPCON) of a tactical air command by each field army. CAS was pushed forward and made continuously and immediately available to the ground maneuver units. Many times, more sorties were available than targets, with the excess released for armed reconnaissance.

Korea

The Second World War confirmed the decisive importance of airpower in tactical support of ground operations.[14] Yet, the successful employment of aircraft, like that of any other military instrument, depended upon the weight of force available, the skill with which it was employed, and the suitability of the targets that were offered. The more closely air forces worked in harness with ground forces, the more effective they were.[15] During World War II no one system for controlling CAS had been common in all theaters. The postwar, approved Air Force-Army CAS doctrine had originated in North Africa, been modified in Italy, and was further refined in the most extensive air-ground battles of the war, those in France and Germany.[16] Different CAS systems developed in the Pacific, particularly for the island hopping campaign of the Central Pacific. The geographic separation of these theaters had precluded any disputes between the two systems. However, on the constricted landmass of the Korean Peninsula, these differences flared into a larger parochial conflict. This first post-World War II attempt at joint operations deserves more in-depth study, as it truly set the stage for our present theaterwide CAS system.

From the first day of the Korean War, the importance of fighter-bombers in a CAS role was beyond a doubt.[17] United Nations Command (UNC) ground forces' weakness in field artillery, especially heavy artillery, forced UNC air

units to concentrate on close air support.[18] Close air support operations provided important fire support to United Nations (UN) forces throughout the war, but particularly during the initial North Korean invasion and the subsequent Chinese intervention.[19] Commenting on the service provided during the North Korean People's Army (NKPA) invasion, Gen Matthew Ridgway stated, "Our Air Force knocked out much of the enemy armor, inflicted casualties on his foot soldiers, and kept close check on his movement."[20]

After the stalemate ensued in 1952, the war resembled operations along the western front in France, 1915–1917. Both armies took to the earth, erecting mazes of trenches, bunkers, barbed-wire systems, and minefields. The Communists dug deeper and bigger fortifications, driven in part by their fear of air attacks.[21] The UNC relied on its firepower to prevent any sustained communist offensive and protect Eighth Army's ground positions. Tactical aviation and artillery offset communist numbers.[22] In fact Eighth Army's increased heavy artillery support made close air support less important in 1952–1953.[23]

Despite a large number of air assets, the command and control arrangements for airpower plagued the effectiveness and efficiency of UNC throughout much of the war. General of the Army Douglas MacArthur was the American theater and UN commander. Although he regarded tactical aviation highly, he continued his World War II practice of maintaining a theater staff that was joint and unified in name only. His principal staff officers were all Army generals.[24]

Three American air elements conducted tactical offensive operations in Korea: the USAF's Far East Air Forces (FEAF), principally the Fifth Air Force; the 1st Marine Air Wing (lst MAW); and the US Navy's carrier air groups of the Seventh Fleet's Task Force 77.[25] Their integration into a theaterwide airpower system was continually troublesome. This was due to differences in service culture, perspective, and classic turf battles.

Fifth Air Force maintained control of fighter and fighter-bomber operations, while FEAF maintained centralized control of B-29 operations. The lack of a unified and integrated air campaign plan resulted in incoherent operations, some at cross-purposes. In addition, land and air campaign planning lacked coordination.[26] Fifth Air Force was responsible for USAF air operations in Korea and made only minor changes to the World War II post-Overlord system. Instead of having a tactical air command parallel to a field army, a numbered air force now performed that function. Fifth Air Force provided the same support for Eighth Army in Korea as IX TAC did for First Army in Europe.[27] General Ridgway appeared to be pleased with this arrangement when he said, "Not a day went by during my service in Korea when General Pat Partridge, commanding the Fifth Air Force, did not call me to ask, 'What can we do for you today?'"[28]

An important asset of the UNC was the ability to deploy aircraft carriers relatively close in shore. The British Far East Fleet normally deployed two aircraft carriers in the Yellow Sea,[29] while the American Seventh Fleet

deployed up to three carriers in the Sea of Japan. The US Navy vigorously defended the need for its carrier-based aircraft to operate independently of the land-based air forces. Only relatively late in the war did the Navy consent to joint target planning with Far East Air Force. The Navy claimed that the naval operations which the aircraft are supporting must be independent. Yet in Korea they were merely providing mobile platforms for aerial sorties in support of the ground war.[30]

With the introduction of the Marines into Korea, FEAF maintained that Marine aviation should come under the OPCON of the Fifth Air Force, since Marine air had the task of providing close air support to the Eighth Army.[31] An interservice compromise gave FEAF operational control of all land-based aviation in the theater but limited it to "coordination control" of carrier aviation. Although the amplification gave FEAF operational control of any Marine aviation that came ashore, it also meant that FEAF could only veto proposed carrier strikes they were aware of. Task Force 77 normally main-tained radio silence at sea. When this was coupled with the incompatibility of Navy and Air Force communications procedures, it meant that FEAF would learn Task Force 77's plans only if Far East Command (FEC) and US Navy, Far East (NAVFE) chose to inform it. "Coordination control," in fact, was a relationship that did not exist in the lexicon of joint operations.[32] Later in the war a more useful system was developed. After some initial confusion the US Seventh Fleet had established a Navy liaison section at the joint operations center (JOC) in August 1950, and late in June 1953 finally agreed to assume an integral role in the JOC.[33] Task Force 77 agreed to provide 80 sorties a day for support operations when the carriers were on station and to use the JOC system. The Air Force agreed to follow doctrine on joint operations, which gave a Navy task force commander control of all air operations within an amphibious operations area, and to assign naval aviation to a specific part of the front.[34] Thus the CAS effort was geographically divided.

The CAS command and control system was temporarily modified for the Inchon landing. Marine air was assigned to the Army's X Corps for the amphibious assault. Gen Edward Mallory "Ned" Almond, the new X Corps commander, argued for retaining Marine aviation as organic to the corps close air support. He further proposed the continued operation of X Corps as separate from the Eighth Army. But with X Corps assigned to the Eighth Army after exploiting the invasion, Marine aviation returned to the operational control of the Fifth Air Force and was used across the Eighth Army front.[35] It remained this way until the end of the war.

When the Air Force became an independent service in 1947, Tactical Air Command and Army Field Forces inherited a running argument that had divided the Air Staff and Army General Staff. Army leaders like Gen Lawton Collins and Gen Mark Clark questioned the coequal status of ground and air commanders in determining tactical priorities.[36] According to Max Hastings, in his book *The Korean War:*

> From the first days of the war there was intense and often badtempered debate between the ground commanders and senior officers of FEAF about the quality and quantity of close air support they received. This was heightened by Army jealousy of Navy and Marine organic air support, which the soldiers considered both more dedicated, and more professional, than that of the Air Force. The argument hinged upon the weight of Air Force effort that should be given directly to the ground forces, and at whose discretion this should be allotted.[37]

Disagreement between the services over air assets allocation centered around the centralized control concept of the Air Force and the dedicated air assets concept used by the Marine Corps.[38] "A major point of contention among the services had to do with FEAF's air priorities and the quality of CAS performance."[39] Different views among the services as to the contributions and effectiveness of CAS produced interservice disputes.[40] This grew so severe that Army Chief of Staff general Collins filed a formal criticism of CAS operations with Air Force Chief of Staff Hoyt Vandenberg in November 1950. Collins thought the current system of cooperation and the Air Force's apparent lack of interest in ground attack missions had created an unsatisfactory situation. He sought a revision of air-ground doctrine to give field army commanders and their corps subordinates operational control of fighter-bombers on a scale of one air group per division.[41] However, the basic problem was not in the system itself, but that the Air Force and the Army had not provided the trained staffs, control agencies, and communications systems to make the existing doctrine work.

At the time of the North Korean invasion, Air Force doctrine believed that interdiction should have a higher priority for CAS. This followed the guidance of FM 100-20, which was incorporated into FM 31-35, *Air-Ground Operations*. FM 31-35 stated that "the tactical air commander, in close cooperation with army group commander, determines the allocation of air effort to be made available to the separate tactical air forces for employment with their associated armies."[42] "Thus, FEAF was doctrinally justified in assigning its own priority to CAS unless the theater commander chose to override that decision."[43] The theater air commander retained absolute authority over all tactical air forces. He was answerable only to the theater commander. He would assign a tactical air command or air force to support each army group and army. The lowest echelon of decentralization in determining air mission priorities would be the tactical air force, whose commander would cooperate with his ground counterpart, the army commander. They would establish a JOC, collocated with the army headquarters, to coordinate air-ground missions. In this system, CAS missions required both air and ground approval, although the actual conduct of operations remained with air officers.[44] The JOC processed tactical air requests and directed tactical air missions through the combat operations section and the tactical air control center (TACC). The tactical air request system depended upon the ground officers assigned to the air-ground operations system (AGOS), which reached down from ground army through each corps to each division headquarters. Air Force liaison officers (ALO) might be assigned to ground units to advise

commanders, but it remained the responsibility of the ground commander to initiate air requests through his chain of command to the senior ground force headquarters. The army G-3 (Air) and G-2 (Air), who headed the air-ground operations section in the JOC, would decide which missions had the highest priority from the perspective of the army commander.[45] After the North Korean invasion, TAC and Army Field Forces published the *Joint Training Directive for Air-Ground Operations* (JTD). The only major changes were that it extended the AGOS down to regimental and armored combat command, and in special cases down to battalions.[46]

Reflecting on its own experience coordinating artillery in World War II, the Army allowed little initiative below the field army and corps commander level. The corps commander had the basic task of working tactical aviation into his plans through the fire support coordination center (FSCC).[47] The Army saw artillery as dominant within its range and airpower as the principal weapon outside artillery range.[48] In sum, the Army did not expect integrated close air support, and the Air Force did not intend to deliver it except under carefully circumscribed conditions.[49] Until the end of the war, the weight of FEAF's effort remained interdiction operations. Between July 1951 and July 1953 the Air Force flew 155,000 interdiction sorties and approximately 47,000 CAS sorties. In October 1952 during the period of positional warfare, FEAF flew as close air support only 3,000 of 24,000 sorties. Even in its most intense CAS effort (June 1953), FEAF's attacks for Eighth Army still fell below half of its total sorties.[50] When the front had stabilized, Fifth Air Force allocated 96 CAS sorties a day or about 13 percent of its total effort.[51]

The Navy and Marine Corps viewed CAS with more enthusiasm, largely because of their experience with amphibious operations in the Pacific.[52] Their system for both air requests and air direction stressed rapid response and decentralized management of CAS sorties.[53] They believed that FEAF directed more sorties to interdiction than to CAS because FEAF controlled the sortie apportionment process.[54]

Gen William M. Momyer gives a good synopsis of the rationale for Marine aviation.

> Control of Marine aviation, when the Marines are committed to a land campaign, has also been justified on the basis of its ability to support an amphibious operation, which the Marines are assigned as a primary mission. Since amphibious forces are without the artillery support normally organic to an Army division constituted for sustained land warfare. Marine landings forces are dependent upon naval gunfire, carrier based air, Marine air, and Air Force air (if within range) for fire support. After the forces hit the beach, Marine air augments the limited organic artillery. Then, since the Army is responsible for the conduct of prompt and sustained combat operations on land, Army forces replace Marines after the objective area is secure and the Marines either withdraw or become a part of the Army forces. Marine airpower is thus basically tailored to the needs of the landing force, including some fighters for local air defense. For interdicting the landing area and gaining control of the air, the Marines are dependent upon carrier-based air and land-based air. Thus, these higher priority missions are outside the basic responsibility of Marine aviation, which is close air support.[55]

Marine air wings were not attached to Marine divisions. Either aircraft wing commanders and division commanders worked on a cooperative basis or they functioned under a common amphibious task force commander or landing force commander ashore.[56]

The Marines had battalion level tactical air control parties (TACP) whose communications reached directly to the TACC, whether afloat or ashore. Intermediate air officers assumed that the battalion air-ground team had already determined that artillery or naval gunfire was inappropriate or not unavailable. Upon receiving the tactical air request, the TACC evaluated its available aircraft and competing air missions but still assumed that the request should be filled as quickly as possible.[57] Navy-Marine air request and air direction systems did not involve extensive participation of intervening headquarters.[58] By eliminating the requirement that intervening ground force headquarters process requests, and by placing aircraft on station on regular schedules, the naval system ensured that strikes arrived only a few minutes after the forward air controller (FAC) made his request.[59]

Concerned about the relative inaction of their own tactical air request and control system, the Marines wrested an agreement from the Fifth Air Force in May 1952 that MAG-12, a Skyraider and Corsair group, could send 12 sorties a day to the Marine division for training purposes. The allocation of the sorties then rose to 20. Eighth Army protested that the 1st Marine Division had captured part of 1st MAW and the quota system ended in December. Senior Marine air officers convinced FEAF to allow 1st MAW the first priority in answering the 1st Marine Division's air requests. The JOC sanctioned direct communications between the division and the 1st MAW.[60] By war's end the 1st MAW commanders believed that they had worked out a solid arrangement with the Fifth Air Force, but the 1st Marine Division still did not like the time delays imposed by eliminating on-station sorties.[61]

The significant difference between the AF-Army and Navy-Marine systems came in the degree of influence the ground commander had in requesting and conducting CAS strikes. The ground commander, however, did not have the authority to order Navy or Marine aviation commanders to allocate more aircraft to CAS missions. That authority remained with either the task force commander or the senior aviation commander.[62]

To assure an air strike within five to 10 minutes, the Marines had combat aircraft on air alert over the front lines almost continuously. In a normal situation, the Army would have adequate time to employ the call type air-support missions which were more conservative of scarce air capabilities than were air alert missions.[63] The Air Force thought that strip alert was more economical and allowed for better prestrike coordination. They also argued that while the naval CAS system was good for amphibious operations, CAS should not be a substitute for heavy artillery.[64] In FEAF's judgment, the Marines devoted far too many sorties to CAS, noting that requests from Marine divisions were four times higher than those from Army units.[65] Furthermore, Gen Otto P. Weyland argued that a much higher percentage of CAS sorties was flown in Korea than in the war in Germany (30 percent

versus 10 percent).[66] With UN air forces having complete air supremacy, the Marine system worked well in Korea. Comparisons of the AF-Army and Marine systems were faulty because they were designed for different purposes. Naval CAS had been developed for amphibious operations where the short distances between the beachhead and the carriers allowed air to be continuously on call.[67] There would also be a terrific expense if the Marine system was used to support 60 to 100 divisions.[68] Finally, the chief value of the AF-Army system was its ability to concentrate all available air firepower on the sectors of the front where the enemy was attacking.[69]

