

THE STRUGGLE FOR CONTROL OF AMERICAN MILITARY AVIATION

by

PAUL HARRIS LARSON

B.A., Auburn University Montgomery, 2000
M.A., Texas State University, 2002

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

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Abstract

The United States Army activated the Aeronautical Division, United States Signal Corps, on August 1, 1907. The men of the Aeronautical Division faced hardships and challenges from the very beginning as they tried to build the nation's first air force prior to World War I. The U.S. Army, the War Department, Congress, and even the American people, really did not know what aircraft could do beyond simple flight. American airmen tried to demonstrate what air power was capable of, but the response to their achievements never met their expectations.

Using an abundance of primary and secondary sources on American air power, this dissertation demonstrates that airmen's struggle for a separate service was not something that developed slowly over the course of decades. Instead, this dissertation shows that airmen wanted independence from the U.S. Army from the start. From their point of view, the U.S. Army, the War Department, and Congress never really appreciated or understood air power. As a result, airmen became more and more alienated with each passing year until they achieve what they wanted—independence.

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Dedication

To all those brave enough to challenge the status quo

Preface

Many historians have attempted to explain why it took over forty years for the United States military to establish the United States Air Force on September 18, 1947. Some postulate that American airpower was simply too weak to develop into a separate service prior to the end of World War II. Others argue that airmen were too focused on arguments over the internal structure of their service to devote their energies toward gaining independence. However, the truth of the matter is that airmen wanted to gain centralized control over airpower from nearly the beginning.

On August 1, 1907, the United States Army activated the Aeronautical Division, United States Signal Corps.¹ The men of Aeronautical Division quickly discovered that their colleagues in the U.S. Army, as well as their superiors in both the Army and the War Department, did not quite know what to make of aviation.² Worse still the U.S. Army didn't have enough money to buy an aircraft for the men in the Aeronautical Division to fly until Theodore Roosevelt, the President of the United States, interceded on their behalf in 1908. One year later, on August 2, 1909, the Wright brothers delivered the Aeronautical Division's first aircraft, named Signal Corps No. 1.³

The fact that it took two years for the Army to procure an aircraft for the Aeronautical Division was important because it made airmen feel as though their superiors did not care. In the

¹ On that date, there were three men assigned to the Aeronautical Division: Captain Charles deForest Chandler, Corporal Edward War, and Private First Class Joseph E. Barrett. Juliette Hennessy, *The United States Army Air Arm, April 1861 to April 1917* (USAF Historical Study No. 98, 1958), pp. 26-27.

² Brothers Orville and Wilbur Wright made their first successful powered flight on December 17, 1903. Orville flew a total of 120 feet before coming to a stop. Fred C. Kelly, ed. *Miracle at Kitty Hawk, The Letters of Wilbur & Orville Wright* (New York: Da Capo Press, 2002), pp. 112-113.

³ Meghan Cunningham, ed. *The Logbook of Signal Corps No. 1: The U.S. Army's First Airplane* (Washington, D.C.: Air Force History and Museums Program, 2004), pp. 3-7.

Army's defense, the service did not drag its feet when it came to purchasing the aircraft. The delay was the result of the convoluted contracting process. However, the airmen did not see things that way. They were frustrated that they could fly. They were angered that the Army did not seem to be as enthusiastic as they were about aviation. Thus, they developed an adversarial attitude that shaped future interactions between airmen and their non-flying superiors in the U.S. Army.

The difficulties that aviators faced continued as they tried to build the U.S.'s first air force. In addition to their superiors in the U.S Army, the airmen had to contend with members of the U.S. Congress who did not understand aviation in the least. Reflecting on the early days of the Aeronautical Division, Major General Benjamin Foulois recalled that the chasm between airmen and their superiors in Congress was huge. Foulois recalled that Joseph "Uncle Joe" Cannon, the Speaker of the House of Representatives, was highly skeptical of aviation. While attending a demonstration at Fort Myer, Virginia, Cannon stated: "You can't convince me that that thing will fly." After the pilots took off, Cannon stated: "Well, it's flying, but you can't make me believe it will stay up!"⁴

United States Army leaders and members of Congress were not the only ones skeptical that aviation would ever amount to anything. Foulois, who joined the U.S. Signal Corps shortly after being promoted to first lieutenant in May 1907, explained that many of his classmates at the Signal Corps School at Fort Leavenworth, Kansas, did not have much appreciation for aviation. He stated that his classmates and his instructor thought that he was "some kind of a nut" because he argued that "if it [the airplane] continues to progress toward perfection as rapidly in the next

⁴ Benjamin D. Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts* (New York: McGraw-Hill, 1968), p. 1.

year or two as it has in the past two years, we will see aerial navigation reduced to a very simple problem, and tacticians will have to revise their books on tactics.”⁵

Skepticism like that exhibited by Cannon and Foulois’ fellow students was common and it helped shape the culture that American airmen had begun to develop. Hardened by the harsh reality that their military and civilian superiors often viewed aviation as a novelty with limited military potential, airmen began to trust only those who had done what they had done—take the controls of a machine made of wire, wood, and canvas in their hands and pilot it into the air. Most importantly, they came to believe that they needed to gain centralized control over their own service because only they could properly employ airpower.

American airmen’s push to gain control over airpower gained greater momentum after they read sports coming from Europe that discussed the progress of aviation in France, Great Britain, and Germany. According to many of those reports, European nations had surpassed the U.S. in aviation.⁶ American airmen believed it was caused by a lack of concern among their leaders in the U.S. military and the U.S. Congress. Their feeling of alienation was fueled by the fact that the War Department provided the Aeronautical Division with minimal manpower and small, sometimes nonexistent, budgets.⁷ To compensate for the lack of support that they perceived, the men of the Aeronautical Division focused on improving their flying skills and showing non-flyers what aircraft could do.

⁵ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 43.

⁶ Buckley, John. *Air Power in the Age of Total War* (Bloomington and Indianapolis: Indiana University Press, 1999), pp. 30-34.

⁷ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 78.

The most important impact of the lack of understanding and support from non-aviators in the U.S. military and Congress was evident in the mindset that developed among American airmen. Long before outspoken airpower advocate William “Billy” Mitchell entered the scene, American airmen came to see their struggle as an “us versus them” battle between themselves and the non-flying officials who just didn’t “get it.” That mindset, fostered in frustration and disappointment, took root quickly and deeply. In fact, it became so ingrained in the psyche of American airmen that it shaped all interactions between airmen and their superiors.

The Historiography of Early American Air Power

Historians who have written about the beginnings and early development of United States military aviation have focused on many aspects of the men, machines, and events that shaped American air power. Some have focused on the daring pilots who broke new ground with each flight. Others have focused on the growth of the Aeronautical Division, United States Signal Corps, and its evolution over the decades that followed. Still others have detailed airmen's view on their service and its relationship with the rest of the U.S. military, especially the United States Army. All their works are important contributions to the history of American military air power. However, few historians have addressed the fact that American airmen's effort to separate from the U.S. Army began shortly after the U.S. Army activated the Aeronautical Division on August 1, 1907.

Following World War I, the relatively young U.S. Air Service faced a number of challenges. First and foremost, the Air Service sought to educate future airmen, non-flying officers, the U.S. government, and the American public about airpower and its role in future conflicts. The most significant proponents of airpower in the interwar period were William "Billy" Mitchell and the men who studied and taught at the Air Corps Tactical School (ACTS). Mitchell, a single individual, established himself as the most vocal and, therefore, most recognized proponent of airpower during the 1920s. Conversely, the ACTS was a group of individuals, each with different ideas and concepts regarding airpower that had an equally significant impact of U.S. airpower.

William “Billy” Mitchell

William “Billy” Mitchell is perhaps the most well-known and most controversial American airpower theorist. As a result, a great many works have been written that focus on various aspects of Mitchell’s military career. While Mitchell’s exploits in France during World War I and the early 1920s have received more than passing attention in a number of works, the bulk of scholarship concerning Mitchell focuses on his well-publicized 1925 court-martial.

Given the level of his celebrity, significant works on Mitchell began to appear shortly after his death in 1936. These early works paint the portrait of a man far ahead of his time and misunderstood by those unable to grasp the level of Mitchell’s foresight. Some of the earliest works that include this interpretation of Mitchell’s importance to American airpower are Emile Gauvreau and Lester Cohen’s *Billy Mitchell: Founder of Our Air Force and Prophet without Honor* (1942), Ruth Mitchell’s *My Brother Bill: The Life of General “Billy” Mitchell* (1953), Roger Burlingame’s *General Billy Mitchell: Champion of Air Defense* (1952), and Isaac Don Levine’s *Mitchell, Pioneer of Air Power* (1958). Overall, these works offer very little analysis of Mitchell’s theories and his contributions to American airpower doctrine. However, the works do provide insight into Mitchell’s pre-World War I career, especially his time in the U.S. Army Signal Corps from the Spanish-American War until the end of his assignment with the Army General Staff in 1916. Ruth Mitchell’s *My Brother Bill* is particularly helpful as she included her brother’s previously unpublished writings that covered the early years of his career in the Philippines, Cuba, and Alaska.

More recent works that further the theme of Mitchell’s prescience are H. Paul Jeffers’s *I Told You So: Right and Wrong Predictions in American History and the People Who Made Them*

(2006) and Douglas Waller's *A Question of Loyalty: Gen. Billy Mitchell and the Court-Martial that Gripped the Nation* (2004). Relying heavily on the transcripts from Mitchell's court-martial and the Army's Inspector General (IG) files on Mitchell, Waller argues that things were going in Mitchell's favor until he took the stand and alienated many in the courtroom with a performance that demonstrated that he lacked a great deal of knowledge concerning naval aviation. Overall, however, Waller contends that Mitchell was correct in his assessments of the potential of airpower.

The initial lack of scholarly analysis of Mitchell's theories and contributions to doctrine did not last long. Beginning in the late 1960s, several scholars began to focus on Mitchell's significance as an airpower thinker and move beyond simple biographies of his life. These works agree that Mitchell was ahead of his time, but they tend to disagree as to the extent to which Mitchell's ideas were adopted. Works that include this interpretation are Burke Davis's *The Billy Mitchell Affair* (1967), Alfred F. Hurley's *Billy Mitchell: Crusader for Air Power* (1975), and James J. Cooke's *Billy Mitchell* (2002). In *The Billy Mitchell Affair*, Burke Davis argues that Mitchell's Army and Navy contemporaries were too conservative and thus, were not willing to accept many of his groundbreaking ideas and concepts. Similarly, Alfred F. Hurley's *Billy Mitchell: Crusader for Air Power* (1975) covers many of the same themes, including the conservatism of military officers in the interwar period. Hurley's work remains the most-thorough and all-encompassing account yet written of Mitchell's life. Hurley's primary focus is on Mitchell's role as a U.S. Air Service leader and as a shaper of airpower doctrine in the interwar years. Overall, Hurley agrees with earlier assessments of Mitchell that contend that Mitchell was ahead of his time with regard to his theories on how warfare would be conducted in the future. While he does agree with Davis that Mitchell faced a conservative officer corps,

Hurley argues that Mitchell's often-strident personality and the aggressive style of his official presentations often led potential supporters to be much more cautious in supporting Mitchell's airpower concepts than they otherwise might have been.

Other scholars argue that Mitchell's ideas concerning the use of airpower had a tremendous impact on other airpower advocates in the U.S. Works that contain this interpretation include Mark A. Clodfelter's "Molding Airpower Convictions: Development and Legacy of William Mitchell's Strategic Thought" (1997), Robert F. Futrell's *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force* (1989), and Barry D. Watts's *The Foundations of US Air Doctrine: The Problem of Friction in War* (1984). Both Clodfelter and Futrell maintain that Mitchell's writings and speeches influenced nearly every important airpower thinker and advocate prior to World War II. Furthermore, these authors maintain that the U.S. Air Service's first school, the Air Corps Tactical School (ACTS), based its core curriculum on the ideas and concepts discussed in Mitchell's *Winged Defense* (1925).

Other works of importance concerning Mitchell are William B. Mitchell's *Memoirs of World War I: From Start to Finish of our Greatest War* (1960) and *Winged Defense* (1925). Mitchell's work is essentially a compilation of his diary entries that appeared in *Liberty* magazine throughout 1928. Although limited in scope, Mitchell's autobiography offers important insight into his personality. However, caution must be taken when reading Mitchell's work because he initially published his diary entries nearly a decade after the end of World War I. Consequently, Mitchell often mixes his post-war arguments regarding the supremacy of airpower with his earlier views that he held during the war.

The Air Corps Tactical School (ACTS)

One interpretation maintains that the ACTS served as a focal point around which the airpower minds of the interwar years centered their activity. More importantly, this view contends that the ACTS created, refined, and championed airpower doctrine prior to World War II thus establishing the doctrine the U.S. Army Air Force used throughout most of the conflict. Works that include this interpretation are Robert T. Finney's *History of the Air Corps Tactical School, 1920-1940* (1955), Peter R. Faber's "Interwar US Army Aviation and the Air Corps Tactical School: Incubators of American Airpower" (1997), John F. Shiner's *Foulois and the U.S. Army Air Corps, 1931-1935* (1984), and Benjamin Foulois and C.V. Cline's *From the Wright Brothers to the Astronauts: The Memoirs of Benjamin D. Foulois* (1968). In *History of the Air Corps Tactical School*, Finney argues that the ACTS provided the structure the U.S. Air Service needed to properly educate air officers on both the lessons of World War I and the rapid advancements in airpower technology that occurred throughout the interwar period. In addition, Finney contends that the ACTS also helped equip U.S. air officers with the knowledge of a wide variety of skills related to airpower including: "command and staff function, intelligence, logistics, the tactics and techniques of the various classes of aviation, theories of the employment of the air force, and the tactics, techniques and doctrines of the other services." Similarly, in "Interwar US Army Aviation and the Air Corps Tactical School," Peter R. Faber contends that the work done at the ACTS during the two decades before World War II culminated in the creation of the Air War Plans Division staffed by former ACTS students and instructors including future U.S.A.A.F. generals Haywood Hansell and Laurence Kuter among others. Furthermore, Faber maintains that AWPD-1, which was the "blueprint for strategic air warfare in

Europe,” was the culmination of the ACTS’s work during the interwar period and laid the foundation for the creation of an independent U.S. Air Force following World War II.

Another interpretation argues that Billy Mitchell’s writings and experiments with airpower in the early 1920s provided the superstructure upon which the ACTS was built. This view is found in Mark A. Clodfelter’s “Molding Airpower Convictions: Development and Legacy of William Mitchell’s Strategic Thought” (1997), Robert F. Futrell’s *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force* (1989), and Barry D. Watts’s *The Foundations of US Air Doctrine: The Problem of Friction in War* (1984). Clodfelter contends that Mitchell’s ardent support of airpower alienated many officers in the Army and Navy. However, Clodfelter argues that Mitchell’s “notions” were accepted by most Air Service officers who subsequently pushed Mitchell’s ideas and concepts regarding airpower doctrine following his resignation. Therefore, Clodfelter maintains that Mitchell was essential to the creation of the ACTS which turned his ideas and concepts into doctrine prior to World War II. In *Ideas, Concepts, Doctrine*, Futrell argues that the “Mitchell era” established the doctrine that the ACTS further developed and refined beginning in the mid-1920s. Furthermore, Futrell contends that Mitchell’s Winged Defense “publicized the ideas which would be continued, expanded, and refined to become the doctrine of the Air Force.”

A third interpretation argues the ACTS was essential not only to the development of airpower doctrine, but to the development of the U.S. Air Service’s system of Professional Military Education (PME). Works that contain this interpretation are Jerome A. Ennels and Wesley P. Newton’s *The Wisdom of Eagles: A History of Maxwell Air Force Base* (1997) and Jeffrey C. Benton’s *They Served Here: Thirty-Three Maxwell Men* (1999). In *The Wisdom of Eagles*, Ennels and Newton argue that the ACTS was the foundation for officer education in the

United States' evolving air arm. Similarly, Benton contends that the establishment of the ACTS provided the U.S. Air Corps with a much-needed place in which to train airmen on airpower doctrine and officership, thus providing the basis for the eventual creation of Air University in the early 1940s.

A final interpretation is found in Scott D. West's *Warden and the Air Corps Tactical School: Déjà vu?* (1999) and Howard D. Belote's "Warden and the Air Corps Tactical School: What Goes Around Comes Around" (1999). In his work, West argues that the ACTS has had a profound impact on airpower theorists which has remained undiminished despite the passage of time and the evolution of technology. West argues that the basic theories presented by John Warden are essentially those first discussed by the ACTS in the interwar years. West's argument is echoed by Belote, who contends that the ACTS's "industrial web" theory provided the basis for Warden's later "five ring" model which also focused on reducing an adversary's ability to fight by destroying their military and economic capabilities.

Airpower Doctrine

The best works that address the span of development of airpower doctrine are Robert Frank Futrell's *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force* (1989) and *The Paths of Heaven: The Evolution of Airpower Theory* (1997). These works typify the interpretation which argues that the interwar years were vital to the creation and propagation of airpower theory and doctrine. *The Paths of Heaven*, completed by the Air Force's School of Advanced Airpower Studies (SAAS) located at Maxwell Air Force Base (AFB), Alabama, argues that the 1920s and 1930s provided the U.S. Air Service with the time it needed to develop the doctrine that the U.S. would use in World War II. In *Ideas, Concepts, Doctrine*, Futrell

contends that the development of tactics and doctrine in the U.S. Air Service was a slow process due to the U.S. Army's natural reluctance to pour resources into a branch that many initially regarded with skepticism. However, Futrell contends that the perseverance of Mitchell, and others at the ACTS, facilitated the creation of the Air Service's first concrete doctrine. According to Futrell, the doctrine developed during the interwar period laid the foundation for the U.S. Army Air Force's work in World War II.

A second group of scholars contend that airpower doctrine has been flawed from the start due to various factors. This interpretation is found in works such as Barry D. Watts's *The Foundations of US Air Doctrine: The Problem of Friction in War* (1984), John R. Carter's *Airpower and the Cult of the Offensive* (1998), and I.B. Holley, Jr.'s *Ideas and Weapons* (1953). In *The Foundations of US Air Doctrine*, Watts argues that airpower doctrine has been flawed from early on, beginning with the ACTS. Watts contends that airpower advocates have been far too reliant on technology, and, therefore, their way of developing airpower doctrine has been based on a far-too-scientific approach to warfare, which he labels "mechanistic." For example, Watts maintains that precision bombing became the mantra of nearly every airpower advocate during the interwar years. However, Watts concludes that precision bombing was nothing more than a tool airpower advocates used in an attempt to prove that their service was unique from the Army with its own technical requirements. In *Airpower and the Cult of the Offensive*, John Carter argues that reliance on offensive doctrine was a result of American airpower proponents' and officers' initial reliance on both the lessons learned during World War I and the British Royal Air Force (RAF) doctrine during the interwar years.

An opposing interpretation is found in Stephen L. McFarland's *America's Pursuit of Precision Bombing, 1910-1945* (1995), Peter R. Faber's "Interwar US Army Aviation and the

Air Corps Tactical School: Incubators of American Airpower” (1997), and Allan Millett’s “Patterns of Military Innovation in the Interwar Period” (1996). These authors argue that U.S. airpower doctrine was sound, with precision bombing serving as its guiding principle. In *America’s Pursuit of Precision Bombing*, McFarland argues that precision bombing was the driving force behind airpower doctrine during the interwar years. Furthermore, McFarland contends that airpower advocates, especially the men at the ACTS, tirelessly worked to prove that precision bombing was not only possible, but highly effective, thereby increasing U.S. government and military support for airpower. Similarly, in “Patterns of Military Innovation,” Allan Millett argues that precision bombing doctrine, and the strategic bombing doctrine that developed as a result, gained widespread acceptance during the interwar period due to the efforts of the men at the ACTS.

Another interpretation argues that the airpower doctrine created during the interwar period was essential to the American war effort in World War II, but that it failed to adequately address cooperation between air and surface forces. In particular, these scholars argue that the doctrine of Close Air Support (CAS) and aerial interdiction suffered due to airpower advocates’ and air officers’ focus on strategic bombing and air superiority. This view is found in Thomas H. Greer’s *The Development of Air Doctrine in the Army Air Arm, 1917-1941* (1955), David N. Spires’s *Air Power for Patton’s Army: The XIX Tactical Air Command in the Second World War* (2002), Martha Byrd’s *Chennault: Giving Wings to the Tiger* (1987), Ronald Spector’s “The Military Effectiveness of the US Armed Forces, 1919-1939” (1988), Richard R. Muller’s “Close Air Support: The German, British, and American experiences, 1918-1941” (1996), Jonathan M. House’s *Towards Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization* (2002), Thomas Alexander Hughes’s *Overlord: General Pete Quesada and the*

Triumph of Tactical Air Power in World War II (1995), and Williamson Murray's "Strategic Bombing: The British, American, and German experiences" (1996). In *The Development of Air Doctrine in the Army Air Arm*, Greer contends that doctrinal development went through three separate and distinct stages during the interwar years: 1919-1926, 1926-1935, and 1935-1939. Greer argues that each phase of development built upon the one before it as a result of ongoing discussions and debates during the years prior to World War II that became increasingly complex and representative of the realities of aerial combat. Yet, Greer maintains that the airpower doctrine created in the interwar period failed to adequately address the "precise relationships and practical arrangements between ground and air commanders, or the detailed composition and employment of support units." Overall, however, Greer concludes that airpower doctrine prior to World War II did prepare the U.S.A.A.F. for many of the missions it conducted, just not all of them. In *Air Power for Patton's Army*, Spires argues that airpower proponents place close air support (CAS) low on the priority list due to the increased risk of operating at extremely low altitudes that exposed them to increased fire from enemy troops and anti-aircraft artillery. Furthermore, Spires contends that the U.S.A.A.F.'s increasing support of strategic bombing only increased the reluctance of air officers to develop doctrine that stressed the support of friendly ground forces. Muller, in *Close Air Support*, echoes Spires, arguing that an emphasis on long-range bombers and the doctrine of air superiority left the Army's air arm unprepared for many of the missions it was faced with during World War II.

Conversely, in *Beyond the Battle Line: US Air Attack Theory and Doctrine, 1919-1941* (1996), Gary C. Cox argues that ACTS focus on strategic bombing before World War II did not hinder the development of airpower doctrine that stressed cooperation with Army ground forces. While Cox does agree that airpower doctrine regarding close air support and the direct support of

friendly troops needed a great deal of improvement, he contends that the “indirect approach” of aerial interdiction advocated sporadically by the ACTS during the interwar years did work quite well in World War II.

A final interpretation contends that U.S. military technological development was limited by manufacturing and commercial considerations. In addition, this interpretation argues that the aforementioned issues had a tremendous impact on airpower doctrine. The best example of this interpretation is Philip Meilinger’s *Air War: Theory and Practice* (2003). In *Air War*, Philip Meilinger argues that the various incarnations of the U.S. Army’s air arm were able to move forward during the interwar years by focusing on the production of airframes that they argued could serve both military and commercial purposes. Consequently, Meilinger argues that American airpower doctrine was largely shaped by the types of airplanes most likely to receive support from the commercial airline industry. Furthermore, Meilinger maintains that high-performance aircraft were not potentially dual-use and, thus, received a low-priority prior to the outbreak of World War II. He concludes that such considerations further supported the airpower doctrine being developed in the interwar period that increasingly focused on strategic bombardment aircraft without the support of high-performance escort fighters.

The Role of Airpower: The U.S. Military and Defense Policy Prior to World War II

One interpretation argues the interwar period was a difficult time for the American military, yet one that fostered the development of the U.S. Army Air Corps. Scholars that support this interpretation contend the political climate of the 1920s and 1930s created an environment that made it difficult for the U.S. armed services to achieve the maximum level of readiness with regard to their wartime mission. However, these authors also maintain that the

U.S. military, particularly the U.S. Air Corps, used new weapons and technology to perform their traditional missions despite the many obstacles they faced. Furthermore, these scholars contend that the Air Corps was able to gain increased independence during the period largely due to public support and congressional lobbying. Examples of this viewpoint include Ronald Spector's "The Military Effectiveness of the US Armed Forces, 1919-1939" (1988) and Philip Meilinger's *Air War: Theory and Practice* (2003). In "The Military Effectiveness of the US Armed Forces, 1919-1939," Spector argues that a prevailing mood of isolationism kept military expenditures to a minimum during the interwar years. Yet, Spector contends that the Air Corps managed to gain increased importance during the period as evidenced by the fact that "no less than fifteen different government boards and committees were established to wrestle with the question of the proper role and organization of aviation in the nation's defense establishment" between 1919 and 1935.

Another interpretation argues that internal problems sapped the U.S. Army's preparedness during the interwar period. In particular, these authors contend that competition between the U.S. Army and its aviation branch for resources and importance prior to World War II inhibited the preparedness of both groups. Examples of this interpretation are David E. Johnson's "From Frontier Constabulary to Modern Army: The U.S. Army between the World Wars" (2000) and *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917-1945* (1998). In "From Frontier Constabulary to Modern Army," Johnson argues that the U.S. Army experienced "severe resource constraints" during the 1920s and 1930s. However, Johnson contends that "intellectual and institutional defects" were the most significant challenges the U.S. Army faced during the period. Johnson maintains that the debate surrounding military aviation, which was one of the most contentious issues of the interwar years, is indicative of the U.S.

Army's internal deficiencies during the period. According to Johnson, aviation divided the U.S. Army "between those who saw technology as a way to revolutionize warfare and those who clung to the past and saw machines merely as a means to improve existing concepts." Johnson concludes that greater resources wouldn't have resolved the internal problems the U.S. Army struggled with prior to World War II. Instead, Johnson maintains that more resources would only have resulted in increased competition between the U.S. Army and the U.S.A.A.C.

A third interpretation contends that Army policy became more accepting of airpower as World War II neared, with the air arm gaining increased autonomy which each passing year. However, these works also argue that airpower did not truly have widespread support until the end of World War II. Examples of this interpretation are Chase C. Mooney's *Organization of the Army Air Arm, 1935-1945* (1956), Monro MacCloskey's *The United States Air Force* (1967), James P. Tate's *The Army and Its Air Corps: Army Policy toward Aviation, 1919-1941* (1998), and Williamson Murray's "Strategic Bombing: The British, American, and German experiences" (1996). In *Organization of the Army Air Arm*, Mooney contends that the 1935-1945 period was vital to establishing the long-held goal of airpower proponents who hoped to gain a degree of autonomy within the U.S. War Department. However, Mooney argues that an independent "air arm" was simply seen as unfeasible by the majority of American civilian and military leaders prior to the end of World War II. According to Mooney, most opponents of a separate air force argued that airpower should be used as an auxiliary rather than a service on equal footing with the Army and Navy. Yet, Mooney concludes that it took the immense challenges of World War II and the corresponding expansion of U.S.A.A.F. bureaucracy to secure an independent air force. Similarly, in *The Army and its Air Corps*, Tate argues that proponents of airpower had little influence "among ranking military men" and government officials during the interwar years

as a result of the relatively low-level of priority placed on aviation until the outbreak of World War II in Europe. Consequently, Tate contends that airpower advocates turned to Congressional hearings and public demonstrations of aircraft in an attempt to gain increased influence with regard to defense spending. Tate maintains that despite their best efforts, airpower proponents were unable to gain the level of support they sought prior to World War II. According to Tate, the circumstances airpower supporters found themselves in created a “persecution complex” among many in the Army’s aviation branch who argued that the Army bureaucracy was “hostile” with regard to airpower. However, Tate contends that Army officials were simply more cautious in their approach than airpower advocates who often argued their case to the point of insubordination.

Another interpretation contends that the Army and Navy clashed frequently during the interwar period as a result of tensions created by how best to utilize American aviation assets. Examples of this interpretation are Vincent Davis’s *The Admirals Lobby* (1967), Ronald Spector’s “The Military Effectiveness of the US Armed Force, 1919-1939” (1988), and William F. Trimble’s *Admiral William A. Moffett, Architect of Naval Aviation* (1994). In *The Admirals Lobby*, Davis argues that the airplane created a number of problems for the Navy, especially after Billy Mitchell’s successful bombing experiments and the publication of his seminal work, *Winged Defense*. Davis contends that one of the most pressing problems was the fact that the airplane “created a need for new professional specialists in the making of national security policy: scientists, engineers, researchers—in brief, the technicians.” However, Davis maintains that the Navy was both at odds with Mitchell, who wanted all American aviation assets placed in one service, and Navy aviators who wanted increased autonomy within their particular branch of the military. Davis argues that Navy leadership eventually sided with the naval aviators because

they hoped to “thwart” Mitchell’s efforts. Furthermore, Davis contends that the establishment of the Navy’s Bureau of Aeronautics headed by Rear Admiral William A. Moffett was not indicative of an upsurge of aviation enthusiasm. In fact, Davis maintains that most naval officers failed to appreciate the “military significance of the airplane” during the interwar period.

What Is Left?

Although the history of early American military air power has been covered extensively, there remains much to be done with regard to explaining the motivations of the airmen who fought to achieve independence from the U.S. Army. Many historians have tried to explain why airmen sought to separate from the U.S. Army, but few have tried to uncover the origins of that desire. This dissertation will describe when and how the idea of a separate air arm originated. It will help students of history, particularly air power history, understand that airmen’s push for independence was present at the genesis American military air power. It will then trace the development of that effort throughout the decades that followed. Most importantly, it will show that, despite the efforts of the U.S. Army, the War Department, and the U.S. Congress, to increase the size of the air arm, airmen were not satisfied until they had achieved independence.

Chapter 1 - A Struggle for Survival: American Airmen Began their Fight for Independence

Airmen's desire for control over their own service began from nearly the start. Faced with military and civilian leaders who did not understand aviation, which was still in its infancy at the time, American military airmen believed that that had to gain control over their own destiny to the greatest extent that they could. This chapter tracks the development of that desire between 1907 and the United States' entry into World War I in April of 1917.

Prior to the outbreak of the World War I, most military and civilian leaders in the United States viewed aviation as nothing more than an auxiliary force that, only under the best of circumstances, could provide anything of value to military forces.⁸ The primary reason for this was that military and civilian leaders in the U.S. simply did not have much knowledge of aviation. Fewer still had any interest in a fledgling technology that had not been proven in combat.

The lack of knowledge and interest on the part of senior military leaders and members of the U.S. Congress caused the Aeronautical Division of the U.S. Signal Corps, which the U.S. Army established in 1907, to develop slowly in the years prior to World War I. The men of the Aeronautical Division tried desperately to change the situation by testifying before Congress, demonstrating their skills during public demonstrations and military exercises, and working to improve the capabilities of both themselves and their aircraft.

⁸ The United States Army treated military aviation as something of a sideshow from its inception during the American Civil War. During that divisive and bloody conflict, the Union Army Balloon Corps and the Confederate Balloon Corps endeavored to provide their respective commanders with another viewpoint of the battlefield below them. However, too few commanders fully took advantage of the new technology. As a result, the use of balloons to aid U.S. military operations quickly fell by the wayside. Rebecca Robbins Raines, *Getting the Message Through: A Branch History of the U.S. Army Signal Corps*, p. 165.

In spite of their efforts, the men of the Aeronautical Division all too often failed to generate the enthusiasm and interest they desired. As a result of the constant struggle they faced, the energetic aviators in the Aeronautical Division became increasingly agitated with their superiors in the U.S. Army and their civilian representatives in Congress. That frustration led many of the aviators to develop an aggressive, almost insubordinate, attitude towards their leaders who they believed did not appreciate air power.

The belief that they were being neglected continued to grow year after year as the men in the Aeronautical Division watched as the War Department provided their service with negligible manpower and insufficient budgets in the years before World War I. In spite of such treatment, these airmen continued to push for a strong air force. They did not let others lack of foresight or imagination deter them from their goal. Confident that they could develop air power into a powerful military weapon, these adventurous airmen pushed harder when others may have quit. They were determined to succeed because they believed in the potential of air power.

The Dawn of United States Air Power

United States military aviation at the beginning of the twentieth century consisted entirely of the few balloons in service with the United States Army Signal Corps. Although United States Army soldiers and their Confederate counterparts had used balloons for observation and reconnaissance during the American Civil War, very few advancements in aviation occurred between the end of the war in 1865 and the start of the twentieth century. A number of factors, including low defense budgets, led the U.S. military to shelve further advancements in aviation. As a result, the U.S. military had almost no aviation assets upon which to build and few officers or men schooled in the principles or practices of lighter-than-air flight. And, more importantly, the U.S. military had little interest in aviation throughout the period in question.

For the most part, the U.S. military's lack of interest in aviation did not hamper U.S. military actions during the latter half of the nineteenth century. However, this indifference proved to be a significant problem in the decade prior to World War I as the leaders U.S. military quickly found their service's aviation capabilities far behind those of both friendly and belligerent European nations. While somewhat understandable given the limited capabilities of the aircraft then in use, the lack of vision among U.S. military leaders hampered the development of U.S. military aviation at a critical moment in world history. Worse still, many U.S. military leaders not only lacked interest in aviation; they couldn't conceive of how balloons or aircraft would benefit their respective services. Their lack of imagination portended the difficult struggle that American airmen faced in the decades that followed.

The Wright Brothers

Experiments with lighter-than-air flight had a long history but heavier-than-air flight only began to gain momentum by the beginning of the twentieth century. All that changed when, on December 17, 1903, Orville and Wilbur Wright achieved controlled flight in their Wright Flyer I aircraft. While low-powered and difficult to control, the Wright's aircraft sparked the imagination of forward-thinking men and women around the world. Some of those individuals served in the United States military. In the years that followed the Wrights flight, many of those young airmen devoted their military careers and, sometimes, their lives, to create the United States military's first air force.⁹

Although the Wright brothers' flight proved that heavier-than-air flight was possible, it did not alter the fact that such flight was extremely difficult to achieve and to maintain. In fact,

⁹ Bernard C. Nalty, editor, *Winged Shield, Winged Sword: A History of the USAF*. (Washington, D.C.: Air Force History and Museum Programs, 1997), p. 7.

on the first flight, Orville piloted the Wright Flyer at 6.8 miles per hour (MPH) over a distance of approximately 120 feet. Subsequent flights extended the distance of the first but remained limited in duration. The Wrights slowly and steadily improved upon their aircraft's performance over the next two years. However, they soon decided that such tests had to stop so that they could concentrate on obtaining the financial support they desperately needed in order to build more aircraft.¹⁰

To further increase the chances of long-term success for their efforts, the Wrights composed letters to William H. Taft, U.S. Secretary of War, and Brigadier General Adolphus W. Greely, the Chief Signal Officer of the U.S. Army, hoping to secure orders for Wright Flyers. Both Taft and Greely initially showed little interest in the Wrights' aircraft, which many regarded as little more than a novelty with limited military potential. Most people in the government and in the military argued that the Wrights' aircraft could not fly very far, was relatively fragile, and did not have any weapons. Undaunted, the Wrights lobbied the governments of France, Germany, and Great Britain in the hope that the Europeans would be willing to take a chance on their new invention.¹¹

The Wrights received numerous enthusiastic letters from various groups in Europe that were interested in aviation, which led them to make their first trip outside the U.S. in 1907. To stoke interest in aviation abroad, the Wrights disassembled, crated, and shipped a recently constructed Wright Model A Flyer to France. The Wrights' trip to Europe quickly proved to be a

¹⁰ Nalty, *Winged Sword, Winged Shield*, pp. 7-10.

