

Airpower Theory

Introduction

Although modern airpower is significantly different than it was at the beginning of the last century, it has retained its inherently strategic nature. Early Airmen such as Billy Mitchell, Hap Arnold, Ira Eaker, and Curtis LeMay saw the potential of an independent air force and of the strategic effects made possible by airpower. Their recognition of the inherently strategic nature of airpower led to the emergence of strategic bombardment as airpower's premier mission. Even though our Air Force and no less than 17 other western air forces subscribe to the concept of strategic airpower, the concepts of strategic attack are not well understood. Many view strategic attack as the mission of particular platforms like the bombers of World War II or the ICBMs of the Cold War. Others see strategic attack as simply an extension of surface-based firepower that is able to strike at any range. In reality, strategic attack is the capability to achieve effects that directly address campaign objectives at the strategic level of war. Strategic attack is one of airpower's unique capabilities. Rather than pursuing tactical objectives in a sequential manner to enable decisive strategic effects, airpower offers the capability to directly pursue strategic objectives. Understanding this strategic nature of airpower is fundamental to understanding airpower theory.

Lesson Objective

This lesson introduces you to the early airpower theories as expressed by Giulio Douhet, Hugh Trenchard, and Billy Mitchell. The objective of this lesson is for you to know the genesis and importance of strategic bombardment as a central focus in airpower theory. At the end of the lesson, you should be able to identify the influence of early airpower theorists on the development of airpower doctrine. In addition, you should be able to describe why strategic bombardment became central to airpower theory. Furthermore, you should be able to recognize the significant influence of General Billy Mitchell in promoting the theories of airpower within the United States and his role in shaping the airpower doctrine that survives today.

Overview

To support the learning objective, this presentation discusses how the lessons of World War I served as the motivation for developing strategic airpower. The lesson further covers how the introduction of the airplane in World War I offered an alternative to the carnage of static ground warfare. In addition, the lesson discusses how early airpower theorists shaped airpower thinking. The lesson culminates with an overview of how General Billy Mitchell impacted the evolution of US airpower doctrine. To understand the revolutionary importance of airpower, you must first appreciate the horrors of World War I, in which millions died over the course of years of trench warfare.

Early Perspective of War

For centuries, armed men meeting on a field of battle have resolved wars. The history of warfare, involving land and sea combat, is marked by brutal fighting. Early warfare typically involved massed formations of combatants striving to defeat each other by inflicting more casualties than their opponent. Victory was usually determined by "the last man standing."

Rise of Total War

By the nineteenth century, warfare had evolved into total war involving resources and populations of entire nations. No longer were wars fought almost exclusively by trained soldiers or hired mercenaries; it came to involve entire populations, including both citizen soldiers and ordinary

citizens. World War I gave birth to total war in the industrial age when huge armies of soldiers faced each other across battlefields that had been made horribly lethal by technological advances in weaponry. Shortly after the war began, the belligerents mobilized over 65 million troops. In spite of the huge armies, both sides expected a quick end to the war, and both sides went on the offensive. However, the war quickly settled into one of tactical deadlock in the trenches. Understanding the context and consequences of World War I is critical for Airmen and their views on airpower theory.

World War I Perspective

A view into what the “quick” war would become occurred in August 1914, when out of the 1.5 million French troops who went on campaign, nearly one in four were casualties after six weeks of fighting. This bloody toll foreshadowed the carnage that would follow as over 8 million combatants were killed and total casualties numbered over 37 million. Over half of all the forces mobilized were casualties of the fighting. Among the noncombatants approximately 10 million were killed, and again, tens of millions more injured. As the war continued, strategies changed from one of securing ground to one of bloody attrition. The war quickly settled into static trench warfare between armies, which employed poison gas, machine guns, and artillery bombardment to effect wholesale slaughter along battlefields spanning hundreds of miles.

Context for Airpower

It is impossible to understand these early theorists and their views on airpower without putting yourself into the context of their times. The Great War had been one of seemingly endless days of bloodshed and death. World War I was the worst agony in the consciousness of mankind; nothing could be perceived that would be worse than another try at war in the trenches. Practically everyone agreed that the era of total war was here to stay and that on the ground, the defensive form of combat was in great ascendancy. The endless suffering of war on the Western front was the major driving factor behind the strategic air theory and air doctrine of the 1920s and the 1930s.

Aircraft as a Military Tool

The appearance of aircraft in World War I offered an alternative to the static warfare of the trenches. Although aircraft were primarily employed for observation and reconnaissance, the advantages of employing them as offensive weapons soon became apparent. Aircraft provided a means of breakthrough, and they brought the concept of aerial maneuver into military operations. Aircraft offered the hope of ending static, defensive warfare by carrying the offensive to the enemy homeland. The airplane could easily cross the fixed lines of trenches and strike the enemy’s vital centers, such as their industry, population, and military forces. After years of carnage in the trenches, the ability to move easily to the enemy homeland was truly an exciting prospect. Adding to the appeal of being able to cross the deadly trenches was the concept that aircraft could strike targets that would have a significant effect on the fielded armies, their supplies, and armaments. Suddenly, the ability to affect the industrial machine that fed the carnage of battle became a possibility.