Of the total sorties flown, close air support, defined as strikes within the bomb line that received some positive direction from a ground or airborne controller, represented roughly 10 to 15 percent of the air effort.[70] FEAF was never a large air force, yet during the war it flew 720,980 sorties, 57,665 of which were CAS. The Marines flew an additional 107,303 sorties, 32,482 in the CAS role.[71] Absence of hostile air activities over the battle area allowed UN air forces to provide far more close support than would otherwise have been possible. UN ground forces were at first badly short of supporting artillery and were later hindered by a scarcity of ammunition, and airpower had to compensate for deficient ground firepower.[72]

The Marines came away from Korea very displeased with the way their air forces had been used: “Probably the most serious problem of all, from the Marine Corps point of view, was that during much of the Korean War Marine air-ground components, trained to work as a team, were to a large extent precluded from operating together.”[73] Once again, Marine air was separated from Marine divisions it was supposed to support.[74]

Although the effectiveness of UNC air operations eluded precise calculation, Lt Gen Walton H. Walker, commanding general, US Eighth Army, believed that tactical air support allowed the UNC to remain on the peninsula and then march to the Yalu. Senior officers of the NKPA who surrendered in 1950 agreed. Tactical aviation provided the additional firepower that meant the difference between defeat and victory before the Chinese intervention.[75] However, the Army still believed the Air Force put too much emphasis on less effective interdiction. “Whatever may be said for the value of air power—and there is no question that without it many of our advances would not have been possible—it simply could not keep the enemy from bringing in the armament he needed. It could slow him down and keep him working nights; but it could not isolate the battlefield.”[76]

The Air Force’s continuing commitment to interdiction, while producing some positive results, weakened the potential contribution of close air support.[77] The Air Force’s declining interest in close air support did not escape the Army. After the failure to draft a joint statement on CAS operations, the Army announced in January 1955 that the principles of the JTD had already been repudiated by the Air Force and therefore did not bind the Army. For all practical purposes the Army and Air Force had finally found a consensus by agreeing not to agree on what part close air support would play in future war.[78] Thus the problems were ignored and caused further problems in Vietnam.

Vietnam

According to John Schlight in his book published in 1988:

> Before the war, close air support, because it ceded much control of aircraft to ground commanders, was not a favored mission of the Air Force. Anchored for decades in the strategic nuclear mission, many airmen viewed direct support of ground forces as the least efficient use of the air weapon. Despite their conviction that enemy resources were more effectively dealt with before they reached the battlefield, it became necessary from time to time and for a variety of reasons to use aircraft in close air support. The conflict in South Vietnam was one of those occasions.[79]

When massive retaliation became the national strategy in the 1950s, the USAF concentrated on organizing, training, and equipping for general and tactical nuclear wars. The Air Force ignored air-ground support in any lesser contingency.[80] Air Force Chief of Staff gen John P. McConnell noted, "We [USAF] did not even start doing anything about tactical aviation until 1961 or 1962."[81] Because of this, close air support in South Vietnam followed a pattern of gradual development.[82] With the expansion of US involvement in the war, improvements had to made rapidly. In April 1965 the commander in chief, Pacific (CINCPAC), commanded that the primary mission in South Vietnam was close air support and the first priority of close air support was to help troops in contact.[83]

Prewar Doctrine

On the eve of the American buildup in Southeast Asia, joint Army-Air Force doctrine on close air support was virtually nonexistent. The concept of close air support itself was difficult to clarify. How close was close? By the early 1960s, the Joint Chiefs of Staff (JCS) shaped a working definition of close air support: "Air action against hostile targets in close proximity to friendly forces and which requires the detailed integration of each air mission with the fire and movement of those forces."[84] Air Force leaders expected to set priorities for the different missions (counterair, interdiction, close air support) according to each situation as it arose.[85] The only specification was from joint Army-Air Force plans in 1960, which fixed the expected Air Force close air support at five sorties per day for each maneuvering army battalion.[86]

In 1961 the Army Command and General Staff College examined CAS. Three particular recommendations were Army-Air Force joint operational planning should be decentralized to the level of field army and tactical air force; allocated resources for CAS should be adequate for the actual need; and CAS should be under the OPCON of the ground commander.[87] The Army suggested that three USAF squadrons designated solely for CAS be assigned to each army division.[88] With the prospects of war looming, the services established multiple boards to examine CAS. The Army instituted the Howze Board. The Howze Board recommended that commanders of field armies (or

independent corps) possess OPCON over all their air support, and that the Air Force adopt quantitative requirements for close air support (e.g., 35–40 sorties per division per day in a conventional war with the Soviets, or 25–30 sorties against the Chinese).[89] The Air Force countered with the Disoway Board, which concluded that all air assets should be managed by a single air commander. In 1963 Secretary of Defense Robert S. McNamara instituted the Army-Air Force Close Air Support Board, which failed to come to any agreement. The deliberations of the Howze Board, the Disoway Board, and the Army and Air Force Close Air Support Board underscored disagreements over a few significant issues that blocked a consensus on CAS. The Army's vision of command and control was of a decentralized system in which the local ground force commander received enough CAS to eliminate the targets he chose at the time he desired. Essentially, the Army wanted the ground commander, at the lowest possible level, to have OPCON over all supporting aircraft in his AOR. This could reach the point where a company commander owned a flight of F-100s. The Army was particularly worried that previously ordered aircraft might be diverted to other missions without the permission of the ground commander. In contrast, the Air Force viewed CAS as a joint asset under the OPCON of the joint theater commander.[90]

Another source of interservice controversy was the setting of quantitative measures to determine adequate CAS. The Army desired that each division be allocated a certain number of CAS sorties for each combat day, enabling the division commander to develop operational plans on a reliable basis. More importantly, he wanted to be certain of not losing that air support in the midst of an engagement, as he would hold operational control over the aircraft assigned to him each day.

The Air Force argued that in the fluid, rapidly changing circumstances of combat, battlefield priorities could shift quickly and unexpectedly. This required concentrating CAS in a particular area, even to the point of denying support to less heavily engaged units. Assigning the overriding authority to the JFC would allow for parceling air assets to best advantage and flexibility in dealing with unforeseen events. His view would be more to overall operational success rather than simply limited tactical successes. Although Air Force leaders remained skeptical about assigning a certain number of CAS sorties per division per day, they were not completely opposed to the idea.[91] These differences in service CAS philosophy impacted the command and control arrangement built in the theater.

Command and Control

In *The United States Air Force in Southeast Asia: The War in South Vietnam,* Schlight notes that:

> The Southeast Asia war was the second test of America's unified command structure for theater warfare since its adoption in the National Security Act of 1947. The

> earlier test in Korea had shown the command structure to be effective but cumbersome and had resulted in some serious disagreements between the services. It was hoped that the unified command system could be improved in Vietnam and that American air resources could be kept intact for more effective use. . . . Several major obstacles rendered this search for unity and centralization extremely difficult.[92]

The system of command in Vietnam was not the hierarchical one used in World War II and Korea, but one that allowed the autonomous application of combat power by the individual services.[93] All forces assigned to South Vietnam came under the Military Assistance Command, Vietnam (MACV) headquarters. MACV was established as a subunified command under CINCPAC. MACV was only responsible for combat operations in South Vietnam, and later Cambodia.[94] In the tradition of World War II and Korea, Gen William C. Westmoreland served as both the theater and ground component commander. Again, in this situation airpower was not coequal.

The command and control system in Southeast Asia was pieced together incrementally, much as the war itself was. From the first, ad hoc arrangements shaped interservice coordination in South Vietnam. Unity of command never materialized because of the separate areas of responsibility. Seventh Air Force commanded Air Force assets in South Vietnam, deployed TAC units in Thailand, and had OPCON of Thailand-deployed Thirteenth Air Force units from the Philippines.[95] The commander of the Seventh Air Force was essentially the air component commander but he did not control Navy aircraft—owned by the commander in chief, Pacific Fleet (CINCPACFLT)—Marine aircraft (until 1968), or the heavy bombers of Strategic Air Command (SAC).[96]

The Navy's Pacific Fleet (PACFLT) in Hawaii retained control of the carriers on Yankee or Dixie Station. Most Navy air missions were used for interdiction in North Vietnam. Those few naval sorties used in South Vietnam came under the tactical control of the Seventh Air Force.[97] Until 1966 the United States Navy (USN) maintained a carrier off the coast of IV Corps at the Dixie Station. After that time, the demands of the air war in the north forced its redeployment northward.[98]

The original tactical air control system (TACS) in Vietnam was designed to handle the limited needs of the Vietnamese Air Force (VNAF) and the Army of the Republic of Vietnam (ARVN). As additional forces deployed in country, the system was forced to expand in fits and starts.[99] Initially, there were two separate air control systems in South Vietnam, the VNAF-USAF TACS and the Army-Marine air-ground system. The first functioned throughout the country, while the second were assigned in a direct support role within each corps tactical zone.[100] In the beginning, the air operations center (AOC) coordinated only VNAF and USAF tactical air operations. It served only as a liaison function for Army, Navy, and Marine air operations.

In Vietnam the USAF added a new element to the system, the air support operations center (ASOC), later redesignated the direct air support center (DASC). During World War II and Korea there were no DASCs, only air

liaison officers at the corps level. There had been limited decentralization of authority below the tactical air force (TAF) level. Decisions were made at the field army/TAF level and not at corps. South Vietnam was divided into four corps areas and there was a need for more flexibility in the AGOS. Normally, three US divisions would require a corps headquarters, but this would have been confused with the four ARVN corps. The United States, therefore, created I and II Field Force Vietnam (FFV) headquarters, which were equivalent to corps headquarters.[101] The establishment of the ASOC/DASC gave the corps commander the ability to change the priority of targets or units in response to the fluid battle situation within his corps area.[102] DASCs were set up in the four military regions (I through IV), with VNAF personnel controlling VNAF operations and USAF personnel controlling USAF operations in support of the ARVN. Additional DASCs were established in military regions I and III to support the US Marines and US Army.[103] The ASOCs controlled CAS sorties in specific geographical regions on the basis of daily sorties made available from the AOC. Each ASOC then distributed its daily quota within the corps area to satisfy the corps commander's plans.[104] Within the corps or field force area, the DASC could divert aircraft from lower priority missions or airborne alert, but only the TACC could scramble ground alert sorties or divert intercorps.[105] After 1962 the JOC was known as the AOC, then in 1965 the AOC became the TACC.

In 1966 General Westmoreland integrated the two systems into the joint air-ground operations system (JAGOS). With top to bottom supervision of the entire CAS system, he set priorities for ground operations through weekly allocations of air resources. Ground commanders still received daily allocations, while the immediate request process and a large pool of air assets allowed enough flexibility to meet unexpected threats.[106]

The Marines brought the 1st MAW with the III Marine Amphibious Force (MAF) in 1965. Marine air was used almost entirely in I Corps in direct support of the 1st and 3d Marine Divisions. The Marines established their own tactical air control system. From 1965 to 1967, the Seventh Air Force had little influence over Marine air to support other ground forces. Surplus Marine sorties were provided to the Seventh Air Force on a daily basis, but the decision was strictly up to the 1st MAW.[107] A DASC was collocated with each Marine division. CAS requests were sent from each DASC directly to the MAW. III MAF did not apportion or allocate these requests. The MAW simply divided its sorties in half and provided all in-commission aircraft on a planned flow of airborne alert, regardless of the ground situation.[108]

The Marines retained control over the 1st MAW until the Tet offensive. Westmoreland had to reinforce the III MAF with three Army divisions. At this point the two air-ground systems came into conflict in the I Corps area.[109] In reaction to the lack of air coordination and uneven supply of CAS aircraft from the USAF and Marine air control systems during the 1968 Tet offensive, General Westmoreland gave General Momyer, Seventh Air Force commander, operational control of the 1st MAW.[110] The OPCON, however, was in name only. The Marines agreed to provide the Seventh Air Force with

a daily sortie rate equivalent to their primary aircraft authorized (PAA). They actually flew more than that and used the surplus to support III MAF. In addition their daily PAA sorties were primarily tasked to support III MAF, so in effect nothing really changed. Finally, the Marine DASC in I Corps was the only one that had scramble authority to augment preplanned missions.[111] Because of the crisis the commander, US Military Assistance Command Vietnam (COMUSMACV) also gained temporary authority from CINCPAC to tactically control Task Force 77 sorties through the Seventh Air Force.[112]

Service Controversies

Army and Air Force disagreements over the distribution of CAS sorties per combat day to each division and the air-ground command relationship continued to affect CAS operations throughout the war.[113] In early 1965 the Army and Air Force chiefs of staff signed the "Concept for Improved Joint Air-Ground Operations." This agreement formalized the procedures for the apportionment and allocation of tactical air sorties. The joint force commander would decide the daily proportion (apportionment) of tactical air resources for close air support, counterair, and interdiction. The individual component commanders could make recommendations directly to the joint force commander prior to his decision. The air component commander was then required to report specifically what the daily proportion was to the ground commander. It was then up to the ground commander to allocate (distribute) these CAS sorties among his subordinates. Finally, there would be no established number of sorties per day.[114]

The most serious disagreement was over the role and control of attack helicopters. The Army declined to put helicopters under the control of the AOC, arguing that they were essentially part of the ground forces and should remain OPCON to the corps commander.[115] Army leaders considered organic helicopters to be continuously available and immediately responsive to ground commanders. The Army felt that armed helicopters complemented Air Force tactical airpower by providing an additional element of firepower between Army artillery and USAF close air support.[116] To back up this new doctrine, the Army introduced new terms such as *direct aerial fire support* (DAFS) to differentiate it from CAS. DAFS was defined as "fire delivered by aerial vehicles organic to ground forces against surface targets and in support of land operations."[117] The only realistic difference between CAS and DAFS was who owned the air asset, Army helicopters or Air Force fighters.

