

## Foundations of Airpower Doctrine

### Introduction

Building and expanding upon the theories of the early airpower theorists, this lesson will examine the foundations of airpower doctrine as debated and promulgated from the early years of flight through the establishment of the Air Force as a separate service in 1947.

### Lesson Objective

The objective of this lesson is for you to know how early airpower theory impacted the development of airpower employment concepts and doctrine in the years leading up to the establishment of the Air Force as a separate service in 1947. The lesson will not make you a historian; but, it will provide you with a basic understanding of how the principles and concepts of airpower doctrine evolved, and how this doctrine has remained sound and enduring guidance over many years of political and technological change. At the end of the lesson, you will be able to recognize the factors that influenced the development of the World War II strategic bombing campaign. You will be able to describe how airpower theory and the lessons learned during World War II led to the publication of Field Manual 100-20, *Command and Employment of Airpower*. You will also be able to identify the primary doctrinal principle that underscored the need for the establishment of a separate air force in 1947.

### Overview

The lesson begins by looking at the Air Corps Tactical School's doctrinal emphasis on strategic bombardment. It examines the General Headquarters Air Force and its emphasis on independent air operations. Then the lesson explores how these thoughts on strategic bombardment and independent air operations led to the development of Air War Plans Division 1, the conceptual basis for the World War II strategic bombing campaign against Germany. Next, the lesson examines the important and enduring nature of the key doctrinal concepts articulated in the 1943 War Department Field Manual one hundred dash twenty. The lesson concludes with a summary of the key events that led to an increase in autonomy for the Army's air arm, culminating with the establishment of the United States Air Force in 1947.

### Strategic Bombardment

Many early airpower theorists, including Douhet, Trenchard, and Mitchell, began to realize that airpower was more than merely an extension of surface forces and a provider of services for them. Airpower's ability to bypass surface forces and strike directly at the heart of enemy power offered new ways to approach warfare and offered an alternative to the mass carnage experienced during World War I. The concept of strategic bombardment embodied the ideas of air operations independent of surface warfare and provided the focus for much of the doctrinal thought in the years between World War I and World War II.

## **Pursuit Aviation**

In the years immediately following World War I, pursuit aviation, a function we now call counter air operations, was generally considered to be the primary mission of the air service. Believing that control of the air was vital to military operations, Brigadier General Billy Mitchell viewed pursuit aviation as the basis of an air force. Within the War Department, pursuit aviation and missions that supported ground forces dominated. Even bombardment aviation was viewed within the context of large-scale surface operations and seen largely as a supporting operation. But soon, this thinking began to change.

## **Air Corps Tactical School**

In 1920, the Army established a professional school for the Air Service much like the traditional schools for artillery, signal, and other branches. This air service school was significant in that it recognized aviation as a distinct specialty within the Army. As the school for the professional development of air officers, it served as the center for doctrinal thinking on airpower. The school started out at Langley Field, Virginia, as the "Air Service Field Officers' School." Its name was changed to the "Air Service Tactical School" in 1922. In 1926, the Air Corps became the branch for Army aviation and the school's name was changed to the "Air Corps Tactical School" In 1931 the school was permanently moved to Maxwell Field, Alabama. It was at the Air Corps Tactical School that the ideas of the early airpower theorists were scrutinized and formalized to form an integrated body of concepts for the future employment of airpower.

## **Airpower Debates**

Students and faculty at the Air Corps Tactical School discussed and debated the very nature of war itself. "Was defeat of the enemy's fielded forces the object in war, or was defeating the enemy's will to resist the real object?" This question remained central to the direction that airpower was to take. Even within the Air Corps Tactical School there were two competing schools of thought. Those believing in Mitchell's theories contended that airpower should pursue strategic objectives, while others believed that airpower must continue to support surface forces. This debate gained prominence in 1928 when the Air Corps Tactical School commandant forwarded a paper to Washington, DC titled, "The Doctrine of Air Force," which he proposed as the basis for all school texts. It asserted that air forces are always in support of surface forces. The response, by Maj Gen James Fechet, Chief of the Air Corps, contended that the true object in war is to overcome the enemy's will. These differing opinions fueled the debates over the proper use of airpower that occurred not only within the War Department, but within the Air Corps itself during the interwar years.