¹¹ Fred Howard, *Wilbur And Orville: A Biography of the Wright Brothers* (Mineola: Dover Publications, Inc., 1998), pp. 258-260.

boon for the two ambitious brothers because it exposed them to a military man who helped them attain their goal.

While in France, a fortuitous meeting occurred between Wilbur and Lieutenant Frank P. Lahm of the U.S. Army's Aeronautical Division, then part of the Office of the Chief Signal Officer (OCSO).¹² Lahm, who was in France observing recent French aviation developments, was extremely impressed by Wilbur. Still recovering from typhoid, Lahm wrote to his superior Brigadier General James Allen, the U.S. Army's Chief Signal Officer (CSO). Lahm pleaded with Allen, who sat on the U.S. Army's Board of Ordnance and Fortification in Washington D.C., to allow the Wrights to address the board following their return to the U.S.¹³

Allen, who had created the Aeronautical Division on August 1, 1907 as a result of "interest expressed by President Roosevelt," was hesitant to grant Lahm's request. On October 10, 1907, Allen addressed the potential for military aircraft in a letter to the Board of Ordnance and Fortification. Allen, who favored dirigibles over airplanes, stated: "The military uses of a flying machine of any type will be only for purposes of observation and reconnaissance, or, as an offensive weapon, to drop explosives on the enemy." But Allen then contradicted himself, saying that, "For the purpose of dropping explosives on an enemy, a high speed airplane is hardly suitable...."¹⁴

¹² On August 1, 1907, Brigadier General James Allen, the Chief Signal Officer, issued "Office Memorandum No. 6." Allen stated: "An Aeronautical Division of this office is hereby established, to take effect this date. This division will have charge of all matters pertaining to military ballooning, air machines, and all kindred subjects. All data on hand will be carefully classified and plans perfected for future tests and experiments." Captain Charles DeForest Chandler served as the first head (Office in Charge) of the Aeronautical Division. Other personnel included Corporal Edward Ward and First-class Private Joseph E. Barrett. Juliette Hennessy, *The United States Army Air Arm, April 1861 to April 1917* (Washington, D.C.: USAF Historical Study No. 98., 1958), p. 217.

¹³ Fred Howard, *Wilbur and Orville: A Biography of the Wright Brothers* (Dover, 1988), p. 230.

¹⁴ Robert F. Futrell, *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1965* (Maxwell AFB, Alabama: Air University Press, 1974), p. 8.

On December 5, 1907, the members of the Board of Ordnance and Fortification directed Allen to acquire an airplane for the Aeronautical Division. Within days, the Signal Corps issued Specification Number 486 which solicited bids for the construction of an airplane under military contract.¹⁵ The Wrights wasted little time, submitting their bid for the U.S. Army contract in January 1908. The Signal Corps accepted three bids, including the Wrights' bid, which required them to build one aircraft within 200 days for no more than \$25,000.¹⁶

Despite the positive step that the bids represented, the Signal Corps faced a significant problem because the U.S. Army lacked enough money from regular budget appropriations to fund the three bids the Signal Corps had accepted. To ensure that the Signal Corps would receive the aircraft under contract, Lahm, Captain Charles D. Chandler, and General Allen explained their predicament to U.S. President Theodore Roosevelt. Roosevelt, who had all but ordered Allen to establish an Aeronautical Division within the Signal Corps, personally helped to procure the funds that General Allen needed to fulfill the three contracts.¹⁷

Soon after securing the contract with the U.S. Army, Wilbur Wright traveled to France to further expand the market for their airplanes. The flying skills of French aviators had progressed since Wright's visit the year before. However, Wilbur's command of the Wright Flyer proved that America continued to have the best pilots and the best airplanes in the world. On August 14, 1908, Wilbur flew at Le Mans, France. Ferdinand Léon Delagrange, one of the top French aviators at the time, was so impressed by Wright's piloting that he reportedly exclaimed: "*Nous*

¹⁵ Hennessy, *The United States Army Air Arm*, p. 27.

¹⁶ The sum of \$25,000 in 1908 equated to approximately \$625,000 in 2013.

¹⁷ Hennessy, *The United States Army Air Arm*, p. 27.

sommes battus” [“We are beaten”].¹⁸ Similarly, a member of the *Aero Club de France* argued that “*par rapport aux Wrights nous sommes comme des enfants*” [“compared with the Wrights we are as children.”].¹⁹

Wilbur Wright’s visit to France was primarily intended to secure orders for Wright aircraft. Yet, it did more than that, it dramatically altered the course of French aviation. Completing more than 100 flights while in France in during his 1908 trip, Wilbur demonstrated again and again that his piloting abilities far surpassed those of his French contemporaries. To their credit, many French aviators soon redoubled their efforts in order to prove that Frenchmen could compete with their American colleagues. On 30 October 1908, just shortly after Wilbur returned to the U.S., Henri Farman completed a non-stop 27 kilometer flight from Châlons, France, to Reims, France.²⁰

Wilbur’s actions in France also sparked the interest of businessman, government officials, and military personnel from France, Great Britain, Italy, Germany, and Spain who had witnessed one or more of his flights. One of the most positive accounts of Wilbur’s impact on European aviation came from Major B.F.S. Baden-Powell, the president of the Aeronautical Society of Great Britain. After witnessing one of Wilbur’s flights, Major Baden-Powell stated:

If only some of our people in England could see or imagine what Mr. Wright is now doing I am certain it would give them a terrible shock. A conquest of the air by any nation means more than the average man is willing to admit or even think about. Wilbur Wright is in possession of a power which controls the fate of nations is beyond dispute.²¹

¹⁸ Staff, “French impressed by Wright brothers' flying machine,” *The Guardian*, August 14, 1908; On January 7 1909, Delagrange received one of the first eight aviator certificates awarded by the *Aero Club de France*. *Aero Club de France, Flight*, February 4, 1911.

¹⁹ Basil Collier, *A History of Air Power*, (MacMillan Publishing Company, 1974), pp. 35-36.

²⁰ John Buckley, *Air Power in the Age of Total War*, (Bloomington and Indianapolis: Indiana University Press, 1999), p. 30.

²¹ Staff, *New York Herald* (Paris Edition), October 6, 1908.

Ultimately, Wilbur's visit to France was important because it increased many Europeans' enthusiasm for aviation at a critical time. His visit gained the attention of many European political and military leaders who had witnessed his flights. Those individuals, who included Leon Bollee, Henri Farman, Charles Rolls, Princess Margherita of Savoy, and King Edward VII of Great Britain, spread interest in aviation throughout their respective nations.²²

As the Europeans worked to build their own aviation industries, the Wright brothers began the first flight trials for the U.S. military. On September 9, 1908, the Wilbur and Orville brought the 1908 Wright Flyer to Fort Myer, Virginia, for long-anticipated flight trials. Frank Lahm, who had a great deal of familiarity with aviation, became the first U.S. military member to fly in a powered airplane when he accompanied Orville on the second trial flight of the day. Although the flight only lasted six minutes and 24 seconds, it demonstrated to those present that more tests were worth undertaking.²³

The trials at Fort Myer continued for several days without much incident until September 17, 1908. Early that morning, Lieutenant Thomas E. Selfridge accompanied Orville on a test flight.²⁴ Shortly into the flight, the Wright Flyer's propeller splintered, causing the then unpowered aircraft to plummet to the ground.²⁵ The crash caused grievous injuries to both

²² Fred C. Kelley, *The Wright Brothers*, (Courier Corporation, 2012), pp. 233-253.

²³ Foulois and Shiner, *From the Wright Brothers to the Astronauts*, p. 56-58.

²⁴ Lieutenant Selfridge was an experienced pilot at the time of the Fort Myers tests. He had joined the Signal Corps on August 3, 1907, and earned his FAI airship license in August 1908. He had designed aircraft built by Dr. Alexander Graham Bell's Aerial Experiment Association. Selfridge also piloted Thomas Baldwin's "White Wing" aircraft. Rebecca Hancock Cameron, *Training to Fly: Military Flight Testing, 1907-1945*, (Washington, D.C.: Air Force History and Museums Program, 1999), p. 17.

²⁵ John F. Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935* (Washington, D.C.: Office of Air Force History, 1983), p. 2.

Orville and Selfridge, neither of whom had safety equipment of any kind. After falling from an altitude of approximately 75 feet, both Orville and Selfridge found themselves pinned in the shattered wood, canvas, and wire wreckage of the Wright Flyer. Orville retained consciousness but was covered in blood and was in severe pain. Selfridge, on the other hand, was unconscious with a large head wound clearly visible to those who rushed to his aid. Several men who witnessed the crash worked feverishly to free both men before subsequently rushing them to the nearest hospital. Doctors tried to save Selfridge but the head trauma, which included a badly fractured skull, was too great for them to prevail. Orville had a broken left leg, broken ribs, cuts on his head, and minor cuts and bruises over most of his body. The injuries forced the usually energetic Orville to take a brief break from flying.²⁶

Selfridge's death at Fort Myer deeply saddened everyone involved but it did not derail the U.S. military's preliminary interest in aviation despite the fact that Selfridge was the first U.S. military aviator to die from injuries caused by an airplane accident.²⁷ Nor were the Wrights dissuaded by the deadly accident, which was also the first accident involving one of them that resulted in a fatality. In fact, the event persuaded Orville, who took months to recover from the injuries he sustained in the crash, to push the Wright Flyer even harder in order to show the Army that it was safe, reliable, and capable.²⁸ However, both Orville and Wilbur were careful not to take any unnecessary risks that might jeopardize themselves, their passengers, or their

²⁶ Foulois and Shiner, *From the Wright Brothers to the Astronauts*, p. 56-58.

²⁷ Historian Rebecca Cameron argues that Selfridge's death "landed a particular blow to the new enterprise. The Army had no other officer with Selfridge's experience in heavier-than-air flight." Rebecca Cameron, *Training to Fly*, p. 19.

²⁸ Selfridge intended to join Foulois during U.S. Army maneuvers near St. Joseph, Missouri. Orville sustained serious injuries in the crash, which caused him to be trapped under the splintered pieces of the airplane. Staff, "Fatal Fall of Wright Airship," *The New York Times*, September 18, 1908.

aircraft, because they feared that another incident might convince U.S. Army leaders that aviation was far too dangerous to explore further.²⁹

The second round of U.S. Army trials began on June 28, 1909. Several of the politicians, who included U.S. President William Howard Taft, and many of the Army officers in attendance did not fully understand or appreciate the Wrights' methodical and cautious approach to flight throughout the trials. Only willing to fly under the best weather conditions, the Wrights were not afraid to cancel a scheduled flight if either the aircraft or the weather were not exactly to their liking. Frank Lahm, one of the participants in the trials, stated: "Flights were made only in light winds, and while large crowds and high officials were often disappointed, the Wrights were adamant in their decision not to fly unless conditions were just right."³⁰ In fact, the Wrights waited on perfect conditions for nearly one full month.

Such caution helped ensure the safety of both the aircraft and the pilots. However, as Lahm mentioned above, some of the officials attending the trials were rather annoyed when the Wrights cancelled a scheduled flight. Having taken time out of their schedules to witness the trials, the officials did not appreciate having to leave without seeing the Wrights fly their airplane. The commander of Fort Myer was equally annoyed with the Wrights because their airplane generated a lot of noise, which scared the horses stationed at the post.³¹

²⁹ The Wright brothers initially wanted to conduct the trials without any passengers, but U.S. Army officials insisted that Lieutenant Selfridge participate in the flight. Thus, his death was especially troublesome for the Wrights. They knew that another accident might jeopardize their effort to sell aircraft to the U.S. Army. Paul W. Clark and Laurence A. Lyons, *George Owen Squier: U.S. Army Major General, Inventor, Aviation Pioneer, and Founder of Muzak* (Jefferson, North Carolina: McFarland and Company, Inc., Publishers, 2014), p. 89.

³⁰ Frank, Lahm, "The Wrights as I Knew Them," *Air Force*, March 15, 1939, p. 3.

³¹ Benjamin Shaw, "The Wright Brothers Prove Their Worth in Arlington and College Park," *weta.org*, August 26, 2015.

After a series of delays, Orville completed the first flights of the new trials on July 27, 1909, with Lahm serving as the passenger throughout the flight. The two men remained aloft for nearly one hour and thirteen minutes, thereby surpassing the endurance benchmark that the U.S. Army had set in the requirements for the new airplane. Several days later, on July 30, 1909, Orville completed a speed test with Lieutenant Benjamin Foulois along for the flight. On that flight the two men maintained an average speed of 42 miles per hour, which surpassed the Army's speed requirement by two miles per hour.³²

The successful trials appeased those who had waited to see the Wrights fly. More importantly, the trials demonstrated that the Wrights' aircraft could meet the U.S. Army's requirements, which included flying at 40 miles per hours, carrying a total passenger weight of 350 pounds, maneuvering in any direction while airborne, landing without damage, and remaining airborne for at least one hour without stopping.³³

In spite of the positive outcome of the trials, the Signal Corps faced a serious problem that could not be resolved quickly. Specifically, although the men of the Signal Corps now had their first aircraft, they had few officers trained to fly and no school in place to train new aviators. Frustrated by the situation, General Allen asserted: "One thing that has kept back both dirigible balloons and aeroplanes is the fact that there has been no market for them and also that there has been no place where aviators could practice their art."³⁴

The situation was somewhat different in France where interest in and enthusiasm for aviation had exploded following Wilbur's visit in 1908. One prominent example of the

³² David R. Chenoweth, "Testing the Military Flyer at Fort Myer, 1908-1909," *CORE Scholar*, September 28, 2001.

³³ Hennessy, *The United States Army Air Arm*, pp. 33-34.

³⁴ Quoted in Cameron, *Training to Fly*, p. 22.

difference between what was happening in the U.S. and what occurred in France came on July 25, 1909. Early that morning, Louis Blériot sat behind the controls of his Blériot XI monoplane and took off toward the coast of England. Roughly 36 minutes later, the brave French aviator landed at the coastal town of Dover. The flight, which made news around the world, catapulted Blériot into instant fame.³⁵ More importantly, his flight proved that the English Channel was no longer the buffer zone that it had once been. After hearing of the accomplishment, the influential Alfred Charles William Harmsworth (1st Viscount Northcliffe), the owner of both the *Daily Mirror* and *Daily Mail*, remarked that “England is no longer an island.”³⁶

Another important event that spurred European aviation forward occurred one month later. From August 22, 1909 to August 29, 1909, many of the best aviators in the world attended the *Le Grande Semaine D'Aviation de la Champagne* (The Champagne Region's Great Aviation Week), on the Bétheny plains near Reims, France. A total of 23 aviators, including Glenn Curtiss, Henri Farman, and Louis Blériot, flew during the event which was attended by an estimated 500,000 visitors from around the globe.³⁷ The success of the event caught the attention of many of the politicians and military leaders who witnessed the event. One of them, Englishman David Lloyd George, maintained that the meet had proven to him that “flying machines are no longer toys and dreams...they are an established fact.”³⁸

³⁵ Nicola Clark, “100 Years Later: Celebrating a Historic Flight in Europe,” *The New York Times*, July 24, 2009.

³⁶ Quoted in Buckley, *Air Power in the Age of Total War*, p. 34.

³⁷ Aero Club de France, “Reims Aviation Week: The First Day,” *Flight*, August 28, 1909.

³⁸ Justin D. Murphy, *Military Aircraft, Origins to 1918: An Illustrated History of Their Impact* (ABC-CLIO, 2005), p. 33. In 1909, the British Committee on Imperial Defense (CID) concluded that airplanes did not pose a significant risk to Great Britain. The CID maintained that no “civilized nation” would attack another nation in such an uncivilized manner. John Buckley, *Airpower in the Age of Total War*, pp. 34-35.

As the *Le Grand Semaine d'Aviation de la Champagne* helped generate enthusiasm for aviation throughout Europe, General Allen ordered his men to look for a place to build the U.S. Army's first aviation school. Allen, who believed that the Aeronautical Division could not expand without a dedicated school, tasked Lahm to find land suitable for flying training. Lahm hoped to use the parade ground on Fort Myer, but the installation's commandant would not allow it on the grounds that it would interfere with the training of U.S. Army ground units.³⁹ The Wright brothers also rejected Fort Myer, arguing that the parade ground was too small to use in properly teaching new aviators.⁴⁰

Since Fort Myer proved to be an untenable option, Lieutenant Lahm began searching for another location near Washington, D.C. After a brief series of searches using a hot air balloon, Lahm recommended that the Signal Corps lease a large amount of land—approximately 160 acres—near College Park, Maryland. Lahm argued that College Park was an excellent option because it had land that could easily be used for flying operations. Furthermore, College Park was close enough to Washington, D.C. to allow for quick visits from military and government officials. General Allen agreed to lease the land in September 1909. Within days, engineers had constructed a single hangar and the monorail track required to launch the skid-equipped Wright Flyer.⁴¹

General Allen then chose Lieutenant Foulois and Lieutenant Lahm as the first two officers to train at the new aviation school at College Park. Both men had a great deal of enthusiasm for aviation. In addition, both men had demonstrated their bravery and aptitude for

³⁹ Cameron, *Training to Fly*, pp. 18-21.

⁴⁰ *Ibid.*, p. 22.

⁴¹ *Ibid.*, p. 22.

flight training by accompanying the Wright brothers on several flights. However, shortly before the Wrights arrived at College Park, General Allen ordered Foulois to attend the International Congress of Aeronautics at Nancy, France as the Signal Corps' representative. With Foulois on his way to France, Allen picked Lieutenant Frederic Humphreys to train with Lahm and the Wright brothers.⁴²

The school at College Park proved to be important because it was the U.S. Army's first step toward aviation training. More importantly, it demonstrated that the Aeronautical Division was intent on expanding beyond a single aircraft and a handful of men. However, the cold fall and winter weather in Maryland made flying at College Park rather uncomfortable in the latter part of 1909. As a result, Lieutenant Foulois, who had returned to the U.S. in early November 1909, and several enlisted men from the Aeronautical Division relocated to Fort Sam Houston in San Antonio, Texas.

The move to Texas was both a blessing and a curse for the men of the Aeronautical Division. The warm and dry weather in Texas allowed for year-round flying, which was what the airmen desired. However, its distance from Washington, D.C. meant that first-hand demonstrations for distinguished civilian and military visitors was less likely to take place. Although many of the aviators saw that as a positive, they were out of sight, which meant that they were also out of mind.

⁴²Upon arriving at College Park, Wilbur and his two trainees rented a room to stay in during the duration of the training, which started on October 8, 1909. Lahm, who had flown with the Wrights twice before, became the Aeronautical Division's first student pilot when he accompanied Wilbur on the first training flight conducted at College Park. A short time later, Humphrey accompanied Wilbur on the second and final flight on the day. During the training flights, the budding aviators learned to use the aircraft's elevator and throttle to achieve lift. Both Humphrey and Lahm proved to be quick pupils, each completing his first solo flight on October 26, 1909. Thereafter, the two men either flew solo or together for the remainder of their time at College Park. Cameron, *Training to Fly*, pp. 22-23.

In spite of the potential problems associated with being so far from Washington, D.C., Foulois and his men made great strides. Three months after they arrived in Texas, in February 1910, they constructed a hangar to house Signal Corps Airplane Number 1, the Aeronautical Division's sole airplane.⁴³ Less than one month after arriving, Foulois completed his first solo flight in an airplane. Over the next seven months, Foulois spent a total of nine hours in the air over the course of 61 solo flights. Throughout that period, Foulois and the Wright brothers exchanged letters regarding Foulois's flights. Foulois would write a detailed explanation of each flight that included the duration of the flight, the highest altitude he reached, and any problems that he faced during the flight. The Wright brothers responded with tips for Foulois to follow on subsequent flights.⁴⁴

During those seven months of flying training, one of the biggest issues that Foulois and his men needed to solve concerned the airplane's ability to land and take off. The Wright Model A required the use of a catapult to launch the airplane from a single rail secured to the ground. The system worked well, but the airplane could not take off without using the system. To remedy the problem, Lieutenant Foulois, Corporal Glen Madole, and civilian mechanic Oliver Simmons worked together to design a tricycle landing gear. The crude apparatus worked but they quickly replaced it with a more substantial system that the Wrights had designed.⁴⁵

In late September 1910, Foulois briefly halted his training so that he could participate in the International Aviation Meet held at Belmont Park on Long Island, New York, the following

⁴³ The enlisted men who accompanied Foulois included Sergeant Stephen Idzorek, Sergeant Herbert Marcus, Corporal Vernon Burge, Corporal Glen Madole, Private William Abolin, Private R.W. Brown, and Private Felix Corke. Hennessy, *The U.S. Army Air Arm*, p. 39.

⁴⁴ Hennessy, *The U.S. Army Air Arm*, p. 39; Benjamin D. Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, pp. 73-75.

⁴⁵ Benjamin D. Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, p. 76.

month. In November 1910, Foulois attended another aviation meet held in Baltimore, Maryland. Foulois asserted that attending such events was critical because it allowed him to meet other aviators and witness aviation innovations firsthand. He also argued that participating in the events was important because they increased the visibility of U.S. Army aviation among those in attendance, as well as those who read newspaper coverage of the events.⁴⁶

The efforts that Foulois and his men put forth to increase interest in aviation did little to sway a largely uninterested U.S. Congress. Few Congressmen had much interest in providing more funds or other resources to further military aviation. For the most part, they had little exposure to aviation. In addition, the airplanes in use at the time had limited capabilities. As a result, Congressmen simply did not view the airplane as a military weapon of much potential. Foulois, exasperated by the lack of interest among America's elected representatives, stated that one confused Congressman had responded to General Allen's request for more airplanes by saying: "Why all this fuss about airplanes for the Army? I thought we already had one!"⁴⁷

The lack of support and understanding in Congress ultimately kept the Aeronautical Division from expanding. Largely unaware of the flying advances that Foulois and his men were making in Texas, Congress failed to provide the Aeronautical Division with a budget of any significance. In both fiscal years 1908 and 1909, Congress had not appropriated any money at all for the Aeronautical Division. General Allen tried to intercede on the Aeronautical Division's behalf by requesting approximately \$200,000 for fiscal year 1910 but Congress did not provide any appropriation yet again. Foulois later maintained that civilian and military leaders in the

⁴⁶ Benjamin D. Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, pp. 76-78.

⁴⁷ Foulois explained that a number of important advances happened in 1910. That year the world speed record for airplanes increased by roughly 50 percent (60 miles per hour). In addition, the altitude record increased to 8,692 feet while the non-stop flying record increased to 244 miles. *Ibid.*, p. 78.

War Department simply “ignored” General Allen’s annual report and his request for more money.⁴⁸

The Aeronautical Division’s budget woes blocked the service’s ability to expand. Yet, in Great Britain, powerful men with influence helped British military aviation expand rapidly. Lord Northcliffe, who witnessed the flying at Reims firsthand, championed the merits of aviation via his newspapers the *Daily Mail* and the *Daily Mirror*. His efforts, as well as those of others, resulted in the Aerial League of the British Empire. Established in 1909, the Aerial League worked to advance aviation in both British civil and military sectors. Their efforts paid great dividends in relatively short order. For example, in 1909 the British spent approximately £9,000 on aviation. By 1911, British aviation expenditures had climbed to £131,000.⁴⁹

Unlike their British counterparts, the men of the Aeronautical Division had to do whatever they could to survive since Congress and the War Department would not provide them with funding. The Aeronautical Division’s lack of funds all but forced Foulois to use his personnel funds to purchase the equipment and supplies that they needed to maintain the U.S. Army’s lone aircraft. General Allen gave the Aeronautical Division \$150 from the Signal Corps’ budget to help fuel and maintain that airplane but that amount could not do much to satisfy the need for more aircraft.⁵⁰ As a result, private investors, including Robert F. Collier, owner of *Collier’s* magazine, aided the Aeronautical Division’s efforts. In early 1911, Collier purchased a

⁴⁸ Charles Chandler and Frank Lahm, *How Our Army Grew Wings: Airmen and Aircraft Before 1914* (The Ronald Press Company, 1943), p. 182.

⁴⁹ John H. Morrow, Jr. *The Great War in the Air: Military Aviation from 1909-1921* (Tuscaloosa, Alabama: The University of Alabama Press, 1993), p. 22.

⁵⁰ Benjamin D. Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, p. 75.

1910 Wright Type B that he rented to the Aeronautical Division for the small sum of one dollar per month. Foulois took delivery of the airplane on February 21, 1911.⁵¹

There is no clear evidence to indicate that the delivery of Collier's airplane had any effect on the members of Congress. However, what is certain is that Congress voted to provide the Aeronautical Division with an appropriation of \$125,000 for fiscal year 1912 on March 3, 1911. Although the amount was \$75,000 less than General Allen had asked for each fiscal year from 1908 through 1911, the appropriation was significant. Foulois, in particular, was pleased that Congress finally seemed to understand that aviation was worth some investment.⁵²

The Aeronautical Division quickly bought three Wright Model B airplanes and two Curtiss airplanes at approximately \$5,000 each.⁵³ The first two of the new aircraft, Signal Corps Airplane Number 2 (S.C. No. 2) and Signal Corps Airplane Number 3 (S.C. No. 3), arrived at Fort Sam Houston in April 1911. The arrival of the new airplanes was particularly important because it allowed the Aeronautical Division to fly more sorties than ever before, which meant that the service could also train more pilots. In addition, both the Wright brothers and Curtiss sent instructor pilots to help Foulois and the student pilots better understand and deal with the unique characteristics of each airplane.⁵⁴

⁵¹ Hennessy, *The United States Army Air Arm*, pp. 39-42.

⁵² Foulois and Glines, *From the Wright Brothers to the Astronaut* (New York: McGraw-Hill, 1968), pp. 84-85.

⁵³ Congress appropriated \$25,000 for U.S. Navy on March 3, 1911. The Navy used the appropriation to buy the service's first three airplanes. In addition, the Aeronautical Division decided to retire Signal Corps Airplane Number 1 after the Wrights explained that it was outdated. The Wrights then suggested that the Aeronautical Division give the airplane to the Smithsonian Institution for display. The U.S. War Department approved the transaction on May 4, 1911. Hennessy, *The U.S. Army Air Arm*, pp. 41-42; Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 84-85.

⁵⁴ Chandler and Lahm, *How Our Army Grew Wings*, p. 188; Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 82.

The flying training at Fort Sam Houston ended when a serious accident occurred on May 10, 1911. On that day, Lieutenant G.E.M. Kelly crashed S.C. No. 2 when attempting to land at the end of his primary pilot qualification flight. Witnesses stated that Kelly came in far too fast for the landing and failed to get the airplane level to the ground in time to land properly. Consequently, one of the front wheels of S.C. No. 2 hit the ground, causing the airplane to twist violently to one side. The impact of the crash threw Kelly from the airplane, badly fracturing his skull. He died several hours later at the hospital on Fort Sam Houston.⁵⁵

Kelly's crash had repercussions for the Aeronautical Division, especially the men stationed at Fort Sam Houston. To begin with, General William H. Carter, commander of the Maneuver Division, ordered a halt to all flying at the post.⁵⁶ The order led the Aeronautical Division to move its operations back to College Park, Maryland. At roughly the same time, Simmons decided to take a job with Robert Collier, which left the Aeronautical Division without an experienced mechanic.⁵⁷ Ultimately, Kelly's accident and death had taken a toll on the Aeronautical Division; but it did not deal a fatal blow to the fledgling organization. Much like what had happened at the time of Selfridge's death, the men of the Aeronautical Division viewed Kelly's demise as unfortunate but still as an occasionally likely part of their highly dangerous profession.

Despite the abruptness of their departure from Fort Sam Houston, the Aeronautical Division's return to College Park proved to be a positive event that helped the service grow.

⁵⁵ Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 92-95.

⁵⁶ *Ibid.*, p. 94.

⁵⁷ Most of the men and the two airplanes left San Antonio in June 1911. Foulois departed the following month in order to report to his new post with the Militia Bureau in Washington, D.C. Chandler and Lahm, *How Our Army Grew Wings*, pp. 191-192.

However, many of the men were concerned that the U.S. Army might retard the growth of the Aeronautical Division following Kelly's death. Years after the accident, Foulois recalled: "As I packed my bags for the trip to Washington, I wondered if I could take being chained to a desk, especially when it seemed to be a punishment."⁵⁸

Fortunately for Foulois, his fear that he and the rest of the Aeronautical Division were being punished turned out to be unwarranted. The move to College Park proved to be beneficial for the Aeronautical Division because it coincided with the arrival of new personnel who would have a long-term impact on the development of U.S. air power. The new personnel included Second Lieutenant Henry H. "Hap" Arnold and Second Lieutenant Thomas DeWitt Milling. Both men arrived at College Park on June 15, 1911 with the goal of becoming pilots.⁵⁹

The return to College Park also happened shortly before the General Allen decided to require all pilots to pass *Fédération Aéronautique Internationale* (FAI) tests. Previously, the Signal Corps and the Aeronautical Division did not have any real requirements for pilots other than that they were daring enough to attempt to fly an airplane. The Aero Club of America, the only FIA-sanctioned group in the U.S., facilitated the process ordered by General Allen by ensuring that the Aeronautical Division pilots complied with the FAI's requirements. The FAI tests brought a level of legitimacy to the Aeronautical Division that had been missing because its pilots could now boast that they too had passed the same rigorous test their as counterparts in Europe.⁶⁰

⁵⁸ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 94.

⁵⁹ Chandler and Lahm, *How Our Army Grew Wings*, p. 196.

⁶⁰ The following day, July 7, 1911, Lieutenant Arnold set a new altitude record after reaching 3,260 feet. One day later, on July 8, 1911, Arnold reached 4,167 feet. Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 95.

Finally, the move from Fort Sam Houston occurred at the same time that the Aeronautical Division established the Signal Corps Aviation School at College Park. The school was larger and more sophisticated than what had existed in Texas. At Fort Sam Houston, the aviators had had only one hanger and two aircraft, the College Park school four airplanes, four hangers, and more personnel.⁶¹ The school's additional capabilities allowed the Aeronautical Division to train more aviators, helping offset what had been one of the service's greatest handicaps throughout its brief existence.

Although the Signal Corps Aviation School at College Park proved highly valuable to the Aeronautical Division because of its proximity to Washington, D.C., particularly the halls of Congress, the cold winter weather in the region continued to be a concern. Therefore, in November 1911, the War Department directed the Aeronautics Division to relocate the Signal Corps Aviation School from College Park, Maryland, to Augusta, Georgia, so that flying could continue during the winter months. On November 28, 1911, five officers and 20 enlisted men loaded four aircraft (one Burgess-Wright, two Curtiss, and one Wright), horses, wagons, trucks, and mules aboard a train before leaving for Georgia.⁶² Upon arrival, the officers secured lodging in a local hotel, while the enlisted men rented rooms on a farm that the U.S. Army Quartermaster Department leased for the site of the Signal Corps Aviation School.⁶³

⁶¹ Chandler and Lahm, *How Our Army Grew Wings*, pp. 199-201.

⁶² The officers included Captain Chandler, Lieutenant Henry "Hap" Arnold, Lieutenant Roy Kirtland, Lieutenant Thomas DeWitt Milling, and Dr. J. P. Kelley (medical officer). Hennessy, *The United States Army Air Arm*, p. 54.

⁶³ The Signal Corps Aviation School began flying operations in Augusta on December 7, 1911. That day, all four aviation officers took a turn flying the Burgess-Wright. After assembling the three other aircraft, the officers tried their hands at flying whichever model they knew the least so that they could learn the particular handling requirements for each aircraft. During the training, Lieutenant Arnold provided flying lessons to Lieutenant Milling's friend Lieutenant William C. Sherman, who arrived in Augusta in late December 1911. Sherman, a member of the U.S. Army Corps of Engineers, proved to be an important addition to the group. Nearly a decade

Ironically, rare snowfall in January and February, followed by rain and flooding in March, interfered with flying training and instruction in Georgia. At one point, the Savannah River covered most of the field used for takeoff and landing. Yet, the officers and men at the Signal Corps Aviation School managed to fly on 58 of the 124 days they were in Augusta in spite of the fact that the normally mild Georgia winter had proven to be colder and wetter than usual.⁶⁴

The flying at Augusta continued until March 28, 1912. A few days later, on April 1, 1912, the officers and men of the Signal Corps Aviation School departed Augusta and returned to College Park to continue flying operations.⁶⁵ The move to Augusta had not been without problems, but it was important because it allowed the aviators to continue flying during the winter months. It allowed them to continue learning about the capabilities of both themselves and their aircraft which was important because they knew that they had to prove themselves to their military and civilian superiors who did not fully appreciate the progress they had made.

While the men of the Aeronautical Division trained in Augusta, Signal Corps officials had taken the important step of codifying the requirements for U.S. Army aviators. The Signal Corps publicized the new Military Aviator rating in War Department Bulletin No.2 on February 23, 1912. Two months later, on April 20, 1912, the requirements for the new rating appeared for the first time in Secretary of War Stimson's report to the U.S. House of Representatives.

later, Sherman inaugurated some of the first lessons at the fledgling Air Service School. Hennessy, *The United States Army Air Arm*, p. 56.

⁶⁴ On January 25, 1912, Lieutenant Arnold broke the U.S. Army altitude record when he leveled his aircraft at 4,764 feet (almost one mile above the ground). But many of the flights were not without incident. On February 19, 1912, Lieutenant Frank Kennedy crashed while attempting to land his aircraft. Kennedy's head, covered with a leather football helmet, hit the ground with enough force to leave a five-inch depression in the turf, fracturing a number of his spinal vertebrae. *Ibid.*, p. 97.

⁶⁵ Chandler and Lahm, *How Our Army Grew Wings*, pp. 213-214.

According to Secretary Stimson's report, anyone desiring a Military Aviator rating had to be a commissioned officer or the U.S. Army (Regular Army) or an "Organized Militia." In addition, they had to have passed the Military Aviator test, which required them to climb to at least 2,500 feet, carry one passenger to an altitude of approximately 500 feet, fly in a 15 mile-per-hour wing, execute a "dead-stick" landing within 150 feet of a pre-designated point, and complete a cross-country flight that covered a distance of at least 20 miles while maintaining an altitude of 1,500 feet. If they had the necessary qualifications, the officers would have to submit proof of their qualifications to the Adjutant General. They would then be listed as Military Aviators on their official U.S. Army records.⁶⁶

The Military Aviator rating, like the FAI test, helped increase the legitimacy of the Aeronautical Division. The men of Aeronautical Division had lobbied for the Military Aviator rating because they believed that it demonstrated both their competence and uniqueness to others in the U.S. Army. Captain Chandler, Lieutenant Arnold, and Lieutenant Milling, three of the first Aeronautical Division aviators to earn their FAI-approved pilot licenses, also received the first three Military Aviator certificates awarded. They had completed all of the qualifications for the rating on July 5, 1912. For their effort, they received credit on their official record.⁶⁷

General Allen argued that a simple statement in someone's official record did not adequately address the importance of such an achievement. Allen believed that Military Aviators needed a badge that showed their achievement to all who saw them in uniform. As a result, he created a drawing of the proposed badge and pressured the War Department to award it

⁶⁶ War Department Bulletin, No. 2, February 23, 1912; Chief Signal Officer's Annual Report, 1912.