Conduct of the War

In *Air Power in Three Wars,* Momyer writes the following: "Because there were no front lines except for the 17th parallel which arbitrarily separated

South Vietnam from North Vietnam, the enemy was apt to be anywhere; this was a distinguishing characteristic of the war as compared to World War II and Korea. In those wars, once the aircraft passed the 'bombline,' the crew could assume that anything that moved was directly associated with support of the enemy's fighting force and was a legitimate target."[118]

In Vietnam, though, all villages and towns were in the combat zone. Because all of South Vietnam was considered to be within the bomb line fire support coordination line (FSCL), all tactical air operations were considered integral to the ground scheme of maneuver and were therefore classified as close air support.[119] To minimize attacks on civilians, FACs became the required means of control.[120] The use of armed FAC aircraft led to faster response times for those situations when more firepower was not required or as a phased response until the arrival of fighters.[121] Because a formal line between two opposing ground forces did not exist, the techniques of applying airpower were under constant revision. In World War II and Korea only a small fraction of the sorties were devoted to immediate air strikes, although fighters could be diverted from preplanned ones in a matter of minutes. The most effective use of airpower in close air support in both World War II and Korea was in a preplanned mission designed to break through enemy defenses or to stop a penetration. In these missions airpower could be massed, and the full shock of the attack exploited before the enemy could become reorganized.[122] The combination of dense foliage, mountainous terrain, and monsoonal weather combined to make less than ideal conditions for the effectiveness of close air support. The counterinsurgency nature of the war also hampered CAS. Fleeting, small unit ambushes made for less than lucrative airpower targets.[123] After the ban on jet aircraft was lifted in 1965, F-100s and F-4s flew the bulk of CAS sorties.[124] Gunships proved particularly useful in night and adverse weather CAS due to their high rates of fire and long loiter time.[125] B-52s were targeted differently from the tactical air forces. Each FFV and ARVN corps, along with the Seventh Air Force, nominated targets to MACV. MACV then selected the targets. The TACS then controlled the B-52 strikes in South Vietnam.[126]

The military objectives of the war in the south were essentially ground objectives: kill enemy soldiers, neutralize enemy bases, and open up secure lines of communication. With only a few air officers in decision-making positions at MACV, the direct responsibility for attaining these objectives sat with the ground commanders.[127] To achieve these objectives, the American combat operations in Vietnam were broken into three phases: buildup, sustained combat operations, and Vietnamization.

Prior to 1965, CAS sorties were in support of the ARVN and comparatively few in number. When US ground forces began combat operations in 1965, CAS sorties jumped from approximately 2,000 in January to over 13,000 in December.[128] MACV excluded the use of the term *interdiction* in reporting Air Force sorties in 1966. Seventh Air Force therefore expanded its definition of close air support to include some traditional types of interdiction.[129] On a normal day, Seventh Air Force flew 300 preplanned sorties: 1st MAW, 200;

and the VNAF, 100. On average 40 aircraft were on ground alert and were scrambled three to four times. A typical day was 750 to 800 total CAS sorties.[130] Obviously, major offensives caused dramatic surges in these numbers. As the strategy to use large ground sweeps grew in 1967, the demands for CAS likewise increased.[131] An Air Force study of all operations in South Vietnam between March and June of 1966, showed that 91 percent of all search and destroy ground missions received tactical air support, one-third with troops in contact.[132] Between 1965 and 1967, USAF flew 25 percent of its CAS sorties (46,000) and 30 percent of its B-52 sorties (3,300) in support of 73 major US ground offensives against Vietcong and North Vietnamese Army (NVA) troops.[133]

In the 1965–1968 period, 65–70 percent of Seventh Air Force missions were preplanned. These were normally in support of search and destroy operations. Aircraft were scheduled either against preselected targets or on-call at frequent intervals into the area. The remaining 30 percent were used for immediate missions.[134] A preplanned mission in Vietnam was defined as a requirement for CAS at or outside three hours after initiation of the request. Preplanned missions historically have been the most productive since there is better integration of the air and ground effort in accordance with a specific plan of action.[135] An immediate request was for less than three hours, but normally meant ASAP.[136] Army and Air Force immediate request procedures evolved to a 20/40 formula. On average immediate requests would be filled within 20 minutes by airborne diverts of other missions, or within 40 minutes by scrambling aircraft on ground alert.[137] In 1972 a joint Army-Air Force study group proposed time objectives for immediate requests: 50 percent within 15 minutes, 75 percent within 20 minutes, and 100 percent within 40 minutes.[138] Responsiveness was important. One Air Force study found that 50 percent of all troops-in-contact incidents ended within 20 minutes and involved fewer than 10 enemy soldiers. Only 24 percent lasted more than 20 minutes, while only 23 percent involved large enemy forces.[139]

In May 1968 General Westmoreland modified the system to allocate 70 percent of the total CAS sorties among the ground forces on a weekly basis and held the other 30 percent for daily allocation in response to the combat situation.[140] Thus the ground commanders had a whole week's commitment of CAS for planning. This essentially gave the ground commanders what they wanted. They now had dedicated air at their disposal and an airborne alert pool to further draw upon. By asking for a maximum number of preplanned sorties each day, in hopes that many of them would later be converted to immediates, ground commanders often did not have enough specific worthwhile targets for all their requests.[141] This practice degenerated to the point where the intent was to launch a certain number of sorties without specific targets and then divert them as required.[142] This was de facto the same as the Marine airborne alert system.

If any event spotlighted CAS in Vietnam, it was the siege of Khe Sanh. Khe Sanh was "the episode that publicizes the phenomenal effectiveness of close air support more than any other in the annals of warfare."[143] The aerial

firepower employed at Khe Sanh was awesome in volume and diversity. Between mid-January and late March there were 10,000 USAF strikes, 5,000 Navy, 7,000 Marine, and over 2,500 B-52, for a total of 24,500.[144]

Between 1969 and 1973 the United States began a gradual pullout from Vietnam and the Vietnamization of the war. As US ground forces left, CAS was required to fill the increasing void in combat power in the south. At the same time, the capabilities of the VNAF were increasing. By March 1972 the VNAF was flying 90 percent of the missions in South Vietnam and 43 percent of those in Cambodia.[145]

Apart from the US incursion into Cambodia, the final operation to highlight CAS was in response to the Easter offensive. The 1972 Easter offensive was the first exclusively conventional North Vietnamese offensive and provided the first real opportunity to evaluate traditional close air support. USAF, USMC, and USN ground attack sorties more than doubled from 2,000 per week to almost 4,700.[146]

Conclusion

The Army ground commanders continually protested the single air manager system. They fundamentally believed that the ground commander should have OPCON of CAS assets. General Westmoreland saw airpower primarily as a source of firepower to augment ground artillery, essentially in support of localized ground combat.[147]

Accordingly, the best way to apply combat power was through a decentralized system that directly allocated air assets. Each ground echelon would then have the means and directive authority to employ his CAS. At the least there should be some minimum number of CAS sorties provided per unit per day that could not be taken away. At the most they wanted entire Air Force fighter units placed directly under the operational control of the field army commander.[148] This was essentially a regression to the North African system.

Despite arguments over command and control, the Army generally praised the caliber of CAS they received. In 1966 Army Chief of Staff gen Earle G. Wheeler said that the CAS the Army received in South Vietnam was better in quality, quantity, and responsiveness than ever before.[149] The US Army's experience in Vietnam may have created an unrealistic expectation as to the amount of CAS that would always be available. The characteristic engagement in South Vietnam was one in which the ground forces found and fixed the enemy, then waited for an air strike to destroy him.[150] Many Air Force officers complained that CAS may have been overused, called in to take out a single sniper. I do not agree with this. The fact is that the airpower was available. Political decisions limited its use in strategic attack and interdiction against the small unit counterinsurgency was problematic. Therefore, if CAS saved the life of a single infantryman in taking out that sniper, it was worth it. However, it must be recalled that in Vietnam there

was an abundance of air assets and no air threat in the south. Similarly, Seventh Air Force was free to concentrate on CAS in the south while the Thirteenth Air Force, SAC, and the Navy struck targets north of the demilitarized zone. That is a situation that may not be possible again.

Desert Storm

The preparation for the air campaign in Desert Storm began long before 17 January 1991; even before the Iraqi invasion. In fact it began in the mid-1970s, when the USAF and the other services began a detailed analysis of the lessons of Vietnam. "The experience gained in Southeast Asia proved invaluable in our preparation, planning and execution in Southwest Asia."[151] The repeated lesson for the Air Force was the need for a single air manager. Unlike the lead-in to Vietnam, airpower was specifically primed to handle the situation which arose in the Persian Gulf. This section examines the pre-Desert Storm doctrine, the command and control structure in the US Central Command (CENTCOM), and the actual use of CAS in Desert Storm. Finally, it will summarize both the impact of CAS on Desert Storm and the impact of Desert Storm on CAS.

Prewar Doctrine

In the 1980s there was significant movement towards joint doctrine, pushed by three successive chairmen of the joint chiefs.[152] However, this movement was not equal among the services. The Army's concept of jointness was characterized as the subordination of the other components to the ground war. According to the then-current version of FM 100-5, *Operations*, airpower was an integrated but subordinate element of the AirLand team. Throughout the document, air operations are depicted as fire support for ground maneuver. Although planners must coordinate "air and naval support of ground maneuver,"[153] ground maneuver never supports air operations.[154]

USAF had continued disagreements with the Army over providing battlefield support to the ground forces.[155] The Army was basically satisfied with the status of close air support in the 1980s, particularly given the service provided in Vietnam. They had their own modern attack helicopters and a dedicated Air Force CAS aircraft in the A-10. The problem was with CAS's first cousin, battlefield air interdiction (BAI). The 31 Initiatives of 1984 led the Army to expect that the Air Force would comply with mutually accepted agreements on BAI. In contrast to interdiction, BAI attacks targets nominated by corps commanders that are closer to ground units. It gives the ground commander another powerful tool to shape the battlefield. AirLand Battle doctrine relies on the promise of airpower killing or at least holding distant enemy formations while ground forces maneuver against them. It is

much more than just the indiscriminate attrition of enemy forces. The function of BAI is to take away the enemy's freedom of maneuver, his sustainment, and his will to resist.[156] The conduct of BAI assumes that the ground commanders can maintain awareness of their FLOT. This ensures that they are not attacked from the air. The Army's other fire control measure is the FSCL, which is a permissive fire line. Beyond it fires could be employed (normally by the JFACC) without coordination with the ground commander or fear of hitting friendlies. Fires short of the FSCL required the approval of the ground commander. CAS requires detailed integration because it normally occurs between the FLOT and the FSCL. In Desert Storm there were two problems with the FSCL concept. First, the Army's tactical missile system could fire beyond the FSCL into the domain of the JFACC. The worry was in disrupting friendly air strikes, or worse hitting our own aircraft. Second, since the ground forces were advancing rapidly, the FSCL had to move forward with them. The real estate open for unhindered air attack was therefore constantly shrinking. Also, the speed of advance made it difficult for ground headquarters to maintain a precise FLOT. This caused particular concern with friendly fire incidents from the air.[157]

There remained some causes for concern with the Air Force and Marines as well. Both services saw what they wanted in 1986 Omnibus Agreement for the tactical control of Marine aviation. The Marines stubbornly refused to recognize the idea that there might be situations when Marine air would not be tied to the MAGTF. Senior Marine aviators still remembered Vietnam, including what they perceived as an Air Force attempt to gain control of Marine air at the expense of the MAGTF concept. As the Marines saw it, they had responsibility for a specified area in the vicinity of their ground forces. Within that area it was the commander of the MAGTF, not the JFACC, who determined missions and priorities. If there were any sorties left over, they would be made available to the JFACC. The Marines saw themselves as the only true combined arms team, integrated across air-ground lines. The Air Force focused on the utilization of all tactical air assets in the theater. It recognized the Marines MAGTF doctrine, but emphasized the need for centralized allocation and tasking authority.[158]

The Navy had turned to short-duration contingency operations as gainful employment short of the full execution of its maritime strategy against the Soviet Union. It essentially paid lip service to jointness and expected to conduct operations on its own. The Air Force demand for unity of command to wage an air campaign met closed doors from the other services.

Command and Control

During the years between the end of the Vietnam War and the onset of Desert Shield, there were several developments that fostered more interest in joint command and control issues. The most important of these was the

Defense Reorganization (Goldwater-Nichols) Act of 1986. The act empowered the CINCs and the chairman of the JCS with major new responsibilities in resource allocation and national security planning and operations.[159]

The top level command structure for Desert Storm was simple compared to the convoluted one in Vietnam. The chain of command went from the National Command Authorities, through the chairman of the JCS, directly to the commander in chief, Central Europe (CINCENT).[160] The structure of CENTCOM was much as that used in the European theater in World War II. To deal with the different services and coalition partners, Gen H. Norman Schwarzkopf structured the command along both functional and service component lines. Although there were two land forces, Army Forces Central Command (ARCENT) and Marine Forces, Central Command (MARCENT), the CINC acted as his own joint force land component commander (JFLCC), rather than appointing one. He also had to keep a tight influence on the Arab-Islamic Joint Forces Command. In addition he designated Allied Forces Central Europe (AFCENT) as the JFACC.[161]

For the first time since World War II, the engaged fixed-wing tactical air forces of all the services were under the tactical control of a single air commander.[162] By centralizing airpower decisions, the JFACC forced a higher degree of coordination in joint air operations than had occurred in the laissez-faire Korean and Vietnam air efforts.[163] Despite the meaning of the second "C" in JFACC, he did not technically "command" Navy or Marine air. They still reported to their own service component commanders. The JFACC did, however, exercise tactical control and task them to fly missions according to the CINC's air apportionment decision.[164] SAC bombers were put under CINCENT's operational control and tasked through the air tasking order (ATO) process. SAC liaison officers were detailed to the JFACC staff. With this simple step decades of command problems through World War II, Korea, and Vietnam concerning the integration of heavy bombers melted away.[165] The Air Force command and control system became the theater air command and control system, with the other services providing liaisons to it.[166] As in Vietnam, ASOCs (AF-Army) and DASCs (USMC) were established with each corps equivalent.