Aircraft for Strategic Effects

As aircraft technology improved and Airmen became more skilled in airpower employment, the potential for attacking key vital centers became clearer. While using aircraft to attack enemy surface forces seemed logical, many Airmen believed that destroying enemy forces was not the decisive element for winning a war. Rather, they saw destroying key vital centers as the critical element. Airmen saw a means of diminishing the industrial engine that had made the Great War possible. By crippling supplies and transportation, Airmen saw possibilities of strategic effect that far exceeded the tactical employment of aircraft.

Early Airpower Theorists

To most military officers, the airplane seemed to offer a useful tool to supplement the traditional forms and manner of warfare. Thus, it was employed for observation, reconnaissance, and aiming of artillery. Later, it found value as an attack platform operating close to the troops or a short distance to the enemy rear. In a move toward more strategic targeting, aircraft were used to attack vital centers, such as headquarters, supply depots, railheads, troops moving to the front, and similar military targets. A few early aviation theorists, however, had grander visions for airpower. These theorists envisioned aircraft operations that were independent of surface armies or navies. To these few, the aim of war was not the attrition of surface forces, but the destruction of vital elements of the enemy capability to wage war. Airmen realized that by striking the enemy's vital centers, airpower held the key to victory. The question loomed, however, as to what constituted a key vital center. To early airpower theorists, vital centers included factories, transportation hubs, centers of government, and war material production capabilities. Several early theorists saw the potential of airpower, but only a few articulated it well enough to cause change and to affect the manner in which airpower would develop. Among those significant early theorists were Giulio Douhet of Italy, Hugh Trenchard of England, and William "Billy" Mitchell from the United States. Let's review their contributions to airpower theory.

Airpower Theorist—Douhet

Giulio Douhet was born in Italy in 1869. He came from a military family, and he served as a professional artillery officer in the Italian Army. Although not a pilot, he was appointed as the commander of Italy's first aviation battalion. During World War I, Douhet was so critical of the leadership of the Italian High Army Command that he was court-martialed and imprisoned for a year. However, his criticisms were validated in 1917 in the disastrous Battle of Caporetto, in which Italians suffered over 300,000 casualties and lost most of their trench artillery. After the war, when Mussolini came to power, Douhet was restored to a place of honor. He passed his remaining years writing about and speaking out for airpower. Douhet published *Command of the Air* in 1921. This book quickly became known in America through partial translations and word of mouth, but it did not appear in a published English version until 1942, twelve years after Douhet died.

Douhet's Theory

Douhet's theories on airpower have had a lasting effect on airpower employment. The major premise of Douhet's theory was his belief that during war, a quick victory could be won by early air attack on the enemy's vital centers, while surface forces worked to contain the enemy on the ground. Douhet differed from other prominent early theorists by proposing that civilian populations be directly targeted as part of the air campaign. Key aspects of Douhet's theories can be viewed by rolling your cursor over the links.

Implications of Douhet's Theory

Douhet's ideas regarding the role of airpower contained several implications regarding the use of airpower in the conduct of warfare. A summary of his implications can be viewed by rolling your cursor over the links.

Douhet's Impact

Douhet's theories regarding airpower had a significant impact on many nations during this time. Again, the impact of Douhet's theories can be viewed by rolling your cursor over the links.

Airpower Theorist—Trenchard

Hugh Trenchard was well along in his military career when he learned to fly at age 40. He fought much of World War I as the head of the Royal Flying Corps in France, and was firm in his vision of aviation as an auxiliary to the army. At first, Trenchard opposed the creation of an independent air force, and he even opposed the idea of strategic bombing. He was, however, a firm believer in offensive operations for air forces. Like ground commanders of the time, he believed in the massed offensive as the key to victory. Only in Trenchard's case, this idea of mass involved aircraft in the air. Unfortunately, the Royal Flying Corps suffered substantial losses as a result of his commitment to the massed offensive. Nonetheless, Trenchard ended up in command of the Independent Air Force in France in 1918, which was created in response to the German bombing of London. A considerable portion of the Independent Air Force's efforts was in support of the Allied armies, and the war ended before the Independent Air Force could conduct much strategic bombing. When he returned to the United Kingdom, Trenchard was appointed as Chief of the Air Staff of the Royal Air Force, or RAF. Soon after, he became an advocate of strategic bombing. He remained in his post for the first decade of the RAF's existence. Trenchard had an influence on the initial founding of many of the RAF's ideas and institutions. Trenchard's ideas were at the center of RAF doctrine manuals and they were embedded in the curriculum at the RAF Staff College.