⁶⁷ Hennessy, *The United States Army Air Arm*, p. 59.

to all qualified Military Aviators.⁶⁸ It took until May 27, 1913, for the War Department to issue General Order No. 39, which officially authorized the certificate and badge for Military Aviators.⁶⁹

The effort led by General Allen represented an important step forward for the men of the Aeronautical Division because it demonstrated to everyone that military aviators were officially recognized as performing a unique mission within the U.S. Army. For the aviators, the badge provided the acknowledgement that they had sought since the U.S. Army activated the Aeronautical Division in 1907. The badge was also a mark of distinction that separated airmen from the enlisted men and officers in the other branches of the U.S. Army. The badge made them unique.⁷⁰

The successful effort to institute the Military Aviator badge was not the only significant achievement for the Aeronautical Division in the spring of 1912. On March 26, 1912, the U.S. House of Representatives formally asked Secretary of War Stimson to provide Congress with a report on aviation in foreign countries, as well as a plan to increase the size of the Aeronautical Division. The request from the House Committee on Military Affairs came in response to repeated assertions in American newspapers and in Congress that U.S. aviation had fallen behind compared with aviation in several foreign countries, most notably Great Britain, France, and

⁶⁸ Chief Signal Officer to Chief of Staff, March 28, 1913. Quoted in Hennessy, *The U.S. Army Air Arm*, p. 59.

⁶⁹ War Department General Order No. 39, May 27, 1913. War Department, *General Orders and Bulletins*, (Washington, D.C.: Government Printing Office, 1914), p. 2.

⁷⁰ John T. Correll, "The First of the Force," *Air Force Magazine*, Vol. 90, No. 8, August 2007, pp. 46-51; The War Department Bulletin No. 5, which was issued on May 4, 1914, listed two levels of qualifications for military aviators. Officers below the rank of captain were rated as a Junior Military Aviators. Captains and above were rated as a Military Aviator. Hennessy, *The U.S. Army Air Arm*, pp. 233-235.

Germany.⁷¹ The transcript of the hearings included an excerpt from Brigadier General James Allen's annual report. Allen, the U.S. Army's Chief Signal Officer, stated:

The progress and development by this auxiliary to the military establishment during this period is believed to be without precedent. Although the United States was the first nation to recognize the aeroplane for military purposes and carried out the first official Government tests of an aeroplane in 1908 and 1909 at Fort Myer, Va., yet such has been the phenomenal progress in the science and art that this country had been left far behind in securing practical equipment and organization for the use of this recognized indispensable adjunct to war....⁷²

On April 20, 1912, Secretary Stimson issued the report that Congress had requested. He explained that the Signal Corps had ten officers assigned to aviation duty at that time. He also reminded Congress that the number of aviators could not be increased without their authorization. Therefore, he urged Congress to quickly remedy the situation by passing a bill that the War Department had submitted as a draft to the House Military Affairs Committee just over a month before on March 14, 1912.⁷³

Stimson's report indicated that he was sympathetic to the Aeronautical Division's plight. Further evidence of his support came on April 25, 1912, when he agreed to let the United States Aeronautical Reserve build a small station at College Park. He also allowed the Aeronautical Reserve's pilots to fly from the field at College Park as long as they adhered to all rules and regulations set by General Allen. The following month, Stimson gave the Christmas Airplane

⁷¹ Assistant Chief of Air Staff, Intelligence Historical Division, *Organization of Military Aeronautics, 1907-1935* (Washington, D.C.: Army Air Forces Historical Studies, December 1944), pp. 7-8; Brigadier General James B. Aleshire and James Hay, *Hearings before the Committee on Military Affairs, House of Representatives: Army appropriation bill, 1912-13*, pp. 532-533.

⁷² Brigadier General James B. Aleshire and James Hay, *Hearings before the Committee on Military Affairs, House of Representatives: Army appropriation bill, 1912-13*, p. 531.

⁷³ The bill to which Stimson referred was never introduced. However, a bill proposed by Senator Thomas Hardwick of Georgia was presented. The bill, H.R. 17256, was intended to increase the total number of U.S. military aviators by at least 60. Passed by the House of Representatives on August 5, 1912, H.R. 17256 did not pass the Senate. Hennessy, *The U.S. Army Air Arm*, p. 107.

Company permission to use the facilities at College Park.⁷⁴ His decision to allow both the Aeronautical Reserve and the Christmas Airplane Company to use the same facilities at College Park ultimately benefitted the Aeronautical Division because it helped increase the number of trained American aviators just a few short years from the start of World War I.

As Stimson and the Signal Corps leaders worked to improve the Aeronautical Division's capabilities, the officers and men of the service continued to break new ground. On May 6, 1912, a group of pilots assigned to the Signal Corps Aviation School flew from College Park to Chevy Chase, Maryland, where they landed on the Chevy Chase Club's golf course. Led by Captain Charles Chandler, the flight was the first cross-country flight by a group of U.S. Army aircraft.⁷⁵ Less than one month later, on June 1, 1912, Lieutenant Arnold broke the existing altitude record when he reached 6,450 feet. That same evening, Captain Chandler completed the U.S. Army's first night landing after engine troubles delayed his return to College Park after a flyover at the annual Army-Navy college baseball game, held that year in Annapolis, Maryland.⁷⁶ The efforts of Arnold, Chandler, and their fellow pilots were important to the overall growth and development of American aviation because they demonstrated that the men of the Aeronautical Division were capable and motivated in spite of the significant obstacles they faced.

The men of the Aeronautical Division continued to experiment in order to find new ways to prove that aviation had tremendous value for the nation. Their drive for innovations resulted in an important test that they believed would demonstrate the airplane's potential as a weapon of

⁷⁴ Hennessy, *The United States Army Air Arm*, p. 54.

⁷⁵ Chandler and Lahm, *How Our Army Grew Wings*, pp. 219-220.

⁷⁶ *Ibid.*, pp. 225-227.

war. On June 7, 1912, nearly one week after Arnold's and Chandler's separate feats, Colonel Isaac Lewis brought to College Park a new machine gun that he had invented to see if it could be fired from an aircraft. Colonel Lewis originally designed his machine gun to be used by both infantry and cavalry. As a result, Lewis had made the weapon as light as he could. Weighing in at 25 pounds, 6 ounces, the air-cooled and gas-operated "Lewis Gun" utilized a 50-round drum magazine that fired the .30-06 Springfield cartridge. Captain Chandler volunteered to be the first aviator to fire the Lewis Gun from an airplane. Just before the flight, Lewis set the rate of fire for the Lewis Gun at 500 rounds per minute.⁷⁷ Chandler loaded the weapon aboard a Wright B Flyer piloted by Lieutenant Milling before climbing aboard. Once airborne, Milling piloted the aircraft over a cheesecloth target that was roughly 6-feet wide and 7-feet long. As Milling kept the aircraft at the low altitude of 250 feet, Chandler fired the Lewis Gun at the relatively small target. Even though it was the first time he had fired such a weapon, which he set on the aircraft's front crossbar, Chandler managed to hit the target five times.⁷⁸

The following day, June 8 1912, Chandler and Milling conducted flight tests using the Lewis Gun and a larger cloth target 6 feet wide and 64 feet long. Flying at an altitude of 550 feet, Chandler fired 44 bullets and hit the target 14 times. Chandler, Milling, and others at the Signal Corps Aviation School were impressed by the Lewis Gun. More importantly, they believed that arming aircraft with such weapons would allow the Aeronautical Division to contribute more to the U.S. Army than just reconnaissance and observation. As a result, they asked the U.S. Army to purchase ten Lewis Guns so that they could conduct further tests. The

⁷⁷ The Lewis Gun's cyclic rate was approximately 500-600 rounds per minute.

⁷⁸ Chandler and Lahm, *How Our Army Grew Wings*, pp. 222-225.

U.S. Army Ordnance Department disapproved the request because it had not officially accepted the weapon which was still undergoing field tests.⁷⁹

The fact that the U.S. Army denied the Aeronautical Division's request for ten Lewis Guns did not surprise anyone in the Signal Corps. The U.S. Army, including the Ordnance Department, moved at a slow pace when it came to accepting or implementing changes. The Lewis Gun, a new and seemingly complicated weapon, had performed well during field tests. Yet, the Ordnance Department rejected the weapon following extensive field testing in the summer of 1912. Members of the Ordnance Department argued that the Lewis Gun had several faults that concerned them enough for them to reject the weapon. Lewis, who stated that he had been "slapped by rejections from ignorant hacks" on more than one occasion, retired from the U.S. Army and moved to Belgium where he established the *Armes Automatique Lewis*.⁸⁰

In August 1912, approximately two months after the experiments with the Lewis Gun, men from the Aeronautical Division participated in U.S. Army maneuvers near Bridgeport, Connecticut. The Aeronautical Division flew at the request of the War Department, which, after reading reports of the progress of British, French, and German air forces, wanted to see whether U.S. airplanes and American ground troops could work together effectively. The Aeronautical Division sent Captain Frederick Hennessey, Lieutenant Arnold, Lieutenant Foulois, Lieutenant Harold Geiger, Lieutenant Harry Graham, Lieutenant Roy Kirtland, and Lieutenant Milling to participate.⁸¹

⁷⁹ Chandler and Lahm, *How Our Army Grew Wings*, pp. 222-225.

⁸⁰ Roger Ford, *The World's Great Machine Guns from 1860 to the Present Day* (Herron Books, 2005), p. 68.

⁸¹ Lieutenant Arnold and Lieutenant Kirtland did not attend the maneuvers as planned due to a crash. High winds forced the two aviators to land the Burgess S.C. No. 9 aircraft they were flying on Massachusetts Bay. One of the

During the maneuvers, the aviators completed a number of reconnaissance flights that helped track the position of ground forces which had been designated as the “blue” and “red” forces. Although inclement weather interfered at several times throughout the maneuvers, the event demonstrated the value of cooperation between aircraft and ground forces. For example, alternating between assisting the “blue” force and the “red” force, the aviators successfully spotted weaknesses in the opposing force that were all but impossible to see from the ground. As a result, the officers leading the maneuvers determined that the ground force assisted by aircraft had an edge over the force that did not have aviation support.⁸² The aviators’ success during the U.S. Army maneuvers generated a great deal of pride throughout the Aeronautical Division. It also led the U.S. Army to include aircraft in future ground exercises so that the partnership between air and ground forces could be explored further.

Two months after maneuvers in Connecticut, in October 1912, the Aeronautical Division had a total of nine aircraft in service.⁸³ The Signal Corps had purchased eleven airplanes between 1909 and 1912. Of those, one aircraft, a Wright Model B, was destroyed in a crash while another aircraft, a Wright Model A, was on static display in the Smithsonian Institution. In addition to the nine serviceable aircraft at the Signal Corps Aviation School, the school had 39 enlisted men, fourteen officers, and one civilian assigned.⁸⁴

aircraft’s wings hit the water as they attempted to take off. The resulting crash damaged the aircraft but did not hurt either Arnold or Kirtland. Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 100.

⁸² Chief Signal Officer’s Annual Report, 1913; Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 100-102.

⁸³ The 11 aircraft included one Burgess F aircraft, one Burgess H aircraft, one Curtiss D aircraft, two Curtiss E aircraft, one Wright Model A, three Wright Model B aircraft, and two Wright Model C aircraft. Hennessey, *The U.S. Army Air Arm*, p. 73.

⁸⁴ Officers assigned to the Signal Corps Aviation School included Captain Chandler, Captain Hennessey, Lieutenant Arnold, Lieutenant Brereton, Lieutenant Call, Lieutenant Eric Ellington, Lieutenant Geiger, Lieutenant Lewis

While still small compared to the number of aircraft that the U.S. fielded in World War I, the fact that the Aeronautical Division had nine aircraft and 54 men by the end of 1912 indicated that at least a few individuals in the U.S. military and in Congress had begun to see the value of airplanes. However, as discussed above, a great deal of that support only came after Congress had received numerous reports which indicated that the Aeronautical Division lagged behind its European counterparts. As a result, many airmen remained convinced that few in the U.S. military and Congress supported them.⁸⁵

Around the same time, Congress held hearings on the War Department appropriation for fiscal year 1914 (FY14), which covered the period from 1 July 1913 through 30 June 1914. During the hearings, Brigadier General George Scriven, General Allen's replacement as Chief Signal Officer, testified that the Aeronautical Division desperately needed more men in order to expand. Scriven explained that the Aeronautical Division would have 22 aircraft in service at the end of FY14 if all went as planned. Although that number was a significant increase over the nine aircraft in service at that time, it did not solve the service's largest problem—a lack of trained aviators. Scriven argued that, unless Congress took immediate action, the U.S. Army would only have fourteen trained aviators as of the end of FY14. Because each aircraft was intended to carry two men, the Aeronautical Division would need to train 30 more aviators in order to have enough personnel to crew all 22 aircraft.⁸⁶

Goodier, Lieutenant Graham, Lieutenant Samuel McLeary, Lieutenant Joseph Park, and Lieutenant Sherman. Chief Signal Officer's Annual Report, 1913.

⁸⁵ Walter Boyne, *The Influence of Air Power upon History* (Gretna: Pelican Publishing Company, 2003), pp. 35-39.

⁸⁶ Hennessy, *The U.S. Army Air Arm*, p. 109.

General Scriven's plea for more aviators came as several air forces in Europe began to increase in size. In early 1912, Prince Heinrich of Prussia led a National Aviation Fund drive in Germany that collected 7.2 million marks. With that money, Germany purchased 62 aircraft and trained 162 pilots. Austro-Hungary, France, Great Britain, Italy, and Russia also increased the size of their budding air forces between 1911 and 1912. Historian Walter Boyne argues that the growth of aviation in each of those countries was driven by their desire to have a robust civilian aircraft industry. As Boyne demonstrates, the military forces in each of those nations worked to ensure that the civilian industry would ultimately be utilized to support military requirements.⁸⁷

General Scriven understood that the growth of the various European air forces was not something that the U.S. should ignore. Thus, as Congress deliberated the War Department appropriation, which they passed on March 2, 1913, Scriven tasked all U.S. Army aviators in the Washington area to work together to develop legislation that he hoped would help the Aeronautical Division expand. The group that responded to Scriven's request consisted of Major Edgar Russel, Captain Hennessy, Lieutenant Graham, Lieutenant Arnold, Lieutenant Milling, and Lieutenant Sherman. The men met several times in February 1913 before crafting a bill that requested more flying personnel, the creation of a board of officers who would oversee the promotion of aviators, a pay increase for all men on flying status, and death benefits for aviators killed in the line of duty. The men hoped that the bill would entice more men to join the Aeronautical Division by correcting what the problems that they believed had kept some men away.⁸⁸

⁸⁷ Walter Boyne, *The Influence of Air Power upon History*, pp. 35-39.

⁸⁸ Hennessy, *The U.S. Army Air Arm*, p. 109.

Two months later, on May 16, 1913, Representative James Hay of Virginia introduced House Resolution 5304 at the urging of Captain Paul Beck. Largely written by Beck, H.R. 5304 called for the creation of a separate U.S. Army corps that would focus solely on aviation. The hearings on H.R. 5304 were historic because, for the first time in U.S. history, Congress addressed whether the Aeronautical Division should remain part of the Signal Corps or become a separate branch of the U.S. Army. Beck argued in favor of removing the Aeronautical Division from the Signal Corps. He maintained that the Signal Corps would never allow the Aeronautical Division to fully develop.⁸⁹

Hay's bill indicated that airmen's long-simmering dissatisfaction with the way they had been treated by the U.S. military and Congress was beginning to reach a critical mass. However, not all airmen were ready to demand a separate service. Scriven, Assistant Secretary of War John Breckinridge, and the majority of the officers in the Aeronautical Division wanted U.S. Army aviation to remain in the Signal Corps for the near future.⁹⁰ Those officers included Lieutenant Arnold, Captain William "Billy" Mitchell, and Captain Foulois. All three men testified that separating the Aeronautical Division from the Signal Corps would damage both entities because the young service was simply too new to function successfully on its own. Mitchell, who would later become the most outspoken proponent of a separate air force, maintained that the progress of U.S. Army aviation would be unnecessarily slowed by such a move.⁹¹

⁸⁹ 63rd Congress, 1st Session, *Congressional Record*, May 16, 1913.

⁹⁰ 63rd Congress, 1st Session, *Congressional Record*, May 16, 1913; Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 111.

⁹¹ Quoted in Burke Davis, *The Billy Mitchell Affair* (New York: Random House, 1967), p. 24.

Despite Beck's well-reasoned argument, the House Military Affairs Committee chose to shelve the bill and pursue another course of action. While disappointed with the outcome, Foulois argued that the hearings had been useful because they allowed the Aeronautical Division to "present a compilation of aeronautical progress being made by all the major world nations." Foulois believed that the members of the committee did not fully understand the issues that the Aeronautical Division faced. Therefore, he hoped that hearings would help the committee members appreciate the fact that the Aeronautical Division was underfunded and understaffed compared to the air forces of the major European powers. Foulois explained that the hearings included a comparison of the annual aviation expenditures of 26 governments over a period of five years. Germany led the pack with a total expenditure of \$28 million, while the U.S. came in fourteenth with a total expenditure of approximately \$435,000.⁹²

In addition to educating the House Military Affairs Committee on European aviation, Foulois asserted that the hearing forced "Senior Signal Corps officers" to take a close look at the Aeronautical Division and begin to "realize the potential of military aviation."⁹³ Although both General Allen and Scriven did a lot to help the Aeronautical Division grow, Foulois is correct that the hearings did force General Scriven to reassess the Aeronautical Division's importance within the Signal Corps and the U.S. Army. For perhaps the first time, Scriven understood how the Aeronautical Division compared to its counterparts in Europe.⁹⁴

⁹² Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 111.

⁹³ *Ibid.*, p. 111.

⁹⁴ Hay introduced a revised bill, different in nearly every way from the original that nonetheless retained the H.R. 5304 designation. The new version of H.R. 5304 asked Congress to authorize the creation of an Aviation Section within the Signal Corps that would include the addition of 320 personnel—60 officers and 260 enlisted men. The new bill also included provisions for training new aviators, established Junior Military Aviator and Military Aviator designations, and increased pay for all aviation personnel. Other provisions included allowing 12 enlisted men to earn their wings and serve as aviators. Hennessy, *The United States Army Air Arm*, pp. 108-112.

As Scriven worked to find a way to expand the Aeronautical Division, he and his men had to deal with a long-pressing issue that had grown into a serious problem. Accidents had occurred throughout the Aeronautical Division's brief existence. In fact, such events were viewed by many aviators as an unpleasant reality of flying airplanes. However, a series of deadly crashes between 1912 and 1913 forced the U.S. Army to launch an investigation into aircraft construction standards. By late 1913, a total of eleven Army aviators had died in airplane crashes while on duty. Six of the crashes involved Wright Model C airplanes. Pilots in the Aeronautical Division said that the Model C was nose-heavy, which led to frequent nose dives.⁹⁵ Orville Wright, one of the Model C's designers, argued that the nose dives were a result of pilot error, not an inherent flaw in the design of the airplane. However, Orville agreed to install a flight indicator to help pilots avoid placing the aircraft in a dangerously steep attitude.⁹⁶ Unconvinced that Orville's remedy would prevent further accidents government investigators concluded that the Model C was "dynamically unsuited for flying."

In response to the uproar over the accidents, the General Scriven issued an order on February 16, 1914 that directed the Aeronautical Division to stop flying the Wright B and Wright C aircraft immediately. Scriven did so because he was concerned that the accidents might lead the U.S. Army, the War Department, or Congress to halt all Aeronautical Division flying. To help solve the problem, Scriven appointed a board of officers to determine whether those two types of aircraft were safe to fly. The board included Lieutenant Joseph Carberry, Lieutenant Walter Taliaferro, Captain Carleton Chapman, Captain Townsend Dodd, and Captain Benjamin

⁹⁵ Chief Signal Officers Annual Report, 1913; Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 113-114.

⁹⁶ The attitude indicator allowed pilots to gauge the orientation of their airplane relative to the Earth's horizon.

Foulois. The board concluded that the Model B and Model C were inherently dangerous because they were equipped with engines located directly behind the pilot, which had a frequently caused severe injury or death in a crash. The board asserted that the Aeronautical Division should buy aircraft with the engine located in front of the pilot. Known as “tractor” aircraft because the engines “pulled” the aircraft forward, they tended to be much less harmful to the pilot during a crash because the engine absorbed a great deal of the impact in a crash.⁹⁷

The board’s findings led General Scriven to prohibit the use of all rear-engine “pusher” aircraft. His decision meant that the Aeronautical Division, which had always suffered from a lack of resources, only had five operational aircraft: one Curtiss aircraft (Number 1) and four Burgess aircraft (Number 9, Number 24, Number 25, and Number 26).⁹⁸ Scriven’s order effectively ended the U.S. Army’s use of “pusher” aircraft. Although ultimately wise given the problematic record of pusher aircraft during World War I, the move to flying only tractor aircraft slowed training because it limited the number of airplanes available.⁹⁹

The accidents not only changed the type of aircraft used by the Aeronautical Division; they also altered aviation instruction and training. In February 1914, the U.S. Army’s Inspector General Department sent Colonel J.L. Chamberlain to inspect the 1st Aero Squadron and the Signal Corps Aviation School. In his report, Chamberlain found numerous deficiencies present in both units. He was especially critical of the 1st Aero Squadron which, he argued, lacked enough officers and men to function as an effective unit. Chamberlain, who had no aviation experience, also found fault with the aircraft manufacturers. General Scriven did not agree with

⁹⁷ Brigadier General George Scriven, *Chief Signal Officer Annual Report, 1914*, ca. 1914.

⁹⁸ *Ibid.*

⁹⁹ Hennessy, *The United States Army Air Arm*, p. 103.

Chamberlain's report. He believed that Chamberlain's report failed to account for the dangers associated with flying. Scriven argued that "in spite of short-comings and accidents the results obtained are believed to be fully commensurate with the means provided for the establishment of this new art in the Army."¹⁰⁰

As the Aeronautical Division worked through its difficulties with airplanes, Congress provided some much needed positive news. The revised H.R. 5304 proved to be much more acceptable to both the War Department and Congress than the original bill had been. Although it authorized the creation of an Aviation Section which would be larger than the existing Aeronautical Division, it was kept in the Signal Corps which pleased most members of Congress and the bulk of the officers in the Signal Corps. Both the House of Representatives and the Senate passed H.R. 5304. On July 18, 1914, the bill became law, officially establishing the Aviation Section, U.S. Signal Corps.¹⁰¹ The new law stated that "there is hereby created, an aviation section, which shall be a part of the Signal Corps of the Army, and which shall be, and is hereby, charged with the duty of operating or supervising the operation of all military aircraft [within the U.S. Army], including balloons and aeroplanes." The law also charged the Aviation Section "with the duty of training officers and enlisted men in matters pertaining to military aviation."¹⁰²

The Aviation Section

Created less than two weeks before the start of World War I, which began on 28 July 1914, the Aviation Section contained just nineteen officers, 101 enlisted men, and seven aircraft.

¹⁰⁰ Hennessy, *The United States Army Air Arm*, p. 103.

¹⁰¹ 63rd Congress, 2nd Session, *Congressional Record*, July 9, 1914.

¹⁰² 63rd Congress, 2nd Session, Public Law Number 143.

Yet, activation of the Aviation Section proved to be a pivotal moment for U.S. military aviation. To begin with, the Aviation Section had a \$250,000 budget that was approximately twice as large as any previous appropriation that the Aeronautical Division had received. In addition, the new law authorized the Aviation Section to add an additional 320 men, which included 260 enlisted men of all ranks (private through sergeant first class). Those men joined the existing complement of nineteen officers and 101 enlisted men who had been part of the Aeronautical Division. As a result, the Aviation Section had a total of 421 personnel assigned.¹⁰³

The rapid growth that followed the Aviation Section's creation required the service to buy new aircraft and to establish new training schools in order to train the incoming men. To aid that effort, the Aviation Section purchased 11 aircraft, which brought the total number of aircraft in service at the end of 1914 to 20.¹⁰⁴

The task of purchasing those aircraft and setting up the training schools occupied a great deal of the Aviation Section's resources throughout 1914. Scriven, acutely aware that the Aviation Section needed to prove that it was up to the task, ordered the 1st Aero Squadron's 1st Company to report to San Diego, California. On July 17, 1914, the 1st Company arrived in San Diego where they joined the Signal Corps Aviation School at North Island off the coast of San Diego.¹⁰⁵

¹⁰³ 63rd Congress, 2nd Session, Public Law Number 143.

¹⁰⁴ The aircraft, purchased without engines, cost between \$4,400 and \$6,700 dollars each. Aviation Section mechanics would install the engines after receiving the aircraft. *Hennessy, The U.S. Army Air Arm*, pp. 108-109.

¹⁰⁵ Less than one month later, on August 5, 1914, Lieutenant Colonel Samuel Reber issued Signal Corps Aviation School General Order number 10, which outlined the Aviation Section's basic organization. The re-organized Aviation Section thereafter consisted of the Signal Corps Aviation School, led by Captain Arthur S. Cowan; the 1st Aero Squadron, led by Captain Foulois; the 1st Company, 1st Aero Squadron, led by Captain Harold C. Geiger, and the 2nd Company, 1st Aero Squadron, led by Captain Lewis E. Goodier. *Hennessy, The U.S. Army Air Arm*, p. 120.

The Signal Corps Aviation School at North Island had taken shape in November 1912 when the U.S. Army's first school detachment arrived. By June 1913, the school officially began operating. The location proved to be well-suited for flying. Lieutenant Colonel Arthur Cowan, commandant of the Signal Corps Aviation School, stated: "As far as being a suitable place for flying, it would be hard to imagine a better place. There is all the room that could be desired for a training station, with plenty of landing ground and nothing whatever to interfere with us."¹⁰⁶

The growth of the Aviation Section and the addition of the new school at San Diego proved to be more important than anyone could have anticipated, especially once the developing tensions in Europe reached the breaking point in July 1914. United States Army leaders, having long treated aviation as an auxiliary, finally had a reason to pay more attention. With approximately 20 aircraft, the Aviation Section continued to trail far behind its European competitors. Great Britain's Royal Flying Corps fielded 48 aircraft, while France had 136 aircraft in service. Germany, the rival of those two nations, possessed 180 aircraft.¹⁰⁷

As the conflict in Europe worsened, the men of the Aviation Section prepared for the possibility that the U.S. might become involved in World War I. On August 17, 1914, aviators at the North Island school began a series of bombing tests that lasted until August 24, 1914. Led by Captain Goodier, the aviators dropped "dummy" bombs, explosive bombs, grenades, and an artillery shell on a bulls-eye target roughly 100 feet in diameter. Captain Muller served as the official observer for the Aviation Section while Colonel J.W. Jones watched the tests for the War Department. Muller believed that the tests proved that the Aviation Section needed to provide

¹⁰⁶ Cameron, *Training to Fly*, p. 59.

¹⁰⁷ John Cuneo, *The Air Weapon 1914-1916*, (Harrisburg, Pennsylvania, 1947), p. 16.

bombing instruction to all new aviators. He also argued that the Aviation Section needed to select several officers who would work on becoming experts in aerial bombing.¹⁰⁸

General Scriven, who was well aware that his superiors in the U.S. Army and the War Department would not fund such experiments, did not share Captain Muller's enthusiasm. He maintained that it was not likely that the Aviation Section would undertake anything other than reconnaissance for some time. As a result, none of Muller's recommendations took hold. However, Scriven was not entirely unwilling to explore new technologies and roles for the Aviation Section. In September 1914, Scriven and Lieutenant Colonel J.E. Hoffer, an officer from the U.S. Army's Ordnance Department, examined a recoilless gun invented in 1910 by Commander Cleland Davis, U.S. Navy. The weight of the gun, precisely 155.35 pounds, proved to be too heavy for the aircraft then in use.¹⁰⁹ Two months later, in November 1914, Scriven agreed to conduct more tests after Brigadier General William Crozier explained that the U.S. Army had two machine guns which might work well in airplanes due to their light weight. Crozier, a member of the Ordnance Department, recommended that the Aviation Section test the 1909 machine-rifle and the Vickers machine gun. After receiving Scriven's approval, the Ordnance Department sent one of each gun to San Diego for field testing.¹¹⁰

In December 1914, General Scriven testified before the House Committee on Military Affairs. Scriven, acutely aware of developments in Europe, told the committee that the U.S. trailed dangerously far behind in aviation expenditures. Scriven pointed out that the \$250,000 that the Aviation Section received in 1914 did little to help the service compete with the \$45

¹⁰⁸ Hennessy, *The U.S. Army Air Arm*, p. 126.

¹⁰⁹ *Ibid.*, p. 126.

¹¹⁰ *Ibid.*, p. 127.

million that the German Air Service had at its disposal.¹¹¹ Yet, the disparity between United States' and Germany's aviation expenditures did not seem to worry the members of the House Committee on Military Affairs. After General finished detailing the amount of money that the European powers had spent on their air forces, Senator Kenneth D. McKellar stated: "Well, they have proved worthless to a very large extent." McKellar then argued: "And if that is true, we are the gainers by not having spent so much."¹¹² Scriven argued that airplanes had proven their utility again and again, but the committee members were not convinced. On March 4, 1915, the House Military Affairs Committee provided just \$300,000 for the Aviation Section.¹¹³

The Impact of the Great War

In early 1915, the air forces of France, Great Britain, and Germany continued to grow in size and sophistication at a rapid pace to keep up with the demands of war. In the U.S., the Aviation Section continued to develop too but the pace was much slower. In part, Americans may have thought they could afford to move more slowly because the threat of American involvement in the war seemed distant. The \$300,000 that Congress gave the Aviation Section clearly demonstrated that too few American leaders at the time feared becoming entangled in the "European War." Many men in the Aviation Section were not happy with the amount of the appropriation. Foulois argued: "It was nothing more than War Department tradition and congressional shortsightedness which was hampering the progress of military aviation." He

¹¹¹ In 1914, Russia appropriated \$22.5 million for aviation while France provided \$12.8 million for aviation. That same year, Great Britain allotted \$1.08 million. U.S. House of Representatives, "Hearings on 1916 Army Appropriation Bill," December 8, 1914, pp. 642-643.

¹¹² Ibid., pp. 654-655.

¹¹³ U.S. House of Representatives, "Hearings on 1916 Army Appropriation Bill," December 8, 1914, pp. 648-649; Foulois argued that Congress "was not disturbed by what was happening in Europe." Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 118-119.

added that “we were grateful that our Signal Corps superiors saw the future as we did and that General Scriven had the courage to buck the War Department General Staff on Capitol Hill. But his courage didn’t help, and we staggered along as best we could....”¹¹⁴

Many officers in the Aviation Section had paid close attention to the advances in aviation happening in Europe. By reading newspapers, official reports, and letters from Americans serving with the French and the British they learned that the French, British, Germans, and other warring air forces had moved beyond using airplanes solely for reconnaissance purposes. In fact, the air forces of those three nations, as well as others involved in the conflict, had begun to use aircraft to attack other aircraft, to protect reconnaissance aircraft, and to direct artillery fire. The Aviation Section, on the other hand, had only just begun to attempt anything other than aerial reconnaissance. However, with the help of proponents of aviation in the U.S. Navy, the Aviation Section began to push hard to expand their capabilities.¹¹⁵

The members of Congress helped matters some when they passed the Naval Appropriation Act on March 3, 1915. The act authorized the creation of the National Advisory Committee on Aeronautics (NACA). Composed of twelve members appointed by the President, NACA had five primary tasks. The first was to provide information on all matters related to aeronautics. The second was to institute research into problems related to aeronautics. The third was to keep apprised of aeronautical advances made throughout the world. The fourth was to disseminate information that committee members had gathered regarding aeronautics. Finally, the committee’s fifth task was to “be at all times at the service of the President, Congress, and the executive departments of the government for consideration of any problems regarding

¹¹⁴ Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 118-119.

¹¹⁵ Boyne, *The Influence of Air Power upon History*, pp. 47-73.

international air navigation regulation and development of civil aerial transport as well as technical development policies of the military, naval, and postal air services.”¹¹⁶

Scriven, spurred by what he believed was increased support for the Aviation Section, acted quickly. On April 9, 1915, General Scriven ordered the formation of an aero company at San Antonio, Texas. On the same day, Scriven informed the men of the Aviation Section that three additional aero companies would soon deploy to Corregidor in the Philippine Department, Fort Kamehameha in the Hawaiian Department, and the Panama Canal Zone in the Panama Department. Scriven explained that all three units would fly seaplanes while operating from their overseas bases which were all located in nations near large bodies of water. Scriven argued that the units were absolutely necessary because they would provide much needed protection for U.S. territories.¹¹⁷

The Aviation Section gained a boost in July 1915 when several men in New York established a “Business Men’s Camp” at Plattsburgh, New York. Members of the camp included Captain Raynal Bolling of the New York National Guard, Richard Fearing, and James Miller. In September 1915, Bolling and Miller began the task of establishing an aero company in the New York National Guard. Two months after that, the New York National Guard officially activated the 1st Aero Company of the New York National Guard. Briefly called the Aviation

¹¹⁶ The first twelve members of the committee were Joseph Ames (Johns Hopkins University), Captain Mark Bristol (U.S. Navy), W.F. Durand (Stanford University), John Hayford (Northwestern University), Charles Marvin (Chief of the Weather Bureau), Byron Newton (Assistant Secretary of the Treasury), Michael Pupin (Columbia University), Lieutenant Colonel Reber, Holden Richardson (U.S. Navy), General Scriven (CSO), S.W. Stratton (Bureau of Standards), Dr. Charles Walcott (Smithsonian Institution), and Dr. A.F. Zahm (Smithsonian Institution). National Advisory Committee on Aeronautics.

¹¹⁷ Hennessy, *The U.S. Army Air Arm*, pp. 151-152; Brigadier General George Scriven, *Chief Signal Officer’s Annual Report, 1915*, p. 15.

Detachment, First Battalion, S.C., National Guard, New York, the unit included four officers and 40 enlisted personnel.¹¹⁸

The creation of NACA, Scriven's decision to expand the scope of the Aviation Section's operations, and the activation of the 1st Aero Company of the New York National Guard did not immediately alter the Aviation Section's fortunes. However, those three events indicated that there was a growing concern among some Americans that quick action was needed if the U.S. was going to be able to compete with the world's major aviation powers.

Just as things began to look more positive for the Aviation Section, several accidents occurred that once again highlighted the service's longstanding problem with airplanes. On September 5, 1915, Lieutenant Joseph Morrow and his passenger, Private Adam Khuen-Kryk, took off from Brownsville, Texas. While in a left turn, Morrow's Curtiss JN2 went into a nose dive. Morrow managed to gain positive control of the aircraft but not soon enough to prevent a crash. Both men survived but the accident convinced many that the JN2 was not a safe airplane. In fact, B.Q. Jones, the officer in charge of the detachment at Brownsville, argued that the JN2 was not suitable for military flying at all.¹¹⁹

Foulois soon formed the same opinion of the JN2 that Jones had. While at Fort Sill, Oklahoma, the 1st Aero Squadron attempted to undertake several reconnaissance missions with artillery troops as passengers. Foulois explained that the squadron's members had a difficult time performing their duties because "constant engine and air-frame troubles prevented us from being very useful." The engines proved to be the most problematic with seven of the twelve

¹¹⁸ Garry Clifford, *The Citizen Soldiers: The Plattsburg Training Camp Movement, 1913-1920* (University of Kentucky Press, 1972), p. 68.