Conduct of the War

As was the case in 1942–43, airpower had a major hurdle to clear before assuming its proper role in Desert Storm. This critical question addressed whether airpower would be used for strategic operations or for CAS and interdiction.[167] A prime example of this question is an exchange between Colonel Warden, primary architect of the Instant Thunder air campaign, and Gen Colin L. Powell, chairman of the JCS. "'Now, General,' said Warden, his voice growing hard and a little edgy as it became clear that Powell was thinking about diverting some of Instant Thunder's aircraft to ground

support, 'one of the things we really need to be careful about is that if there's some action on the ground, you can't reroll the strategic air campaign. We made that mistake in World War II, and we don't want to do that again.'"[168]

This plan was different from Gen Charles A. Horner's, commander, Air Forces Central Command (COMCENTAF), initial plans for the air operation. He wanted to "build a hose and point it where the ground commander sees that it's needed."[169] In General Horner's mind, "the best thing to do was to fight a ground war of maneuver and use airpower to cut the sustainment since [the Iraqis] were vulnerable there."[170] The Air Forces, Central Command (CENTAF) commander's proposal was precisely how an Army corps commander, complying with AirLand doctrine, would want his air commander to think.[171] He eventually endorsed a modified version of Instant Thunder, when it was approved by commander in chief, Central Command (CINCCENT).

The first opportunity to use CAS in anger occurred on the night of 29 January. The Iraqi 5th Mechanized Division attacked from Kuwait to Al Khafji. The Saudis forces defending the border were forced to withdraw. Then as General Schwarzkopf noted, Air Force and Marine air "pounded the living hell out of the column all day long, until pilots were complaining they couldn't find targets because of smoke from ones they'd already hit."[172] Unfortunately friendly forces were killed by CAS aircraft.

Army commanders were pleased with General Horner's plan for CAS for the ground offensive. With the number of aircraft at his disposal, General Horner saw that the most efficient method of employing sorties to support the ground forces in contact with the enemy would be to push or flow them forward. Aircraft launched into particular areas at set intervals. For heavy concentrations of Iraqis this could be as short as seven minutes. This, in effect, was a resurrection of the Marine system that the Air Force had argued against for 40 years. Under the control of the airborne battlefield command and control center (ABCCC), the fighters would check in with the corps ALOs to see if they had any targets. If not, they would be retasked to interdiction by the ABCCC.[173] This approach was only possible because of the surplus of available airpower in the theater.[174] The flow CAS system worked well in practice. On 24 February air planners provided more than 600 Air Force and Marine CAS sorties.[175] CAS did not fly within five kilometers (km) of friendlies because the armored columns were moving so fast that the ground FACs needed that much safe separation. The fear of fratricide after the battle for Al Khafji caused most ground commanders to employ CAS very cautiously. Even then there were friendly fire accidents.[176] An additional technique was the use of kill boxes. They were a 30 x 30 mile square defined by latitude and longitude and further subdivided into multiple sectors. These were patrolled by fast FACs during the day and tank-plinking F-111s at night.[177]

The Army's most vocal objection of the war was to a perceived failure by the JFACC to strike targets nominated by the corps. This erupted with the dissemination of ARCENT's 18 February situation report: "Air support-related issues continue to plague final preparations for offensive operations

and raise doubts concerning our ability to effectively shape the battlefield prior to initiation of the ground campaign. Too few sorties are made available to VII and XVIII Corps and, while air support missions are being flown against first-echelon enemy divisions, Army-nominated targets are not being serviced. Efforts must be taken now to align the objectives of the air and ground campaigns, and ensure the success of future operations."[178]

The problem was more one of perception, because the JFACC was merely following the CINC's priorities. The CINC, however, did not keep his corps commanders informed, despite his dual hatting as JFLCC. The JFACC was in turn blamed for ignoring the corps requests.[179]

> CINCCENT established priorities for air preparation of the battlefield. Although the ground commanders made recommendations regarding targets and timing of the operations, CINCCENT aligned it with the overall theater plan. Ground tactical commanders found this discomforting, since they were most concerned about forces immediately to their front and had only limited information on how CINCCENT was using airpower to shape the entire theater. Additionally, by CINCCENT direction, air operations did not initially emphasize destruction of front line Iraqi forces in the KTO until just before the ground offensive. This also concerned the ground commanders, who naturally wanted airpower to degrade the Iraqi units immediately in their line of advance.[180]

The issue was not over whether JFACC apportioned aircraft were hitting battlefield targets. They had been doing this from the beginning. The issue was the weight of effort assigned to battlefield preparation. The argument was, therefore, primarily questioning the CINC's judgment, and secondarily the JFACC's responsiveness to the ground commanders' requests.[181] By mid-February ground targets in Kuwait and southern Iraq were a major focus of the overall air effort. By 24 February and the start of the ground campaign, the Iraqi army had been bombed to the point of near neutralization.[182]

Procedures for the allocation and control of CAS sorties remained a problem until the day prior to G day. The master attack plan (MAP) reflected the CINC's apportionment decision and the ATO translated it into allocation. Service component commanders had an intense interest in the type and quantity of sorties tasked in accordance with that apportionment. There is little evidence that the CINC became involved in JFACC decisions, other than those related to apportionment. As the ground war grew closer, he did establish a joint target coordination board to ensure the needs of all the service components were met.[183] Disagreements among the components, and particularly with the JFACC, were not uncommon.[184] General Horner, not unreasonably, insisted that all air missions be tasked against a target or a mission, not to simply be held on station waiting for something to happen. The fix was to have them proceed with alternate tasking if no immediate requests arose.[185]

Disagreement surfaced between the JFACC staff and the Marines over the degree the ATO covered excess Marine sorties not allotted to the joint air effort.[186] The series of compromises struck between the JFACC and MARCENT put their fixed-wing tactical air under the ATO, while the Marines retained control and tasking authority over sorties in specified zones

near their ground units. This geographic distribution was a throwback to the route packages of Vietnam. Because of this the JFACC did not have complete tasking authority over air operations.[187] During the first five weeks of Desert Storm, the JFACC believed that Marine air had a role beyond preparing the battlefield in front of the Marine divisions. Marine commanders agreed, but were skeptical that when the time came to prepare the battlefield in front of their ground element, their air sorties would be diverted to other missions. They did not believe in the apportionment process.[188] At the beginning of Desert Storm, the Marines partially supported the JFACC, but gradually withdrew most of their support prior to the start of the ground war. Lt Gen Walter E. Boomer, MARCENT, retained OPCON of the 3d MAW throughout the war. At the same time, the 3d MAW gradually withdrew their excess sorties from the JFACC pool, to the point that by the third day they were conducting their own independent air operations.[189] The Marines squirreled away their sorties during the air operations prior to the ground war. They wanted to guarantee future support to the MAGTF. The telling factor was that the Marine sortie rate doubled when the ground war began.[190] "The Marines successfully operated the MAGTF as an integrated combined arms team in a major war for the first time in their history." They only offered 15 percent of their sorties to the JFACC. The remaining 85 percent were in direct support of the Marine divisions.[191]

Although the Army was happy with CAS, they were not happy with BAI. Mainly because there was none. BAI had been developed in NATO to allow ground attack aircraft to strike enemy armored formations inside or outside the FSCL, without the direct control of a FAC. As previously noted, the US Army saw BAI as a tool for the corps commander to shape the battlefield. But the USAF had a falling out with the concept. The 1984 edition of AFM 1-1 defined BAI as a subset of air interdiction. By the 1992 edition of AFM 1-1 the term had been deleted.[192] In USAF parlance BAI no longer existed. In Air Force terms, air support was either in front of the FSCL, as CAS, or beyond the FSCL, as interdiction. In Desert Storm, neither one gave the corps commanders their desired influence over air strikes. In practice though, the JFACC did divert F-16s, B-52s, and other coalition aircraft to strike corps nominated targets. Many times, however, the corps commander was unaware that this had been done.[193]

Before the ground campaign, the Saudi border with Iraq and Kuwait was both the FLOT and the FSCL. On G day the FSCL was placed 15–20 km in front of the FLOT and remained so for the first two days. By the third day, with the rapid advance of ground forces, the FSCL had jumped out as far as 100 km.[194] This had multiple effects. Coalition airpower was restricted from attacking enemy formations within the FSCL without approval by the corps commanders. This allowed a sanctuary for certain Iraqi units which were beyond the range of Army artillery and missile systems, but procedurally exempt from air attack. After the cease-fire, US intelligence found 600–700 tanks of the Hammurabi and Medina divisions still intact and secure in the sanctuary.[195] On the other hand, it helped ensure a lower incidence of

fratricide from the air in a rapidly changing ground battle. Also, by extending the FSCL, it gave the corps commander more control to shape the battle in front of him by nominating distant targets for CAS, instead of the drawn out and adjudicated interdiction process.

At the start of the ground war, General Horner made clear the level of air support he required his airmen to provide. "There are people's lives depending on our ability to help them, if help is required. So I want a push put on. I want people feeling compulsion to hit the target. I do not want fratricide. . . . But up over the battlefield, it's time to go to work. Because other people's lives depend on ours. It's no longer a case of the air just risking their own lives[;] other lives have to be considered."[196]

The actual employment of CAS in the Gulf War was a departure from the post-World War II experience. The closest example to it was the Allied breakout from the Normandy hedgerows in 1944. Then, fast moving armored columns, supported by fighter-bombers, rapidly penetrated and encircled retreating German forces. Instead of the fixed or slow moving battlelines of Korea, or the indeterminate lines of Vietnam, the 100-hour ground offensive in the Gulf was one of rapid movement. Except for the two Marine divisions arrayed against the Kuwaiti frontier, there was very little requirement for close air support in the classic sense. Coalition forces rarely needed aerial firepower in close proximity, their own organic firepower normally sufficed. Because of this, many air sorties tasked for CAS were diverted to deeper interdiction missions.[197] This phase of the campaign was characterized by engagement and destruction of Iraqi units well forward of allied ground forces as the Iraqis maneuvered to counterattack, defend, or withdraw. A more accurate description of this phase would be the coalition air and ground forces simultaneously engaging different elements of the Iraqi army.[198] Gen Frederick M. Franks Jr., VII Corps commander, noted that:

> The closest thing we had to classical, you know, National Training Center type, close air support was with the 2nd Cavalry. They were the covering force, and they had what we visualize close air support to be—aircraft attacking targets that are in the same battle space as ongoing direct fire engagements. Most of the time it was just not the right thing to do with air, it did not complement the direct fire fight. Our direct fire systems were doing fine in that kind of exchange, and where we needed the air was a little deeper. We had a rolling, attacking mechanism. That's the way the commanders tended to use it. If we would have focused it all up close, you would have stopped the momentum of the ground attack, because of fratricide and so forth. So to keep the momentum of the ground attack moving, the divisional commanders pushed the close air support deeper.[199]

According to data compiled by RAND, 4,393 CAS sorties, of a total 112,235 sorties, were tasked during the Gulf War. Prior to the ground war, some sorties were reported as CAS only because of their proximity to the Iraqi-Saudi border. They did not support coalition ground forces engaged with Iraqi units.[200] The vast majority of CAS sorties were flown during the ground war from 23–27 February. Of these, 1,461 were flown by USAF in support of the US Army and coalition forces. The Marines provided nearly all of their own CAS, as well as supplementing the pan-Arab ground forces. With their

emphasis on the MAGTF team, it is not surprising that the Marines logged two-thirds of all CAS sorties. Coalition air forces did not fly any CAS.[201] Typically, CAS operated under a push flow concept. Flights of aircraft were continually cycled to on-station airborne alerts for CAS missions or diversion to interdiction. Other aircraft remained on ground alert and were scrambled if the need arose.[202] During the ground war, however, the weather was so bad and the battlefield smoke so thick that many times attack helicopters were the only close air support available.[203]

Conclusion

By the time the ground offensive started on 24 February 1991, the Iraqis had been under continuous air attack for 38 days. Several weeks before the start of the ground push, the air effort had shifted to shaping, preparing, and destroying the battlefield. As a result, they were denied any strategic, operational, and even tactical mobility. Actual Iraqi losses prior to G day were on the order of 60 percent of tanks, 60 percent of artillery, and 40 percent of APCs.[204] When the cease-fire ended hostilities on 28 February, the Iraqi army had been destroyed as a fighting force by a combination of ground and airpower.[205] The Iraqis' surprise at the Hail Mary maneuver to the west was compounded by their decision to dig in and reinforce ground positions along a static defensive line. Although this had been successful in the first Gulf War with Iran, it proved fatal against the employment of coalition airpower.[206]

A RAND study calculated that slightly under 4,400 CAS sorties were flown during Desert Storm out of a total air effort of 112,000 sorties.[207] These numbers, however, are misleading because they include all combat and combat support sorties. If we focus on the ground war itself, and the time period from 23–27 February, we see that there were 2,573 CAS sorties flown, out of a total of 9,738 combat sorties. This equates to 26 percent of the effort. It should be remembered, though, that most of these CAS sorties became interdiction in their actual execution. CAS has been a constant source of friction between the Air Force, Army, and particularly the Marines yet its function and maximization were never really put to the test in Desert Storm. In Desert Storm, however, very few CAS missions were required. The enemy's strength was largely neutralized and ground units moved rapidly and with overwhelming organic firepower.[208] The *Gulf War Air Power Survey* simply sums up CAS in the Gulf when it states, "In terms of the state as well as the capabilities of Iraqi ground forces after the air campaign, one can agree that close air support was never essential to accomplishment of the ground mission."[209]

The true measure of progress in joint air operations is whether the command arrangements and doctrine used in Desert Storm would have worked if the allies had only half the deployed airpower.[210] The apportionment and allocation process never had to make the really tough

choices. Nearly every air support need was ultimately met. The Army and Marines fought in their accustomed combined-arms manner. Tactical airpower was used as it has always been used in the past. It was not integrated into the ground scheme of maneuver.[211] Once again CAS was flying artillery.

Summary

Joint Pub 1, *Joint Warfare of the US Armed Forces*, states that "military doctrine presents fundamental principles that guide the employment of forces. Doctrine is authoritative but not directive. It provides the distilled insights and wisdom gained from our collective experience with warfare."[212] The current brouhaha over roles and missions highlights the continuing problems with CAS. Parochialism and doctrinal differences continue to distort our insights and cloud our wisdom. Air Force doctrine in relation to CAS has changed little since the 1930s. It continues to place a low emphasis on CAS. AFM 1-1 states that CAS "normally produces the most focused and briefest effects of any mission in the force application role. . . . If aerospace forces are employed primarily in close air support, . . . they are not likely to achieve campaign level effects."[213] Our only dedicated CAS asset, the A-10, is in constant jeopardy of retirement. The perennial CAS problems of command and control, communications, and identification of friends and foes remain. There were more coalition deaths to friendly air fire in Desert Storm than to enemy ground action.