Trenchard's Theory

Trenchard's theories on airpower have had a lasting effect on airpower employment. The major premise of his theory was his belief that during war, victory could be achieved by bombing enemy vital centers and thus breaking the enemy's will to fight. Roll your cursor over the links to view more information about Trenchard's theories.

Implications of Trenchard's Theory

Trenchard's ideas regarding the role of airpower contained several implications regarding the use of airpower in the conduct of warfare. More information on the implications of his theories can be viewed by rolling your cursor over the links.

Trenchard's Impact

Trenchard's theories regarding airpower had a significant impact on many nations during this time. Trenchard and Mitchell were contemporaries that shared many similar views. Mitchell often pointed to the Royal Flying Corps as a model for independent airpower. Roll your cursor over the links to view more information on the impact of Trenchard's theories.

Airpower Theorist—Mitchell

William "Billy" Mitchell was born in France in 1879 and raised in Wisconsin. He joined the Army Air Force as a Signal Corps officer, completed flight training at his own expense, and was appointed to the General Staff all at a young age. Mitchell, who was in Europe when the US entered the war, became the first American aviator to cross enemy lines as a combat pilot and was soon appointed to command of combat aviation at the front. Mitchell led many combat patrols and commanded the nearly 1,500 aircraft of the Saint Mihiel air offensive—the single largest air armada of the time. He was subsequently appointed brigadier general and given command of the Air Service of the Group of Armies. After the war, he headed the Aviation of the Army of Occupation, established in Germany. When he returned from Europe, having led air forces in combat and served as an Allied air commander, he was appointed Assistant Chief of the Air Service. He led an Air Service Provisional Brigade in the bombing tests of various naval vessels and demonstrated the efficacy of airpower by

sinking an ex-German battle ship, the “Ostfriesland,” with a 2000-pound bomb. Mitchell quickly became the voice of independent airpower. Through numerous speaking engagements and published articles, Mitchell became the leading advocate for a strong, independent air force and a robust national aeronautics capability made up of all types of aviation assets: military, commercial, and general. Because of his zealous campaign for airpower and his open criticism of those charged with airpower’s development, he precipitated his own courts-martial in 1925. His vocal criticism of the War Department’s mismanagement of airpower resulted in his conviction. He left the Army in early 1926 and died in February 1936.

Mitchell’s Theory

Mitchell’s theories on airpower have had a profound and lasting effect on airpower doctrine and the employment of airpower. He is often referred to as the “father of the modern Air Force.” The major premise of his theories was his belief that an independent and equal air force serving under a unified department of defense was the most efficient means of defending the United States. Other key aspects of Mitchell’s theories can be viewed by rolling your cursor over the links.

Implications of Mitchell’s Theory

Mitchell’s ideas regarding the role of airpower contained several implications regarding the use of airpower in the conduct of warfare. Again, a summary of his implications can be viewed by rolling your cursor over the links.

Mitchell’s Impact

Mitchell’s theories on airpower have had a lasting impact on airpower doctrine and the employment of airpower. Some of the significant impacts of Mitchell’s theories are presented here and can be viewed by rolling your cursor over the links.

Mitchell’s Legacy

William “Billy” Mitchell, more than any other individual was responsible for molding the airpower convictions that served as the doctrinal basis of the United States Air Force. As World War I came to a close, Mitchell argued to preserve the aviation expertise gained during the war, both in terms of personnel and equipment. Through prolific writing and speaking, Mitchell carried the airpower case—the case of an independent air force—to the American public. Mitchell’s most lasting contribution was moving the idea of air force autonomy to a progressive view, which held that independent air operations could achieve strategic results rather than simply being chained to the support of armies and navies. Mitchell’s ideas and goals were adopted and shared by a wide following of early air officers, including “Hap” Arnold and “Tooe” Spaatz. Through Mitchell’s advocacy, the concepts of the offensive nature of airpower, the importance of air superiority, the primacy of strategic bombing, and the value of interdiction over close air support became enduring beliefs of modern airpower.

Summary

This lesson discussed how the conduct and carnage of World War I shaped the concepts of early airpower theorists. The most significant concept of early air doctrine was the idea of strategic bombardment. Central to the concept of striking the war-making capabilities of industrialized nations was the realization that massed slaughter on the battlefield did not guarantee victory. Early Airmen realized the strategic effects that could produce victory did not depend upon armies achieving tactical success. This lesson has discussed how aircraft offered an alternative to the static nature of trench warfare by attacking the key vital centers of an enemy’s war-making ability. The lesson further

illuminated how early airpower theorists such as Billy Mitchell influenced airpower doctrine. These early Airmen expressed many of the fundamental beliefs that have become central to airpower thought. Mitchell's zeal for airpower and his insight into what it offered the nation was instrumental in giving form to the United States Air Force as an independent service. It is only from an understanding of these early events that you can fully gain an appreciation for the evolution of airpower thought over the decades of powered flight. From these early beginnings were laid the foundations of today's airpower doctrine.