## **Ascension of Bombardment**

Although pursuit aviation held Airmen's attention throughout the 1920s, the strategic nature of airpower had great appeal for fighting wars independent of fielded armies. Thinking within the Air Corps quickly turned to bombardment aviation and the independent role of airpower. By the time the Air Corps Tactical School moved to Maxwell Field in 1931, the primacy of bombardment aviation was firmly established. Significantly, the view that airpower was more than merely a provider of services to

surface forces began to dominate thinking within the Air Corps, especially at the Air Corps Tactical School. In fact, the 1930 revised Air Corps Tactical School text, called *The Air Force*, suggested that bombardment aircraft would always accomplish their mission, even without escort. Unfortunately, a lack of national interest in military forces, internal debates on airpower, and the novelty of aircraft were among many factors that limited doctrinal thought and development. The relatively few Airmen of the era focused on strategic bombardment as a means of warfare while doctrinal thinking on pursuit and attack aviation lagged behind.

### **GHQ Air Force**

The increasing prominence of bombardment aviation and the ideas of using air forces as independent striking forces naturally led to thoughts of independence from, or at least autonomy within, the Army. In the years following the establishment of the Army Air Corps in 1926, there were two general schools of thought; one favoring independence from the Army, and the other favoring a compromise solution that would allow the creation of an independent striking force within the Army. The compromise view dominated and resulted in the establishment of General Headquarters Air Force, or GHQ Air Force, in 1935. GHQ Air Force provided a single headquarters for all operational aviation units in the Army. While independence-minded Airmen still argued for a separate air force, the establishment of GHQ Air Force as a unified and powerful offensive striking force represented a clear move toward a centrally controlled air arm.

### **GHQ Air Force organization**

GHQ Air Force consolidated units in several corps areas into a single organization, which reported to the Chief of Staff in time of peace, and the theater commander in time of war. The commanding general of GHQ Air Force was coequal to the Chief of the Air Corps who retained responsibility for supply and individual training. This organizational chart depicts the command setup for the Army air arm by late 1935. At least in theory, this organization allowed the theater commander to focus a centrally controlled air force on his most important objectives, taking advantage of the inherent capability of airpower to influence the entire theater. Under the guidance of the first commander of the new organization, Maj Gen Frank Andrews, the GHQ Air Force, as a unified striking force, became a reality.

### **Roles of GHQ Air Force**

After GHQ Air Force was created, it remained to be seen exactly what its role would be. The Army General Staff circulated a paper that divided air operations into four categories: beyond the sphere of ground forces, immediate support of ground forces, defense of seacoasts, and defense of rear areas. Of the objectives included in the “beyond the sphere of ground forces” category, the enemy air force ranked first. Other objectives within this category included hostile communications, munitions storage and factories, power plants and other utilities, and troop concentrations. Operations within the “immediate support of ground forces” category were divided into two phases the “approach to battle” which included operations that we now call interdiction, and the “battle itself” which included operations which we today call close air support. Not surprisingly, support for the concepts outlined in the General Staff paper were mixed.

## **Response to Roles Proposal**

Although the General Staff paper subordinated the idea of strategic aviation, the Office of the Chief of the Air Corps accepted the general thrust of the proposals. Despite the protests of Airmen, the bulk of the proposals in the General Staff paper were retained and incorporated into Training Regulation 440-15, *Fundamental Principles Of Employment Of The Air Service*. On the other hand, the more hard line officers at the Air Corps Tactical School decried the limited role of strategic aviation and the overall dominance of surface support in the proposals. While many within the War Department considered the GHQ Air Force an excellent compromise to the problem of air organization and employment, some air leaders, such as Billy Mitchell, attacked the plan as “subterfuge,” which only “divided aviation into more parts.”

## **GHQ Air Force Pros and Cons**

Although a compromise short of independence, most Airmen accepted the concept of a GHQ Air Force as a step in the right direction. However, there were obvious shortcomings. Military aviation was split between the GHQ Air Force and the Air Corps and there was still no provision for a separate air budget. Corps area commanders continued to exercise administrative jurisdiction over air personnel, and the General Staff retained the ultimate authority over air matters. In spite of the shortcomings, the GHQ Air Force was an advance that recognized, in concept at least, the air force idea of unified air striking power.