Despite FM 100-20's pronouncements about coequality, air component commanders never have been, and under the current Unified Command Plan, never will be coequal. As long as the war-fighting CINCs come from the surfacebound forces, airpower will remain subject to the vagaries of the commander's culture and doctrine. From Tunisia in 1943 to Iraq in 1991, there has always been a conflict between the desires of the air and ground components concerning ground attack. Air commanders favor deep attacks for theaterwide operational effects, while ground commanders favor closer attacks with more immediate battlefield, tactical effects. We have historically fought with a luxury of resources. The American way of war has been annihilation through brute force. There has not been a need to make the tough decisions as to the apportionment of air sorties among the different missions. In the European theater of operations we could conduct nearly simultaneous, maximum efforts at strategic bombing, air superiority, interdiction, and CAS. However, that is not the case today. The inexorable decrease in the classic tactical air force structure of the future will require more difficult, controversial, and important decisions in the distribution and employment of now limited air assets. That is the nature of the JFACC's job.

Notes

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4. Hallion, 52.
5. Air Corps FM 1-10, *Tactics and Techniques of Air Attack*, 1940, 114–19.
6. Hallion, 150.
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14. Max Hastings, *The Korean War* (New York: Simon and Schuster, 1987), 253; Futrell, 78.
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20. Matthew B. Ridgway, *The Korean War* (New York: Da Capo Press, 1967), 27.
21. Millet, 384.
22. James F. Schnabel and Robert J. Watson, *The History of the Joint Chiefs of Staff*, vol. 3, *The Korean War*, 2 parts (Wilmington, Del.: Michael Glazier, 1979), pt. 2:711–909 as cited in Alan R. Millet, "Korea, 1950–1953," in *Case Studies in the Development of Close Air Support*, ed. Benjamin F. Cooling (Washington, D.C.: GPO, 1990), 384.
23. Ibid., 386.
24. Oral memoir, Gen Earle E. Partridge, USAF, as cited in Alan R. Millet, "Korea, 1950–1953," in *Case Studies in the Development of Close Air Support*, ed. Benjamin F. Cooling (Washington, D.C.: GPO, 1990), 358.
25. Ibid., 345.
26. *JFACC Primer*, 2d ed., February 1994, 4.
27. Momyer, 258.
28. Ridgway, 104.
29. The Royal Navy was under the operational control of the US Seventh Fleet. Michael Langley, *Inchon Landing: MacArthur's Last Triumph* (New York: Times Books, 1979), 55.
30. Hastings, 266.
31. Momyer, 61–62.
32. Millet, 359.
33. Futrell, 707.
34. Millet, 368.
35. Momyer, 62.
36. Millet, 349.
37. Hastings, 255. It appears that Hastings has an axe to grind against the Air Force, particularly in its emphasis on strategic bombing. This, however, does not negate his point here.
38. *JFACC Primer*, 4.
39. McNamara, 81.
40. Millet, 349.

41. Ibid., 371.
42. FM 31-35, *Air-Ground Operations*, 13 August 1946, 12.
43. McNamara, 83.
44. Millet, 347–48.
45. Ibid., 348.
46. Ibid., 350.
47. Ibid.
48. Ibid.
49. Ibid., 351.
50. Ibid., 384.
51. Ibid.
52. Ibid.
53. Ibid.
54. McNamara, 84–85.
55. Momyer, 59–60.
56. Millet, 352.
57. Ibid., 351.
58. Ibid., 352.
59. Ibid., 353.
60. Ibid., 390.
61. Ibid.
62. Ibid., 352.
63. Futrell, 705.
64. Millet, 352.
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67. Millet, 352.
68. Futrell, 706.
69. Ibid.
70. Millet, 395.
71. Futrell, 689.
72. Ibid., 707.
73. Momyer, 79.
74. Millet, 381.
75. Ibid., 354.
76. Ridgway, 186.
77. Millet, 397.
78. Ibid., 399.
79. John Schlight, *The United States Air Force in Southeast Asia: The War in South Vietnam* (Washington, D.C.: Office of Air Force History, 1988), v.
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81. Gen John P. McConnell, USAF chief of staff, as quoted in John J. Sbrega, "Southeast Asia," in *Case Studies in the Development of Close Air Support*, ed. Benjamin F. Cooling (Washington, D.C.: GPO, 1990), 411.
82. Ibid., 446.
83. USAF Historical Research Agency (HRA), K160.041-20, 23; K153.054-4, 37; PACAF Manual 55-13, 10; Sbrega, 448.
84. Joint Pub 1, *Joint Warfare of the US Armed Forces*, 1991; and Sbrega, 415.
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86. Project Corona Harvest, *USAF Activities in Southeast Asia, 1954–1964*, Maxwell AFB, Ala.: HRA, K239.034-1, 33, also in Sbrega, 413.
87. *A Short History of Close Air Support Issues* (Fort Belvoir, Va.: Combat Developments Command, Institute of Special Studies, 1968), 56; and Sbrega, 414.

88. Sbrega, 414.
89. HRA, K177.1511-5; K146.003-14; and Sbrega, 415.
90. Sbrega, 416.
91. Ibid., 417.
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93. McNamara, 101.
94. Momyer, 271.
95. Gen William C. Westmoreland, *Report on Operations in South Vietnam, January 1964–June 1968* (Washington, D.C.: GPO, 1969), 76; Momyer, 102–3; and McNamara, 104.
96. Sbrega, 456.
97. Momyer, 77; McNamara, 105.
98. Momyer, 285.
99. Donald J. Mrozek, *Airpower and the Ground War in Vietnam* (Maxwell AFB, Ala.: Air University Press, 1988), 45.
100. Sbrega, 427.
101. Momyer, 272.
102. Ibid., 259–61.
103. Mrozek, 41.
104. Sbrega, 423.
105. Ibid., 433.
106. Ibid.
107. Momyer, 286.
108. Ibid., 285.
109. Gen William C. Westmoreland, *A Soldier Reports* (Garden City, N.Y.: Doubleday, 1976), 342–45; and McNamara, 108.
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112. Westmoreland, *Report on Operations in South Vietnam*, 103; and McNamara, 106–7.
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116. Max U. Terrien, "Close Air Support: Retrospective and Perspective: Is the Helicopter the Answer?" (Thesis, US Army Command and General Staff College, 4 June 1982), 47–48; Sbrega, 454.
117. Baxter et al., 85; and Sbrega, 455.
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119. HRA, K153.054-4, 37; and Sbrega, 445.
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122. Momyer, 275.
123. Sbrega, 439.
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125. Sbrega, 445.
126. Momyer, 283.
127. Schlight, 290.
128. HRA, M-38245-129, 1; and Sbrega, 448.
129. Schlight, 291.
130. Momyer, 278.
131. Sbrega, 452.
132. United States Air Force, *Effectiveness of Close and Direct Support in South Vietnam, Second Progress Report* (Washington, D.C., 1966), 2–3, 13; and Sbrega, 451.
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134. Momyer, 277.
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175. Ibid.
176. Scales, 369.

177. Ibid., 188.
178. Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin, 1993), 339.
179. McNamara, 129.
180. Public Law 102-25, *Conduct of the Persian Gulf War; Final Report to Congress Pursuant to Title V of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991* (Washington, D.C.: Department of Defense, April 1992), 345.
181. James A. Winnefeld, Preston Niblack, and Dana J. Johnson, *A League of Airmen: U.S. Air Power in the Gulf War* (Santa Monica, Calif.: RAND, 1994), 84.
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183. Ibid., 111.
184. Winnefeld, Niblack, and Johnson, 94.
185. Swain, 189.
186. Winnefeld and Johnson, 109.
187. Ibid., 119.
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Chapter 3

Current Joint CAS Doctrine

It is far more important to be able to hit a target than it is to haggle over who makes a weapon or who pulls a trigger.

—Gen Dwight D. Eisenhower

In chapter 2 we addressed the past American experience with close air support. We have seen that there have been numerous differences of opinion regarding its doctrine, structure, and process. These differences have revolved around two main issues: centralization and responsiveness. These two issues continue to foster debate today. This chapter specifically addresses the current joint process for the apportionment, allocation, and distribution of close air support. Two primary sources are used as references: Joint Pub 3-56.1, *Command and Control for Joint Air Operations*, 14 November 1994 and Joint Pub 3-09.3, "Joint Tactics, Techniques, and Procedures for Close Air Support," Reformatted Draft Pub, 17 February 1995. Before delving directly into the issue of joint CAS, however, we must look at how close air support fits within the larger context of joint air operations. First, this chapter begins with a general discussion of joint air operations. Second, it describes the framework for the command and control of those operations. Third, it highlights the process involved in planning joint air operations. Fourth, it details the phases of the production of a joint ATO. Fifth, it gives a general framework for the joint doctrinal view of close air support. The final sections describe CAS requests, planning, and execution.

Joint Air Operations

The underlying principles and doctrine for the command and control of joint air operations revolve around ensuring unity of effort for the benefit of the joint force as a whole.[1] With that in mind, joint air operations are defined as, "Those air operations performed with air combat assets made available by components in support of the joint force commander's (JFC) operation or campaign objectives or in support of other components of the force."[2] Joint air operations are planned and conducted to maximize the total combat power and synergy of the aggregate air effort in support of the JFC's operation or campaign plan.[3] Component commanders make combat assets available to the JFC for tasking to support the joint force as a whole based on assigned

component missions and JFC guidance. These combat assets are tasked directly by the JFC or by the JFACC based on the JFC's air apportionment decision.[4] Joint air operations do not include those air operations that a component conducts in direct support of itself.[5] Component direct support air combat assets are those air combat assets organic to a component that are used by the component to accomplish its assigned mission. When appropriate, they appear on the joint ATO for coordination and deconfliction purposes.[6] With this current definition, for example, naval aviation providing fleet defense or Army attack helicopters supporting their corps would not be considered joint air operations, regardless of the fact that they occur within the context of a larger joint theater campaign. Assigned, attached, and supporting forces may provide direct support to certain components while also providing the JFC an operational level force capability that can be employed separately as part of a broader operation.[7]

Unity of effort is necessary for both the effectiveness and the efficiency of any military operation. This is particularly true for air operations, given the multitude of possible air missions. To guarantee this unity of effort, centralized planning is essential for controlling and coordinating the efforts of all available air forces. On the other hand, decentralized execution is essential to generate the tempo of operations required and to cope with the uncertainty, disorder, and fluidity of combat.[8] In order to create synergism and avoid duplication of effort, the JFC must synchronize the actions of assigned, attached, and supporting combat assets in time, space, and purpose. The JFC must exploit the unique characteristics of all combat assets to achieve assigned objectives as rapidly and as effectively as possible.[9] The mechanisms to achieve these objectives are encompassed in the command and control apparatus of joint air operations.

Command and Control of Joint Air Operations

The focal point for the command and control of joint air operations is the joint force air component commander. Joint doctrine states that the JFC will normally designate a JFACC. The JFC will normally assign the role of JFACC to the component commander having the preponderance of air assets and the capability to plan, task, and control joint air operations.[10] The authority and command relationships of the JFACC are established by the JFC. These typically include exercising OPCON over assigned and attached forces and tactical control (TACON) over other military combat assets made available for tasking.[11] Component commanders make air combat assets available to the JFC for tasking to support the joint force as a whole. These combat assets are tasked directly by the JFC or by the JFACC based on the JFC's air apportionment decision. Only the JFC has authority to reassign, redirect, or reallocate a component's direct support air capabilities/forces.[12] The responsibilities of the JFACC include, but are not limited to planning,

coordinating, allocating, and tasking joint air operations based on the JFC's concept of operations and air apportionment decision.[13] Specific JFACC responsibilities would normally include developing a joint air operations plan to best support joint force objectives as assigned by the JFC or higher authority. After consulting with other component commanders, the JFACC also recommends to the JFC the apportionment of the joint air effort, by percentage and/or priority, that should be devoted to the various air operations and/or geographic areas for a given period of time. The component commanders have ready access to the JFACC and staff through the component liaisons.[14] These liaisons work for their respective component commanders and work with the JFACC and staff. Senior component liaisons serve as conduits for direct coordination between the JFACC and their respective component commanders.[15] Based on the JFC air apportionment decision, the JFACC provides centralized direction for the allocation and tasking of the combat assets made available.[16] The JFACC controls the execution of joint air operations as specified by the JFC. This includes making timely adjustments to the targeting and tasking of available joint combat assets. This does not imply carte blanche, however. If circumstances require the JFACC to change the planned joint air operations during execution, the JFACC is tasked to notify the affected component commanders or JFC, as appropriate.[17] The JFACC is also responsible for synchronizing joint air operations and coordinating them with the operations of the other component commanders and forces assigned to or supporting the JFC.[18] Finally, and most significantly for our purpose, the JFACC functions as a supporting commander, as directed by the JFC, for operations such as close air support.[19] The JFACC carries out his mission as supporting commander for close air support through the joint air operations planning. This process, as it relates to CAS, is the intersection of two cycles. The first is the joint air operations planning cycle and the second is the process for requesting and tasking close air support. We will now briefly describe the first of these cycles.

Planning Joint Air Operations (JAOP)

The first responsibility of the JFACC, as described in joint doctrine, is the planning of joint air operations. Planning for any joint air operations must begin with an enunciation and understanding of the joint force mission. The JFC's mission is based on the strategic appreciation of the political, economic, military, and social forces affecting the area of responsibility. This is coupled with the articulation of strategic and operational objectives needed to accomplish the mission and forms the basis for determining component's objectives.