¹¹⁹ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 120.

engines that the 1st Aero Squadron had taken with them being all but scrapped.¹²⁰ Foulois tried to rectify the situation by contacting the Curtiss company but no one responded to his requests for more engines and parts. As a result, the 1st Aero Squadron had to ground all of the airplanes within two weeks.¹²¹

The death of Captain G.H. Knox further compounded the 1st Aero Squadron's problems. Captain Knox had been a passenger in a JN2 flown by Lieutenant R.B. Sutton. Foulois met with his pilots after the crash to discuss a way ahead. Out of the twelve pilots in attendance, ten argued that the JN2 was not safe, especially when carrying a passenger, because the airplane simply didn't have enough power to carry two men. The aviators also complained that the JN2 was poorly built, unstable, and difficult to maneuver when using the airplane's rudders. Foulois and Milling did not think that the JN2s were as bad as the other pilots believed them to be. Yet, Foulois suspended all JN2 flights for six weeks so that mechanics could check and repair the airplanes. Glenn Curtiss sent new engines, wings, stabilizing fins, and rudders to replace the defective parts on the 1st Aero Squadron's JN2s.¹²²

Problems Mount

The men of the Aviation Section found their service under close scrutiny due to the 1st Aero Squadron's difficulties in Mexico and the morale problems discovered during the court martial of Lieutenant Colonel Lewis Goodier, Sr.¹²³ Things came to a head on January 5, 1916,

¹²⁰ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 120

¹²¹ *Ibid.*, p. 120.

¹²² *Ibid.*, pp. 120-121.

¹²³ On October 18, 1915, as Foulois's problems continued, the U.S. Army began court martial proceedings against Lieutenant Colonel Lewis Goodier, Sr., the father of Captain Lewis Goodier, Jr. and Judge Advocate General of the Western Division of the U.S. Army. The case against the elder Goodier developed after he tried to bring charges against Cowan for collecting flight pay that he had not earned. Brigadier General E. H. Crowder, the Army's Judge

when Senator Joseph Robinson of Arkansas called for an investigation of the Aviation Section after he had received several reports from disgruntled young aviators. Robinson then introduced Senate Joint Resolution 65 to gain support for the investigation. Robinson argued that some within the Aviation Section had concealed problems within their service from both the War Department and Congress.¹²⁴ Robinson publicly stated that the Aviation Section had only 24 qualified pilots as opposed to the 46 they officially claimed.¹²⁵ He also maintained that the Aviation Section was underequipped and its men undertrained.

As Robinson's resolution moved through Congress, the Signal Corps began its own investigation into the matter. On February 2, 1916, the Signal Corps opened an internal investigation into the matter led by Colonel David Shanks, the Signal Corps' Inspector General (IG). Approximately one year earlier, in January 1915, Shanks had noted that the Aviation Section's school in San Diego had done virtually nothing to correct the deficiencies that the

Advocate General, presented the Army's case against Goodier. The Army argued that Goodier had conducted himself in a manner "prejudicial to military discipline." Specifically, the Army claimed that Goodier had advised junior officers on how to bring charges against Cowan. According to Reber, Goodier told Captain Dennis Quinlan that he intended to get Cowan removed from the service. During the proceedings against Goodier, numerous documents that were submitted as evidence verified Goodier's accusations against Cowan. Specifically, Goodier charged that Cowan had punished flying officers who had either angered or disagreed with him. Additional evidence confirmed that Reber and Cowan had used Goodier, Jr.'s injuries as a rationale for dismissing him from the Aviation Section. Yet, despite the evidence presented in Goodier, Sr.'s favor, Crowder ruled that Goodier was guilty and sentenced him to a reprimand. Goodier Sr.'s court martial was important because it uncovered serious problems in the Aviation Section. Several members of Congress had previously received first-hand information about the problems within the Aviation Section but had not acted because the reports did not provide enough concrete evidence for them to act. Goodier's court martial lent credence to those accounts by producing several pieces of evidence which indicated that something had to be done. Robert Mochio, *Decisive Point: The Court Martial of Lt. Col. Lewis E. Goodier* (BiblioScholar, 2012), pp. 5-10.

¹²⁴ 64th Congress, 1st Session, *Congressional Record*, 494, January 5, 1916.

¹²⁵ *Ibid.*

Inspector General had discovered there in early 1914. Most notably, Shanks asserted that Reber had largely suppressed the Inspector General's report.¹²⁶

Shanks' highly-critical report drew a response from numerous individuals. On February 9, 1916, General Scriven responded to Colonel Shanks' report, rebutting the allegations against him and arguing that Senator Robinson was wrong on all counts. However, Scriven candidly admitted that the tense situation with the Aviation Section was the direct result of having officers who were "young in years and in service, and deficient in discipline and the proper knowledge of the customs of the service and the duties of an officer." Scriven then argued that the War Department could help ease the situation by removing the restrictions on age and marital status for aviation officers in order to "do away with many of the difficulties that have beset the progress of aviation in the Army." Essentially, Scriven argued that age restriction, which required new aviators to be unmarried lieutenants under the age of 30, had led to the Aviation Section's discipline issues.¹²⁷

The problems within the Aviation Section became even more critical in the spring of 1916 when the men of the Aviation Section found themselves involved in armed conflict south of the U.S. border. On March 9, 1916, in the wake of Pancho Villa's raid on Columbus, New Mexico, the War Department attached the 1st Aero Squadron to Major General John J. "Black Jack" Pershing's "Punitive Expedition." The 1st Aero Squadron sent a total of eleven pilots, 84 enlisted men, a civilian mechanic, one engineer officer, and eight aircraft. The men of the 1st Aero Squadron disassembled their JN3 aircraft for transport from Fort Sam Houston in San

¹²⁶ Rebecca Robbins Raines, *Getting the message through: A Branch History of the U.S. Army Signal Corps* (Department of the Army, 1996), p. 165.

¹²⁷ H.R. 5304, which became law on July 18, 1914, required new aviators to be unmarried lieutenants under the age of 30. Hennessy, *The U.S. Army Air Arm*, pp. 153-154.

Antonio, Texas, to Columbus, New Mexico. In addition to the aircraft, the squadron included twelve trucks, one automobile, and six motorcycles. The enlisted men reassembled the aircraft after they arrived in Columbus on March 15, 1916. The next day, the pilots of the 1st Aero Squadron flew the first observation mission flown during the Punitive Expedition. The following day, March 17, 1916, Lieutenant Dodd (pilot) and Captain Foulois (observer) completed the first U.S. military reconnaissance flight over a foreign nation when they flew over a small section of Mexico.¹²⁸

On March 29, 1916, as the men of the 1st Aero Squadron supported the Punitive Expedition, Representative Charles Lieb of Indiana introduced a bill to establish a Department of Aviation, led by a Secretary of Aviation who would oversee all military aviation in the U.S. The Committee on Military Affairs virtually ignored Lieb's bill.¹²⁹ However, the difficulties that the men of the 1st Aero faced in Mexico in the weeks that followed demonstrated to the American press that the Aviation Section desperately needed more funding to effectively accomplish its assigned missions.

The effort in Mexico quickly demonstrated that the Aviation Section's aircraft were woefully underpowered and difficult to handle under all but the best flying conditions. For example, the aircraft's laminated wood propellers had to be removed after each flight due to the extremely dry conditions in the area of operations. Worse yet, the relatively fragile aircraft were simply falling apart from regular use. In fact, the general wear and tear from regular use during

¹²⁸ Hennessy, *The U.S. Army Air Arm*, pp. 153-154.

¹²⁹ 64th congress, 1st Session, *Congressional Record*, March 29, 1916.

the early part of the Punitive Expedition led Foulois to condemn all eight aircraft by April 22, 1916.¹³⁰

Secretary Baker, who received regular reports on the Punitive Expedition, interceded with Congress on behalf of the Aviation Section. Baker stressed the need for an emergency appropriation, exclaiming: “We now have actual field operations going on.” Baker argued that the Aviation Section needed to buy airplanes immediately so that they could take “advantage of the experience that manufacturers in this country have had from the European experience, and send them down there and get the value of testing them under actual field conditions.”¹³¹

General Pershing, who saw the problems that Foulois and his men faced, joined Baker’s call for action. Referring to the 1st Aero Squadron, Pershing stated: “They have already too often risked their lives in old and often useless machines which they have patched up and worked over in an effort to do their share of the duty this expedition has been called on to perform.”¹³² Convinced by both Baker’s argument and Pershing’s plea, Congress passed an emergency appropriation of \$500,000 to fund the purchase of new aircraft, parts, and other related equipment.¹³³

In addition to the deficiencies in equipment that it exposed, the Punitive Expedition generated a great deal of additional controversy for the Aviation Section. During the campaign, members of the 1st Aero openly expressed their frustrations with the aircraft they were flying. According to Foulois, a reporter working for the *El Paso Herald* learned about the 1st Aero Squadron’s aircraft problem. Two widely-read newspapers, the *New York Times* and the *New*

¹³⁰ Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 133-134.

¹³¹ *Ibid.*, pp. 133-134.

¹³² *Ibid.*, p. 134.

¹³³ William C. Heimdahl and Alfred F. Hurley, "The Roots of U.S. Military Aviation," *Winged Shield, Winged Sword: A History of the United States Air Force* Vol. I (Washington, D.C.: Department of the Army, 1996), p. 31.

York Herald Tribune, published accounts of the pilots' complaints. The accusations were not harmful enough on their own to initiate investigation. However, when combined with previous complaints regarding the Aviation Section's readiness and capabilities, the criticism of aircraft performance during the campaign against Villa caused Congress to take notice.

As the 1st Aero Squadron's problems in Mexico continued, Major General Hugh L. Scott, U.S. Army Chief of Staff, appointed Brigadier General Ernest A. Garlington, the Army Inspector General, to chair a board to investigate the Aviation Section.¹³⁴ The Garlington Board, as it became known, investigated several things, including Lieutenant Colonel Lewis Goodier's claim that Captain Arthur Cowan and his staff at the San Diego school had accepted flight pay despite not being qualified pilots. Another aviator, Lieutenant Herbert Dargue, the officer in charge of training at the San Diego school, stated that the Aviation Section did not have a combat-ready unit because of poor leadership at top of the Signal Corps. Dargue asserted that Signal Corps leadership simply did not understand aviation and never would.

Garlington and the rest of the men on the board spent a month looking into the allegations brought forth by Goodier, Dargue, and others. After reviewing all the available evidence, they determined that Cowan and others had received unwarranted flight pay.¹³⁵ Yet, the issue with flight pay was not the only problem that the Garlington Board uncovered. Their inspection revealed that the Army officers assigned to monitor the government's contracts with aircraft manufacturing companies had accepted poorly built aircraft. Specifically, the board argued that the Aviation Section had received poor quality aircraft prior to the Punitive Expedition because

¹³⁴ Garlington led the team that attempted to rescue Lieutenant Greely and his men from the Arctic in 1883. Raines, *Getting the message through*, p. 165.

¹³⁵ During a separate investigation, the U.S. Army Judge Advocate General ruled that Cowan could keep all extra pay that he had received. *Ibid.*, p. 165.

Scriven and Reber had failed to supervise their men properly during the aircraft acquisition process. The board argued that, because Scriven and Reber were in command, they were ultimately responsible for the breakdown in discipline that had caused the problem. Most importantly of all for the Aviation Section, the members of the Garlington Board asserted, the U.S. Army should remove the Aviation Section from the Signal Corps.¹³⁶

Secretary Baker directly addressed the multitude of problems facing the Aviation Section on May 4, 1916. During a hearing before the Committee on Military Affairs, Baker argued that the problems within the Aviation Section were largely the result of the clash between the energetic and enthusiastic young aviation officers and their superiors who, he argued, did not truly understand the unique requirements of aviation. However, Baker made it clear that the young officers in question had not been insubordinate. Baker then explained that he had ordered the Army General Staff to conduct a study of the Aviation Section which would be used as the basis for a reorganization to be overseen by George O. Squier.¹³⁷

The House of Representatives also discussed the Aviation Section on May 4, 1916. Representative Charles Caldwell of New York argued that a Congressional investigation was necessary in order to ensure that the U.S. would become the world's leader in aviation.¹³⁸ Caldwell asserted that the Aviation Section simply did not then have the men or equipment

¹³⁶ Raines, *Getting the Message Through*, p. 166.

¹³⁷ 64th Congress, 1st Session, *House Report Number 368*; 64th Congress, 1st Session, *Congressional Record*, 7420, May 4, 1916.

¹³⁸ 64th Congress, 1st Session, *Congressional Record*, 7420, May 4, 1916.

necessary to compete against their European counterparts. Caldwell's plea for increased funding for the Aviation Section failed.¹³⁹

The findings of the Garlington Board's findings had a lasting impact on the Aviation Section. On May 5, 1916, Secretary Baker removed Reber as the Chief of the Aviation Section. Baker selected Captain Billy Mitchell to serve as the new Chief of the Aviation Section until a replacement could be found. Angered by their actions and their sometimes poor leadership, Baker issued letters of reprimand to Scriven, Reber, and Cowan.¹⁴⁰ Reber quickly left the Aviation Section and the Signal Corps, remaining in the U.S. Army throughout World War I. Cowan was removed from command of the San Diego school. Scriven, who retained his position as the Chief Signal Officer, remained on duty until his retirement in February 1917.¹⁴¹

Baker's reprimand of Scriven, Reber, and Cowan, underscored the problems that had plagued the Aviation Section since 1907. Many in the U.S. Army, the War Department, and Congress, continued to believe that aviation was not worthy of significant investment. As a result, they did not appropriate much money to support the Aviation Section. The airmen, feeling slighted at nearly every turn, developed an attitude towards their military and civilian leaders that sometimes bordered on insubordination. Baker understood that, but believed that the reprimand of Scriven, Reber, and Cowan, was "an essential part of the plan for clearing up the whole aviation question and making a fresh, and I trust better, start."¹⁴²

¹³⁹ 64th Congress, 1st Session, *Congressional Record*, 7420, May 4, 1916.

¹⁴⁰ Herbert A. Johnson, *Wingless Eagle: U.S. Army Aviation Through World War I* (University of North Carolina Press, 2003), p. 132.

¹⁴¹ Raines, *Getting the Message Through*, pp. 166.

¹⁴² Quoted in Herbert A. Johnson, *Wingless Eagle*, p. 129.

To achieve the fresh start that he wanted, Baker chose Colonel George Squier to serve as the new Chief of the Aviation Section. Baker selected Squier for several key reasons. First, Squier had been involved with aviation since 1907 when he served as the executive to General Allen, the Chief Signal Officer. In addition, Squier, who had graduated from the U.S. Military Academy at West Point in 1887 and had earned a Ph.D. from John Hopkins University in 1893, and he had a number of friends in the American industrial and scientific communities who could help move the Aviation Section forward. Finally, Squier had witnessed the British, French, and German air forces in action over the Western Front first-hand.

Squier officially assumed command of the Aviation Section on May 20, 1916. Upon Squier's arrival, Captain Mitchell became his deputy. Within weeks, Congress voted to increase the size and strength of the U.S. military in response to the growing possibility that the U.S. would enter World War I. On June 3, 1916, Congress passed the National Defense Act (NDA) of 1916, which greatly increased the size and budget of the entire U.S. military, including the Aviation Section. Specifically, the NDA increased the size of the Aviation Section to 148 officers, allowed the President to establish the overall size of the enlisted force, and created the Signal Officers Reserve Corps (297 officers) and the Signal Enlisted Reserve Corps (2,000 men). Almost three full months later, on August 29, 1916, Congress appropriated the immense sum of \$13,000,000 to fund the expansion of U.S. military aviation.¹⁴³

General Squier quickly took advantage of the Aviation Section's new financial windfall by establishing the Field Officers Course for Aviation at North Island. Squier patterned the new course after the U.S. Army's staff schools at Fort Leavenworth, Kansas. The course served as

¹⁴³ R. Earl McClendon, *Autonomy of the Air Arm, 1907-1945* (Washington, D.C: Air Force History and Museums Program, 1996). p. 151.

the basis for the many U.S. military aviation courses and schools that followed, including the Air Corps Tactical School.

In November 1916, Secretary Baker issued his annual report. In the report, Baker addressed the state of the Aviation Section. Baker explained that the Aviation Section, which had 60 officers and 260 enlisted men assigned in June 1916, would grow to 77 officers and 1,800 in 1917. More importantly, Baker stated:

The men of the Aviation Corps have been almost exclusively comparatively young men, very young men, indeed, and they have been engaged in an art desperate, daredevil, hazardous indeed, so that they have an attitude toward life and toward themselves that men have who are engaged in an especially hazardous service. Being fliers, they have had rather a disposition to chafe at the restraint and discipline which was made for more normal kinds of service, feeling that they were not adapted to the regulations and restrictions of men who were not engaged in so unusual an occupation. In other words, they had an impatience at being controlled by men who did not themselves know the business in which they were engaged. I do not want to be understood to criticize these young men. They are pioneering for the army and United States and their exploits are superb. The net result of it all is that I am going to reorganize the entire Aviation Section.¹⁴⁴

The reorganization of the Aviation Section happened at a critical point in the service's existence. Beset by problems with both personnel and equipment, the Aviation Section was on the verge of internal collapse when Congress finally decided to fund aviation at an unprecedented level. Baker, who was well aware of the difficulties the airmen had dealt with, hoped that the reorganization would resolve many of those challenges. However, Baker did not direct any significant changes to the existing structure of the Aviation Section at that time. Instead, he hoped that General Squier's leadership would be enough to appease airmen until they were ready to handle their own service.¹⁴⁵

¹⁴⁴ Staff, "Baker Talks," *Aerial Age Weekly*, Vol. III, No. 5, April 17, 1916, pp. 141-142.

¹⁴⁵ Staff, "Baker Talks," *Aerial Age Weekly*, Vol. III, No. 5, April 17, 1916, p. 141; Secretary Baker stated: "A very large part of the control of any branch of the Army is administrative and disciplinary, and has nothing to do with the technical question of actual operation. So what you need in the Aviation Corps is not to have another Corps, but a man of mature yet severe judgment and trained disciplinary ideas to restrain the exuberance of youth." Quoted in McClendon, *Autonomy of the Air Arm*, p. 21.

The Aviation Section started 1917 with a renewed focus after weathering numerous challenges the previous year. In early January, the 1st Aero Squadron left Mexico after a long and difficult deployment that severely tested the Aviation Section's capabilities. Looking back on the Punitive Expedition, Foulois maintained that it had benefitted the Aviation Section and had ended the violence along the border between Mexico and the U.S. Foulois said that he considered the "experience of our eight-plane air force to have been a vital milestone in the development of military aviation in this country" because it showed that the Aviation Section could be a vital asset for the U.S. Army.¹⁴⁶ He also asserted that the scouting and air mail flights that the 1st Aero Squadron completed during the Punitive Expedition "proved beyond dispute to the most hardened former soldier congressman that aviation was no longer experimental or freakish."¹⁴⁷

The U.S. Army promoted Squier to the rank of brigadier general on February 14, 1917. Squier replaced Brigadier General Scriven as the Chief Signal Office. Scriven chose to retire from the Army in the wake of the problems uncovered within the Aviation Section in 1916. Upon assuming command, Squier selected Lieutenant Colonel John B. Bennet as the head of the Aviation Section. Bennet immediately worked on increasing the number of personnel in the Aviation Section.¹⁴⁸

Bennet's efforts were important but ultimately did not significantly increase the size of the Aviation Section. As a result, when the U.S. declared war on Germany on April 6, 1917, the Aviation Section remained a relatively small and hollow force. The Aviation Section had

¹⁴⁶ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 136.

¹⁴⁷ *Ibid.*, p. 136.

¹⁴⁸ Hennessy, *The United States Army Air Arm*, pp. 192-194.

ordered 366 airplanes in 1916 but had received only 83 by the end of the year. More importantly, the aircraft in use in the Aviation Section were not combat-capable aircraft. As the Assistant Chief of Air Staff, Intelligence Historical Division stated in his report on the Aviation Section: “No airplane in America up to 1917 had ever mounted a machine gun, and aviation personnel had practically no knowledge of radiotelegraphy and telephony, photography, bombing equipment, lights for night flying, aviators clothing, compasses used in flying, or other aviation instruments well known to Aviators of Germany, England, and France.”¹⁴⁹

Conclusion

As demonstrated throughout this chapter, the decades prior to the U.S.’s entry into World War I proved to be very tumultuous for American military aviators. Throughout much of that time, U.S. Army leaders, as well as many of the members in the U.S. Congress, simply did not believe that aviation would ever contribute much to the U.S. military. Consequently, neither the U.S. Army nor Congress provided much funding for the nation’s fledgling air force.

In spite of that reality, airmen continued to push forward in order to gain centralized control over air power. They faced a determined opposition that did not have faith in air power or airmen’s ability to properly employ such a force. Yet, they did not relent because they believed that the airplane would be developed into a weapon of war that would change warfare forever. Although airmen had very little evidence to base their theories on, they were convinced that air power possessed tremendous potential. They were prepared to demonstrate what air power could do—all they needed was a conflict to take part in.

¹⁴⁹ Assistant Chief of Air Staff, Intelligence Historical Division, *Organization of Military Aeronautics, 1907-1935*, pp. 26-27.

Chapter 2 – The Rise of the True Believer: Billy Mitchell in World War I

The mindset that American airmen formed between 1907 and 1917 continued to guide American military aviation after the United States entered World War I. Desperate to prove their value to their superiors in the U.S. Army and Congress, airmen worked tirelessly to show what air power was capable of. During the conflict, one American emerged as the most vocal proponent of American air power. That man, William “Billy” Mitchell, developed into the most visible embodiment of that mindset as a result of his interactions with General Hugh “Boom” Trenchard, commander of the Great Britain’s Royal Flying Corps in France. Mitchell’s time with Trenchard was particularly important because it helped convince him that air power was more than just a support branch for the ground forces. Mitchell's transformation from measured supporter of air power to the most urgent and enthusiastic proponent for the advancement of air power was only the most conspicuous evidence of what was happening among the majority of the aviators in the U.S. Army.

The State of American Military Aviation

The U.S. Aviation Section entered World War I a largely hollow force due to the way in which Congress and the U.S. Army had treated the fledgling service between 1907 and 1916. The National Defense Act of 1916 improved the situation somewhat by authorizing the Aviation Section to expand. As a result, the Aviation Section had formed 24 squadrons by the time Congress declared war on Germany on April 2, 1917. However, of those 24 squadrons, only the 1st Aero Squadron was fully organized, trained, and equipped.¹⁵⁰

¹⁵⁰ Robert F. Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960, Volume I*, p. 19-24.

In addition to the lack of trained personnel, the Aviation Section faced a shortage of doctrine and a dearth of leaders able to execute what little doctrine there was. Brigadier General Benjamin Foulois, who was one of the first U.S. military aviators, was also one of the few U.S. Army officers with enough aviation experience to properly develop doctrine. Foulois, however, was not particularly interested in such things. Consequently, Lieutenant Colonel William “Billy” Mitchell quickly developed into the Aviation Section’s leading thinker. During World War I, Mitchell proved to be one of the Aviation Section’s best leaders and its primary architects of tactics and doctrine.

In addition to being an excellent theorist, Mitchell was, arguably, one of the most intriguing individuals in American military history. Historian C.V. Glines asserts that Mitchell “was a crusader who had the vision to understand the potential of air power long before his contemporaries.” Glines also maintains: “To most, he was a hero, without whose dire warning the United States might have never been able to field the world’s largest air force in time to fight World War II.”¹⁵¹ Another historian, Walter J. Boyne, contends: “Mitchell proved to be the brutal backing block behind whose slashing efforts other men would act as quarterbacks to advance the concept of an independent air force.”¹⁵²

Mitchell certainly was a “crusader” and a “brutal backing block” throughout his career in the U.S. Army. He was also a theorist who had the ability to imagine what possibilities the future might hold for air power. During World War I, Mitchell used that ability, as well as his skills in managing personnel and resources, to develop some of the Aviation Section’s earliest doctrine. His work in France during World War I requires especially close scrutiny because it

¹⁵¹ C.V. Glines, “William ‘Billy’ Mitchell: An Air Power Visionary,” *Aviation History*, September 1997.

¹⁵² Walter J. Boyne, *The Influence of Air Power upon History*, p. 142.

had a lasting impact on the Aviation Section and its successor organizations—the United States Air Service, United States Army Air Corps, United States Army Air Forces, and the United States Air Force.¹⁵³ Thrust into a conflict that held seemingly limitless possibilities and unending challenges, Mitchell excelled at putting theory into practice. In less than two years, Mitchell led the effort to craft an airpower strategy that enabled the U.S. Air Service to successfully compete in the air war over the Western Front. More importantly, he met with French and British air power leaders who, shaped his theories on the employment of air power. Thus, Mitchell’s experiences during World War I provided the foundation that he, as well as other air power leaders who followed, built upon throughout the interwar years.

Mitchell’s Early Career

Mitchell’s background contributed significantly to his approach toward leadership, his self-confidence, and his interactions with others. Born on December 29, 1879, in Nice, France, Mitchell began his military career at the age of 18 when he joined the United States Army on May 14, 1898. During Mitchell’s junior year at Columbia College (later renamed George Washington University) the United States declared war on Spain.¹⁵⁴ Like many other young men

¹⁵³ The U.S. Air Service, which replaced the Aviation Section, existed from May 24, 1918–July 2, 1926. The Aviation Section was disbanded and its assets became part of the U.S. Army Air Corps (USAAC) existed from July 2, 1926–March 9, 1942. The USAAC became part of the U.S. Army Air Forces (USAAF) on June 20, 1941. The USAAF existed from June 20, 1941–September 18, 1947. The USAAF was disbanded on September 18, 1947. The Department of Defense activated the U.S. Air Force on September 18, 1947, following the passage of the National Security Act of 1947.

¹⁵⁴ Ruth Mitchell, *My Brother Bill: The Life of General “Billy” Mitchell* (New York: Harcourt, Brace and Company, 1953), p. 32; Roger G. Miller, *Billy Mitchell: “Stormy Petrel of the Air,”* (Washington, D.C.: Office of Air Force History, 2004), p. 2.

of his generation who had been regaled with tales of the American Civil War, Mitchell was eager to serve his country and experience new things.¹⁵⁵

Mitchell enlisted in the First Wisconsin volunteer regiment as a private. Mitchell's father, a Civil War veteran who had served in the 24th Wisconsin and as a member of the United States House of Representatives and the United States Senate, thought that his son was better suited for a commission. Consequently, with more than a little help from his well-connected father, the younger Mitchell received his commission as a second lieutenant within three weeks of signing on as an enlisted man.¹⁵⁶

Mitchell transferred to the U.S. Signal Corps shortly after receiving his commission because he thought that it suited his talents. After joining the Signal Corps, Mitchell took charge of all the telephone and telegraph lines within the camp that his unit occupied in Florida as they waited to deploy to support the Spanish-American War. Much to Mitchell's dismay, the conflict ended while Mitchell and his unit were still in Florida. Despite the disappointment of not being able to demonstrate his bravery in battle, Mitchell retained a strong desire to continue his military service and begged his superiors to send him to Cuba as part of the occupation forces.¹⁵⁷

¹⁵⁵ In *Fighting for American Manhood: How Gender Politics Provoked the Spanish-American and Philippine-American Wars*, historian Kristin L. Hoganson argues that American men whose fathers had fought in the American Civil War felt the need to prove themselves after growing up in the shadow of that devastating conflict. Hoganson asserts that American men's perceptions of themselves drove them seek a conflict through which they could find their place in a rapidly-changing nation that had been re-shaped by the fight for women's suffrage, social Darwinism, and growing imperialism. Kristin L. Hoganson, *Fighting for American Manhood: How Gender Politics Provoked the Spanish-American and Philippine-American Wars* (Yale University Press, 2000), pp. 1-8.

¹⁵⁶ Ruth Mitchell, *My Brother Bill*, p. 33. Typically, an enlisted soldier who was in the in the United States Army at the time Mitchell joined would have to fulfill the terms of their enlistment prior to being commissioned. However, it was not uncommon for some enlisted men, especially those with conspicuous leadership abilities, to quickly move into the officer ranks. Mitchell quickly showed such traits, but his advancement into the officer ranks was solely due to his father's influence. The requirements for such advancement changed as a result of the reforms spearheaded by U.S. Secretary of War Elihu Root between 1899 and 1904. James E. Hewes, Jr., *From Root to McNamara: Army Organization and Administration, 1900-1963*, pp. 3-20.

¹⁵⁷ Roger Miller, *Billy Mitchell: "Stormy Petrel of the Air,"* p. 2.

As he had done shortly after joining the U.S. Army, Mitchell's father used his status as a U.S. senator to help his son achieve his goal of going to Cuba. Working as a Signal Corps officer in Cuba, Mitchell led the effort to set up a communications system on the island. Within four months of arriving, Mitchell and his troops had installed 136 miles of telegraph wire in Santiago Province. While at work in Cuba, the always adventurous Mitchell heard rumors of the difficulties in the Philippines and once again lobbied his superiors to send him to assist in putting down the Filipino Rebellion.¹⁵⁸

In August of 1899, Mitchell received orders to proceed to the Philippines. Upon arrival, Mitchell was assigned to the division commanded by General Arthur MacArthur, the father of General Douglas MacArthur. In the Philippines, Mitchell oversaw the construction of telegraph lines. His assignment in the Philippines was not without great risk. On several occasions, Mitchell experienced the hand-to-hand fighting that typified the conflict. In April 1901, after approximately two years of grueling work, he returned to the United States.¹⁵⁹

Shortly after Mitchell returned to the U.S. he was promoted to first lieutenant in the Signal Corps, a position which granted him a coveted "regular army" commission. Shortly after his promotion, Major General Adolphus Greely, Chief of the Signal Corps, selected Mitchell to go to Alaska to survey the construction of a communications systems designed to connect the remote Alaska Territory to Canada and the rest of the U.S. Over the next two years, most of

¹⁵⁸ Alfred Hurley, *Billy Mitchell: Crusader for Air Power* (Bloomington: Indiana University Press, 1975), p. 5.

¹⁵⁹ Mitchell, *My Brother Bill*, pp. 47-59.

which he spent in the harsh, isolated, and largely unpopulated Alaskan wilderness, Mitchell and his troops built a nearly 1,700-mile telegraph line.¹⁶⁰

Following his arduous two-year tour in Alaska, Mitchell moved to Fort Leavenworth, Kansas, home to the Army's Infantry and Cavalry School, Staff College, and Signal School. At Fort Leavenworth, Mitchell served as an assistant instructor at the Signal School and as a Signal Company commander.¹⁶¹ During that assignment, which lasted from 1903 to 1909, Mitchell first delved into the rapidly evolving world of air power. During that time, he produced a study entitled "The Signal Corps with Divisional Cavalry and Notes on Wireless Telegraphy, Searchlights and Military Ballooning."¹⁶² Although Mitchell's duties at Fort Leavenworth did not involve any direct contact with the recently developed airplane, largely because they remained few and far between throughout that period, he had cultivated an intense interest in aviation that lasted throughout the rest of his life.

In 1909, Mitchell left Fort Leavenworth and returned to the Philippines. Mitchell's second tour in the Philippines was far different than his first tour. Mitchell conducted frequent trips to the many islands between the Philippines and Formosa, an island to the north controlled by the Japanese.¹⁶³ As part of his reconnaissance tours, Mitchell spent a great deal of time studying the Chinese, Japanese, and Russian military, as well as visiting some of the key battlefields of the recent Russo-Japanese War. Like many other U.S. military personnel familiar

¹⁶⁰ Hurley, *Crusader for Air Power*, p. 9.

¹⁶¹ *Ibid.*, pp. 10-11.

¹⁶² *Ibid.*, p. 11.

¹⁶³ Formosa is commonly known as Taiwan.

with the tensions in the area, Mitchell asserted that the U.S. would soon come into conflict with Japan.¹⁶⁴

Mitchell's first fourteen years of military service provided him with a great deal of experience that served him throughout the remainder of his life. Mitchell had matured a great deal during his time in the Army. As historian Roger G. Miller noted in *Billy Mitchell: Stormy Petrel of the Air*, the Army had given Mitchell a "worldwide view, trained him to think in terms of mass warfare, hardened him in guerilla combat, and taught him an appreciation for rapid technical advances."¹⁶⁵ He also discovered that military service was something he excelled at. Most importantly, he developed an interest in learning and planning that served him well over the remainder of his military career.

Enter Aviation

In March 1912, the U.S. Army selected Mitchell to serve on the Army's General Staff in Washington, D.C. During his time on the General Staff, which Secretary of War Elihu Root had established to improve the U.S. military following the Spanish-American War, Mitchell came into frequent contact with young members of the Aeronautical Division such as Lieutenant Henry "Hap" Arnold, whom he had met at the U.S. Army flying school in College Park, Maryland.

Tensions that had developed between U.S. Army leaders and the Aeronautical Division, who felt neglected by their superiors, came to a head the following year. In 1913, Congressman James Hay of Virginia introduced a bill that, if passed, would have "created an 'air corps'

¹⁶⁴ Miller, *Billy Mitchell*, p. 3.

¹⁶⁵ *Ibid.*, p. 4.

equivalent in stature to the infantry, cavalry, or artillery.”¹⁶⁶ Beginning in August 1913, the House Military Affairs Committee held hearings to determine whether such a move was needed. The committee asked Mitchell to testify because of his experience in the Signal Corps and on the General Staff. During his testimony, Mitchell displayed little of the outspokenness that would later gain him national fame. He argued that all U.S. Army aviation assets should remain part of the Signal Corps because the aircraft observations were a key component of the existing Signal Corps communication system.¹⁶⁷ Mitchell, quite contrary to his later views, maintained that, “If we are going to try and build up aviation in this country, what’s the use of trying to create a separate branch...causing all sorts of complications? I believe it would set aviation back to create a separate organization.”¹⁶⁸ As a result of the testimony delivered by Mitchell, as well as several others, the House Military Affairs Committee decided that all U.S. Army aviation assets would remain in the Signal Corps.¹⁶⁹

By the outbreak of World War I in August 1914, Mitchell had become thoroughly occupied with his duties on the General Staff. Handling information that arrived from U.S. military personnel stationed throughout Europe, Mitchell provided maps for the daily briefings

¹⁶⁶ The School of Advanced Air power Studies, *Paths of Heaven: The Evolution of Airpower Theory*, ed. by Colonel Phillip S. Mellinger, USAF (Maxwell AFB, Alabama: Air University Press, 1997), p. 83.

¹⁶⁷ Foulois had been involved in aviation since 1909 when “Orville [Wright], taking with him Lieutenant Benjamin D. Foulois of the infantry, completed the final official trial of the Wright plane. They flew five miles cross country in each direction.” Mitchell, *My Brother Bill*, p. 182.

¹⁶⁸ Quoted in Burke Davis, *The Billy Mitchell Affair*, (New York: Random House, 1967), p. 24.