## **GHQ Air Force Stimulates Doctrine**

It's important to note that the creation of the GHQ Air Force stimulated the development of specific doctrine for the use of this force. The creation also strengthened the interest in bombers and bombardment aviation. Maj Gen Frank Andrews, GHQ commander, speaking at the Army War College in 1938, said that the US could best defend its frontiers by attacking the enemy “as far from our shores as we can reach him.” Further comments show that he considered bombardment aviation to be the principal strategic force and the true measure of airpower. It seems obvious that General Andrews felt that bombardment aviation was the dominant element of airpower. Although the Air Force Combat Command replaced the GHQ Air Force in 1941, and it, in turn, was terminated in the Army Air Forces' reorganization of 1942, the idea of unified, independent air operations was firmly established.

## **Planning for War**

In August of 1941, a group of Airmen were given the opportunity to apply the airpower theory and doctrine developed at the Air Corps Tactical School and in the GHQ Air Force. President Roosevelt asked the armed services to write a war plan that provided the number of men and equipment needed to fight a future war against the Axis powers. The head of General Hap Arnold's newly created Air War Plans Division, Lt Col Hal George, saw this as an opportunity to incorporate Air Corps Tactical School doctrine into a major war department planning document. Because he needed a working group to start immediately, George recruited several former colleagues from the tactical school—bomber advocates Lt Col Ken Walker, Maj Haywood Hansell, and Maj

Laurence Kuter. What they developed was known as Air War Plans Division 1, or AWPDP-1 for short.

### **AWPD-1**

AWPD-1 was the air annex to the overall war plan requested by President Roosevelt in 1941. However, Hal George and his planners went beyond the original request for a list of air resources needed for a war against the Axis powers. Instead, the group turned AWPDP-1 into a blueprint for strategic air warfare in Europe. The plan grudgingly provided for hemispheric defense, if necessary, and support for a cross-channel invasion of Europe, again, if necessary. The true aim of the plan was to conduct a strategic air campaign against Germany that was based on the concepts of employment first developed at the Air Corps Tactical School in the 1930s. Central to the plan was the concept of high altitude, daylight, precision bombardment against the enemy's will and ability to wage war. With necessary equipment and support, the plan's authors felt that Germany would collapse in six months.

### **AWPD-1 Objectives**

The primary objectives of AWPDP-1 were disruption of Germany's electric power and transportation systems, destruction of Germany's oil and petroleum resources, and undermining of enemy morale by air attack against enemy civilian concentrations. Intermediate objectives considered essential to the principal effort required neutralization of German Air Forces through attacks against bases, aircraft factories, and aluminum and magnesium factories. Finally, third-level air action focused on safeguarding friendly air bases in England through attacks against submarine bases, surface ships, and invasion ports. Clearly, the plan incorporated force protection and defeat of the enemy air force, or air superiority, as necessary actions to ensure success of the primary mission. As we know, these fundamental doctrinal principles are still contained in our current doctrine.

### **Response to AWPDP-1**

In response to AWPDP-1, the War Department's joint Army-Navy board stated that "only land armies can finally win wars". However, the board still felt that prior to undertaking any land campaign against Germany, air forces should have accomplished overwhelming air superiority, rendered enemy economic and industrial life ineffective, weakened the combat effectiveness of enemy fielded forces, and undermined the civilian morale. In other words, while not endorsing the idea of victory through airpower, the board seemed to support the overall concepts in the plan as a means of achieving victory through ground forces. While subsequent plans changed targeting priorities and made other adjustments, the basic doctrinal and conceptual foundations outlined in AWPDP-1 remained in place for the duration of the war in Europe. AWPDP-1 unquestionably represented a major conceptual milestone in the pursuit of the air force idea—that is, an independent service with an independent mission.

## **Field Manual 100-20**

In spite of the doctrinal thinking on independent air operations and unified air striking power that occurred prior to World War II, the US entered the war with procedures that called for placing air units under the command of land commanders. This arrangement offered air commanders little flexibility in focusing airpower on theater objectives or implementing the major principles of air doctrine. However, in July of 1943, a watershed event occurred when War Department Field Manual 100-20, or FM 100-20, *Command and Employment of Airpower*, was published. This manual laid out a series of doctrinal principles for the employment of air forces, most of which remain valid today. So powerful was this document that many within the Army ground forces referred to it as the Army Air Forces' "Declaration of Independence."