Joint air operations are not planned in a vacuum. They constitute an integral part of the JFC's operation or campaign plan.[20] The JFACC uses the mission, the JFC strategic appreciation and objectives, and the components' objectives to devise an air estimate of the situation. This estimate follows a

systematic series of steps to formulate a proposed course of action (COA). When the JFACC's COA is approved by the JFC, it becomes the basic concept of the joint air operations—stating what will be done. The how part is detailed later in the joint air operations plan and supporting plans.[21] The JFACC's joint air operations plan forecasts the employment of that portion of the air effort made available to the JFACC to accomplish the objectives assigned by the JFC. Furthermore, it documents the JFACC's plan for integrating and coordinating joint air operations.[22] Normally, there are five phases in the joint air operations planning process: operational environment research, objective determination, strategic identification, center(s) of gravity (COG) analysis, and joint air operations plan development.[23]

Operational environment research involves the intelligence preparation of the battle space and the gathering of an in-depth knowledge of the operational environment. Objective determination seeks to define clear and quantifiable objectives. The product of the strategic identification phase is a clearly defined joint air strategy statement. This states how the JFACC plans to exploit air combat assets to support the JFC's theater objectives. COG identification tries to identify those COGs that could be affected to satisfy the JFC's strategic, operational, and tactical objectives.[24] It also tries to identify friendly COGs that must be defended. It is a basic tenet of airpower theory that it has the ability to attack COGs throughout the AOR. It is important to remember that the type of COG and method of attack may vary widely throughout the range of military operations.[25] Finally, joint air operations plan development details how joint air operations will support the JFC's operation or campaign plan. During this phase, planners integrate the efforts of joint capabilities, prioritize objectives and targets, account for current and potential threats, and conduct target development and system analysis. They also phase joint air operations with the JFC's operation or campaign plan, indicating what combat assets will be required to achieve joint air operations objectives. Finally, during this phase, planners will complete a sustainability assessment and delineate the specific procedures for allocating, tasking, and exercising command and control of available air combat assets.[26]

The joint air operations plan development phase identifies objectives and targets by priority order. It describes the order they should be attacked or dealt with, the desired results, and the weight of effort required to achieve the desired results in support of the JFC's objectives. The joint air operations plan supports, and is supported by, the operations conducted by other components. All of these operations are focused on achieving the JFC's mission objectives. Competing requirements for joint air operations, including strategic attack, air interdiction, and close air support, will be resolved by the JFC. This is normally done by the air apportionment decision. The JFC and the component commanders analyze the joint forces' ability to support the mission assigned to the JFACC, while ensuring air capable components retain sufficient organic combat assets to accomplish their missions. Shortfalls require the JFC to reprioritize or restructure the assigned missions or seek additional resources.[27]

Prior to the JFC and component commanders' meeting, the JFACC meets with senior component liaisons and the JFACC staff to develop recommendations on joint air strategy and apportionment for future operations.[28] The JFACC provides objectives and guidance to the staff for joint air operations. In line with the JFC's intent, the JFACC recommends broad target categories that support the JFC's objectives, reviews joint force air combat assets to achieve assigned tasks, refines requirements for combat assets from the other components, and after consulting with the other component commanders or their representatives, formulates an air apportionment recommendation for presentation to the JFC.[29] The JFC's air apportionment decision begins the joint air tasking cycle and culminates with the combat assessment of previous missions/sorties.[30] It is important to emphasize that the apportionment process starts the ATO cycle and not the JAOP cycle.

Joint ATO Phases

The joint ATO cycle consists of six phases: JFC/component coordination, target development, weaponeering/allocation, joint ATO development, force execution, and combat assessment. This section will address the first three phases, as they are of most interest to our discussion.

The JFC/component coordination phase uses the JFC's guidance and objectives to identify targeting priorities, the joint target list planning guidance, procedures, appropriate maneuver and movement control, joint fire support coordinating measures, rule of engagement, and what defines component direct support sorties. This guidance will also include the JFC's air apportionment decision. Air apportionment is the determination and assignment of the total expected effort by percentage and/or priority that will be devoted to the various air operations and/or geographic areas for a given period of time. Air apportionment allows the JFC to ensure the weight of the joint air effort is consistent with campaign phases and objectives.[31] JFCs pay particular attention to airpower's apportionment given the many functions that the joint air effort can perform, its AOR-wide application, and its ability to rapidly shift from one function to another.[32] JFCs may also apportion with mission-type orders, and/or by categories significant for the campaign.[33]

In the target development phase, targets are nominated by the components to support the targeting objectives and priorities provided by the JFC.[34] All potential targets are processed through the joint air operations center (JAOC), which will identify, prioritize, and select specific targets that meet the JFC's objectives and guidance. In accordance with the JFC's objectives and component targeting requirements, the JFACC will further develop the joint air operation plans to employ available combat assets.[35] The end product of the target development phase is the joint integrated prioritized target list (JIPTL).

During the weaponeering/allocation phase, targeting personnel quantify the expected results of lethal and nonlethal weapons employment against prioritized targets. The final prioritized targets are then included in the master air attack plan (MAAP). The resulting MAAP is the plan of employment that forms the foundation of the ATO. The MAAP is a key element of the concept of joint operations. The development of the MAAP includes the review of JFC and JFACC guidance; component direct air support plans and support requests from components; updates to target requests; availability of combat assets; target selection from the JIPTL; and aircraft allocation.[36] Each air capable component prepares an allocation request (ALLOREQ) message for transmission to the JFACC. ALLOREQ messages report the number of joint air sorties to be flown during the air tasking day by assigned mission type and type aircraft, any excess sorties not required by the air capable component and available for tasking by the JFACC, and requests for additional air support beyond the capability of the air capable component. The JFACC translates these into total number of sorties by aircraft or weapon type available for each operation they support.[37] Joint ATO development catalogs these sorties and missions and sends them as tasking to the individual air units. Force execution is the actual conducting of these tasked air missions. Finally, with combat assessment, the results of these missions are evaluated and the targeting process is restarted.

Having outlined the state of joint doctrine and procedures for the conduct of joint air operations, we will now narrow our focus to the specifics of joint close air support.

CAS Command and Control

Joint CAS is defined as CAS conducted through joint air operations. This includes direct CAS support to one component by another. On the other hand, component direct air support of itself, using organic assets, is not considered joint CAS. CAS requires an integrated, flexible command and control structure to process CAS requirements, assign assets, communicate taskings, deconflict fires and routing, coordinate support, establish airspace control measures, and update or warn of threats to CAS assets.[38] The JFC normally exercises OPCON through service component commanders. The JFC, through the JFACC, tasks air assets made available for joint tasking through these service component command and control systems.[39] CAS in joint operations is planned via the JAOC, using host component organic command and control architecture.[40] During some joint force operations, a command relationship between land components may or may not exist. If a command relationship is established between components, the supporting component uses the CAS process of the supported component. If a command relationship is not established between components, each component forwards CAS requests utilizing its respective CAS process to the JAOC for consideration.[41]

The air support operations center (ASOC) is the primary control agency component of the theater air control system for the execution of CAS. An ASOC is provided to each corps. The ASOC processes Army requests for immediate CAS, which are submitted by ground maneuver forces over the Air Force air request net directly to the ASOC. Once the Army approves these immediate requests, the ASOC tasks on-call missions or diverts scheduled CAS missions (with Army approval) to satisfy those approved immediate requests. The ASOC may be granted control of all or some of these missions.[42] The Army air-ground system coordinates and integrates both Army component aviation support and CAS with Army ground maneuver.[43] The corps tactical operations center synchronizes the entire corps battle, including all planning and authorization for CAS. It is the final approving authority for CAS within the corps.[44]

CAS Requests

CAS requests may be either preplanned or immediate. The employment of both preplanned and immediate CAS follows a process of requesting and tasking. CAS begins with a request from a maneuver commander for CAS to augment organic supporting fires. The CAS requirements foreseeable early enough to be included in the joint air tasking order or mission order are forwarded as preplanned requests. Immediate requests arise from situations that develop once the battle is joined. Immediate requests cannot be identified early enough to allow detailed coordination and planning.[45]

Preplanned requests normally do not include detailed target information and may not include detailed timing information because of the lead time involved. The important thing in preplanned CAS is for requesting forces to forward these requests early on—as soon as they anticipate the need for CAS—and then regularly update and refine their requests as the time approaches.[46] Preplanned requests are categorized as either scheduled or on call. Scheduled requests require the requesting maneuver unit to identify the target and the desired time on target well in advance. Scheduled requests offer greater opportunity for effective coordination and provide a higher likelihood that the aircraft will have the proper weapons load for the assigned targets. On-call requests identify an anticipated requirement for CAS to be available during a period of time, with the exact time and place to be coordinated as the battle develops. On-call CAS allows the requesting commander to indicate a time frame, probable target type, and place where the need for CAS is most likely. On-call aircraft are configured with the proper ordnance for anticipated targets and maintain an alert status for a specified period of time. On-call requests can specify either ground or airborne alert.[47]

Requests for preplanned CAS missions are submitted to the fire support coordination element at each echelon of command. Each echelon evaluates requests, coordinates requirements, consolidates them; and if they approve

the request, assigns it a priority and precedence. The approved requests are then forwarded to the next higher echelon. If a request is disapproved at some level, the request is returned to the originator with an explanation, or a substituted fire support asset. The highest maneuver echelon in the force (normally the corps) approves requests and prioritizes them. After approval, these consolidated requests become the component commander's request for CAS. If CAS requests exceed the component's organic capability, the requests are forwarded to the JAOC via the air supply request message.[48] At the JAOC, the JFACC staff reviews the requests, matches them against the distribution decision, and then fills them with the sorties available. Requesting units are then notified of approval/disapproval.[49]

Requesting commanders use immediate CAS to exploit opportunities or protect the force. Because immediate requests respond to developments on a dynamic battlefield, they cannot be identified early enough to allow detailed coordination and planning, which may preclude tailored ordnance loads. If on-call CAS is unavailable, the ASOC either diverts corps preplanned CAS missions or forwards the request to the JAOC. During the execution phase of the joint ATO, the JFACC may need to redirect other joint air missions (not CAS) to cover immediate requests for high priority CAS. For nonjoint air missions, the JFACC may also seek additional support from another component to cover the immediate request. However, diverting aircraft from preplanned scheduled CAS missions is a zero-sum game: preplanned requesters lose the same amount of firepower gained by the immediate requester. This assumes no diversion from other missions such as air interdiction, which may be required in more extreme circumstances.[50] Immediate requests are forwarded to the appropriate command post by the most rapid means available. Requests are broadcast directly from the TACP to the ASOC/DASC using the applicable component communications nets. The TACP at each intermediate headquarters monitors the request and advises the ground commander. After considering whether organic assets are available, appropriate, or sufficient to fulfill the request, the ground commander approves or denies the request. Silence by intermediate headquarters indicates approval.[51]

CAS Planning

Current joint doctrine views CAS as strictly a tactical level operation. CAS is planned and executed to accomplish military objectives assigned to tactical units or task forces. CAS planning focuses on the ordered arrangement and maneuver of combat elements in relation to each other and/or to the enemy to achieve combat objectives. While CAS is a tactical level operation, it is linked to the operational art through the air apportionment process.[52]

Planning considerations are important for CAS employment planning in the joint environment. Air superiority permits CAS to function more

effectively and denies that same advantage to the enemy. It may range from local or temporary air superiority to control of the air over the entire AOR.[53]

Fixed-wing CAS aircraft can be based on main operating bases on land and naval ships well behind the battle area. These locations offer the widest range of support such as available ordnance, mission equipment, and logistics. The aircraft can be deployed to forward operating bases which decrease transit time and increase time on station but may limit the choice of munitions.[54] Attack helicopters operate in the forward areas of the battlefield. They have main operating bases, yet these bases are fairly close to the battle area. Forward arming and refueling points are located in the forward area for aircraft support.[55] The aviation commander employs his attack helicopters in the way that best supports the maneuver commander. The commander may employ attack helicopters to conduct dedicated CAS alone, as part of a joint aviation task force, or as an augmenting force.[56]

While attack helicopters and fixed-wing aircraft capabilities are complementary, neither type can fully replace the air support provided by the other. The range, speed, and ordnance load of fixed-wing aircraft, and the helicopter's excellent responsiveness and ability to operate in diverse conditions, represent distinct advantages peculiar to each.[57] Although fixed- and rotary-wing aircraft can both provide CAS, employment considerations differ. Traditional planning and employment methods for fixed-wing CAS may not be best for rotary-wing aircraft.[58] Tasking fixed-wing aircraft for preplanned CAS in joint operations is accomplished via the air apportionment process and is scheduled through the joint ATO.[59] Fixed-wing aircraft are typically tasked and employed in terms of aircraft sortie. A sortie is defined as a single aircraft performing a single mission. Fixed-wing CAS sorties are usually flown in groups of two to four aircraft; in the Air Force, these small groups are called flights; in the Navy and Marines, sections (two aircraft) or divisions (four). United States Special Operations Command AC-130 gunships typically operate single-ship sorties during hour of darkness.[60]

To be effective, CAS must provide a timely response to the request. Streamlined request and control procedures improve responsiveness. Prompt response allows a commander to exploit fleeting battlefield opportunities. There are many techniques for improving response time. The use of forward operating bases can decrease the distance to the area of operations. Aircrews can be placed on ground or airborne alert status. Launch and divert authority can be delegated to subordinate units.[61]

Army aviation units are organic to corps and divisions and perform missions as part of combined arms team. Army helicopters are normally tasked through mission-type orders passed to a battalion or cavalry squadron which executes the mission as an integral unit maneuver element. Special situations may arise that dictate employment of attack helicopters in smaller units. Although they can perform CAS missions in smaller groups, the preferred employment of Army attack helicopters is as an integral unit, operating under the control of a maneuver commander with mission-type orders.[62] Marine Corps attack helicopters are organized in squadrons and

typically operate in sections or divisions. These units are assigned to and are integral to the Marine air-ground tactical force.[63] JFCs and component commanders must consider communications requirements, the significant logistical impact, and combat range when employing attack helicopter units in joint operations.[64]

Summary

Airpower, in conjunction with the exploitation of space-based systems, can impact all three levels of war (strategic, operational, and tactical) and can perform independent, integrated, and supporting operations sequentially or simultaneously. However, CAS is only seen as a tactical level asset. "Close air support accomplishes military objectives assigned to *tactical* units or task forces."[65]

Maneuver force commanders request CAS to augment organic supporting fires. They can use CAS to attack the enemy in a majority of weather conditions, day or night. Improvements in tactics, techniques, procedures, and equipment have improved the ability of aircraft to provide support. The speed, range, and maneuverability of aircraft allow them to attack targets other supporting arms cannot effectively engage because of limiting factors such as target type, range, terrain, or the ground scheme of maneuver. However, this author believes that the true psychological and physical effects of CAS are not optimized by this process.