¹⁶⁹ At the time of the 1913 hearings, the U.S. had spent about \$435,000 on aviation resulting in 28 airplanes in varying conditions. In Europe, the situation was far different as “Germany had spent \$28,000,000 and had a force of 400 planes in the air and many more on order. France had spent \$22,000,000 and also had 400 planes. Russia had spent \$12,000,000 and had 300 planes; Italy \$8,000,000 for 200 planes. Such expenditures on the part of the European air forces meant that America ranked 14th in money spent on aviation and 12th in total number of serviceable airplanes. Roger Burlingame, *General Billy Mitchell: Champion of Air Defense* (New York, Toronto, London: McGraw-Hill Book Company, Inc., 1952), pp. 61-62.

given to the War Department, the White House, and Congress “that portrayed the progress of the various armies from day to day.”¹⁷⁰ Mitchell followed developments in aviation during the war through the reports of Major George O. Squier, who served as a U.S. military attaché in London, England, during the first two years of the conflict.

In 1915, the U.S. War Department generated a report on the state of U.S. military aviation at that time. The unnamed author of the report argued that the primary role of all Signal Corps aviation assets was supporting the Army’s ground forces. The author also maintained that Signal Corps aircraft could be used for coastal defense if the U.S. Navy did not defeat invading forces. While the author of the report was never disclosed, historian Burke Davis conjectured that Mitchell had written the report.¹⁷¹ Although significant, for historical purposes at the very least, the report did not have a substantial impact on either the U.S. Army or U.S. Navy. As for Mitchell, he made no public statements on Signal Corps aviation during the year. Thus, it is almost impossible to directly link Mitchell with the report.

In 1916, Mitchell became directly involved with the Aviation Section for the first time. In the spring of 1916, significant difficulties between aviators and their non-flying superiors rocked the Signal Corps Aviation School in San Diego, California. The disagreements, verging on insubordination at times, led the War Department to relieve Colonel Samuel Reber as the Chief of the Aviation Section on May 5, 1916. The War Department selected Mitchell to serve as the temporary head of the Aviation Section until Colonel George Squier could return to the U.S. after completing his duties in London. When Squier returned the following month, Mitchell

¹⁷⁰William B. Mitchell, *Memoirs of World War I: From Start to Finish of our Greatest War* (New York: Random House, 1960), p. 10.

¹⁷¹ Davis, *The Billy Mitchell Affair*, p. 25.

became his assistant. In Mitchell's characteristic style, he devoted a great deal of energy toward learning as much as he could about aviation.¹⁷²

Shortly thereafter, Mitchell began taking flying lessons to understand better the duties associated with his new posting.¹⁷³ Mitchell even took the flying lessons in his free time and at his own expense, suggesting how deeply he believed he needed to understand his men in order to lead them better in the Aviation Section. Mitchell recalled that he "used to take a boat down the Potomac River from Washington [D.C.] to Newport News, Virginia, on Saturday night, fly all day Sunday, and be back in the office on Monday."¹⁷⁴ Although he did not earn his wings while attending the Glenn Curtiss Aviation School, the lessons did provide him with valuable insight into the rigors, as well as the dangers, of aviation.

Bound for France

In January 1917, the War Department asked Squier to send an observer from the Aviation Section to Europe to determine how the British and French air forces had organized and equipped their pilots to fight the German Air Service. Mitchell, always confident in his own abilities, argued that he was the right man for the task because he was one of the few military men to understand that World War I had already changed the nature of modern warfare forever.

Mitchell later asserted:

It was almost impossible to awaken the slow-working minds of our regular army officers to any action. A few took a passing interest, but there was practically no effort made to revise the old military system we had been using since the Civil War. In spite of the fact that foreigners were ordering a great number of aircraft in this country and taking many of our best young men

¹⁷² Miller, *Billy Mitchell*, p. 4.

¹⁷³ Davis, *The Billy Mitchell Affair*, p. 26.

¹⁷⁴ Mitchell, *Memoirs*, p. 10.

into their services, we still sat by and did practically nothing. I therefore decided to seek service in Europe and learn as much as possible about the trend of affairs before this country entered the war. I was sure in my own mind that when we did, we would have to be controlled, taught and armed by the Europeans as we knew nothing about that kind of warfare ourselves.¹⁷⁵

Due in equal parts to his experience and persuasiveness, not to mention the fact that he spoke fluent French, Mitchell was selected for the job and left the U.S. on March 19, 1917 aboard the ship *Alfonso XIII* bound for Corunna, Spain.¹⁷⁶ On April 2, 1917, two weeks after he arrived, the U.S. Congress declared war on Germany. Reaching Paris eight days later, on April 10, 1917, Mitchell reported to Major James A. Logan and Major Marlborough Churchill, the two U.S. Army officers in charge of all U.S. Aviation Section observers in France. Mitchell immediately recognized the assistance Logan's and Churchill's presence provided U.S. forces stating:

Long before our actual declaration of war, they had laid out in remarkable detail plans which included the designation of ports at which American troops should be debarked, the railroads they should use, the areas to which they should be assigned for training, what their organization should consist of, their points of supply, locations for hospitals, military schools, parks for motor vehicles, horses and mules. They thoroughly realized that our regular army, bound by red tape and obsolete traditions, would be unequal to the task of organizing, training and handling the vast hordes we were about to throw into the contest. French and British officers of experience had to direct that.¹⁷⁷

After meeting with Logan and Churchill, Mitchell promptly began to establish a headquarters from which he could oversee all U.S. aviation matters in France. Years later, recalling the experience, Mitchell said: "I began the arrangement of an office for handling aviation. No funds were available from Washington, nor would they allot any, even after repeated cables." Fortunately for Mitchell, as well as the Aviation Section, the French Army

¹⁷⁵ Mitchell, *Memoirs*, p. 11.

¹⁷⁶ *Ibid.*, p. 11.

¹⁷⁷ Mitchell, *Memoirs*, p. 16.

decided to provide him with two officers, Captain Raulin and Captain Benedict, to help him get things started. With the help of his French aides, Mitchell prepared what he referred to as a “scheme of organization” for the anticipated American aviation forces. According to Mitchell, he and his staff compiled “a list of all equipment needed, showing the kinds of airplanes, types of engines and instruments, and an estimate of the raw materials required for the make-up of such planes, including armament and radio, with notations on the probable time it would require to construct them.”¹⁷⁸

As part of his work, Mitchell argued that the U.S. should use French airplanes because there were no U.S. airplanes in Europe. Furthermore, Mitchell knew that the French continued to produce new, state-of-the-art aircraft at a fast pace while the U.S. aviation industry had only just begun to increase its production because the U.S. declaration of war was so recent.¹⁷⁹

Lieutenant Lucien Thayer, a U.S. Air Service pilot and official historian during the conflict, assessed the state of the U.S. aviation: “In the United States the aviation industry was still in its infancy. There were no American-made planes which possessed military combat value. The few airplanes that were being produced there were fit only for primary training.”¹⁸⁰

On April 20, 1917, Mitchell sent the completed paperwork to Washington, D.C. hoping for a swift response. But no reply came from the War Department, which was quite busy readying the U.S.’s entry into combat in World War I. As a result, Mitchell met with French Secretary of Aviation Daniel Vincent to discuss boosting the number of French airplanes being

¹⁷⁸ Ibid., p. 16.

¹⁷⁹ Lucien Thayer, *America’s First Eagles: The Official History of the U.S. Air Service, A.E.F. (1917-1918)* (Mesa: Champion Fighter Museum Press, 1983), pp. 9-10.

¹⁸⁰ Thayer, *America’s First Eagles*, p. 10.

produced. Following their meeting, Vincent ordered French airplane factories to increase production to meet the anticipated U.S. demand. Mitchell maintained, quite correctly given the state of the U.S. aviation industry at the time, that Vincent's initiative probably saved the U.S. Aviation Section because without his help, as Mitchell remembered the matter, the "air force would have been totally without equipment until just before the Armistice, when the first suitable American planes began to arrive."¹⁸¹

Soon after meeting with Vincent, Mitchell requested permission to participate in French Army operations near Chalons in order to witness how the French employed air power at the front. Upon arriving, Mitchell was immediately impressed by the quality of the men and the machines at the French aerodromes, as well as the precision flying performed by the experienced and combat-tested French pilots. Mitchell recalled that the French pilots "were encouraged to do all the acrobatic flying possible, to keep their hand in.... Their flying appeared to me to be excellent."¹⁸² In particular, Mitchell was most impressed by the quality of the French aircraft, which far outperformed the underpowered airplanes he had flown in America.

Mitchell's visit to the French aerodrome near Chalons left him with the impression that the French Air service was "very efficient...due to their excellent planes, their splendid mechanics and their well-trained aviators."¹⁸³ However, Mitchell also came away from the front with the somewhat frightening realization that the U.S. lacked many of the things needed for the fight its men were about to enter. Assessing the state of the U.S. Air Service in the spring of 1917, Mitchell later explained in his memoirs: "Where we were woefully deficient in equipment

¹⁸¹ Mitchell, *Memoirs*, p. 18.

¹⁸² *Ibid.*, p. 22.

¹⁸³ Mitchell, *Memoirs*, p. 25.

was very apparent after only a few hours at the front: it was in aircraft, artillery, machine guns, anti-aircraft guns, bombs, grenades; in fact, about everything.”¹⁸⁴

Despite the difficulties facing the U.S. Air Service, Mitchell understood that the one asset that the U.S. possessed that the British, French, and Germans did not was manpower. In a letter to a fellow officer who was still in the United States, Mitchell expressed the French Air Service’s view toward the potential benefits of U.S. assistance. Mitchell wrote:

The command of the air is of vital importance to the success of all movements on a big scale. To date it is a hand to hand struggle for the supremacy thereof. The reports of no German machines in the air and so forth are intended so far as I can see for popular consumption; the truth of the matter is that neither the French nor the British nor the Germans have that supremacy established indisputably. It is a case of the continual struggle for the superiority... The main fact is that the French feel that at sea and in the air the United States ought to help at once.¹⁸⁵

The month after his visit to the French aerodromes at Chalon, Mitchell met with a man who would have a substantial impact on the future of military aviation. In May, Mitchell met with Major General Hugh “Boom” Trenchard at the Royal Flying Corps (RFC) headquarters near Abbeville, France. Much like Mitchell, Trenchard began flying late in his military career in order to gain experience he believed was necessary to properly lead the aviation forces over which he had charge.¹⁸⁶ Mitchell, who shared many traits with his British colleague, was struck with Trenchard’s commanding presence and maintained that his “judgment inspired my immediate confidence and his whole personality my deep respect, and we became fast friends at once.”¹⁸⁷

¹⁸⁴ Ibid., p. 24.

¹⁸⁵ Thayer, *America’s First Eagles*, p. 11.

¹⁸⁶ Trenchard received his pilots license on August 13, 1912. Andrew Boyle, *Trenchard: Man of Vision* (London and Glasgow: Collins Clear-Type Press, 1962), p. 99.

¹⁸⁷ According to Mitchell, Trenchard was “the father of the British fighting aviation. At the beginning of the war he was a man of about forty-five, a pilot and thoroughly convinced of the enormous value of this great arm of the

Busy with a multitude of tasks, Trenchard did not immediately appreciate Mitchell's presence, especially since the inquisitive American had a bevy of questions for the RFC leader. Mitchell, however, quickly reversed Trenchard's attitude by telling the general that "he had such an excellent organization that it should not need his leadership for the space of a day or two."¹⁸⁸ As result of Mitchell's persuasiveness, Trenchard agreed to spend the next few days educating Mitchell on the realities of the air war over the Western Front. During their brief time together, Mitchell was deeply impressed by Trenchard's desire to remain on the offensive at all costs.

Trenchard asserted:

It is sometimes argued that our [RFC] aeroplanes should be able to prevent hostile aeroplanes from crossing the line, and this idea leads to a demand for defensive measures and a defensive policy. Now is the time to consider whether such a policy would be possible, desirable and successful. It is the deliberate opinion of all those most competent to judge that this is not the case, and that the aeroplane is an offensive and not a defensive weapon. Owing to the unlimited space in the air, the difficulty one machine has in seeing another, the accidents of wind and cloud, it is impossible for aeroplanes, however skillful or vigilant their pilots, however powerful their engines, however mobile their machines, and however numerous their formations, to prevent hostile aircraft from crossing the line if they have the initiative and determination to do so.¹⁸⁹

Trenchard continued his discussion with Mitchell by stating that "British aviation has been guided by a policy of relentless and incessant offensive." Of course, Trenchard's insistence on the offensive at all times proved costly, such as at the first Battle of the Somme and during "Bloody April" of 1917. While the offensive did grant the RFC some measure of success in

service." Furthermore, Mitchell argued that "Under his impulsion, the British air service grew from a few second-class planes to a great force, with more than two thousand airplanes on the line." *Ibid.*, p. 104.

¹⁸⁸ Mitchell, *Memoirs*, p. 104.

¹⁸⁹ *Ibid.*, p. 106.

attacking targets behind German lines, the overall impact of Trenchard's policy included the loss of many well-trained aircrews and the airplanes they flew.¹⁹⁰

Immediately after departing Trenchard's headquarters, Mitchell worked with the staff of the French Army Group on a letter addressed to the French Minister of War that outlined the possible contributions of U.S. air power. On May 23 1917, French Premier Alexandre Ribot included the figures from the Army Group's letter in a message to Washington D.C. Known as the "Ribot Cable," the French Premier's request stated:

It is desired that in order to cooperate with the French aeronautics, the American government should adopt the following program: the formation of a flying corps of 4,500 airplanes -- personnel and material included-- to be sent to the French front during the campaign in 1918. The total number of pilots, including reserve, should be 5,000 and 53,000 mechanics. 2,000 planes should be constructed each month as well as 4,000 engines by the American factories. That is to say, that during the first six months of 1918, 16,500 planes (of the last type) and 30,000 engines will have to be built. The French Government is anxious to know if the American Government accepts this proposition, which would allow the Allies to win the supremacy of the air.¹⁹¹

Unfortunately, Ribot's cable did not specify the types of airplanes to be built. On May 17, 1917, Mitchell sent a message to Washington that included specifications for the types of airplanes that the Aviation Section would need. Mitchell's letter stressed that bombardment and fighter aircraft were the most crucial types of airplanes needed. Reaching Washington on June 4, 1917, Mitchell's letter apparently got little attention. As a result, reconnaissance aircraft were slated to be built in numbers that far exceeded those of bombardment of fighter aircraft.¹⁹²

By the end of May 1917, Mitchell reassessed the state of U.S. aviation in Europe. Mitchell maintained that his "own little air force was in excellent shape. We had all the

¹⁹⁰ Lawson, Eric and Jane, *The First Air Campaign: August 1914 – November 1918* (Pennsylvania: Combined Books, 1996), p. 118.

¹⁹¹ Thayer, *America's First Eagles*, p. 11.

¹⁹² Hurley, *Crusader for Air Power*, p. 27.

information we needed, our plans of organization worked out, and everything written up as to how we could work.” However, Mitchell and the Aviation Section had only one airplane in the entire country at the time although there were “several hundred Americans in the French aviation schools.”¹⁹³ At the same time, Major General John J. Pershing, who was still in the United States, expressed his dismay regarding the lack of readiness of the Air Service. Pershing assessed that the state of aviation “was such that every American ought to feel mortified to hear it mentioned. We could not have out a single squadron in the field.”¹⁹⁴

In June 1917, the advance elements of the American Expeditionary Force (AEF) began to arrive in France. As the AEF began to establish bases throughout the unoccupied sections of the war-torn country, Mitchell continued to work with French and British air forces in order to build up the Air Service of the American Expeditionary Forces (Air Service, AEF). Of particular importance to the future success of the U.S. Air Service was the Inter-Allied Board which was established to “apportion the equipment and fix the method by which it should be handled.”¹⁹⁵

Around the same time, on June 6, 1917, Mitchell sent a message to Washington D.C. requesting materials the French aviation industry was in short supply of including “soft and hard steels and chrome-nickel...aluminum, bronze, cast iron, brass and copper, and woods.”¹⁹⁶ Mitchell, having met with French aviation leaders, understood the difficulties that the French had when it came to obtaining raw materials. However, Mitchell’s request was largely ignored because American authorities decided to build the American-designed and American-

¹⁹³ Mitchell, *Memoirs*, p. 122.

¹⁹⁴ Quoted in Burlingame, *General Billy Mitchell*, p. 68.

¹⁹⁵ Mitchell, *Memoirs*, p. 123.

¹⁹⁶ *Ibid.*, p. 124.

manufactured Liberty engine. Mitchell, however, did not waste much time fretting over the situation and returned to the front.

After securing larger facilities for his staff in Paris, Mitchell left for the Royal Naval Air Service (RNAS) base of operations at Dunkirk, France. Led by Wing Captain C.L. Lambe, a prewar acquaintance of Mitchell's, the RNAS unit's mission was to attack German shipping and the many German-occupied ports on the coast of Belgium. During the trip Mitchell saw his first large bombardment airplanes, the cumbersome two-engine Handley-Page bombers. Used mostly at night, due to their slow speed and immense silhouette, the Handley-Pages were nonetheless effectively employed by the RNAS against numerous targets in and around Bruges, Belgium. Many of the British officers Mitchell met were convinced that the Handley-Page and the prototype Super Handley-Page would be capable of hitting targets as far into Germany as the Essen district.¹⁹⁷

Following his time at Dunkerque, Mitchell returned to Paris shortly before Pershing and his staff arrived on June 13, 1917. Pershing's arrival developed into quite an event and received so much publicity that French airplanes flew over the city to dissuade any aggressive German airmen from disrupting the festivities.¹⁹⁸ Pershing's staff included many men of talent, one of whom was Major Townsend F. Dodd.¹⁹⁹

¹⁹⁷The Essen district' refers to the area centered on the Rhine-Westphalia state in western Germany. Mitchell, *Memoirs*, p. 129.

¹⁹⁸ Mitchell, *Memoirs*, p. 133.

¹⁹⁹ American ace Edward "Eddie" Rickenbacker recalled that Dodd was the man that first introduced him to Mitchell in late June of 1917. After their first meeting, Mitchell selected Rickenbacker as his driver and eventually encouraged the former race car driver to become a pilot. Edward V. Rickenbacker, *Rickenbacker: An Autobiography* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967), pp. 88-89.

Dodd, serving as Pershing's aviation officer in France, had a great deal of experience in aviation and had served with Pershing in Mexico during the Punitive Expedition to capture Pancho Villa.²⁰⁰ Mitchell met with Dodd soon after the AEF's arrival in Paris and learned that the American aviation industry had made few appreciable gains since his departure from the U.S. Dodd informed Mitchell that he did not foresee any "efficient airplanes" arriving from the United States for a least a year. Dodd, referring to the Chief Signal Officer's office as a "madhouse" because of the immense amount of activity needed to get the U.S. Army on a wartime footing, explained to Mitchell: "Some civilians had been called in who were great industrial organizers and it was hoped something would be forthcoming from them." Yet, Dodd made it clear that the U.S. Army was "perfectly helpless to cope with the aviation problem."²⁰¹

Mitchell had anticipated such delays and scheduled a meeting among Pershing, Dodd, and himself to discuss the situation. Both Dodd and Mitchell argued that the Air Service should be allowed to operate independently and that a "board of officers" should be established to deal with the numerous challenges of equipping and organizing the aviation squadrons as they arrived in France. Pershing accepted both of the recommendations proposed by Mitchell and Dodd. Following the first meeting of the board, two separate telegrams were composed for Pershing to send to Washington. In the first cable, Pershing was to have argued that:

To harmonize and concentrate all efforts I strongly favor establishment of air service department whose head shall be member of executive cabinet charged with all matters pertaining

²⁰⁰ Dodd, who had earned his pilot's wings in 1914, helped develop one of the first bombsights used by the U.S. Air Service, and had been the commander of the 1st Aero Squadron for a brief time. In addition, Dodd was a proponent of separating the Air Service from the Signal Corps. James J. Cooke, *The U.S. Air Service in the Great War, 1917-1919* (London: Praeger Publishers, 1996), p. 19.

²⁰¹ Mitchell, *Memoirs*, p. 135.

to American Air Service. His assistants to be Chief of the Army Air Service, Chief of the Navy Air Service and members of the munitions Board or corresponding organization.²⁰²

In his second cable, Pershing stated:

I strongly urge the importance of having all aviation matters in Europe handled through these Headquarters, both the matters that originate in Europe either in the American service or in the European governments and those matters that originate in the United States and that are handled in Europe either by the American Air Service or by the European governments.²⁰³

The officers on the board decided that Pershing's first cable was not forceful enough to achieve the desired results. As a result, they decided to send the second cable which did result in action on the part of the War Department. In fact, an "American aviation mission" was quickly sent to Europe under the command of Major Raynal C. Bolling.²⁰⁴

Bolling was a nearly perfect choice to lead a team to Europe. In 1915, Bolling had organized and commanded the Motor Machine Gun Company on the New York National Guard that attended the military training camp at Plattsburgh, New York, that same year. Shortly thereafter, he and other members of the New York National Guard formed the 1st Aero Company, New York National Guard. On 23 June 1916, Bolling went to Mineola to begin training the novice pilots in the 1st Aero Company. Energetic recruiting efforts over the next few months further increased the size of the unit from 30 to 45 members.²⁰⁵

Following the U.S. declaration of war on Germany in April 1917, Secretary of War Newton Baker selected Bolling to head a team of experts that investigated and recommended

²⁰² Mitchell, *Memoirs*, p. 136.

²⁰³ Ibid., p. 136.

²⁰⁴ Pershing argued that the Bolling Mission was also a response to the confusion surrounding the real needs of the Air Service in France. He asserted that "fruitless efforts to describe mechanical construction, give definite information concerning production, and otherwise reach decisions, by cable, prompted Washington to send to France a special mission of which Major R.C. Bolling was the head." Pershing, *My Experiences*, p. 160.

²⁰⁵ Henry Greenleaf Pearson, *A Businessman in Uniform*, pp. 67-71.

what airplanes and equipment the US government should produce. The group included Captain V.E. Clarke, Captain E.S. Gorrell, Commander W.G. Westervelt and Lieutenant W.G. Childs of the US Navy, Howard Marmon of the Nordyke and Marmon Company, Herbert Hughes of the Packard Motor Company, C.H. Heilman of the Northway Motor Company, W.B. Hurley of the Midvale Steel Company, R.A. Vail of the Dodge Motor Company, and Stay of the Aluminum Castings Company. Known as the “Bolling Mission,” the group prepared for travel to Europe in mid-June 1917.²⁰⁶

The Bolling Mission arrived in England on 27 June 1917. Having the “full powers to represent the Secretary of War in matters pertaining to the production program in the United States,” Bolling’s group began discussions with the British Ministry of War. According to the Air Service’s official historian, the members of the Bolling Mission “pursued a double-barreled project.” On one hand, they procured foreign airplanes to train American airmen in and on the other, they and selected the “types of motors and planes to be produced in American factories.”²⁰⁷ Bolling, Marmon, and Gorrell met with British authorities to discuss the issue of royalties. The British agreed to “an even exchange of manufacturing rights” as long as the U.S. provided the raw materials.²⁰⁸

After arriving in Paris following the completion of several investigative trips, the men on the Bolling Mission went their separate ways after General Pershing informed Bolling that he needed him to help get the Air Service, AEF, ready for war. Before Bolling dove headlong into

²⁰⁶ Pearson, *A Businessman in Uniform*, p. 117.

²⁰⁷ Lucian Thayer, the Air Service’s historian, assessed the technological advances of the period (mid-1917) stating: “The advances in the conquest of the air were no longer to be estimated over long period of time. They occurred almost monthly. In the competition of manufacturers to meet new technical requirements and to adapt their product to changed tactical uses at the front, types were so rapidly superseding each other that frequently a machine which topped it class would, within a few months, be superseded by another. Thayer, *America’s First Eagles*, 16.

²⁰⁸ Pearson, *A Businessman in Uniform*, p. 119-120.

his duties with the Air Service, he issued his reports. In a letter received by General Foulois on 15 August 1917, Bolling stated:

In our opinion these American needs may be divided into two periods: First period, from the present time to July 1, 1918. Second period, subsequent to July 1, 1918, With every confidence in the ultimate performance of the American production program our investigations of production experience over here and of the sea tonnage situation have convinced us that airplanes and engines produced in America cannot be actually delivered at the front in any great quantity prior to July 1, 1918. Subsequent to July 1, 1918, we believe that American production will not only take care of our needs, but may become a larger factor in maintaining the air forces of our Allies. In considering the period between now and July 1, 1918, due weight must be given to the experience of all foreign countries and manufacturers in the delays in airplane and engine production which were not and could not be foreseen....

After long and careful consideration of this subject, we and all others here have come to the very strong conviction that most of the airplanes and engines for American use at the front and for our training here between now and July 1, 1918, must be produced either in France or Italy where effective and successful methods of production are already in full operation. Because we consider this imperative and absolutely essential to prevent failure of our air campaign next year, an arrangement has been made with the French Government under which they are to produce for us the airplanes and engines....²⁰⁹

In the end, Bolling and his group recommended that the Italian Caproni bomber serve as the model for the first U.S. production bombardment aircraft. Mitchell fully supported the selection of the Caproni but it soon became clear that the U.S. aviation industry did not yet have the capability to produce a significant number of airplanes in the foreseeable future.²¹⁰

Consequently, Bolling's group recommended that the Air Service should rely on British-manufactured airplanes mated with American-made Liberty engines.²¹¹ Mitchell did not favor relying on the Liberty/DH-4 combination, arguing that the French were more than capable of

²⁰⁹ Benjamin Foulois and Colonel C.V. Glines, *From the Wright Brothers to the Astronauts: The Memoirs of Major General Benjamin D. Foulois*, p. 151.

²¹⁰ Pershing asserted: "The investigations made by his [Bolling's] mission confirmed the view that our manufacturers could not begin to furnish airplanes before the summer of 1918. At this time it looked as though we should not have even sufficient airplanes for training, and much less be able to furnish them for troops as they went into the line." Pershing, *My Experiences*, p. 161.

²¹¹ Thayer, *America's First Eagles*, pp. 17-18.

meeting the Aviation Section's requirements. Angry at what he viewed as incompetence among those in Bolling's group, Mitchell vented his frustration, exclaiming: "There must have been a lot of inside work somewhere by the English manufacturers to put this thing over on the Americans."²¹² Disappointed with the politics within the Aviation Section, Mitchell returned to the front to focus on preparing his men for combat.

Mitchell's first stop on his return to the front was the aerodrome occupied by the *Lafayette Escadrille*, a group comprised of Americans who flew for the French.²¹³ Accompanied by Dr. Edmund L. Gros, the man partially responsible for the formation of the *Lafayette Escadrille*, Mitchell intended to recruit American airmen who had flown with the French into the Air Service, AEF.²¹⁴ After inspecting the *Lafayette's* aerodrome, Mitchell and Gros returned to Paris just as large numbers of American troops began arriving in France at the beginning of July 1917. Mitchell later observed: "With the appearance of our troops on the streets of Paris and with the Commander in Chief and his staff established in their headquarters here, we considered that we had formally entered the war. Our air force consisted of one Nieuport airplane which I used myself and that was all."²¹⁵

When Mitchell returned to Paris he learned that Pershing had not approved the recommendations of the "board of officers" regarding the separation of the Aviation Section

²¹²Quoted in Davis, *The Billy Mitchell Affair*, p. 34.

²¹³ Pershing recalled the *Lafayette Escadrille* after the war: "Before we entered the war, a number of young American aviators enlisted in the French air service and later, after persistent efforts on the part of a few leading spirits, the French Minister of War granted them permission to form an organization to be known as the American squadron. This unit was placed under a French captain and later still became known as the Lafayette Escadrille." John J. Pershing, *My Experiences in the First World War* (New York: Da Capo Press, 1995), p. 162.

²¹⁴ Mitchell, *Memoirs*, pp. 139-140.

²¹⁵ Mitchell, *Memoirs*, p. 143.

from the Signal Corps. Consequently, the board lobbied Pershing to send Captain Harold Fowler back to the U.S. to “acquaint” the Aircraft Production Board with the immediate needs of the Air Service, AEF.²¹⁶ After Fowler left for the U.S., Mitchell continued trying to ready the untested men of the Air Service, AEF for their first combat missions. Mitchell contended that the Aviation Section needed a single leader “who would be Commander in Chief; and not have every Tom, Dick, and Harry in the United States, who were neither pilots nor had ever seen an armed German, prescribe what should be done against the enemy.”²¹⁷

By August 1917, Mitchell and his staff had received word that Congress had passed laws to expand dramatically the size of the Aviation Section.²¹⁸ Mitchell was pleased that the Aviation Section was finally getting the recognition he thought it deserved, but he was discouraged to hear that it would remain part of the Signal Corps. Mitchell argued that the Aviation Section remaining part of the Signal Corps “meant inefficiency in its worst form, as the Signal Corps had developed into a political organization at the top.”²¹⁹

Mitchell’s comments point toward his growing desire to centralize power within the Aviation Section. He believed that centralized control would allow the Aviation Section to

²¹⁶ Fowler had flown with the Royal Flying Corps prior to the U.S. declaration of war. Cooke, *The U.S. Air Service*, p.37.

²¹⁷ Cooke, *The U.S. Air Service*, p. 146.

²¹⁸ As a result of the laws passed by Congress, Pershing “made a contract with the [French] Air Ministry late in August committing us [U.S.] to an expenditure of \$60,000,000 for 5,000 planes and 8,500 engines to be delivered as rapidly as possible in intervals before the first of June, 1918, on condition that we should provide certain tools and raw materials.” Pershing, *My Experiences*, p. 161.

²¹⁹ Mitchell, *Memoirs*, pp. 149-150.

function more effectively because it helped ensure that one individual, or a group of individuals, would have oversight over their service's activities and operations.²²⁰

Although Mitchell remained committed to the idea of centralizing control within the Air Service, AEF he had to focus on the immediate tasks at hand. Having learned of the Aviation Section's coming expansion, Mitchell met with many officers who had just arrived in France because they had more detailed knowledge of the political debates in regarding aviation that recently occurred. The officers informed Mitchell that the Airco DH.4 and Liberty engine combination, initially proposed by the Bolling Mission, had been selected over the French-built Salmson, which Mitchell had recommended.²²¹ Despite his disappointment with the decision, Mitchell had little time to protest because he had just been selected as Commander of the Air Service, A.E.F. Upon receiving his new assignment Mitchell sent Major Churchill to the small town of Chaumont to find a suitable building to house their new headquarters closer to the front.²²²

At the beginning of September, the newly promoted Colonel Mitchell and his staff at Chaumont began to busily prepare for the arrival of large numbers of Aviation Section personnel. During the same period General Pershing selected a General W.L. Kenly to serve as the Chief of the Air Service on his staff in order to "coordinate the fighting air force on the line

²²⁰ I.B. Holley, Jr., *Ideas and Weapons: Exploitation of the Aerial Weapon by the United States during World War I; A Study in the Relationship of Technological Advance, Military Doctrine, and the Development of Weapons*, pp. 46-53.

²²¹ Major Bolling was selected as Chief of the Interior Air Service of the A.E.F. at the same time. Mitchell recalled that he and Bolling "drew up writing what duties each of us would be and we had a thorough understanding so as to prevent friction as far as practicable. Of course, this arrangement left no one in supreme command of the air forces but our staff had not yet gotten to the point where they knew enough about handling air forces to approve an up-to-date policy, where one person would be responsible for all air activities." Mitchell, *Memoirs*, p. 151.

²²² The chateau Churchill selected was originally built during the reign of Louis XV to serve as a "hunting box" in the Marne region. *Ibid.*, p. 153.

with the service of supply, deal with the representatives of other countries regarding aeronautical matters and communicate with the United States on these subjects.”²²³ Mitchell was pleased that Pershing had selected Kenly because it allowed him “to handle the fighting on the line without interference.” Mitchell also had a good opinion of General Kenly.²²⁴ Primarily, Mitchell appreciated Kenly’s desire to learn all that he could about the Air Service and about the AEF’s operations in France as well as the General’s willingness “to do anything in his power to” to assist Mitchell and his staff.

With Kenly’s selection as Chief of the Air Service, Mitchell became the Commander of the Air Service, Zone of Advance.²²⁵ As previously indicated, Mitchell was not at all displeased with his new job because it gave him command of the Air Service forces closest to the front, allowing him to personally direct the training of his flying officers before they entered combat. With his new command in hand, Mitchell coordinated his efforts with those of both Bolling (who was in charge of logistical considerations) and Kenly (who lobbied Pershing on the Air Service AEF’s behalf) in order to prepare the largely inexperienced men of the Air Service, AEF for the major operations they were soon tasked to undertake.²²⁶

²²³ Mitchell, *Memoirs*, p. 156.

²²⁴ Kenly was appointed Chief of the Air Service on September 3, 1917. Historian James J. Cooke argues that Kenly’s appointment was important because it “was important for Pershing to have someone of that rank [Brigadier General] to conduct business with Washington.” Cooke, *The U.S. Air Service in the Great War*, p. 27. According to Mitchell, Kenly was not a pilot, but he “had shown a great deal of interest in aeronautical matters. He attended our aviation school at San Diego, California, and satisfactorily passed the course, such as it was. In France, he had done all he could to learn about the Air Service and had shown himself anxious and willing to do anything in his power to improve this very important branch.” Mitchell, *Memoirs*, p. 156.

²²⁵ Along with Mitchell’s selection as Commander of the Air Service in the Zone of Advance, Bolling was “in charge of the Air Service Line of Communications” and Major Thomas Dewitt was chosen as the Director of Air Service Instruction. Mitchell, *Memoirs*, p. 156.

²²⁶ Bolling was essential to the Air Service’s rapidly expanding size in France. As Assistant Chief of the Air Service for Lines of Communication (LOC), Bolling had to deal with all the incoming supplies, the establishment of new training bases, and the assignment of all newly arrived troops. Cooke, *The U.S. Air Service in the Great War*, p. 27.

As part of the immense effort, Mitchell, Kenly, and Bolling established a board to “conduct mental and physical examinations for transferring to the United States service all Americans in the French army and French flying schools.”²²⁷ To help build their state of readiness even faster, Mitchell made it a policy for his officers to fly with French Air Service units as frequently as possible in order to provide them with real combat flying experience. After all, many of the officers on Mitchell’s staff had very little flying experience of any sort and even fewer had been in an airplane over enemy lines.

While Mitchell had the drive and enthusiasm needed to ready his men for war, he lacked a sufficient number of aircraft for them to fly. By October 1917, Mitchell had only a single squadron under his command, the 1st Aero Squadron (1 AS), which was being trained by the French Air Service at Avord, France. Furthermore, the 1 AS did not have any airplanes of its own to fly. To solve his dilemma, Mitchell enlisted the help of his friends in the French Air Service who provided a number of new two-seat SPAD (*Société Pour L’Aviation et ses Dérivés*) airplanes to the Air Service, AEF.²²⁸

By early November 1917, the outlook for the Air Service began to improve. By that point in the war, the Air Service, AEF had several schools throughout Great Britain and France that were used train new aviation cadets in “pursuit, observation, and bombardment aviation.” At the same time, Brigadier General Benjamin Foulois arrived in France with a large number of experienced Aviation Section officers. Mitchell, who quickly developed into one of Foulois’ fiercest critics, argued that Foulois and his men were ill-prepared for the task to which they had been assigned. He stated: “A more incompetent lot of air warriors had never arrived in the zone

²²⁷ Mitchell, *Memoirs*, p. 157.