## **FM 100-20 Concepts**

FM 100-20 captured many of the ideas that early airpower enthusiasts, including those at the Air Corps Tactical School, had so diligently fought for. First and foremost, the manual declared that "land power and airpower are co-equal and interdependent forces; neither is an auxiliary of the other." It went on to say that, "the gaining of air superiority is the first requirement for the success of any major land operation." In other words, air forces should be used primarily against the enemy's air forces until air superiority is gained. The manual further established the strategic, tactical, and air defense roles as the primary functional missions of air forces.

## **FM 100-20 Centralized Control**

Significantly, FM 100-20 declared that to maximize its inherent flexibility, an air commander must centrally control airpower in a theater. Clearly, the discussion of airpower as a "battle winning factor of the first importance" and the idea that airpower had the "ability to deliver a decisive blow" pleased most Airmen who had long sought acknowledgement that airpower was far more than merely a supporter of surface forces. Additionally, the manual stated that the theater commander will not normally attach air units to ground force units, a practice that prior to the publication of FM 100-20, was quite commonplace.

## **Impact of 100-20**

FM 100-20 succinctly summarized combat-proven principles for the organization and employment of air forces and set the stage for the independent Air Force of today. While it emphasized that the goal of so-called strategic aviation was defeat of the enemy nation, the manual provided for diversion of strategic aviation to tactical missions when those missions were vital and decisive. In other words, FM 100-20 made it clear that airpower had the ability to shift the priority from one mission or objective to another as the situation dictated. This inherent flexibility and versatility of airpower was termed its greatest asset. The modern Air Force has come a long way since 1943. Much of our organizational structure has changed, but most of the doctrinal concepts presented so powerfully over half century ago are as valid now as they were then.

## **Airpower Evolution**

Early airpower enthusiasts believed airpower was more than merely a provider of services for surface forces. Instead, they believed that airpower, if applied in the right way, could add a completely new dimension to warfare and offer the theater commander an option other than the mass carnage of the trenches. Key to the proper application of airpower was the unified control of military aviation by the air leaders themselves. The concept of unified control, or centralized control and decentralized execution as we call it today, did not occur overnight. Instead, it was an evolutionary process that occurred over several decades and ultimately led to the creation of an independent air force in 1947.

## **Increasing Autonomy**

Each step in this evolutionary process resulted in increased autonomy for military aviation. From its inclusion as part of the Army Signal Corps in 1907 to the establishment of the Army Air Service in 1920 and the Army Air Corps in 1926, the importance of army aviation grew along with its influence within the War Department. The establishment of GHQ Air Force in 1935 solidified the idea of a unified air striking force and led to the creation of the Army Air Forces as one of three major army commands. In 1942, army aviation was established as an equal partner within the army command structure. This command arrangement took us through World War II and set the stage for the establishment of the United States Air Force.

## **Doctrine Evolves**

By the time World War II ended, a number of key doctrinal concepts concerning airpower were firmly in place. First, the importance of strategic bombardment was clearly established and the development of nuclear weapons gave it a new and unquestioned level of importance. Second, the necessities of defeating enemy air forces throughout the theater and the establishment of air superiority to allow freedom of action for friendly forces while denying the same to the enemy were firmly entrenched. Third, the need for centralized control of theater air forces in order to increase flexibility, establish priorities, and maximize impact throughout the theater was an accepted principle. Finally, the key notion that airpower should be applied in an integrated whole rather than as individual parts was established.

## **US Air Force as a Separate Service**

By the end of World War II, the Army Air Forces enjoyed a considerable degree of autonomy within the War Department. In fact, the Chief of The Army Air Forces was a full member of the Joint And Combined Chiefs of Staff, having served in that position since 1942. Coupled with the accepted doctrinal principles for command and employment of airpower, the need for the establishment of a separate air force became compelling. The National Security Act of 1947 completely restructured the military departments and created an overall Department of Defense. Most significant was the creation of an independent United States Air Force. As Mitchell had envisioned decades earlier, the United States now had a new defense department and an independent air force—a dream became reality!

## **Summary**

Much has happened since early airpower theorists first articulated their ideas on how the airplane changed warfare. Today, we continue to refine and expand upon our doctrinal base. Nevertheless, the ideas and concepts that were so diligently pursued in the years after World War I and the lessons learned during World War II laid a firm foundation for today's airpower doctrine. Though perhaps changed within the context of new technologies, most of today's fundamental doctrinal principles were in place by the time the US Air Force was created in 1947. Those principles had their genesis in the early theorists, matured through the war years, and guide our forces today.