Notes

1. Joint Pub 3-56.1, *Command and Control for Joint Air Operations*, 14 November 1994, v.
2. Ibid.
3. Ibid., I-4.
4. Ibid., II-1.
5. Ibid., I-1.
6. Ibid.
7. Ibid.
8. Ibid.
9. Ibid., I-2.
10. Ibid., II-2.
11. Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, defines operational control as, "Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in Combatant Command (command authority) and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations; normally this authority is exercised through the Service component commanders. Operational control normally provides full authority to organize commands and

forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training."

12. Ibid., vi.
13. Ibid., vii.
14. Component liaisons would normally include Air Force, Army, Navy, Marines, and Special Operations.
15. Ibid.
16. Ibid.
17. This notification requirement is a change included in the last version of the Joint Pub 3-56.1.
18. Ibid.
19. Ibid., II-3.
20. Ibid., ix.
21. Ibid., III-1.
22. Ibid., III-2.
23. This cycle was the product of the Joint Doctrine Air Campaign Course and was principally authored by Lt Col Maris "Buster" McCrabb.
24. AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, notes that "historically, the 'central feature of the enemy's power' has been the greatest concentration of his combat forces. Since war has widened to include much more than armies in the field, contemporary use of the term includes the enemy's economy and industrial capability to wage war, will (governmental and popular), and alliances."
25. Ibid., III-5.
26. Ibid.
27. Ibid., III-7.
28. Ibid., IV-6. Some unified commands (USACOM and PACOM) have instituted a Joint Target Coordination Board above the JFACC level which is chaired by the deputy CINC.
29. Ibid.
30. Ibid., IV-5
31. Ibid., IV-7.
32. Ibid.
33. Ibid.
34. Other agencies may nominate targets, such as the J-3.
35. A skeleton version of the JAOP already exists and is fleshed out at this point.
36. Ibid., IV-8.
37. Ibid., IV-9.
38. Joint Pub 3-09.3, "Joint Tactics, Techniques, and Procedures for Close Air Support," Proposed Pub, 17 February 1995, I-6.
39. Ibid.
40. Ibid., II-1.
41. Ibid.
42. Ibid., II-6
43. Ibid., II-7.
44. Ibid.
45. Ibid.
46. Ibid., III-1–III-2.
47. Ibid.
48. Ibid., III-2.
49. Ibid., III-3.
50. Ibid., III-3–III-4.
51. Ibid., III-5.
52. Ibid., I-2.
53. Ibid., I-4.
54. Ibid., xii.

55. Ibid.
56. Ibid.
57. Ibid.
58. Ibid., I-4.
59. Ibid., III-6.
60. Ibid.
61. Ibid., I-5.
62. Ibid.
63. Ibid.
64. Ibid., III-7.
65. Ibid., ix.

Chapter 4

Two Theories of CAS as an Operational Asset

Generals-in-chief must be guided by their own experience or genius. Tactics, evolutions, the duties of an engineer or an artillery officer may be learned in treatises, but the science of strategy is only to be acquired by experience, and by studying the campaigns of all the great captains.

—Napoléon

When addressing the subject of how to employ close air support for operational level effects, it is best to first examine previous military theorists who have dealt with the subject. Unfortunately, the field is sparsely planted. Very few theorists have looked at CAS at an operational level. Instead, airpower theorists have normally neglected it as a less important afterthought which would detract from strategic bombardment or considered its effects as limited to the actual tactical engagement. Two military theorists, both of whom were soldiers, addressed the operational implications of CAS. These two were British Capt Sir Basil Liddell Hart and Soviet Marshal Mikhail Nikolaevich Tukhachevskii. It is important to remember that the determining factor for CAS is the requirement for detailed integration with the fire and maneuver of the ground component. As such, it is not necessarily limited to infantry in the wire. The term *close* in the definition is not a distance but a matter of the immediacy of the effect. In previous years, especially in NATO, there was a delineation between CAS and battlefield air interdiction. BAI was considered close interdiction which had an early effect on the outcome of the current engagement. BAI could occur short of and immediately past the FSCL, whereas CAS only occur in front. BAI no longer exists in today's joint parlance. CAS has absorbed its function short of the FSCL and air interdiction its function beyond.

During the 1932 Disarmament Conference in Geneva, Sir Basil Liddell Hart was contacted by the Red Army and asked to become an advisor on mechanized forces. He declined.[1] Had he not, one could imagine a close working relationship between Liddell Hart and Marshal Tukhachevskii. Instead we must compare their theories separately. This chapter will compare the military theories of Liddell Hart and Tukhachevskii on the operational application of close air support. Specifically, we will examine their backgrounds, major airpower propositions, general theoretical framework, the operational use of close air support, concepts for command and control, and the implications of this investigation for the theory of the operational use of CAS.

Background

Liddell Hart was not a career soldier, but a journalist. However, his personality and intellect made himself a force both inside and outside the British army.[2] He believed that the Great War had been a catastrophe due to inept conduct. Liddell Hart lived forever in the shadow of the Somme disaster.[3] He also did not want a repeat of the bloodbath at Passchendale.[4] Liddell Hart was widely read and influential outside of Britain. However, he did not believe his books significantly influenced Russian military thought.[5]

Tukhachevskii was a career soldier. A czarist officer during World War I, he was decorated six times for bravery.[6] He joined the Red Army in 1918. During the civil war he commanded at army and front level. Later he rose to become assistant chairman of the Military Council of the USSR.[7] His motivation was classical Marxist-Leninist. He viewed the world as a struggle of opposing classes. It was essentially an inevitable war of the oppressed classes against their exploiters—a civil war without frontiers or political boundaries. War was the most logical environment in which to carry the revolution abroad.[8] Tukhachevskii was familiar with the writings of Liddell Hart. This is evident in the 1936 Red Army Field Service regulations.[9]

Propositions

The foundation of Liddell Hart's theory of the indirect approach is maneuver as opposed to annihilation. He criticized the Napoleonic Fallacy; the belief that wars were won only by decisive battle and the destruction of the main enemy army.[10] Mobility was the essence of his plan. He wrote of the need to develop ways of maintaining the momentum of the attack after the initial penetration. Fast moving armored forces were the means to the breakout. "To cover such an exploitation, a 'mobile barrage' of low-flying aircraft may be more effective, and adaptable, than accompanying artillery that are tractor-drawn."[11] Liddell Hart viewed airpower as a coequal partner to armor in mobile warfare. The tank-air combination was the paramount factor.[12] Future military operations would be conducted by fleets of tanks and aircraft.[13] In his classical analogy, "The wider mobility and offensive power lies in the air. And the air force appears to be cast for the decisive role, as the heirs of Alexander's 'Companion' cavalry."[14] The army and the air force were the two main components of military power.

The bedrock of Tukhachevskii's theory is the antithesis of Liddell Hart's. The battle of annihilation is the object of all maneuver. Future war would be on a broad front and in great depth. Battles would require aggressive combined-arms operations employing airborne forces to disorganize the rear of the enemy and masses of tanks supported by artillery to defeat the enemy in depth. Deep penetrations would establish a barrier against which the enemy would be pressed and his forces destroyed.[15] In czarist tradition, the

artillery had retained its special place. His immediate response to tactical aviation was that it was essentially a very maneuverable aerial platform capable of dropping explosives with deadly effect. Its coordination with conventional fires and the shock of armor would be devastating.[16] Tukhachevskii viewed airpower as a subordinate member of an all-arms team, an adjunct to the predominant armored/artillery forces.

Theoretical Framework

To understand each theorist's plans for the operational employment of close air support better, we must begin with the framework of their theories as a whole. We will do this by comparing their ideas on the nature of war from the grand strategic to the operational level.

Liddell Hart's grand strategy encompassed all the instruments of national policy. It set the objectives and the proper mix of instruments of power. The national objective should be "a resumption and progressive continuance of the peace time policy, with the shortest and least costly interruption of the normal life of the country."[17] To gain the object, one must change the enemy's adverse will into compliance. This is accomplished by dislocating the enemy's balance in order to produce a decision.[18]

Because Tukhachevskii was a Marxist-Leninist, the object of war was the spread of the revolution throughout the world. There could be no end to conflict until the fulfillment of dictatorship of the proletariat. All elements of national power must be geared towards this end. War plans must match the military structure to the war aims, the development of industry, the defense industry, and industrial mobilization. This process embraced the mobilization of the whole national economy.[19] The military effort became the driving force behind the economy; which was the basic means of waging war.[20]

To Liddell Hart, strategy was, "The art of distributing and applying military means to fulfill the ends of policy."[21] The strategy of the indirect approach was the highest and widest fulfillment of the principle of surprise.[22] The object of strategy was dislocation, either physical, psychological or, ideally both.[23] Its true aim is "not so much to seek battle as to seek a strategic situation so advantageous that if it does not of itself produce the decision, its continuation by battle is sure to achieve this."[24] The perfection of strategy would be "to produce a decision without any serious fighting."[25]

Tukhachevskii's view of strategy encompassed more than the military. As a Marxist-Leninist, he saw "the ideological preparation of the country for war as the biggest single issue in the war."[26] Otherwise, in bottom-up fashion, strategy must ensure the tactical task is readily feasible. It does this first and foremost by concentrating at the point of the main offensive a force many times superior to the enemy in infantry, artillery, aviation, and other technical forces.[27] "The Red Army's aim was the annihilation of the enemy in any conflict forced upon the Soviet Union."[28]

The indirect approach cuts across all levels of war but is usually manifested at the operational level by attacks on enemy command and control or lines of communication. Liddell Hart argued that victory was the result of moral, rather than physical destruction.[29] He believed, "The strength of an enemy force lies far less in its numbers or resources than in its stability or equilibrium."[30] Liddell Hart was a great believer in deep objectives. He claimed that, "The deeper the armored forces advanced, the greater the psychological dislocation of the enemy's command, and the less would be the need to engage the enemy in decisive battle."[31]

Tukhachevskii believed almost exactly the opposite. Battles would be a series of follow-on operations, leading to the complete liquidation or utter defeat of the enemy's armed forces.[32] The main forms of operations would be the penetration and the turning movement. Encirclement of the enemy would be achieved by an overall superiority of forces that permitted a double envelopment; or by a single envelopment that pinned the enemy against a political or natural barrier.[33] Each arm would be employed based on its characteristics and strengths, in close cooperation with other arms, for the best possible exploitation of all its capabilities.[34]

Missions

The aim of Liddell Hart's tank-aircraft teams was not to strike the enemy troops per se but to cut their communications. The object was to dislocate their organization by destroying headquarters and signal centers, cut off supplies by destroying railways and road transport, and to reach and attack the sources of supply. The speed and range of aircraft gave them far more chance of attaining their aim. Therefore, mechanized land forces would be reserved for the shorter range objectives in the immediate rear of the hostile army and the air forces the deeper.[35] Liddell Hart believed that, "Air power is, above all, a psychological weapon—and only shortsighted soldiers, underrate the predominance of psychological factors in war."[36]

To Tukhachevskii the destruction of the enemy was not the end but only the means. Such an aim could only be accomplished by the unrestricted use of force. The more completely the enemy was destroyed, the higher the assurance of achieving the war aim. Tukhachevskii believed breaking enemy morale was an impossible task, with demoralization depending largely on the social condition of the country. "Demoralization of the remnants of an enemy army is a consequence of the destruction of his crucial main forces."[37] The large-scale employment of tanks, aviation, and airborne mechanized forces would allow the attacking the enemy simultaneously over the entire depth of his field-force, isolating him, completely surrounding him, and destroying him.[38]

A simple summation would be that Liddell Hart sought demoralization to lead to the destruction of the enemy, while Tukhachevskii sought the destruction of the enemy force to lead to his demoralization. Now that we

have examined the operational aims of each theorist, a better understanding can be gained by directly comparing their thoughts on each operational mission area.

Close Air Support

Drawing lessons from the Spanish Civil War, Liddell Hart believed that the predominantly moral effect of an air attack, if concentrated on a narrow sector, could blast a hole in a defensive line.[39] He reasoned that the speed of tanks intensified the difficulty of normal artillery cooperation, and for this reason offensive support could only come from the close cooperation of low flying aircraft.[40] He envisioned flights of aircraft overhead—"to aid tanks by low-flying attacks as they pass beyond the cover of artillery fire and smoke."[41] "In future, air bombardment may pave the way for the advancing troops, serving as a substitute more flexible, and at a longer range, for the artillery barrage of the last war."[42] This, of course, would all depend on the cooperation of the Royal Air Force.

Referring to the mass of armies in the Great War, Liddell Hart believed, "The concentration of forces, according to accepted military principles, will precipitate a state of rapid congestion, hopeless to relieve. The overburdened arteries will give a multiplied effect to the enemy's air attacks in producing a paralytic stroke. And the effects may put an unbearable strain on the bonds of discipline."[43] He again gives great emphasis to the psychological impact of air attack. "The real target in war is the mind of the enemy command, not the bodies of his troops. If we operate against his troops it is fundamentally for the effect that action will produce on the mind and will of the commander; indeed, the trend of warfare and the development of new weapons—aircraft and tanks—promise to give us increased and more direct opportunities of striking at this psychological target."[44] Considering the moral domain, Liddell Hart does not restrict air attack to lines of communication. "We must not only exploit the offensive use of aircraft against the enemy's reserves and communications, but grasp the value of an air blow against the command and signal centers of the enemy—paralyzing his brain and nervous system."[45]

While Liddell Hart stresses the moral, Tukhachevskii stresses the physical domain. Tukhachevskii heavily favored the use of artillery for the close support of troops in contact. His only prescription about close air support was, "Maneuver and offensive operations by mechanized forces require air support."[46] Army aviation would be employed in depth, in operational cooperation with the development echelon, preventing the enemy reserves from intervening and offering resistance in depth. Front aviation would be tasked to isolate the break-in sector completely from the enemy's strategic depth, and to interdict movement of his strategic reserves.[47] "Frequent independent air operations are required, to destroy railway junctions, bridges, depots, logistics bases, and so on."[48] To Tukhachevskii, aircraft should attack

the enemy's troop columns, troop concentrations, support elements, and bridges, artillery, artillery wagon lines, and supply columns. His combat effectiveness should be worn down and his resupply from the rear interrupted by repeated attacks. Showing his own reliance on artillery, he wrote, "For a start his artillery should be silenced."[49] Like Liddell Hart, he realized the importance of command and control. He emphasized the physical and cognitive spheres, wanting the disruption of enemy command, control, and communication by destruction of headquarters, signal centers, line systems, and radio stations.