²²⁸ Cooke, *The U.S. Air Service in the Great War*, p. 27.

of active military operations since the war began. Foulois, I am told, had orders from the President to General Pershing to put him in charge of aviation in Europe, even though he was no longer an active pilot.”²²⁹ In particular, Mitchell was distressed that Foulois’s arrival meant that Kenly would no longer be the Chief of the Air Service.²³⁰ Arguing that Foulois “meant well,” Mitchell asserted that the general “was not at all conversant with conditions in Europe.”²³¹

Foulois and his staff arrived at Mitchell’s headquarters in Chaumont on November 27, 1917, and began a complete reorganization of the Air Service, AEF.²³² Further compounding Mitchell’s attitude toward Foulois’s arrival was his decision to remove Lieutenant Colonel Bolling as the Assistant Chief of the Air Service and to cancel many of the contracts he had secured with French aviation manufacturers.²³³ Mitchell retained his post throughout the reorganization, but he was informed that he would soon become the commander of the Air Service of the 1st Army Corps.²³⁴

On November 4, 1917, Mitchell began to receive a small portion of the Air Service, AEF assets belonging to the 1st Army Corps. The 1st Aero Squadron reached the “zone of advance”

²²⁹ Mitchell, *Memoirs*, p. 165.

²³⁰ After Foulois’s arrival, Kenly returned to the U.S. and became the Director of Military Aeronautics. Thayer, *America’s First Eagles*, p. 28.

²³¹ Mitchell, *Memoirs*, p. 165.

²³² While Mitchell has few good things to say about Foulois’s arrival, the new Chief of the Air Service and his staff were not as incompetent as Mitchell suggests. One of the first significant things Foulois did was to send “several thousand” mechanics to Great Britain to help maintain the airplanes flown by U.S. Air Service personnel training there before being sent to France. Foulois’ actions in that regard enabled the Air Service to train both mechanics and pilots at a much greater rate. Cooke, *The U.S. Air Service in the Great War*, p. 30.

²³³ Bolling, along with Colonel Gorell, was chosen to serve on the Joint Army and Navy Aircraft Committee, “whose functions were to handle industrial relations between the Allied Powers and the American aviation authorities in France and Washington.” Thayer, *America’s First Eagles*, p. 29.

²³⁴ Mitchell, *Memoirs*, p. 166.

and was sent to Amanty, France, to serve as the “nucleus of training for future observation squadrons.” Mitchell asserted that the Air Service, AEF had finally begun “to get a number of well-instructed American pilots, whose flying had been perfected in the interior but who had no service against the enemy.”²³⁵

Once again, the lack of equipment and airplanes hindered the initial training of the 1st Aero Squadron.²³⁶ Angry at what he viewed as a lack of support, Mitchell met with General Pershing to try to rectify the matter. At their meeting, Mitchell told Pershing that he thought it wise to send half of the pilots to serve with the Royal Flying Corps or the French Air Service in order to gain the much-needed combat experience they would not otherwise receive. Mitchell argued that service with either the British or French air forces would “provide pilots whom we could use as flight commanders, squadron and group commanders, as soon as our men became sufficiently trained and were provided with airplanes.”²³⁷ While some U.S. airmen did fly with RFC and French Air Service squadrons, the total number was not nearly as large as Mitchell had hoped.

In December 1917, Mitchell assessed for Pershing the progress he believed that he had made since his arrival, as well as the overall situation within the Air Service, AEF. Mitchell argued that he and his staff “had done everything possible during the past year to create an American Air Service worthy of the name and representative of our country.” Yet, Mitchell

²³⁵ Ibid., p. 170.

²³⁶ In December, 1917, the Air Service had fewer than 400 airplanes. Many of those were in use at the French-led flying schools at Issoudon and Tours. Thayer, *America's First Eagles*, p. 29.

²³⁷ Mitchell, *Memoirs*, p. 171.

argued that the Air Service's development was restricted by politics. Mitchell later asserted in his memoirs:

As it was such a new and spectacular branch of service, it attracted the public fancy, and had been seized upon by politicians anxious to gain as much out of it as possible. There were just as many politicians in the army as out of it. The men who actually did the work in the air were the younger ones, who had not yet reached the positions they were entitled to in accordance with their ability. So it happened that the upper positions were filled by incompetents from the army and a few from civil life.²³⁸

Although Mitchell was certainly less than pleased with certain developments within the upper-level of the Army and the Air Service, he nonetheless devoted significant thought and energy to his job.

As progress continued in training new airmen during the latter part of 1917 and the early months of 1918, Mitchell continued to fly and study the situation at the front. On February 19, 1917, Mitchell took the acting Chief of Staff of the 1st Army Corps, Lieutenant Colonel Stewart Heintzleman, up in his airplane. Mitchell recalled: "This was the first time that any American General Staff Officer had flown over the enemy lines, and also the first time an airplane bearing American insignia had been piloted by an American over the lines. To be sure, the plane was French but it carried our colors, the concentric circles of red, white and blue, with a white center."²³⁹

²³⁸ Mitchell, *Memoirs*, p. 176.

²³⁹ According to Mitchell, Heintzleman's grandfather was the first officer "to go up in Professor [Thaddeus S.] Lowe's balloon at Yorktown, while a member of McClellan's army in 1862. Count Zeppelin, then a Lieutenant of the Prussian cavalry, was military observer at the same place." Ibid., 182. For a detailed account of the use of Balloons by the U.S. military and the Air Service during World War I see: Terry C. Treadwell, *America's First Air War: The United States Army, Naval, and Marine Air Services in the First World War* (Osceola: MBI Publishing Company, 2000), pp. 7-21.

In addition to his tours of the front, Mitchell oversaw the arrival and employment of the first American air unit to enter into active hostilities against the Germans. Interestingly, the first “air unit” Mitchell observed was the 2nd Balloon Squadron’s Company B. Always eager to demonstrate air power resources to others, Mitchell took General Hunter Liggett, commander of the U.S. Army’s 1st Corps, to the front to oversee the balloon operations.²⁴⁰

In early March 1918, Mitchell visited Villacoublay, France, to examine newly produced French airplanes. Mitchell had long lobbied to use French-built aviation products, and he was particularly interested to see the first American-built Liberty 12-cylinder engine put into a French-built Breguet airframe. The tests went well, but Mitchell argued that more testing would have to be done before the Air Service would “take it to the front.”

Shortly after his visit to Villacoublay, Mitchell learned that the 1st Aero Squadron was going to receive two-seat SPAD’s equipped with the proven Hispano-Suiza engine.²⁴¹ Although Mitchell had previously admired the engine with which the SPAD was equipped, he contended that the airplane itself was “dangerous” as it had been “discarded” by the French Air Service. Mitchell, always critical of Foulois, blamed the Chief of the Air Service for the arrival of the SPAD. He argued that Foulois, due to his high position within the Air Service, “was no longer able to fly himself and did not know the danger of this aircraft.”²⁴²

²⁴⁰ Miller, *Billy Mitchell*, p. 19.

²⁴¹Historian Bert Frandsen argues that the Air Service had to rely on foreign built airplanes because “American industry had so much difficulty producing acceptable warplanes that practically all the AEF’s planes came from foreign sources.” Bert Frandsen, *Hat in the Ring: The Birth of American Air Power in the Great War* (Washington and London: Smithsonian Books, 2003), pp. 53-54.

²⁴² Mitchell, *Memoirs*, p. 184.

Despite his disgust with what he viewed as a complete disregard of his opinions by Foulois, Mitchell continued his tours of the burgeoning network of Air Service bases that had recently sprung up throughout the French countryside. Assessing the Air Service's situation in the spring of 1918, Mitchell maintained that it was making significant strides in spite of its materiel shortcomings. Mitchell, in one of his more enthusiastic moods, stated that he "could see no reason why we could not assemble a large mass of aerial maneuver and strike, one day opposite the British front and the next day opposite Verdun, or clear into Germany as far as the Rhine."²⁴³ The Air Service, however, was not quite ready to attempt such large-scale penetrations into the skies over German territory.

By April 1918, the German Army had begun another push in an attempt to resolve the war before American troops could strike in large numbers. At nearly the same time the 94th Pursuit Squadron and the 91st Army Observation Squadron arrived in the Toul sector ready to assist their British and French counterparts.²⁴⁴ Three days later, on April 1, 1918, the 1st Observation Squadron flew the first official U.S. Air Service mission of the war over hostile territory.²⁴⁵

As commander of aviation for the 1st Army Corps, Mitchell controlled all three squadrons, and he argued that he did his best to put experienced pilots in "key positions." Mitchell's selection of men such as Raoul Lufbery, who first flew with the *Lafayette Escadrille*,

²⁴³ Mitchell, *Memoirs*, p. 186.

²⁴⁴ Training an aviator took quite some time. Rickenbacker, recalling the length of his training and subsequent assignment in France, stated "I was now a combat pilot, able to fly and shoot. I was given a 10-day leave in Paris and then dispatched to a new unit that was just being formed. It was the 94th Aero Pursuit Squadron, one of the first all-American squadrons and the first to go into action on the western front. It was March 1918. It had taken me almost a year to reach the front as a combat pilot." Rickenbacker, *Rickenbacker*, p. 95.

²⁴⁵ Mitchell, *Memoirs*, p. 190.

was fortuitous for the Air Service, AEF, as it provided the newly formed squadrons with the opportunity to coalesce under men with combat flying experience. However, the Air Service remained under French direction. Consequently, Mitchell had to persuade the Commander of French Aviation of the Eighth French Army to set aside a sector for the Air Service squadrons to defend. Mitchell's units were assigned the land between the Meuse and Moselle rivers.²⁴⁶

Saint Mihiel

Mitchell's first large-scale test as Chief of Air Service, 1st Army, came in mid-September 1918, during the Battle of St. Mihiel. The struggle at St. Mihiel had been long-simmering. After the defeat of German Army at the First Battle of the Marne on September 12, 1914, General Erich von Falkenhayn and General Hermann von Strantz decided to try to capture the French fortress of Verdun. On September 24, 1914, the French 3rd Army halted the advance of the German Fifth Army under von Falkenhayn's command. However, the 3rd Army initially failed to stop von Strantz's V Corps, which allowed the Germans to capture the town of St. Mihiel. The capture of St. Mihiel created a new battle line 24 miles wide along the base and 14 miles deep. The V shape protrusion in the line became known as the St. Mihiel salient. It featured rugged, heavily wooded areas along the Meuse River, as well as the Woivre Plain, which contained the detached heights Loupmont and Montsec and afforded high ground and good visibility for the entrenched German forces.²⁴⁷

The French First Army attempted, unsuccessfully, to retake the St. Mihiel salient in February 1915 and, again, in April 1915. The French attacks failed, at least in part, because of

²⁴⁶ The first offensive patrol by pursuit aircrafts from Mitchell's 94th Pursuit Squadron and the German Air Service occurred on April 12th when Major Raoul Lufbery left the aerodrome at Epiez (Toul Sector) and attacked three Albatros aircraft, downing one of the airplanes. Frandsen, *Hat in the Ring*, p. 87.

²⁴⁷ Maurer Maurer, *The U.S. Air Service in World War I, Vol. III*, pp. 1-2.

the two strong defensive lines that the German had constructed to fortify the salient. The first, known as the Wilhelm line, was near the French line at the front. The second, the Schrorer line, was five kilometers to the rear of the Wilhelm line, extending from the town of St. Mihiel to the base of the salient. French and British forces attacked the salient many more times over the next several years without success. However, the arrival of U.S. forces in the summer of 1917 convinced Allied leaders that another attempt to take the salient might finally succeed.

In July 1918, General Ferdinand Foch, the Supreme Allied Commander, tasked the American Expeditionary Force with pushing back the St. Mihiel salient in order to achieve a breakthrough against German forces in the area. General Pershing, in command of the U.S. First Army and the entire AEF, moved quickly to implement Foch's plan. As the Chief of Air Service, First Army, the task of planning the air battle at St. Mihiel was Mitchell's.

St. Mihiel proved to be critically important to the Air Service for several reasons. To begin with, St. Mihiel was the first battle of the war that involved significant numbers of U.S. troops. In addition, the battle marked the first use of a combined air force, operating under the command of an individual, employed in conjunction with a ground offensive. Lastly, St. Mihiel was the largest air battle of WWI, employing more aircraft than in any other battle during the war. Approximately 2,000 aircraft flew during the battle—approximately 1,480 Allied aircraft against roughly 500 German aircraft.²⁴⁸

The overall Allied strategic offensive plan on the Western front called for reducing the salient because it often interfered with railroad communications.²⁴⁹ One rail line, the Paris-Nancy railroad, ran through the St. Mihiel salient. The St. Mihiel offensive can generally be broken into

²⁴⁸ Arch Whitehouse, *Decisive Air Battles of the First World War*, p. 265.

²⁴⁹ Maurer Maurer, *The U.S. Air Service in World War I, Vol. III*, pp. 10-12.

two phases. The planning phase occurred from 10 August 1918 to 11 September 1918 and the attack phase occurred from 12 through 16 September 1918. The objectives of the St. Mihiel offensive were the opening of the Paris-Nancy railroad, the securing of a suitable line from which to launch the planned follow on offensive into Meuse-Argonne, and the seasoning of American forces in their first real test of the war. The ground attack, planned by General Pershing, called for a converging attack on two sides of the salient with the main attack occurring against the southern face. In addition, a third force performed a holding attack directly against the front of the salient.²⁵⁰

The air campaign, created by Mitchell, complemented the ground plan to a large degree. On August 20, 1918, Mitchell presented his plan to Pershing. Mitchell explained that his forces would focus on three main tasks: “one, to provide accurate information for the infantry and adjustment of fire for the artillery of the ground troops; second, to hold off enemy air forces from interfering with either our air or ground troops; and third, to bomb the back areas so as to stop the supplies for the enemy and hold up and movement along his roads.” To achieve those three main goals, Mitchell divided his plan of attack into four main phases—preparation phase, night preceding the attack, day of the attack, and exploitation. Further refining his plan, Mitchell assigned air assets for each phase into three categories: observation, pursuit, and bombardment. The preparation phase of the plan entailed extensive reconnaissance of German positions. The second phase of the plan, which, focused on the activities to be conducted the night prior to the main attack, entailed bombardment attacks on German troop positions and other strategic

²⁵⁰ Maurer Maurer, *The U.S. Air Service in World War I, Vol. III*, pp. 12-13; James H. Hallas, *Squandered Victory: The First American Army at St. Mihiel*, pp. 260-265.

targets.²⁵¹ The third phase, the main attack phase, involved numerous bombardment and pursuit missions aimed at neutralizing German air defense, destroying German aerodromes, and protecting Allied forces as they moved deep within German lines. The fourth and final phase, the exploitation phase, involved exploiting any openings created the by the Allied ground forces, to include engaging targets of opportunity such as retreating enemy troops.²⁵²

Due in part to Mitchell's planning and good relationship with Britain's Royal Air Force, France's *Armée de l'Air* (Army of the Air), and Italy's *Corpo Aeronautico Militare* (Military Aviation Corps) St. Mihiel became the "greatest concentration of aircraft during the war" with over 1,480 British, French, and Italian airplanes involved.²⁵³ At zero hour on September 12, 1918, Mitchell had either direct or indirect control of 701 pursuit, 366 observation, 323 day bombers, and 91 night bombers.²⁵⁴ According to most estimates, the combined American, British, and French forces had a ten-to-one numerical advantage in pursuit aircraft. As a result, the Allied air force enjoyed air superiority throughout the battle despite the arrival of German Air Service reinforcements.

Even with that advantage, bombers remained vulnerable to German pursuit aircraft such as the Fokker DVII. For example, the 1st Day Bombardment Group lost 31 bombardment aircraft during the offensive. The Allies responded by employing a baiting strategy in which day bombers and observation aircraft drew out the German pursuit planes, which quickly fell prey to nearby allied fighters. By the second day of the offensive, Allied forces had gained enough

²⁵¹ Maurer Maurer, *The U.S. Air Service in World War I, Vol. III*, pp. 51-53.

²⁵² Mitchell, *Memoirs*, p. 240.

²⁵³ Great Britain established the Royal Air Force (RAF) on April 1, 1918. The RAF thus became the first independent air force in the world. Andrew Boyle, *Trenchard: Man of Vision*, pp. 25-46.

²⁵⁴ Richard Hallion, *Rise of the Fighter Aircraft, 1914-1918*, p. 144.

ground to open the Paris-Nancy rail line, which allowed for the follow-on Meuse-Argonne campaign.

To his credit, Mitchell did not sit on the sidelines throughout the battle. Instead, Mitchell directly participated in the battle that he had helped plan. Mitchell could have used his rank and status as commander to avoid endangering himself but he flew over German lines a few times during the battle. During those five days, Mitchell conducted reconnaissance flights to help ascertain the positions of German ground forces and to gather information on the strength and activities of the German Air Service. Although he was not the first commander to risk his life in order to fight with his men, Mitchell's direct participation was noteworthy. Shortly after the battle, Mitchell's superiors lobbied the War Department to award him the Distinguished Service Cross for his selfless courage during the build-up to the battle, as well as the battle itself.²⁵⁵

By the end of the battle, American airmen had fired 30,000 rounds of ammunition, dropped 75 tons of bombs, and destroyed 12 balloons, and 60 enemy aircraft during the four-day battle. Results could have been even better if not for the limitations on flying brought on by weather, which created the worst flying conditions in France that American airmen had faced up to that point. Cloud cover often masked the retreat of German troops, which hampered attacks on strategic targets, as well as targets of opportunity. Nevertheless, the effort at St. Mihiel proved to be an overall success. Air power contributed to the success of troops on the ground with the Allies losing only 7,000 men over the course of the four-day battle—a low number for a major offensive in WWI.

Following the end of the Battle of St. Mihiel, Mitchell stated: “Thirty thousand officers and men handled the airplanes. They were disposed on fourteen main flying fields and a great

²⁵⁵ Roger G. Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 57.

many substations, while three large supply points handled the material for the Americans, French, British and Italians.” More importantly, Mitchell argued:

It was the greatest concentration of air power that had ever taken place and the first time in history in which an air force, cooperating with an army, was to act according to a broad strategical plan which contemplated not only facilitating the advance of the ground troops but spreading fear and consternation into the enemy’s line of communications, his replacement system and the cities behind them which supplied our foe with the sinews of war.²⁵⁶

Although Mitchell exaggerated the significance of the attacks on targets behind German lines, he was correct in his overall assessment of the air forces contributions to the battle.²⁵⁷

During the Battle of St. Mihiel, the combined allied air forces had done a great deal to keep the German Air Service from being effective. Mitchell’s air forces had largely accomplished their three main tasks despite the fact that poor weather conditions kept Mitchell’s forces from achieving their maximum effectiveness.²⁵⁸ In a letter to Mitchell, General Pershing lauded the accomplishments of the combined air forces:

Please accept my sincere congratulations on the successful and very important part taken by the Air Force under your command in the first offensive of the First American Army. The organization and control of the tremendous concentration of Air forces, including American, French, British, and Italian units, which had enabled the Air Service of the First Army to carry out successfully its dangerous and important mission, is as fine a tribute to you personally as is the courage and nerve shown by your officers signal proof of the high morale which permeates the service under your command.²⁵⁹

St. Mihiel verified many of the tactics and the theories that Mitchell had developed during his time in France. The battle showed him that large numbers of aircraft could be concentrated in one general area in order to conduct a coordinated assault against multiple enemy

²⁵⁶ Mitchell, *Memoirs*, p. 239.

²⁵⁷ Alfred Hurley argues in *Billy Mitchell: Crusader for Air Power*, that Mitchell “worked in strict subordination to Pershing’s needs in the ground battle.” Furthermore, “Mitchell’s force operated within less than a 35-mile radius of action which tied it to “facilitating the advance of the ground troops.” Hurley, *Crusader for Air Power*, p. 36.

²⁵⁸ Thayer, *America’s First Eagles*, pp. 176-203.

²⁵⁹ Mitchell, *Memoirs*, p. 250.

targets. It also showed that the General Pershing and the War Department that the Air Service could work in conjunction with U.S. Army ground forces. Most importantly, St. Mihiel proved to Mitchell that the Air Service could work effectively as a semi-independent force under the control of aviators.

Meuse-Argonne

Following St. Mihiel, the next large-scale involvement of U.S. Air Service came during the Meuse-Argonne offensive, which lasted from September 26, 1918, until the end of the war on November 11, 1918. The U.S. became involved in the offensive after General Pershing had agreed to help the French expel German forces from the Argonne forest. To honor his agreement, General Pershing directed the U.S. First Army to move from its position near St. Mihiel to the Argonne, which was located to the north. The effort complicated by the fact that Pershing had used many of his most experienced troops at St. Mihiel. This meant that the soldiers and Marines fighting in the Argonne had less combat experience than their counterparts. The upcoming offensive also required the U.S. Army to relocate massive amounts of men and materiel to the Argonne area in short order. Directed by the logistical skills of Colonel George C. Marshall, the U.S. First Army built ammunition dumps and supply points, moved hundreds of pieces of artillery, and laid miles of wire for the command and communications network.²⁶⁰

Mitchell and his men were once again tasked to support the movement of Allied ground troops. Yet, Mitchell had fewer forces at his disposal than he had had at St. Mihiel. A number of British and French squadrons had rejoined the armies that they had supported prior to St. Mihiel. As a result, Mitchell had approximately 200 bombardment aircraft and 600 smaller

²⁶⁰ Roger G. Miller, *Billy Mitchell: Stormy Petrel of the Air*, pp. 18-19.

aircraft under his command during the Meuse-Argonne offensive.²⁶¹ To compensate for the smaller number of aircraft at his disposal, Mitchell massed his air forces at the center of the 50-mile front in order to attempt to “destroy the German stores of ammunition and supplies in the area behind the army; to attack any infantry reserves coming up, and also to force the air fighting well into German territory.”²⁶² Despite the fact that a large number of Allied aircraft had returned to their armies, Mitchell had the assistance of a small number of French squadrons, the British Independent Force led by General Trenchard, and two Italian bombardment squadrons.

The most substantial attack of the offensive came on October 9, 1917, when 22 U.S. and six French divisions attacked entrenched German positions. The German army had built extensive fortifications throughout the Argonne which made the effort to remove them all the more difficult. On the first day of the offensive, Mitchell’s forces, which included 322 French aircraft laden with approximately 39 tons of bombs, attacked numerous positions behind the German lines. A few hours later, British IF forces dropped another 40 tons on other German targets. The total of 79 tons of bombs dropped on October 9, 1917 was significant when contrasted against 138 tons the Air Service dropped during the war.²⁶³

Less than one week later, on October 15, 1918, the immense effort at the Meuse-Argonne had reduced the number of Allied aircraft in the campaign to approximately 580. The number of serviceable pursuit aircraft had decreased from 300 to roughly 150 spread amongst three pursuit

²⁶¹ Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 18.

²⁶² Mitchell, *Memoirs*, p. 255.

²⁶³ Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 19.

groups.²⁶⁴ The losses did not surprise Mitchell because he knew that the German Air Service remained a formidable force even at that stage in the war.

Like St. Mihiel, the Meuse-Argonne Offensive proved to Mitchell that the Air Service could operate well as a semi-independent force. It also showed that the Air Service personnel had the ability to work well with other air forces. Finally, the offensive validated Mitchell's belief that airmen had the skills, knowledge, and ability to plan and execute a successful air power campaign against a well-trained enemy.

The End Draws Near

Near the end of the Meuse-Argonne Offensive, on October 21, 1918, General Pershing promoted Mitchell to the position of Commander of the Air Service, Army Group, which gave him command of the entire Air Service, AEF.²⁶⁵ However, Mitchell had little time to explore the potential of his new position. Less than one month later, on November 11, 1918, the "War to End All Wars" came to an abrupt end.

An Abrupt End

The fact that World War I was about to end was not a foregone conclusion throughout most of 1918. Yet, the situation facing Germany and its allies was grim. On September 29, 1918, members of the *Oberste Heeresleitung* (Supreme Army Command) and Imperial Chancellor Count Georg von Hertling informed Kaiser Wilhelm that the German Empire could not win the war. Within days of the meeting, Prince Maximilian of Baden replaced von Hertling as Imperial Chancellor.²⁶⁶ Almost immediately, Prince Maximilian began the arduous task of

²⁶⁴ Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 19-20.

²⁶⁵ Mitchell, *Memoirs*, p. 275.

²⁶⁶ Ferdinand Czernin, *Versailles, 1919*, pp. 2-10.

negotiating an armistice with the Entente, which, after the Bolshevik takeover in Russia, consisted of France, Great Britain, the United States, and Italy.²⁶⁷ Maximilian's job proved to be extremely difficult given the tensions at the time. President Wilson, responding to Maximilian's overtures, stated that the United States expected Germany to leave all occupied territory, to stop all hostile submarine operations, and for Kaiser Wilhelm to abdicate his throne. In a telegram sent on October 23, 1918, President Wilson stressed: "If the Government of the United States must deal with the military masters and the monarchical autocrats of Germany now, or if it is likely to have to deal with them later in regard to the international obligations of the German Empire, it must demand not peace negotiations but surrender."²⁶⁸

Upon reading Wilson's telegram, *Erster Generalquartiermeister* (First Quartermaster General) General Erich von Ludendorff vehemently argued that Germany had to redouble its efforts in the war in order to avoid having to submit to the terms set by the U.S. government. However, before Ludendorff's call for action could achieve any effect, the German government replaced him with General Wilhelm Groener. Shortly thereafter, on November 9, 1918, Kaiser Wilhelm abdicated his throne. Two days later, just 5 o'clock in the morning on November 11, 1918, the German representatives signed their names to the Armistice.²⁶⁹ Thus, at 11 o'clock in

²⁶⁷ The Entente also included Belgium, Greece, Japan, Montenegro, Romania, Serbia. Karel Schelle, *The First World War and the Paris Peace Agreement*, p. 24.

²⁶⁸ Ferdinand Czernin, *Versailles, 1919*, p. 9.

²⁶⁹ Various sources indicate that the signings occurred between 5:12am and 5:20am local time in France (Greenwich Mean Time +1). The signing occurred onboard a railroad carriage in the forest of Compiègne. In November 1927, the French government returned the railroad carriage to the forest of Compiègne. Field Marshal Ferdinand Foch and General Maxime Weygand were present at the ceremony. On June 22, 1940, the French delegation surrendered to the German delegation led by Adolf Hitler, *Reichsmarschall* (Marshal of the Reich) Herman Göring, *Generalfeldmarschall* (General Field Marshal) Wilhelm Keitel, *Reichsminister des Auswärtigen* (Reich Minister for Foreign Affairs) Joachim von Ribbentrop, and *Stellvertreter des Führers* (Deputy of the Führer) Rudolph Hess. John Keegan, *The Second World War*, p. 86.

the morning on November 11, 1918, an eerie and long-awaited calm descended over the battlefields of Europe.

What Might Have Been

Shortly before the end of the conflict, on October 21, 1918, General Pershing promoted Mitchell to the position of Commander of the Air Service, Army Group, which gave him command of the entire Air Service, AEF. However, Mitchell had little time to explore the potential of his new position due to the end of the war.

Mitchell wanted to expand the air war in some new directions if the Allies launched a new offensive in the spring of 1919. An example of what might have been came in October 1918, when Mitchell discussed using airplanes to drop soldiers from the U.S. Army's First Division behind German lines with parachutes. During a meeting with General Pershing, Mitchell argued that the First Division "could assemble at a prearranged strong point, fortify it and we could supply them by aircraft with food and ammunition.... Then we could attack the Germans from the rear, aided by an attack from our army on the front and support the whole maneuver with our great air force."²⁷⁰

In addition to the plan to deliver paratroopers, Mitchell considered employing large numbers of bombardment aircraft to strike industrial targets deep within Germany. Mitchell asserted that the Air Service and its allies "had all preparations complete to carry the war into the heart of Germany in the spring of 1919. The air weapons that would have been used would have caused untold sufferings. Chemical weapons most certainly would have been brought into play;

²⁷⁰ Mitchell maintained that dropping the First Division behind enemy lines was "a perfectly feasible proposition. The Germans were already using parachutes for their pilots." Mitchell, *Memoirs*, p. 268.

gases for destroying cattle and sheep, and incendiary projectiles for burning the crops and forests.”²⁷¹

Conclusion

Mitchell’s experience in Europe, both before the arrival of the A.E.F. and after, taught him a great deal about air power. He was deeply affected by the time he spent among the French, British, and American ground troops fighting in the trenches. Witnessing the futility of trench fighting firsthand, Mitchell argued that what changed him “most forcibly was the utter helplessness of the infantry when attacking over open ground, against modern machine guns and cannon. Neither side had yet developed a system which would protect the individual foot soldier, so with him it was simply a case of being sacrificed for an infinitesimal gain.”²⁷² Consequently, Mitchell focused his energy and effort on establishing the strongest foundation for the U.S. Air Service that he could while in France in order to help break the stalemate in the trenches.

To do so, Mitchell met with nearly every important European aviation expert and air power advocate at his disposal. Although other Air Service officers had met with British and French air officers throughout the war, Mitchell was unique in that he sought out Trenchard and others. He did so in order to learn how their service’s operated and why they did what they did. More than any other U.S. airmen, Mitchell sought out knowledge in order to prepare for the Air Service’s arrival in hopes that it might be able to achieve a breakthrough.

Mitchell also did a great deal to help make the airplane a more potent and more flexible weapon of war. Although he did not yet argue that air power could end a war on its own, he

²⁷¹ Mitchell, *Memoirs*, p. 286.

²⁷² *Ibid.*, p. 46.

came to regard it as something with tremendous potential that would play a significant role in future conflicts. Therefore, the importance of Mitchell's endeavors in World War I cannot be overstated because the conflict forced him to focus his many skills on the most important task that he had faced up to that point in his life—helping win World War I with air power.

Basically, Mitchell's experiences during World War I transformed him from an air power proponent into a true believer in air power who devoted the rest of his life to his goal of helping airmen achieve control of air power.

Chapter 3 – Vociferous Crusader for Air Power: Mitchell Leads the Fight for Independence

Mitchell's experiences during World War I turned him from a modest supporter of air power into a true believer of air power who demanded an independent air force. He not only adopted the "us versus them" mindset that had developed among American airmen prior to the conflict, he came to embody it. In the years immediately after the war, the Air Service—with Mitchell leading the charge—struggled to achieve control of airpower. Under Mitchell's guidance, numerous Air Service officers worked to redefine their service's role within the existing defense establishment. While not always successful, Mitchell and these men helped to reshape the Air Service into an organization that could both defend the borders of the United States and bring air power to an enemy's door step.

To achieve their goals, Mitchell and his fellow Air Service officers weathered stiff resistance from their own leaders, their fellow U.S. Army colleagues, their counterparts in the U.S. Navy, and members of Congress. Interestingly, that tension did not lessen their desire for an independent service. Instead, it increased their sense of alienation and fueled their drive for a separate service. The energy that Mitchell and other like-minded Air Service officers poured into their effort to educate their civilian and military superiors, as well as the American public, on the strengths and possible future benefits of air power demonstrates how determined they were for airmen to gain control of air power.

Postwar Difficulties

When World War I ended, the U.S. Air Service was as large as it had ever been with 45 squadrons, 457 serviceable aircraft, and 195,023 men deployed in Europe. As with their

counterparts in the Army, Navy, and Marines the officers and men serving with the Air Service did not escape the extensive demobilization process then underway. Like their fathers and grandfathers before them, these young Americans laid down their weapons and returned to their pre-war lives. For many, the transition to civilian life proved to be rather quick, while for others the process took up to a year or more. Much to the dismay of Mitchell and others, the Air Service rapidly decreased in size to from the wartime peak of nearly 200,000 to 15,875 men by the middle of 1919.²⁷³

Despite the drawdown, a number of key leaders remained in the Air Service following the war. Mitchell, one of the best known members of the Air Service, was one of those men. After the signing of the Armistice, General Mason Patrick, the chief of the Air Service, AEF, selected Mitchell to lead the Air Service's forces assigned to the U.S. Third Army, the force that occupied Germany immediately after the war. However, Mitchell's tenure with the Third Army proved to be quite brief. Five months later, in March 1919, Major General Charles C. Menoher, Director of the Air Service, asked Mitchell if he would like to come to Washington, D.C. to serve as the head of the Operations and Training Group at the Air Service Headquarters.²⁷⁴ Always eager for a new challenge, Mitchell agreed to take the new assignment because it would put him in to a position to shape Air Service doctrine.

In his new position, Mitchell oversaw all training, research and development, and created plans to move the Air Service forward in the post-war period. Fresh from the battlefields of the Western Front, Mitchell was intent on retaining the power and prestige that both he and the Air

²⁷³ James P. Tate, *The Army and Its Air Corps: Army Policy toward Aviation, 1919-1941*, p. 7.

²⁷⁴ Miller, *Billy Mitchell*, p. 22.

Service had earned during the war. In fact, Mitchell had renewed energy as he pushed to transform the Air Service into an independent air force similar to Great Britain's Royal Air Force, which had gained its autonomy during the war. To do so, Mitchell faced superior officers in the Air Service and the U.S. Army who lacked his vision. Unable to envision air power as Mitchell did, they firmly believed that aviation would never be anything more than an auxiliary to the infantry.²⁷⁵

Mitchell's intense desire to achieve results, as well as his tendency to avoid telling General Charles T. Menoher, Chief of the Air Service, what he was doing, caused significant problems early in his tenure. Lieutenant Colonel Oscar Westover, Menoher's gifted assistant, vehemently argued that Menoher should fire Mitchell for bypassing the chain of command. Fortunately for Mitchell, Menoher was reticent to fire him due to his fame and his abilities. Menoher may also have put up with Mitchell's overzealous initiative because he ultimately believed in much of what his subordinate was saying. Despite believing that military aviation needed to remain part of the U.S. Army and U.S. Navy, Menoher had strong opinions on the future of air power. On July 28, 1919, General Menoher explained that one day military aircraft:

may cruise through the air o'er land and sea for protracted periods of time, supplying themselves from aerial 'colliers' subject to tactical control by wireless and directional control by radio, and with sufficient ammunition transports to sustain active combat operations sufficient to accomplish the complete demolition of land or water craft, or the destruction through aerial combat of similar forces of the enemy.²⁷⁶

²⁷⁵ Roger Miller, *Billy Mitchell: Stormy Petrel of the Air*, pp. 22-23.

²⁷⁶ C.T. Menhoer, "Memo for C/S from Maj. Gen. C.T. Menoher, D/AS, 28 July 1919, pp. 9520-9529.

Thus, Mitchell remained in his position in spite of his frequent tendency to dispense with caution in his quest for results.²⁷⁷

Mitchell came to believe that aviation needed to be free from the constraints of direct Army and Navy control shortly after arriving in France to prepare for the arrival of the Air Service, AEF. However, Mitchell had largely kept his views confined to his fellow Air Service officers prior to the end of World War I. Once the war ended, Mitchell took the first important steps toward becoming a more visible public figure by using the notoriety that he had gained during the war to try and change the status quo. In early 1919, Mitchell began pushing for a cabinet level Department of Aviation that would be equal to, rather than subordinate to, the War and Navy Departments. Mitchell maintained that the proposed department would control all aspects of aviation in the U.S., including military aviation, commercial aviation, and even the delivery of airmail.²⁷⁸

For Mitchell, the effort to establish an independent air force was not just a way to gain greater rank and authority for himself. Rather, he believed that an independent air force was an absolute necessity for the U.S. because most U.S. military leaders at the time were too mired in tradition to properly develop the Air Service into anything other than an auxiliary force with a relatively limited mission—usually one designed to assist the parent service only. To reinforce his point that growth could not occur within the existing structure, Mitchell stated that “to entrust

²⁷⁷ Ibid., pp. 22-23.

²⁷⁸ Mark A. Clodfelter, 'Molding Air Power Convictions: Development and Legacy of William Mitchell's Strategic Thought', in Melinger, Phillip S. ed., *The Paths of Heaven: The Evolution of Air Power Theory* (Maxwell AFB, Alabama: Air University Press, 1997), p.9.

the development of aviation to either the Army or the Navy is just as sensible as entrusting the development of the electric light to a candle factory.”²⁷⁹ Simply, Mitchell argued that the Air Service needed to be centrally controlled by airmen because non-aviators did not have the education, training, or experience to do it.

Fortunately for Mitchell, whose enthusiasm had a tendency of agitating those he was trying to persuade, he was not alone in his desire for greater autonomy for the Air Service. Benjamin Foulois, who had significant differences with Mitchell during World War I, strongly supported his outspoken colleague’s argument that an independent Department of Aviation had to be established in order to free the Air Service from U.S. Army control. When testifying before the Senate Military Subcommittee during a hearing on the creation of a Department of Aeronautics, Foulois endured two hours of intense questioning from the panel of five senators on the committee. Foulois passionately argued, based on his extensive experience, that, both prior to and during World War I, the U.S. Army had frequently neglected the Air Service and would continue to do so in the future. Foulois boldly asserted that there was not “one single case on record where a General Staff officer of the United States Army has contributed to the technical or mechanical development of aviation.” Foulois also maintained that the U.S. Navy had no desire to provide the necessary money and resources for the development of military aviation because most admirals remained focused on the development and use of large battleships and cruisers. To support his argument, Foulois pointed out that the Air Service had virtually been gutted after World War I.²⁸⁰

²⁷⁹ Quoted in: Roger Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 24.

²⁸⁰ Benjamin D. Foulois, and C.V. Glines, *From the Wright Brothers to the Astronauts*, pp. 185-187.

After unleashing his critiques of the U.S. Army and U.S. Navy, Foulois addressed the highly important subject of commercial aviation, arguing that the U.S. was in great danger of falling behind in developing a commercial aviation sector. He stated that “the United States at present is doing nothing from a material standpoint, but it has done a lot of serious thinking about aviation in the past, and is still thinking.” Foulois asserted that while thinking was helpful, it needed to be replaced with concrete action if the U.S. hoped to lead the world in commercial aviation.²⁸¹

Mitchell and Foulois faced stiff opposition in their quest to gain Air Service independence. Secretary of War Newton Baker, in his annual report to the President, presented the War Department’s perspective on the Air Service’s proper place within the existing military structure. Baker argued that the Air Service should remain under the control of the U.S. Army. Baker, unconvinced by the predictions made by Mitchell and others, maintained that the Air Service should refrain from expanding its scope of operations since there was no concrete evidence that such an expansion was needed. In particular, Baker argued that Air Service officers should not focus their energies on aerial bombing because such attacks had proven ineffective throughout World War I.²⁸² Baker stated:

The practice was a part of the ruthlessness with which the Central Empires sought to terrify England and France into submission. Instead it may be said that the willingness of the enemy to slaughter women and children, and to destroy property of no military value or use, demonstrated to England and France the necessity of beating so brutal a foe, and it is most likely that history will record these manifestations of inhumanity as the most powerful aids to recruitment in the nations against which they were made.²⁸³

²⁸¹ Foulois, and Glines, *From the Wright Brothers to the Astronauts*, pp. 185-187.

²⁸² Newton Baker, *Annual Report of the Secretary of War to the President, 1919*, p. 68.

²⁸³ Newton Baker, *Annual Report of the Secretary of War to the President, 1919*, p. 68.

Baker presented a strong argument in favor of keeping the Air Service from focusing on aerial bombardment. Yet, neither Mitchell, Foulois, nor anyone else in the Air Service had advocated the type of terror bombing Baker so passionately argued against. Mitchell had planned on attacking targets deep within Germany in the event that World War I had continued past November 1918. However, while Mitchell would soon do so, he had not stated or intimated that such bombing was intended to directly attack German civilians in order to elicit public outcry that might bring an end to the war. Therefore, Baker's report appears to have been designed to maintain the status quo by stating that Air Service personnel intended to undertake missions for which they had never argued.²⁸⁴

The official Air Service doctrine at the time largely followed the contents of Baker's report. An Air Service manual written in 1919 by Colonel Edgar Gorrell, assistant chief of staff of the Air Service, argued that the Air Service's most important task was assisting the infantry because "When the infantry loses, the Army loses."²⁸⁵ Yet, Gorrell, who had written extensively on strategic bombing while stationed in France during 1917-1918, did not simply adhere to the War Department's dictates. Instead, he asserted that the Air Service had the capability to assist the infantry better than any other branch of the Army because its attacks on the enemy had a greater effect on enemy morale than similar sized attacks from ground forces. Simply put, the

²⁸⁴ Historian Thomas Greer argues that Baker's rejection of precision bombing was supported by the majority of Americans at the time. Of course, Mitchell began arguing that "The entire nation is, or should be, considered a combatant force." Recommendations Concerning the Establishment of a Department of Aeronautics, prepared under the direction of Brig. Gen. William Mitchell by Col. Townshend F. Dodd, 17 Apr. 1919, p. 4. Quoted in Thomas Greer, *The Development of Air Doctrine in the Army Air Arm, 1917-1941*, p. 17.

²⁸⁵ Gorrell completed a study on strategic bombing while stationed in France during World War I. Gorrell's study incorporated air power theories taken from Mitchell, Hugh Trenchard (RFC), Gianni Caproni, Major Lord Tiverton (RFC), and others. Gorrell drew the majority of his ideas from Caproni and Lord Tiverton. As a result, Gorrell advocated bombing an enemy's key industrial targets in order to degrade or destroy their warfighting capabilities. Mark Coldfelter, *Beneficial Bombing: The Progressive Foundation of American Air Power, 1917-1945*, p. 32.

Air Service's ability to instill fear in the enemy by attacking quickly and departing just as fast was its most outstanding feature.²⁸⁶

Despite opposition from the War Department and, to a lesser extent, Air Service leadership, Mitchell and Foulois had the support of many military officers, as well as from a few government officials. Several members of Congress, likely influenced by the growing interest in aviation among Americans, joined the fight for Air Service independence beginning in 1919. Between 1919 and 1920, various senators and representatives in the U.S. Congress introduced eight separate bills aimed at creating a Department of Aeronautics that would oversee all military and civilian aviation throughout the U.S. Of those eight bills, two stood out most prominently. They were Senate Bill 2693 (S. 2693) introduced by Senator Harry S. New and House Resolution 7925 (H.R. 7925) introduced by Representative George H. Curry.

Senator Harry New of Indiana introduced S. 2693 on July 31, 1919. New's legislation proposed the creation of a Department of Aeronautics that would manage all aviation for the United States Coast Guard, Navy Department, the United States Post Office, the War Department, and all commercial entities. By direction of the President, the Department of Aeronautics would assign all aviation units to both the Navy Department and the War Department. The head of each department would retain control over their aviation assets. However, most importantly of all, Senator New proposed creating a United States Air Force that would contain all the military personnel assigned to the Department of Aeronautics.²⁸⁷

Representative George Curry's bill, H.R. 7925, differed very little from New's. Curry's legislation also called for the creation of a Department of Aeronautics to supervise all military

²⁸⁶ Edgar Gorrell and Staff, "Air Service notes on Recent Operations, 18 June 1919, AFHRA, 167.4-7.

²⁸⁷ Assistant Chief of Air Staff, Intelligence, Historical Division, *Organization of Military Aeronautics*, p. 41.

and commercial aviation. Curry also argued for the establishment of an aeronautical academy and aircraft factories. Like S. 2693, H.R. 7925 proposed the establishment of a U.S. Air Force that contained a staff function that would develop national defense plans and a line function that would serve as a combat force.²⁸⁸

After reading both S. 2963 and H.R. 7925, Secretary of War Baker assembled a board of U.S. Army officers to examine the usefulness of creating a U.S. Air Force similar to that proposed by both New and Curry. The board, which included one Air Service officer and four U.S. Army artillery officers, begin exploring that issue on August 12, 1919. Led by General Menoher, the board conducted a detailed analysis of both bills. When doing so, the board read all the written evidence that had been used to draft each of the two bills. The board also spoke with numerous key individuals within both the military and the civilian sector. Finally, in order to get a sense of their usefulness in battle, the board requested reports from U.S. Army commanders who had utilized aviation assets in combat during World War I.²⁸⁹

After they finished collecting and reviewing all the data at their disposal, the board members recommended that a single agency should oversee the procurement of all U.S. government aircraft. However, Menoher's board maintained that a separate Department of Aeronautics was unnecessary at that time. They maintained that the Air Service should remain part of the Army to ensure that the two trained together and remained well integrated. In concluding their report, the board stated that, "Whatever may be the decision as to a separate Aeronautical Department, the military air force must remain under the complete control of the

²⁸⁸ Assistant Chief of Air Staff, Intelligence, Historical Division, Organization of Military Aeronautics, p. 42.

²⁸⁹ Ibid., p. 42.

Army and form an integral part thereof both in peace and war.” While extremely disappointing to many Air Service officers, the Menoher Board’s report reflected General Menoher’s personal desire to work within the existing U.S. military structure and to avoid problems whenever possible.²⁹⁰

Following the release of the Menoher Board’s recommendations, the U.S. Congress held a hearing on each of the bills that proposed a Department of Aeronautics. All but one of the Air Service officers who testified during the various hearings argued that separation from the U.S. Army would be beneficial for all parties. During his testimony, Mitchell expressed his belief that a Department of Aeronautics was the best way to advance aviation in the U.S. because the Air Service was no longer the small auxiliary force that it had been before World War I. Mitchell, stressing his belief in centralized control, argued that that the primary authority on military aviation in the U.S. must rest within the Air Service because only its leaders had the skill and expertise in aviation. Others argued that not having centralized control of aviation assets led to unnecessary purchases. Citing his experience during World War I, Mitchell passionately argued that the Royal Air Force had accomplished great things after achieving its independence from the British Army. Finally, Mitchell suggested that Air Service independence would allow for greater cooperation between military and civilian aviation in the U.S.²⁹¹

Many U.S. military officers and some civil servants continued to strongly oppose the idea of separating the Air Service from the U.S. Army under any circumstances. These opponents argued that separating the Air Service would degrade cooperation between it and the other

²⁹⁰ Report of a Board of Officer convened to report upon the New and Curry Bill, 1919. Quoted in Assistant Chief of Air Staff Intelligence Historical Division, *Organization of Military Aeronautics*, pp. 42-43.

²⁹¹ Assistant Chief of Air Staff, Intelligence, Historical Division, *Organization of Military Aeronautics*, pp. 43-44.

branches of the U.S. military, especially the U.S. Army. Some, such as General Menoher argued that such a move would only weaken both the U.S. Army and the Air Service because it would rob Army commanders of direct control over much needed aviation assets. Secretary Baker, who agreed with Menoher, maintained that there was no proof that centralizing aviation assets would facilitate cooperation between military and civilian aviation. Opponents of separating the Aviation Section also stated that few in the U.S. Navy's aviation section believed that an independent Air Service or a Department of Aeronautics was a wise idea.²⁹²

Ultimately, only one of the eight bills introduced to either create a Department of Aeronautics or to separate the Air Service from the Army met with any success. On October 30, 1919, Senator New introduced Senate bill 3348 (S. 3348). Introduced in the wake of the Menoher Board's report, New's updated legislation differed slightly from S. 2693. New proposed that the Department of Aeronautics would consist of four divisions: Civil and Commercial Aeronautics, Military Aeronautics, Supplies, and Research. New's bill continued to argue for the creation of a U.S. Air Force that support both the Army and Navy.²⁹³ On December 8, 1919, S. 3348 went to the U.S. Senate. When formally presenting the legislation before his fellow senators, New urged his fellow senators to act in order to reverse the neglect that military and commercial aviation had experienced since the end of World War I. New reiterated his belief that placing all civilian and military aviation under once department would both save money and ensure future growth.

²⁹² Assistant Chief of Air Staff, Intelligence, Historical Division, *Organization of Military Aeronautics*, p. 42.

²⁹³*Ibid.*, 45.

New's legislation met with opposition from several senators who disagreed with aspects of his revised bill. Senator Kenneth McKellar of Tennessee argued that including the Post Office Department's air-mail service as part of the Department of Aeronautics was unwise and unnecessary. Basing his criticism on the US Postmaster General's assessment of the situation, McKellar maintained that placing the air-mail service in a largely military organization would quickly degrade the air-mail service's superb record.²⁹⁴ Senator Reed Smoot of Utah and William Borah of Idaho also opposed New's bill. They argued that consolidating all aviation assets would not save the amount of money that New believed it would. Senator John Williams of Mississippi asked New if the new department would only complicate things during a war. Senator Peter Gerry of Rhode Island asserted that the U.S. Navy had been treated as little more than an afterthought throughout the bill.²⁹⁵ Having come up against stiff opposition, New's bill faded into the background as the members of Congress focused their attention on a bill reorganizing the U.S. Army.

The effort to reorganize the U.S. Army following World War I was a substantial problem facing Congress. During the conflict, the U.S. Army had had approximately 5,000,000 men in uniform. Congress needed to determine the number of soldiers who would remain in uniform. During the lengthy hearings that followed, the question of whether to create a separate Department of Aeronautics once again came to the fore. After some discussion, Congress decided to act. In Section 13a, Congress made the Air Service part of the U.S. Army's combat

²⁹⁴ U.S. Congress, *Congressional Record*, 66th congress, 2nd Session, January 28, 1960, pp. 2159-2160.

²⁹⁵ Assistant Chief of Air Staff, Intelligence, Historical Division, *Organization of Military Aeronautics*, p. 47.

force, increased the number of personnel, improved flight pay, and specified that officers with flying experience had to command all flying units.²⁹⁶

Although the legislation did not make the Air Service an independent branch of the U.S. military, it did increase the service's prominence within the U.S. military. That fact aside, the legislation was a severe disappointment to many Air Service officers who felt that they would remain subject to the whims of ground commanders for the foreseeable future. The legislation allowed Mitchell to keep his brigadier general star but the rank was only his as long as he remained Menoher's deputy. Both General Pershing and General Patrick argued that Mitchell had not received his due but neither man could persuade the Congress or the War Department to permanently promote Mitchell.²⁹⁷

Failure Breeds Determination

Dissatisfied with the results of the recent congressional debates, the Air Service officers altered their tactics. During the House Committee on Military Affairs hearing for the fiscal year 1921 Army appropriations bill, Mitchell testified that the current organizational scheme led to significant duplication of effort between the Air Service and their counterparts in the U.S. Navy. He argued the U.S. military could save approximately \$11,000,000 by fixing the situation. Specifically, Mitchell stated that he thought that "it ought to be put in the Law that all air operations from shore bases not attached to the fleet should be conducted by the Army Air

²⁹⁶ U.S. Congress, Congressional Record, 66th congress, 2nd Session, January 28, 1960, Statute 41.

²⁹⁷ The decision not to permanently promote Mitchell was not personal. Rather, the U.S. military had a limit on the number of general officers. The limit on general officers was set by Congress on June 4, 1920. Statute 41 established the positions of Chief of Air Service, Chief of Infantry, Chief of Cavalry, Chief of Coast Artillery, Chief of Field Artillery, Chief of Signal Corps, and Chief of Corps of Engineers with rank of major general. U.S. Congress, *Congressional Record*, 66th congress, 2nd Session, January 28, 1960, Statute 41.

Service, and that all air service attached to the fleet should be handled by the Navy. Of course, all the air service should be combined into one force, but if that is not done, the above suggestions should be followed.”²⁹⁸

Mitchell’s suggestion did not fall upon deaf ears. The U.S. Army appropriations bill included a clause which stated that the Air Service should control all air operations launched from land while U.S. Navy aviation would control all air operations attached to a fleet. However, Secretary of War Newton Baker and Secretary of the Navy Theodore Roosevelt, Jr. disagreed with the definitive demarcation of responsibilities. As a result, the Senate amended the bill to read that “naval aviation shall have control of all aerial operations attached to a fleet, including shore stations whose maintenance is necessary for operations connected with the fleet for construction and experimentation and for training of personnel.”²⁹⁹

The Air Service’s push for centralized control increased resistance from traditionalists who also redoubled their efforts to thwart the push for greater autonomy. As the Assistant Chief of Air Staff, Intelligence Historical Division concluded in 1944, throughout early 1920s the Air Service faced “certain powerful administrators of the War and Navy departments who saw the air arm as a threat to their own spheres of authority.” The Assistant Chief also maintained: “It was to the advantage of these men to keep aviation in a subordinate role where it could do no harm to the status quo. They were reluctant to encourage any experiments which might make aviation a

²⁹⁸ U.S. House of Representatives, Hearings on the Army Appropriation Bill for 1921, 66th Congress, 1st Session, p. 46.

²⁹⁹ U.S. Senate, *The Congressional Record*, 66th Congress, 2nd Session, 7524, May 24, 1920.

separate element of national defense instead of an auxiliary of the established Army and Navy defense forces.”³⁰⁰

To help combat the powerful forces aligned against them, Mitchell and many of his fellow Air Service officers turned to the American public in an attempt to use public opinion to help upset the balance of power within the U.S. defense establishment. To achieve that goal, the Air Service officers began a multi-faceted attack designed to illicit maximum public support. The effort included increasing the institutional knowledge of every Air Service officer while simultaneously building public support for the Air Service through newspaper and magazine articles, public speeches, Congressional testimony, and well-publicized demonstrations of aviation’s increasing technological progress.³⁰¹

The Battle Begins

Although many Air Service officers worked to gain greater autonomy for their service, none was as influential as Billy Mitchell. Except for Captain Edward “Eddie” Rickenbacker, Mitchell was the most recognizable face of the Air Service after World War I. The development of Air Service theory, doctrine, and practice during the early 1920s was largely driven by Mitchell’s actions in the public arena. Without Mitchell, the Air Service would likely have remained a much weaker element of the U.S. Army.

To fully understand the level of Mitchell’s involvement in post-World War I Air Service legislation requires some explanation of his activities immediately following the armistice. In

³⁰⁰ Assistant Chief of Air Staff, Intelligence Historical Division, *Organization of Military Aeronautics*, pp. 51-52.

³⁰¹ *Ibid.*, pp. 51-52.

January 1919, Mitchell served at the Headquarters, American Army of Occupation in Coblenz, Germany. The following month, on February 1, 1919, Mitchell briefly stopped in England as he made his way back to the U.S. to serve the assistant Directory of Military Aviation. The following day, he met with General Hugh Trenchard. As head of the Royal Air Force, Trenchard maintained control of all British military aviation, which included all Royal Navy aircraft. On February 4, 1919, Mitchell met at lunch with Trenchard and Winston Churchill, Great Britain's Secretary of State for War and Air. Surprisingly, Mitchell did not discuss what he and his well-known friends talked about during their visits. However, as historian James Cooke argues in *Billy Mitchell*, when Mitchell left London he was unabashedly a “full-fledged apostle for an independent air arm.”³⁰²

Following his pivotal meeting with Trenchard and Churchill, Mitchell returned to the United States onboard the RMS *Aquitania*, the sister ship of the RMS *Mauretania* and the ill-fated RMS *Lusitania*. A large number of military men were aboard the vessel, including Lieutenant Commander Jerome C. Hunsaker, a U.S. Navy officer who was well-versed in aviation. In fact, Hunsaker was the U.S. navy's foremost expert on aircraft design. During their return voyage, Hunsaker and Mitchell spoke at length about aviation. Hunsaker recalled that Mitchell and his staff were “fully prepared with evidence, plans, data, propaganda posters, and articles to break things wide open for air power as the sole requisite of the national defense in the

³⁰² James P. Cooke, *Billy Mitchell*, p. 107.

future.” While he personally found Mitchell to be a “politician in uniform,” he understood that Mitchell had the charm and desire to achieve concrete results for the Air Service.³⁰³

After returning to the U.S., Mitchell quickly came to the conclusion that dropping bombs on naval vessels would generate the publicity and interest he so desperately sought. Mitchell’s position as the chief of the Air Service Operations and Training Division placed him in a conspicuous position. As a result, Captain Nobel Irwin, U.S. Navy, told the General Board of the Navy, a group composed of senior admirals who provided guidance to the Secretary of the Navy on everything from Navy policy to ship construction, that Mitchell would be able to help the answer the question of whether the U.S. coast should be the dividing line between U.S. Army’s and the U.S. Navy’s coastal defense responsibilities. The General Board subsequently called for Mitchell to appear before it to elaborate on Irwin’s claim that Mitchell “strongly advocates a united air service and made remarks that the Navy interfered with the Army’s work abroad.”³⁰⁴

On April 3, 1919, Mitchell testified before the General Board of the Navy. During the meeting, Mitchell argued that “a Ministry of Defense, combining Army, Navy, and Air Force under one general director” would eventually develop in the U.S. in place of the existing system. The members of the General Board then raised the issue of the threat that aircraft posed to surface vessels. Mitchell and the General Board did not come to any agreement on the issue.

³⁰³ William F. Trimble, *Jerome C. Hunsaker and the Rise of American Aviation* (Smithsonian Institution Press, 2002), p. 62; William F. Trimble, *Admiral William A. Moffett: Architect of Naval Aviation* (Naval Institute Press, 2014), p. 68.

³⁰⁴ The General Board of the Navy invited Mitchell through a letter from Assistant Secretary of the Navy Franklin D. Roosevelt to Secretary of War Newton Baker. Testimony of Captain Nobel Irwin as quoted in Thomas Wildenberg, “Billy Mitchell Takes on the Navy,” *Naval History Magazine*, October 2013, Vol. 27, Number 5.

Rather, they all agreed that further testing was required before any clear course of action could be taken.³⁰⁵

During his testimony, Mitchell raised the issue of the inherent problems of using floatplanes as combat aircraft. Instead of floatplanes, Mitchell argued that an aircraft carrier would make much more sense given the limited capabilities of the floatplanes used at that time. Somewhat to his surprise, Mitchell quickly discovered that he had several supporters within the U.S. Navy who believed that aviation had developed to a point where it had changed naval warfare. Admiral William Fullam, Admiral William Sims, and Admiral Brad Fiske all felt that aircraft would play a pivotal role in future naval battles. Admiral Sims, Commander of the U.S. Navy in European Waters, 1917-1919, argued that aircraft carriers would become essential components of all naval fleets in the near future. Admiral Fiske, who championed the development of torpedo aircraft prior to World War I, agreed, maintaining that aircraft carriers would forever change naval warfare.³⁰⁶ Despite their support for some of Mitchell's idea, none of the three admirals argued that the U.S. Navy should cede any control of its aviation assets.

The three admirals were not the only U.S. Navy officers to argue that aviation had changed the status quo for all naval forces. One month after Mitchell's testimony before the General Board, Lieutenant Commander B.G. Leighton published a pamphlet titled "Possibilities of Bombing Aircraft." In his work, Leighton argued that aircraft had the capability to locate, engage, and destroy surface vessels. Another U.S. Navy officer, Lieutenant Commander H.T.

³⁰⁵ Thomas Wildenberg, "Billy Mitchell Takes on the Navy," *Naval History Magazine*, October 2013, Vol. 27, Number 5.

³⁰⁶ Alfred F. Hurley, *Billy Mitchell, Crusader for Air Power*, p. 58.

Bartlett, agreed with Leighton's theories and maintained that an ample number of ships were available for such tests.³⁰⁷

Several U.S. Navy officers clearly believed that aircraft were extremely important to their service. Yet, the U.S. Navy would not immediately undertake any tests that would provide data on their theories. Mitchell, always aggressive in pursuit of a goal, was determined to prove that it could be done. Shortly after having testified before them, Mitchell once again met with the General Board of the Navy to discuss the possibility of conducting bombing tests in Chesapeake Bay. To make his case to the General Board, Mitchell relied on the knowledge of one of his subordinates.

In October 1919, Major Lewis H. Brereton, an Air Service member on Mitchell's staff who had graduated from the U.S. Naval Academy, produced a thorough study on coastal defense. Using Brereton's study as the foundation of his argument, Mitchell asserted that the U.S. Army General Staff had overlooked the role that aviation could play in coastal defense. Specifically, Mitchell maintained that the U.S. military could use aviation assets to help locate and destroy enemy aircraft carriers before their aircraft could bypass the tradition lines of coastal defense (the surface fleet, U.S. navy coastal defenses, and U.S. Army costal defenses) and have "practically unhindered access to this country."³⁰⁸

The General Board of the Navy was not the only target on Mitchell's list. On February 10, 1920, Mitchell testified before the LaGuardia subcommittee on aviation headed by

³⁰⁷ Alfred F. Hurley, *Billy Mitchell, Crusader for Air Power*, pp. 58-59.

³⁰⁸ *Ibid.*, p. 59.

Representative Fiorello LaGuardia of New York. During his testimony, Mitchell presented his plan for using aircraft to support the coastal defense of the U.S. Mitchell's proposal involved using a dirigible to find the enemy, an air attack to neutralize enemy air forces, and then a direct air attack against the enemy's surface fleet. Mitchell argued that such an attack would "render surface craft incapable of operating to the same extent that they have heretofore, if it does not entirely drive them off the surface of the water." Historian Alfred Hurley, who wrote an extensive biography on Mitchell, argued that "Without realizing it then, Mitchell had become the agent the Navy needed to make it aviation conscious."³⁰⁹

Mitchell's assertion did indeed spur the U.S. Navy to conduct its own bombing tests. In October 1920, Mitchell and several other U.S. Army officers watched U.S. Navy aircraft drop bombs on the aging battleship U.S.S. *Indiana*. Mitchell was not pleased by the tests, which he saw as a farce because the U.S. Navy did not drop live bombs on the ship. Instead, U.S. Navy aircraft dropped bombs filled with sand while detonating charges placed both in and around the ship. Immediately after the test, the U.S. Navy's Director of Naval Gunnery's released a report on the test. In the report, the director concluded that "the entire experiment pointed to the improbability of a modern battleship being either destroyed completely or put out of action by aerial bombs."³¹⁰

The U.S. Navy appeared to have won the argument. However, on December 11, 1920, a British newspaper, *The London Illustrated News*, published two grainy pictures of the U.S.S.

³⁰⁹ Alfred F. Hurley, *Billy Mitchell, Crusader for Air Power*, p. 59.

³¹⁰ Quoted in Assistant Chief of Air Staff, Intelligence and Historical Division, *Organization of Military Aeronautics, 1907-1935*, pp. 54.

Indiana. Despite their poor quality, the images helped ignite a heated debate over an aircraft's ability to sink a battleship. Seizing the moment, Mitchell used the release of the photos to further his efforts. In the December 21, 1920, edition of the *New York Tribune*, Mitchell stated that "neither coast defense guns nor a defending fleet of battleships need fire a gun in repelling the attack of a foreign fleet if we have a properly organized Air Force."³¹¹ To further aid his effort, Mitchell sought help from friends and acquaintances in the U.S. Congress, the newspaper industry, and the Air Service. Mitchell's staff provided critical assistance to their boss by writing articles and editorials for various newspapers throughout the U.S. Due to his celebrity status, Mitchell articles garnered the largest audiences. *The American Legion Weekly*, the *New York Times*, and other popular publications of the period frequently ran Mitchell's persuasive articles, which had a significant impact on the American public perceptions of air power.

As Mitchell worked to educate the American public, U.S. Congress, and his fellow military officers about the merits of aviation, the War Department issued General Order No. 18, on August 14, 1920. General Order No. 18 authorized the Air Service to establish a service school dedicated to training airmen. Aware of the importance of professional military education to their goal of centralized control and independence, Air Service leaders immediately moved to create a school of their own using existing U.S. Army and U.S. Navy service schools such as the Command and General Staff College at Fort Leavenworth, Kansas, and the U.S. Navy War College in Newport, Rhode Island. In essence, General Order No. 18 authorized the Air Service

³¹¹ *New York Tribune*, December 21, 1920.

to establish a school that could educate officers in the intricacies of aviation and aerial warfare.³¹²

General Mitchell and General Foulois had the requisite battlefield and leadership experience, but each man had too much rank to serve as the head of the Air Service School. Recognizing that fact, the Air Service assigned Major Thomas DeWitt Milling as the officer-in-charge of the Field Officers Course at the Air Service School. Milling, a protégé of Mitchell who received his initial flight training from the Wright Brothers, proved to be an excellent candidate for the job due to his experience prior to, and during, World War I.³¹³

DeWitt worked to enable the Air Service School to meet its primary mission of teaching officers the tactics and strategies unique to air power. Milling also oversaw the Air Service School's secondary mission of developing and codifying doctrine for the Air Service, something that was virtually nonexistent at the time. To build the new curriculum, Milling relied heavily on the few existing works on air power in circulation by early 1920. Not surprisingly, the writings of Mitchell and Douhet provided the bulk of the initial reading for both the students and the instructors.³¹⁴

³¹² Joseph p. Reither, "The Development of Tactical Doctrines at AAFSAT and AAFTAC," Army Air Forces Historical Study No. 13, Air Force Historical Research Agency, Maxwell AFB, Alabama, 1944, p. 6.

³¹³ Major Milling received his flight training from Orville and Wilbur Wright. He received Fédération Aéronautique Internationale (FAI) pilot certificate number 30 on July 6, 1911. Milling also earned Military Aviator Certificate number 1 on July 5, 1912. In October 1913, Milling then earned the first badge awarded to an American military aviator. TSgt Harold L. Craven, "The Mark of An Eagle," *Air Force Magazine*, Vol. 46, No. 10, October 1963.

³¹⁴ Robert T. Finney, *History of the Air Corps Tactical School, 1920-1940* (Washington, D.C.: Air Force History and Museums Program, 1998), p. 9.

The first class, which had eight students and nine instructors, began one month after the bombing of the *U.S.S. Indiana*, on 1 November 1920.³¹⁵ For their studies, the Air Service School students relied upon memoirs, manuals, newspapers, and other sources that detailed the use of airpower in World War I. Planned to be nine months long, the class ended in May 1921 when the Air Service assigned the students and their instructors to the 1st Provisional Air Brigade (1 PAB), which was created to assist Mitchell during Project B. Milling and other faculty members at the Air Service School agreed to let the class join the 1 PAB because they believed that Mitchell's tests would be excellent training for the students.³¹⁶

Mitchell devised Project B to test the effectiveness of airplane attacks on naval vessels. Project B had the support of Secretary of War Newton Baker and Secretary of the Navy Josephus Daniels. Daniels, a U.S. Navy man to the core, supported the tests because he believed that they would prove that aircraft presented no danger to naval vessels. Prior to the tests, Daniels stated that he "would be glad to stand bareheaded on the deck or at the wheel of any battleship while Mitchell tried to take a crack at me from the air. If he ever tries to aim bombs on the decks of naval vessels, he will be blown to atoms long before he gets close enough to drop salt on the tail of the Navy."³¹⁷

³¹⁵ The instructors included Major Frederick L. Martin, Major Davenport Johnson, Captain Joseph T. McNarney, Captain Gerald E. Brower, Captain John H. Jouett, Captain Harry C. Drayton, Captain Clearton H. Reynolds, First Lieutenant Ralph B. Bagby, and Second Lieutenant Jacob M. Woodard. The first students included Major Leo A. Walton, Captain Thomas J. Hanley, Jr., Captain Louis R. Knight, First Lieutenant Thomas N. Blackburn, First Lieutenant Chester P. Dorland, First Lieutenant Arthur E. Easterbrook, First Lieutenant Edwin J. House, and First Lieutenant Walter R. Lawson. Finney, *History of the Air Corps Tactical School*, p. 9.

³¹⁶ Ibid., p. 10.

³¹⁷ Quoted in Benjamin D. Foulois, and C.V. Glines, *From the Wright Brothers to the Astronauts*, p. 197.

Mitchell and the men of the 1 PAB began their tests in July 1921. On July 18, 1921, the 1 PAB, in conjunction with U.S. Navy aircraft, targeted the German cruiser SMS *Frankfurt*, which had served in World War I.³¹⁸ On the first pass, U.S. Navy aircraft dropped 250-pound bombs, while the 1 PAB dropped 300-pound bombs. The relatively low-yield bombs caused little damage to the well-armored SMS *Frankfurt*. As a result, on the second pass the U.S. Navy airplanes dropped 550-pound bombs and the 1 PAB dropped 600-pound bombs. The larger bombs proved successful and caused the *Frankfurt* to rapidly take on water and begin to sink.³¹⁹

While the U.S. Navy aviators were pleased with the results of the test, more traditionally minded Navy officers reacted to the sinking of the SMS *Frankfurt* as they had the sinking of the U.S.S. *Indiana*. They claimed that the ship was too old and battle-worn to put up much of a fight. They argued that the 1 PAB's success in sinking the *Frankfurt* would not have happened if the ship had the thicker armor used on more-modern battleships. Mitchell, always ready to raise to a challenge, proceeded to ask the U.S. Navy to allow the 1 PAB to bomb the German battleship SMS *Ostfriesland*, another trophy of World War I.³²⁰ The U.S. Navy acquiesced to

³¹⁸ The SMS (*Seiner Majestät Schiff* – His Majesty's Ship) *Frankfurt* was a Wiesbaden-class light cruiser built by the *Deutsche Kaiserliche Marine* (German Imperial Navy). The *Frankfurt* served with the German High Seas Fleet throughout World War I, where she participated in the Battle of Jutland and the Second Battle of Heligoland. Following the conclusion of World War I, the *Frankfurt* was held in the Scapa Flow. Royal navy sailors tried to sink the *Frankfurt* but were unsuccessful in doing so. As a result, the British gave the *Frankfurt* to the U.S. Navy on March 11, 1920. On June 4, 1920, the U.S. Navy commissioned the *Frankfurt*.

³¹⁹ Roger Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 32.

³²⁰ The SMS *Ostfriesland*, a Helgoland-class battleship, entered service with the German Imperial Navy on August 1, 1911. During World War I, the *Ostfriesland* served during all German Imperial Navy engagements that occurred in the North Sea against the British Grand Fleet. The most famous engagement of that series of actions was the Battle of Jutland which took place from May 31, 1916, to June 1, 1916. The *Ostfriesland* also saw action against the Russian Navy in the Baltic Sea. After the defeat of the German Empire, the *Ostfriesland* went to the U.S. Navy as part of the war reparations Germany owed to the victorious Allies.