Command and Control

Before summarizing, it would be useful, in light of our theorists' operational plans, to also examine their thoughts for the command and control of theater air forces.

In my opinion, Liddell Hart examines the lessons of the Great War correctly, but draws the wrong conclusions. "Air forces can be switched from one objective to another. They are not committed to any one course of action as an army is, by its bulk, complexity, and relatively low mobility. While their action should be concentrated, it can be quickly concentrated afresh against other objectives, not only in a different place, but of a different kind. In the last war, air-power forfeited much of its effect from being kept in separate packets like the parts of an army, with a consequent dispersion of effort and frittering of effect."[50] From this conclusive evidence for centralization he makes an inverse deduction. "Points to the need of a military air arm, for which the best cooperation between the services is no substitute. This must be achieved not at the expense of, but in addition to, the RAF. . . . The conclusion seems to be that the Army should provide its own air arm from its own resources; but, whatever is done, an army in the field must have its operative air force under its own control."[51]

Because Tukhachevskii views aircraft as long-range artillery, one can easily surmise his command arrangement. Air force units are subordinate to armies and corps. The remainder of ground attack assets are held by the fronts. There is no theater level direction of the air effort.

Summary

Neither theorist had all the answers concerning the operational application of close air support. They were not alone during the interwar years. Both were particularly off base in their command and control arrangements. Liddell Hart's significant contribution was in proclaiming the psychological effect of air attack and its use in paralyzing the enemy. Tukhachevskii's use of airpower in the isolation of the enemy forces is also useful. Although their

rationales for targeting command, control, and communications were different, both effects are advantageous.

Synthesizing their thoughts, we see that they saw operational close air support best used to isolate and demoralize enemy forces, disrupt command and control, and facilitate an operational breakout. This is the essence of our new theory of close air support. However, CAS should not be dominated by the ground element. Their integration must be such that they are the two fists of a boxer. Each fist must be able to jab, uppercut, or body punch. Depending upon the situation, either one could deliver the knockout blow. To use another analogy, CAS is not a squire compared to the ground forces mounted knight. It is a worthy partner to the ground effort.

Notes

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14. Ibid., 29.
15. Matson, 41.
16. McGranahan, 66–67.
17. Liddell Hart, *The Liddell Hart Memoirs*, 1: 64.
18. Basil H. Liddell Hart, *Strategy: The Decisive Wars of History* (New York: Praeger, 1954), 10.
19. Ibid., 104.
20. Simpkin, 102.
21. Liddell Hart, *Strategy*, 335.
22. Liddell Hart, *Thoughts On War*, 238.
23. Swain, 43.
24. Liddell Hart, *Strategy*, 339.
25. Ibid., 338.
26. Simpkin, 105.
27. Ibid., 89.
28. Ibid., 177.
29. Swain, 38.
30. Basil H. Liddell Hart, "Killing No Murder: Correspondence with the Editors," *Army Quarterly*, January 1928, 400.

31. Reid, 70.
32. Simpkin, 123–24.
33. Ibid., 92.
34. Ibid., 179.
35. Liddell Hart, *When Britain Goes to War: Adaptability and Mobility* (London: Faber and Faber, 1935), 71–72.
36. Liddell Hart, *Thoughts On War*, 173.
37. Simpkin, 86.
38. Ibid., 197.
39. Liddell Hart, *The Liddell Hart Memoirs*, 2: 188–89.
40. Liddell Hart, *Thoughts On War*, 172.
41. Ibid., 265.
42. Ibid., 308.
43. Liddell Hart, *When Britain Goes to War*, 56.
44. Liddell Hart, *Thoughts On War*, 48.
45. Ibid., 70.
46. Simpkin, 180.
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48. Ibid., 94.
49. Ibid., 214.
50. Liddell Hart, *Thoughts On War*, 157.
51. Ibid., 172.

Chapter 5

Recommendations

Historically, close air support has occupied a lower priority in the hierarchy of Air Force missions than strategic bombing or interdiction. In theory since the days of the Air Corps Tactical School, and in practice since World War II, the Air Force has focused primarily on delivering a strategic blow to the enemy's industrial and economic centers of gravity. Secondarily, the Air Force would interdict the flow of men and materiel to the enemy's fielded forces. Close air support, for a variety of reasons; some historical, some doctrinal; was viewed as both a less effective and a less efficient application of the air instrument.[1]

In spite of a decades-long attempt at reconciliation by both sides—going back to the Johnson-McConnell Agreement of 1966—the Army and the Air Force still do not agree fully on the application of doctrine to joint operations. There are two principle issues: (1) The relative priority and importance of air and ground campaigns, and when apportionment of effort should shift from one to the other, and (2) The translation of apportionment decisions into sorties directed at specific operational tasks in support of the ground campaign.[2] The theoretical concepts of CAS have been constant since World War II. They are a continuing conflict between two views, one of respon-siveness, the other of centralization for theaterwide applicability.

As our historical survey showed, plentiful air and ground resources have permitted past commanders the luxury of ducking the difficult decisions as to apportionment and allocation of CAS. In World War II, CAS was apportioned with a numbered air force to each army group and then allocated with a tactical air command in direct support of each field army. In Korea the Air Force was enamored of the interdiction effort. It devoted only between 10 and 15 percent of its sorties to CAS, normally allocating only 96 sorties to the Eighth Army each day. Vietnam saw an uncharacteristic rise in the apportionment of CAS. CINCPAC made it the first priority of air operations in South Vietnam. On a typical day the Seventh Air Force flew nearly 800 CAS sorties. Finally, in Desert Storm, planners provided over 600 CAS sorties per day for the short ground offensive. US ground forces have not suffered from air attack for the past half century and because of this have rarely gone without CAS.

This may be more difficult in future operations, when US force drawdowns result in a much smaller force structure.[3] Admiral James Winnefeld believes that “efficiency in the application of airpower is often sacrificed for expediency, particularly when US ground forces are threatened. The prudent

joint commander thinks ahead to how he will make decisions and what factors will influence them in unlikely or unplanned contingencies—or when scarcity of tactical air assets is the driving factor."[4] That is exactly what this study has tried to do. It has tried to think ahead to apportionment and allocation decisions regarding the employment of limited close air support assets.

We synthesized a definition of close air support as a force that can be employed at the operational level of war. It should be massed against the enemy's decisive points to maximize its psychological and physical shock effects. CAS is best viewed as a form of vertical fire and maneuver, seamlessly integrated with the fire and maneuver of ground forces. It should not be a subordinate element, added after the fact to redress a ground limitation.

To achieve this integration the current system of apportionment and allocation should be changed. The current system begins at the ground battalion level and rises through the land force hierarchy. Each echelon above the battalion examines and approves lower preplanned CAS requests. These requests accumulate as you go up the chain of command until reaching the corps. At that point the ASOC transmits the overall corps request to the AOC. The JFACC, after consultation with the JFLCC, recommends the appor-tionment of CAS to the JFC. Based upon the JFC's apportionment decision, the JFACC then allocates the CAS sorties to the theater ground commander. The JFLCC then distributes these CAS sorties to his subordinate ground units. This is a system built for the tactical employment of CAS. Although the JFLCC is responsible for the integration of the vertical fire and maneuver of CAS with the horizontal fire and maneuver of the ground element, it is not accomplished with an operational level view. In the current system, CAS is an appendage. CAS is flying artillery.

In comparing the airpower theories of Liddell Hart and Tukhachevskii, we saw two contrasting views on the integration of airpower with ground forces. Tukhachevskii viewed airpower as fire support and subordinated it to the maneuver of the ground element. This has historically been the US method. Although Tukhachevskii sees CAS as having some utility above the tactical level, particularly in isolating the enemy, he failed to use it as a coequal fire and maneuver element with the army. Liddell Hart, on the other hand, viewed airpower as a coequal member of a team. Its psychological effect should be used to paralyze the enemy. This author's theory of CAS is that it should be used to isolate and demoralize the enemy. Depending upon the situation, ground maneuver may dislocate the enemy for destruction by CAS, or, in the more traditional sense, CAS may dislocate the enemy for destruction by ground forces. It does not always have to be one way or the other. Currently, the only person who has the requisite authority to accomplish this integration is the JFC.

In some respects, apportionment and allocation are the central focus of attempts to solve interservice conflicts over joint air operations. What should be hit and how much of the available resource base should be committed to the effort are fundamental issues of military judgment.[5] They are also key

aspects of service doctrine and culture. The average senior military officer, in the US Army or US Air Force, is a prisoner of his own experience, his own culture. These are almost entirely tactical, focused on ground battle at division level and below, or the "gorilla" strike package hitting a target.[6] Because of this, it is no surprise that commanders are primarily concerned with the battle right in front of them. It is no wonder that CAS is employed in that vein. CAS should not be employed as a purely tactical measure, nor should it be discounted because it lacks direct strategic impact. If properly massed, employed against decisive points, and integrated as a coequal partner to the ground maneuver force, CAS can have operational level effects. Martin van Creveld addresses what such an airpower force might do in a Desert Storm type scenario. "A maneuver-oriented air force would have done much less against the Iraqi rear and also avoided extensive strikes against Kuwait except, perhaps, as a way of pinning down the enemy and misleading him as to the location of the main effort. Instead, it would have waged a brief and concentrated campaign to facilitate the task of VII Corps; once the Hail Mary maneuver was under way, it would have focused on preventing movement by the Republican Guard or, should it have moved nevertheless, tearing it to pieces in the open desert."[7]

Although I do not agree with his desire to completely disregard the Iraqi rear, the flavor of his description is accurate. Again, though, the airpower does not always have to facilitate the ground element, sometimes the ground element can facilitate the air.

The most effective uses of airpower in close air support in World War II, Korea, and Desert Storm were in preplanned missions designed to break through enemy defenses or to stop a penetration. In these missions airpower could be massed, and the full shock of the attack exploited before the enemy could be reorganized.[8] Preplanned missions historically have been the most productive since there is better integration of the air and ground effort in accordance with a specific plan of action.[9]

Recalling Joint Pub 3-56.1, air apportionment sets a percentage and/or priority to air operations or geographic areas. Throughout the airpower continuum, the JFC's knowledge of the capabilities of airpower and his apportionment authority allow him to adjust airpower application as the overall campaign phases and the immediate situation require. With this in mind, the JFC should apportion CAS to provide maximum operational level effect. Obviously, it would be best to have air superiority as a prerequisite. However, there may be extreme cases where CAS must be employed as the first priority, regardless of the status of the air battle. Similarly, one cannot always assume that interdiction will be a higher priority than CAS. In a short duration campaign, against a well equipped and supplied adversary, interdiction's effects may not be felt prior to the cessation of hostilities. Finally, any future adversary has certainly learned from Desert Storm that he cannot afford the United States the opportunity to engage him carte blanche from the air. He is more likely to force the ground battle at the earliest point possible. The analysis of this study leads to the conclusion that

CAS should be allocated to the main weight of effort. It should not be evenly distributed among the ground forces so that everyone gets their share. This allocation must be done through detailed coordination between the JFACC and the JFLCC. These CAS missions, as vertical fire and maneuver forces, must be fully integrated with the ground forces. The ground commander does not own these sorties. Rather, at times they will be in support of him, at others he may be in support of them.

The current Joint Target Coordination Board (JTCB) is structured to integrate the targeting of airpower with the needs of the component commanders. It is a totally air oriented board. As such, its utility to solve this problem is limited because it does not attempt to shape the ground battle, only the air battle. What is needed is a Joint Strategy Board (JSB) which will replace the JTCB. The JSB must not be merely a renamed JTCB. That is because the JTCB has a great deal of political and adversarial baggage attached to it. The JSB would have to meet regularly, probably daily. The JSB's charter would be to integrate the overall strategy for the theater, not just the air strategy. All component commanders, whether functional or service, would be members. The JSB would be chaired by the deputy CINC. The JSB would try to arrive at a consensus between the component commanders. However, the deputy CINC would have the authority to direct a course of action in the name of the CINC, in the absence of a consensus. Having the Deputy CINC as the chair helps downplay the historical tendency for the CINC to be his own JFLCC and overrule the other components. The focus of the JSB would be on the integration of the operational plans of the components. If US warfare is joint warfare, then this is the best way to make it joint. However, jointness should not mean that every component or service has to be a player in every operation. Jointness should mean using the best tool for the job. The JSB would help in selecting that tool.[10]

To achieve this level of integration is not an easy step. There is much inertia to overcome and there will be a degree of fear towards the change. We must fix service cultures as much as the process for these kind of joint operations to work. This is because CAS is fundamentally a matter of trust. Despite historical experience to the contrary, the Army does not believe that the Air Force will always show. This may be do to a lack of perceived resolve to do CAS or a perception that the Air Force's views it as not a core competency. They may also believe that the Air Force may be more involved in its own strategic air operation. The Army may not believe that the Air Force will sacrifice its $40 million aircraft to the attrition possible on a lethal modern battlefield. It may also be the Army's lack of faith in the speed and responsive of the ATO cycle. It is up to the airmen to bridge this gap and build that trust. To do this it might be helpful to show them the message General "Buster" Glosson, CENTAF/DO, sent to the airmen of Desert Storm on the eve of the ground war.

> PLEASE PASS THE FOLLOWING MESSAGE TO ALL WING LEADERSHIP AND CREW MEMBERS ASAP:

THE GROUND WAR HAS STARTED. OUR NUMBER ONE JOB IS SUPPORT OF THE GROUND FORCES. CLOSE AIR SUPPORT AND AIR INTERDICTION MISSIONS ARE NOT WEATHER CANCELED BY SOME DECISION MAKER REMOVED FROM THE SCENE. THE TIME HAS COME FOR EVERY FLIGHT LEAD TO MAKE EVERY REASONABLE EFFORT TO ATTACK THE TARGET AND GET HIS FLIGHT BACK HOME. OUR GROUND GUYS ARE DEPENDING ON EVERY SORTIE. FROM NOW ON, IT IS UP TO EVERY AVIATOR TO MAKE IT HAPPEN.[11]

Notes

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