Mitchell's request, but required that the 1 PAB drop light-weight bombs from the relatively high altitude of 10,000 feet.³²¹

The attack on the *Ostfriesland* began two days later, on the morning of July 20, 1921. A number of people watched the attack from the U.S.S. *Henderson*, including Secretary of War John Weeks, Secretary of the Navy Edwin Denby, General Pershing, Major General Menoher, and numerous members of the American press and the international press.³²² During the first attack on the *Ostfriesland*, the 1 PAB dropped 33 230-pound bombs on the vessel, which remained stationary throughout the attack. Of the 33 bombs dropped, eight hit the ship, which was subsequently inspected in order to assess the damage. The inspectors discovered that the attacks had inflicted significant damage to the hull of the *Ostfriesland*, causing the ship to list to port.

Following the inspection, the 1 PAB initiated the second attack armed with 230-pound and a third and fourth attack with aircraft carrying 600-pound bombs. Five of the 600-pound bombs hit the ship but caused little visible damage. However, several of the bombs that had missed the ship exploded near enough to the hull to cause substantial damage below the water line. The damage below the waterline flooded portions of the ship, causing the vessel to list approximately five degrees to port (the left-hand side of the ship when facing the front of a vessel). A storm developed before the fifth wave of aircraft could engage.³²³

³²¹ Stephen Budiansky, *Air Power: The Men, Machines, and Ideas That Revolutionized War, from Kitty Hawk to Iraq* (New York, NY: Penguin Books, 1998), pp. 149-151.

³²² Roger Miller, *Billy Mitchell: Stormy Petrel of the Air*, p. 32.

³²³ Budiansky, *Air Power*, pp. 149-151.

The following morning, July 21, 1921, the 1 PAB began the fifth attack on the *Ostfriesland*. At 8:52 am that morning, one of the aircraft hit the ship with a 1,000-pound bomb. Shortly thereafter, two additional bombs struck the ship. As on the previous day, inspectors went aboard to assess the damage, determining that the bomb had caused minimal damage except for a hole in the starboard that flooded more water into the ship. Three hours after the fifth attack, the *Ostfriesland* was down five feet at the stern (back or rear of a ship) and one foot at the bow (front of a ship). Less than twenty minutes later, at 12:19PM, the sixth attack commenced. During that attack, the 1 PAB dropped six 2,000-pounds bombs on the ship. All six failed to hit the ship directly but three detonated close to the hull, causing the ship to begin sinking rapidly ten minutes after the end of the sixth attack. Another ten minutes after that, at 12:40PM, the *Ostfriesland* finally sank.³²⁴

The 1 PAB's success caused a significant amount of distress among many in the U.S. Navy and joy among many in the Air Service. On August 5, 1921, Senator William Borah of Idaho pondered the usefulness of spending approximately \$24 million to complete the six U.S. Navy battleships then under construction. Known as "The Great Opposer" for his tendency to place personal principles over party loyalty, Borah argued that the bombing tests showed that "with sufficient airplane and submarine protection this country was perfectly safe from attack."³²⁵

Others in the House of Representatives and the Senate strongly disagreed with Borah, believing that the bombing tests had been far from conclusive given the fact that Mitchell's

³²⁴ Budiansky, *Air Power*, pp. 149-151.

³²⁵ U.S. Congress, *Congressional Record*, 67th Congress, August 5, 1921, p. 500.

report and the U.S. Navy's report presented very different conclusions. Thus, the Senate passed a resolution that directed Secretary of War John W. Weeks to provide them with Mitchell's classified report on the bombings. Vice President Calvin Coolidge responded to the Senate's request on January 4, 1922. In his reply, Coolidge explained that President Warren Harding determined the "transmission of the report in question incompatible with the public interest."³²⁶ Borah and others responded quickly, arguing that Mitchell's report "might materially affect the reputation of some of this who have been passing upon the efficiency of modern battleships but it would also be interesting to the tax payers" given the enormous expense involved with building large naval vessels.³²⁷

Senator Borah and his fellow senators were not the only ones interested in the results of the bombing tests. Nearly two months after the Senate received Coolidge's reply, Congressman Charles Curry introduced House Resolution 1615 (H.R. 1615). In the new bill, Curry argued that the U.S. needed a Department of Air that would oversee all civilian and military aviation in the U.S. Curry's bill included the establishment of a United States Air Force that would operate independently and support both land and sea forces depending on the needs of the commander or the conflict. Like similar bills introduced after World War I, H.R. 1615 never gained much traction because a strong resistance to such changes remained in the both the U.S. government and U.S. Military. To illustrate that point, President Warren Harding, in a message included in a

³²⁶ U.S. Congress, *Congressional Record*, 67th Congress, pp. 745-746, January 4, 1922.

³²⁷ *Ibid.*, p. 751.

report of the National Advisory Committee on Aeronautics, asserted that the Air Service should remain part of the Army.³²⁸

The Fallout

The bombing tests, particularly the widespread public belief that the Air Service had proved itself, did not immediately alter the Air Service. The second Air Service School class began in October 1921 with little fanfare.³²⁹ However, the tests 1 PAB conducted did have a significant impact on the second class, as well as all subsequent classes. News of the tests had reached the American public when someone in the press leaked Mitchell's report on the bombing tests. The leak shook up the Air Service and caused some harm to Mitchell's standing among his superiors because many of them felt that Mitchell had facilitated the leak.³³⁰

General Mason Patrick, who assumed command of the Air Service on October 5, 1921, immediately worked to soothe the tensions between the Air Service, the U.S. Army, and the U.S. Navy. To further satisfy Mitchell's critics, General Patrick sent Mitchell, aircraft designer Alfred Verville, and Lieutenant Clayton Bissell on an inspection tour of Europe. While in Europe, Mitchell met Giulio Douhet, a man whose airpower theories had only just begun to gain a foothold in the United States. By all accounts, including Mitchell's, the two men had a great deal in common. As a result, Mitchell's brief trip to Europe did not have the effect that General Patrick had hoped for. Bursting with energy and enthusiasm after his return to the United States,

³²⁸ Assistant Chief of Air Staff, Intelligence and Historical Division, *Organization of Military Aeronautics, 1907-1935*, p. 58.

³²⁹ Of the 23 members of the first two classes, only six were field grade officers. Joseph p. Reither, "The Development of Tactical Doctrines at AAFSAT and AAFTAC," Army Air Forces Historical Study No. 13 (Maxwell AFB, Alabama: 1944), p. 6.

³³⁰ *Ibid.*, p. 7.

Mitchell began to provide translated copies of Douhet's *Command of the Air* to several of his acquaintances in the Air Service.³³¹

The Air Service School Evolves

As Mitchell worked to centralize control of airpower, the Air Service continued to focus on the arduous task of turning the Air Service School into an educational center on par with the U.S. Army and U.S. Navy schools that served as its model. In 1921, General Patrick wrote to Major Milling explaining that junior officers would make up the bulk of the student body at the Air Service School because the Air Service simply did not have enough field grade officers to fill all of the school's slots. Milling, aware of the lack of field grade officers within the Air Service following the end of World War I, had little problem finding energetic junior officers willing to attend the school. In early 1922, the Air Service Board made things official by declaring that Air Service officers of all ranks could attend the Air Service School if they so desired. The board's decision led the Air Service to change the name of school to the Air Service Tactical School (ASTS) in November 1922.³³²

In the months prior to the name change, the Air Service School had begun to discuss not only Air Service tactics but also U.S. Army and U.S. Navy tactics in order to give students a broader perspective on how the U.S. military fought. The arduous nine month course included twenty subjects and over 1,300 hours of instruction. The courses covered topics such as Aeronautical Engineering, Armament and Gunnery, Anti-Aircraft Defense, Balloons and Airships, Bombardment, Employment and Associated Units, Combat Orders, Navigation,

³³¹ Robert S. Dudley, "Douhet," *Air Force Magazine*, April 2011, p. 66.

³³² Milling, *The Air Service Tactical School*, p.

Meteorology, Organization of the Army, Observation, Photography, Pursuit, Staff Duties, and Supply.³³³

A few months later, in early 1923, the Air Service further altered the ASTS curriculum by adding 126 hours of required “Practical Flying” to the course of study. At first, Air Service leaders assumed that all Air Service officers would arrive at the school being well acquainted with flying. However, it became apparent within several years of the Air Service School’s founding that many Air Service officers did not fly as frequently as they might have liked. Thus, Air Service leaders argued that adding flying hours to the ASTS curriculum would force Air Service officers to become more comfortable with flying. The new course demanded that ASTS students had to fly at least twice each week in order to meet the 126 hour requirement.³³⁴

Problems Arise

Shortly after the Air Service changed the ASTS curriculum, General Patrick provided his response to Major General Peter Harris, the Adjutant General of the U.S. Army. General Harris had asked that General Patrick submit a plan to improve the Air Service. In his reply to General Harris, sent on February 6, 1923, Patrick argued that the Air Service would work best if it focused on two main tasks. The first task required the Air Service to support ground commanders with observation aircraft and balloon. The second task required Air Service attack,

³³³ The courses were not all weighted the same with 200 allotted for Employment of Associated Units. Another 160 hours were allotted for each of the following subjects: Observation, Bombardment, and Pursuit/Attack aviation. Combined Air Tactics required 136 hours, while Aeronautical Engineering required 76. Armament and Gunnery entailed 60 hours of study. The same was true for Supply. Navigation and Meteorology each required 40 hours of study. The Organization of the Army and Balloons and Airships required 30 hours each. Photography and Combat Orders each required 24 hours. Finally, Antiaircraft Defense required 12 hours. The types of classes and the required hours for each course changed. However; the basic framework remained the same throughout the 1920s and 1930s. Finney, *The History of the Air Corps Tactical School*, pp. 12-13.

³³⁴ *Ibid.*, p. 12.

bombardment, and pursuit units to operate independently of ground forces in what he called the “Air Force.” Patrick then stated that the Air Service would be unable to man and equip an “Air Force” with its current manpower pool.³³⁵ Finally, Patrick explained that the Air Service should handle all coastal defense missions launched from land while the U.S. Navy aviation would carry out all missions launched from the sea. Patrick maintained that a clear separation of duties between the two services would benefit both by preventing duplication of effort.³³⁶ In his report, General Patrick essentially attempted to satisfy both the traditionalists and the Air Service officers, who sought greater centralized control.

The month after General Patrick sent his reply to General Harris, the U.S. Army formed a board, headed by Major General William Lassiter, to deliberate on Patrick’s report. Following their initial discussions, the Lassiter Board convened hearings in order to gather the testimony of several aviation professionals. Once the hearings ended, the members of the Lassiter Board released their report, in which they argued: “The aircraft industry in the United States is entirely inadequate to meet peace and war time requirements. It is rapidly diminishing under present conditions and will soon practically disappear.” The Lassiter Board made several recommendations designed to improve the Air Service over a period of ten years. One recommendation included a \$25 million a year operating budget for the Air Service. The Lassiter Board also recommended that the number of Air Service personnel should be increased

³³⁵ Letter from General Mason Patrick to Major General Peter Harris, Adjutant General, 6 February 1923.

³³⁶ Ibid.

to 31,500 (25,000 enlisted, 4,000 officers, and 2,500 aviation cadets). A third recommendation suggested that the Air Service should have 2,500 aircraft, 38 balloons, and 20 airships.³³⁷

In addition to the aforementioned recommendations, the Lassiter Board proposed that the Air Service adopt aspects of General Patrick's plan, including having some Air Service units operate independently from the U.S. Army. Specifically, the group suggested that the U.S. Army should incorporate Air Service squadrons at the division (10,000 to 15,000 personnel), corps (25,000 to 50,000 personnel), and field army (over 80,000 personnel) level. The group then recommended that General Headquarters have an Air Service reserve attached to it. Those forces could then be used to either support ground forces or to fight independently in order to provide the commander with maximum flexibility. Finally, the Lassiter Board proposed establishing a third force that would serve as a largely independent air force that would be "compact, complete, and always available for action at some distance from the ground forces."³³⁸

Secretary of War Weeks approved the Lassiter Board's report. He then sent the report to the Joint Army and Navy Board for review and comment. The U.S. Navy members on the Joint Board voted against the Lassiter Board's report due to the fact that it would weaken naval aviation in favor of strengthening the Air Service.³³⁹ As a result, the Lassiter's Board's recommendation's never achieved the status of official legislation. However, the War

³³⁷ Report of the Select Committee of Inquiry into Operations of the United States Air Services, Appendix C.

³³⁸ Assistant Chief of Air Staff, Intelligence and Historical Division, *Organization of Military Aeronautics, 1907-1935*, p. 60.

³³⁹ Report of the President's Aircraft Board, 1925, p. 97; Hearings of the Select Committee of Inquiry into the Operations of the U.S. Air Services, 1932; Assistant Chief of Air Staff, Intelligence and Historical Division, *Organization of Military Aeronautics, 1907-1935*, p. 62.

Department largely adhered to the recommendations until the passage of the Air Corps Act in 1926.³⁴⁰

Despite never officially becoming law, the Lassiter Board's report sparked further debate on the future of the Air Service. In early 1924, Congressman John Nelson of Wisconsin introduced the first of several pieces of legislation aimed at determining whether the Manufacturer's Aircraft Association was responsible for the Air Service's poor state.³⁴¹ In March 1924, Nelson achieved his goal when the U.S. Congress passed House Resolution 192 (H.R. 192), which called for the establishment of a committee to examine the finances of the Air Service and all other aviation branches funded by the U.S. government. To comply with H.R. 192, Frederick Gillett, the U.S. Speaker of the House, selected nine Congressmen to form a committee. Titled the Select Committee of Inquiry into Operations of the U.S. Air Services, commonly called the Lampert Board, the group of men began their arduous task on October 4, 1924.

To their credit, the nine Congressmen did not take their task lightly. Over a period of approximately 11 months, the Lampert Board interviewed over 150 people. The Congressmen also expanded their investigation to include the organization of the Air Service itself. Although the committee was not officially tasked to do so, it is likely that they felt that discovering more about the organization of the Air Service would enable them to better understand the full-scope of the situation it faced. Thus, the Lampert Board spoke with numerous Air Service officers,

³⁴⁰ Report of the President's Aircraft Board, 1925, p. 97; Hearings of the Select Committee of Inquiry into the Operations of the U.S. Air Services, 1932; Assistant Chief of Air Staff, Intelligence and Historical Division, *Organization of Military Aeronautics, 1907-1935*, p. 62.

³⁴¹ *The Congressional Record*, 68th Congress, 1st Session, pp. 1625-1630, January 29, 1924.

including General Mitchell. Naturally, some within the War Department, particularly the Department of the Navy, objected to both Mitchell's presence and his testimony.³⁴²

Given his typical style, Mitchell's testimony proved to be both enthralling and highly provocative. Many in attendance were particularly shocked to hear that, according to Mitchell's estimate, the U.S. military's aviation forces were only the fifth most powerful in the world.³⁴³ Mitchell also explained the General Patrick had said just as much to his superiors on the General Staff, only to be ignored. Ultimately, Mitchell argued that the organization of the Air Service was as it was in order to assist those with "vested interests against aviation."³⁴⁴

As Mitchell struggled to convince Congress, U.S. military leaders, and the American public that airmen should centrally control airpower, the Air Service faced a more immediate problem. By June 1924, it had become apparent to many Air Service leaders that the biggest problem facing the ASTS was a lack of qualified and experienced instructors. The majority of the Air Service's combat veterans had returned to civilian life following World War I. A few remained but not nearly enough to go around. Thus, the ASTS commandant spoke to General Patrick about the problems he faced when trying to secure instructors for the ASTS. He explained to Patrick that he believed that all ASTS instructors should be assigned to teach at the ASTS for no less than two years in order to help stabilize the situation. More importantly, he argued that there needed to be a four-month period during which outgoing and incoming instructors would work together in order to ensure a seamless transition that did not significantly

³⁴² Letter from Captain Alfred Johnson, to Curtis D. Wilbur, Secretary of the Navy, February 7, 1925; Letter from Curtis D. Wilbur, Secretary of the Navy to John W. Weeks, Secretary of War, February 10, 1925.

³⁴³ U.S. House of Representatives, "Hearings before the Select Committee of Inquiry into the Operation of the U.S. Air Services," 66th Congress, 1st Session, 1925.

³⁴⁴ *Ibid.*, p. 8

impact the students. Most importantly, especially given the intended purpose of the ASTS, he recommended that all instructors had to have graduated from the ASTS or other U.S. Army schools of the same level as the ASTS or higher.³⁴⁵ In August 1924, General Patrick approved the ASTS recommendations. Thereafter, all ASTS instructors had either graduated from the ASTS or one of the other U.S. Army General Service Schools. In addition, the overlap between outgoing and incoming instructors was mandatory.³⁴⁶

The difficulties that the ASTS faced during the first few years of its existence did not immediately cease. For example, the shortage of instructors continued throughout much of 1925 despite the efforts of ASTS and Air Service leadership. The fact that many ASTS instructors often came and went for short visits and temporary duties assignments did not help the situation. However, General Patrick and others maintained that outside duty allowed ASTS instructors to remain connected to important aviation developments occurring outside the insulated confines of the school.³⁴⁷ The fact that instructors actively retained a connection outside the school undoubtedly helped both the instructors and students keep pace with the rapid aviation developments during the 1920s.

Trouble for Mitchell

As leaders at the Air Service Tactical School struggled to improve the school, General Mitchell continued his efforts to gain Air Service independence. In January 1925, Mitchell testified before the Lampert Committee. During his testimony, Mitchell argued that the General

³⁴⁵ Earl L. Naiden to the Assistant Commandant, ASTS, 30 June 1925, AFHRA#245.111; T.D. Milling to Commandant, ASTS, 30 June 1924, AFHRA#245.111.

³⁴⁶ Finney, *The History of the Air Corps Tactical School*, p. 16.

³⁴⁷ *Ibid.*, p. 17.

Staff had influenced the testimony of many of the U.S. Army officers who had testified in front of various Congressional committees. He also argued that a small but powerful group within both the War Department and Congress had harmed the United States by adhering to the status quo. Mitchell stated: “It is a very serious question whether airpower is auxiliary to the Army and the Navy, or whether armies or navies are not actually auxiliary to airpower.”³⁴⁸

The End

Mitchell had pushed the limits of acceptable behavior toward superiors throughout much of his career in uniform. Typically, Mitchell avoided serious consequences because of his charm, persuasiveness, and leadership abilities. However, things came to a head on September 5, 1925, when Mitchell criticized his superiors after two well-publicized incidents. The first involved the aircrew of two U.S. Navy seaplanes who failed in their attempt to fly across the Pacific Ocean.³⁴⁹ The second involved the U.S. Navy airship U.S.S. *Shenandoah*, which crash near Caldwell, Ohio, on September 3, 1925.³⁵⁰

³⁴⁸ Robert F. Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960*, p. 45.

³⁴⁹ In 1925, U.S. Navy leaders decided to attempt a 2,400-mile flight from the continental U.S. to Hawaii. The U.S. Navy selected Commander John Rodgers to lead the effort. On August 31, 1925, two Navy Aircraft Factory PN-9 seaplanes took off near San Francisco, California. One of the aircraft experienced mechanical problems approximately after 300 miles into the trip. Another aircraft, piloted by Commander John Rodgers ran out of gas while searching for a U.S. Navy refueling ship in the vicinity of Oahu, Hawaii. Nine days after ditching the aircraft, a U.S. Navy submarine off the coast of Kauai located Rodgers' PN-9 several miles offshore. Rodgers and his crew of four had survived and stripped fabric from the PN-9s lower wing. John Rodgers, “The First Navy Pacific Flight,” *National Aeronautics Association*, October 9, 1925.

³⁵⁰ The U.S.S. *Shenandoah* was U.S. Navy’s first rigid airships. It was constructed at Lakehurst Naval Air Station, New Jersey, and first flown in September 1923. The *Shenandoah* made the first crossing of North America by airship. On September 3, 1925, the *Shenandoah* was destroyed in a squall line near Caldwell, Ohio. The crash killed fourteen men, including Commander Zachary Lansdowne. A total of 29 men survived the crash. J.R. MacSwords, “15 dead in blimp disaster: lightning flash, terrific storm; Shenandoah wages losing battle with elements,” *The Times Recorder*, September 4, 1925.

Shortly after hearing about both incidents, Mitchell went on the attack in an effort to prove his point that the status quo was not working. Mitchell stated: “These incidents are the direct result of the incompetency, criminal negligence and almost treasonable administration of the national defense by the Navy and War Departments.” He also added: “The bodies of my former companions in the air moulder under the soil in America, and Asia, Europe and Africa, many, yes a great many, sent there directly by official stupidity.”³⁵¹

Mitchell had finally gone too far. Within days, the War Department accused Mitchell of violating the ninety-sixth Article of War which dealt with “all conduct of a nature to bring discredit upon the military service.”³⁵² Mitchell’s attorney, U.S. Representative Frank Reid of Illinois, immediately asserted that Mitchell was simply exercising his 1st Amendment right to free speech. Reid argued that Mitchell’s critiques of the War Department were intended to help improve the U.S. military rather than heap scorn on his superiors. Reid went further, stating: “Rome endured as long as there were Romans; America will endure as long as there are Mitchells.”³⁵³

The prosecution did not agree. The trial judge advocate argued that Mitchell’s right to speak freely did not allow him to publically criticize his superiors because such behavior would lead to the breakdown of good order and discipline within the ranks. The judge advocate also

³⁵¹ Rebecca Maksel, “The Billy Mitchell Court-Martial,” *Air & Space Magazine*, ca. July 2009.

³⁵² The U.S. Congress passed the 96th Article of War on August 29, 1916. The Harvey C. Clarbaugh, “Pleading and Practice Under the 96th Article of War,” *Illinois Law Review*, Vol. XIII, May 1918.; Walter J. Boyne, “The Spirit of Billy Mitchell,” *Air Force Magazine*, ca. June 1996.

³⁵³ Rebecca Maksel, “The Billy Mitchell Court-Martial,” *Air & Space Magazine*, ca. July 2009.

stated: “Discipline and control under such a view of law would vanish and the Army become a mob.”³⁵⁴

Mitchell’s trial, which began in early November 1925, received national coverage. In fact, the trial was front-page news among the majority of American newspapers for many weeks. Many of them painted Mitchell as a hero who had done what he had to do to help the Air Service survive. Mitchell’s defense team did much the same. They argued that Mitchell had done everything he had done to help the Air Service. To support their claims, the defense called on more than 40 witnesses, including Major Henry “Hap” Arnold, World War I ace Eddie Rickenbacker, and Major Carl Spaatz.³⁵⁵

The prosecution argued that Mitchell’s enthusiasm for airpower and his desire to advance the Air Service did not excuse his insubordinate behavior. Major Allen Gullion, one of the prosecuting judge advocates, argued that Mitchell was a dangerous “megalomaniac” who was concerned more about himself than his service.³⁵⁶ Gullion stated: “Is such a man a safe guide? Is he a constructive person or is he a loose talking imaginative megalomaniac?”³⁵⁷

After seven weeks of testimony, the court-martial board issued their verdict on December 17, 1925. Two-thirds of the members of the board decided that Mitchell was guilty. The remaining one-third determined that Mitchell was not guilty. Unfortunately for Mitchell, the

³⁵⁴ Rebecca Maksel, “The Billy Mitchell Court-Martial,” *Air & Space Magazine*, ca. July 2009.

³⁵⁵ Douglas Waller, *A Question of Loyalty: Gen. Billy Mitchell and the Court-Martial that Gripped a Nation*, pp. 171-182.

³⁵⁶ Gullion served as the Judge Advocate General of the United States Army from 1937-1941. He subsequently served as the Provost Marshal General of the United States Army from 1941-1944. Earl F. Ziemke, *The U.S. Army in the Occupation of Germany, 1944-1946*, pp. 3-20.

³⁵⁷ Rebecca Maksel, “The Billy Mitchell Court-Martial,” *Air & Space Magazine*, July 2009, pp. 45-49.

odds were not in his favor. Major General Robert Lee Howze, who presided over the trial, read the verdict.³⁵⁸ Howze stated: “Upon secret written ballot the court sentences the accused to be suspended from rank, command and duty with the forfeiture of all pay and allowances for five years.” Howze, aware of the amount of public support Mitchell enjoyed, was careful to point out that the court had been generous because of Mitchell’s contributions to the national defense. Howze stated: "The Court is thus lenient because of the military record of the Accused during the World War."³⁵⁹

As mentioned previously, not all the members of the court-martial board agreed with the verdict. Major General Douglas MacArthur, the youngest members of the board, voted to acquit Mitchell.³⁶⁰ MacArthur, a close friend of Mitchell’s for many years, argued that “a senior officer should not be silenced for being at variance with his superiors in rank and with accepted doctrine.”³⁶¹ Others, especially those connected to the Air Service, also maintained that Mitchell should have been acquitted. Shortly after hearing about the verdict, Congressman Fiorello LaGuardia, a former Air Service officer who commanded a squadron of Caproni Ca.44 bombardment aircraft during World War I, quickly introduced a bill designed to limit the sentence for violating the 96th Article of War to 30 days.³⁶²

³⁵⁸ Howze, then a second lieutenant with Company K, 6th U.S. Cavalry, received the Medal of Honor as a result of his bravery during a battle at White River, South Dakota, on January 1, 1891. Public Information Division of the Department of the Army, *The Medal of Honor of the United States Army*, p. 237.

³⁵⁹ Douglas Waller, *A Question of Loyalty*, p. 324.

³⁶⁰ Since the ballot was secret, MacArthur’s vote remained unknown for several decades. When MacArthur considered running for president, several of his critics claimed that he had voted against Mitchell. MacArthur argued that he had voted to acquit Mitchell of all the charges. Douglas Waller, *A Question of Loyalty*, p. 325.

³⁶¹ Douglas MacArthur, *Reminiscences*, p. 85.

³⁶² Douglas Waller, *A Question of Loyalty*, p. 328.

Mitchell appreciated the support that he received from his friends, colleagues, and supporters. However, he was in no mood to fight the verdict, especially after he received word that previously supportive newspapers and others had turned against him. In a post-trial editorial, the *Milwaukee Journal*, Mitchell's hometown newspaper, asserted: "The extreme charges that Colonel Mitchell made were not justified by the evidence before the court."³⁶³ General Pershing had also turned against Mitchell. Pershing, who likened Mitchell's insubordination to the Russian Revolution of 1917, stated: "There seems to be a Bolshevik bug in the air."³⁶⁴ Angry and dejected, Mitchell resigned his commission as a U.S. Army officer on February 1, 1926.³⁶⁵

Conclusion

Mitchell's court-martial and resignation from the U.S. Army ended his tenure as the Air Service's most visible and forceful proponent. However, Mitchell's efforts on behalf of American airpower had not gone to waste. He continued to influence American public opinion on airpower until his death in 1936. Most importantly, Mitchell had developed a sizeable corps of followers during World War I and throughout the early 1920s. Those followers, many of them in the Air Service, carried Mitchell's theories and doctrine forward long after their mentor had left uniformed service.

³⁶³ Douglas Waller, *A Question of Loyalty*, p. 329.

³⁶⁴ *Ibid.*, 329.

³⁶⁵ Before resigning, Mitchell went to Bolling Field near Washington and completed 37 take-offs and landings in a single day. The flights, which took the place of the flights that he would have made had he not been dealing with the trial, allowed Mitchell to collect an extra \$1,027.08 on his final military paycheck. Douglas Waller, *A Question of Loyalty*, p. 332.

Evidence of such support came almost immediately after Mitchell's trial. Major Arnold, who headed the Air Service's Information Division, used his unit's resources to promote his views on airpower. By doing so, Arnold was putting himself at risk. After hearing the verdict, Secretary of War Dwight Davis ordered General Mason Patrick to keep his men in line. General Patrick subsequently ordered all Air Service officers who had either testified for Mitchell, or helped him in any way during the trial, to keep a low profile. Patrick hoped that staying out of the limelight would keep the Air Service, as well as himself, out of trouble with the War Department.³⁶⁶ Clearly, Arnold had not followed Patrick's directive.

Upon learning that Arnold had defied him, General Patrick asked him if he would rather resign or face a court-martial. Arnold stated that he wanted a court-martial, but Patrick feared that another trial would hurt the Air Service's already-damaged reputation. General Patrick decided to place a letter of reprimand in Arnold's personnel file and sending him to Fort Riley, Kansas, to command the 16th Observation Squadron and to keep him far away from Washington, D.C.³⁶⁷

Arnold's actions were but one example of the level to which Mitchell's ideas had penetrated the Air Service. Rising stars such as Arnold were only the most high-profile evidence of Mitchell's influence on his service. The majority of Air Service officers had embraced much of what Mitchell had advocated, especially his belief that the Air Service needed to have centralized control of airpower in order for American airpower to develop properly. As leaders of the Air Service and instructors at the Air Service Tactical School during the 1920s and 1930s,

³⁶⁶ Douglas Waller, *A Question of Loyalty*, p. 329.

³⁶⁷ Thomas N. Coffey, *Hap: The Story of the U.S. Air Force and the Man Who Built It General Henry H. 'Hap' Arnold*, pp. 122-124.

those men inculcated the fundamental elements of Mitchell's concepts and theories into nearly every airman who followed.

Chapter 4 – Pulling Back the Throttle: Airmen Reassess Their Approach

I have always carried the impression that if the War Department actually knew, and knew the impact of the thing that we were doing, that the whole thing would have been closed up and we would have all been put in jail. –Major General Donald Wilson³⁶⁸

The men of the United States Air Service found themselves in a difficult position at the beginning of 1926. William “Billy” Mitchell, the Air Service’s most vocal leader, had resigned his U.S. Army commission on February 1, 1926. His departure created a large void that other Air Service officers began to fill. Many of these officers had been acolytes and contemporaries of Mitchell. Therefore, they already had the “us versus them” mindset that had energized Mitchell. For the rest of the 1920s and throughout the 1930s, these airmen continued to push for an independent air force. However, they saw that Mitchell’s aggressive approach had not worked. Thus, although they retained the same commitment to the independence of air power, they acted and spoke in a less abrasive way, hoping that this more restrained approach would better serve their larger purpose.

The Air Corps Act

Air Service officers, especially William “Billy” Mitchell, had long argued that their service would benefit from more control over air power and greater, if not total, independence, from the U.S. Army. On July 2, 1926, several months after Mitchell resigned from the military, the U.S. Congress passed Public Law 69-446. Often referred to as the Air Corps Act, Public Law 69-446 was based on the recommendations provided by the Morrow Board, which President

³⁶⁸ Hugh N. Ahmann, “Interview of Maj Gen Donald Wilson,” Maxwell AFB, Alabama: Air Force Historical Research Agency, December 1975.

Calvin Coolidge had appointed in September 1925 to determine the "best means of developing and applying aircraft in national defense."³⁶⁹

The Air Corps Act, which changed the name of the Air Service to the Air Corps, was an important step forward for American aviation. The act required that 90 percent of the officer corps, including the chief of the Air Corps and at least two of his subordinates, be rated pilots. This requirement was particularly important because it guaranteed that aviators would lead the Air Corps.³⁷⁰ The act also specified that an air section would be attached to every division in the U.S. Army. Finally, the act authorized a five-year plan that would increase the size of the Air Corps to 1,518 officers, 200 flying cadets, 16,000 enlisted men, and 1,800 aircraft.³⁷¹

Although the Air Corps Act seemed to provide much of what airmen wanted, it did not satisfy most of the men in the Air Corps. Despite requiring at least 90 percent of the officers to be rated pilots, the Air Corps Act felt like a hollow victory to many airmen. They were happy that the Air Corps would grow, but they were less pleased with having an air section attached to every U.S. Army division because it kept them under the control of U.S. Army ground force commanders. Most importantly, many airmen were angry that the Air Corps Act did not create a separate air arm.

One man who was okay with the Air Corps Act was General Mason Patrick, the Chief of the Air Corps. General Patrick, who wrote a large portion of the Air Corps Act, had argued that

³⁶⁹ The board, headed by Dwight D. Morrow, rejected the idea of a separate department of air. However, The Morrow Board recommended that the Air Service should be renamed the Air Corps. The board also recommended that the Air Service have special representation on the General Staff, and that an Assistant Secretary of War for air affairs be appointed. Staff, "1926—The U.S. Army Air Corps Act," Air Force Historical Support Office, February 4, 2011.

³⁷⁰ Eric Hammel, *The Road to Big Week: The Struggle for Daylight Air Supremacy Over Western Europe, July 1942-February 1944*, p. 12.

³⁷¹ Staff, "1926—The U.S. Army Air Corps Act," Air Force Historical Support Division, February 4, 2011.

the Air Service should be semi-independent within the War Department much like the Marine Corps was within the Navy Department. However, Patrick was a pragmatist, who understood that his superiors were fiercely determined to keep the status quo. As a result, Patrick was not going to make the same mistakes that Mitchell had. He was not going to push too hard because he knew it would only further alienate his superiors. Historian Herman S. Wolk argues that Patrick “moved slowly and deliberately, knowing that any sudden, all-out burst toward real independence would be certain to fail.”³⁷² He also understood that, although it did not grant greater autonomy or complete independence, the Air Corps Act ensured that the Air Corps would expand under the leadership and guidance of aviators. As a result, he embraced the act and encouraged his subordinates to do the same.³⁷³

General Patrick’s most important asset was his temperament. Patrick was more patient and, when contrasted with Mitchell, he seemed even more so. Although Patrick believed that airpower would be most effective under the control of aviators, he knew that it would take time to convince U.S. Army leaders of that fact. As a result, General Patrick and Brigadier General James Fechet, the Assistant Chief of the Air Corps, focused their efforts on expanding the Air Corps’ within the existing framework.³⁷⁴

To accomplish their goal, General Patrick and General Fechet concentrated on reinvigorating Air Corps training and education in an effort to develop airmen who understood air power and, more importantly, could explain its merits to non-aviators. Thus, Air Corps Tactical School (ACTS) became increasingly important to the Air Corps as a whole. Shortly

³⁷² Herman S. Wolk, “Mason Patrick’s Inside Game,” *Air Force Magazine*, July 2007, p. 66.

³⁷³ *Ibid.*, pp. 66-70.

³⁷⁴ Herman S. Wolk, “Mason Patrick’s Inside Game,” *Air Force Magazine*, July 2007, p. 70.

after the passage of the Air Corps Act, Patrick and Fechet initiated a five-year expansion plan that was designed to increase the number of Air Corps units in order to accommodate the Air Corps' increased manpower authorization. The program included a significant expansion of Langley Field that would substantially change the character of the installation. General Patrick, worried that the build-up of Langley Field would disrupt the ACTS, contemplated moving the school to Miller Field on Staten Island, New York. The ACTS Commandant, Lieutenant Colonel C.C. Culver argued that Miller Field was not the best choice. Instead, Culver suggested several others locations including Richmond, Virginia; Washington, D.C.; Montgomery, Alabama; San Antonio, Texas, and Fort Riley, Kansas.³⁷⁵

A Bold New Direction for Airpower

As General Patrick and his staff worked to find a new home for the ACTS, the staff of the school focused on defining what made the Air Corps distinct from the other branches of the U.S. Army and the U.S. military. In a text published in 1926, the ACTS began to clearly distinguish their service from all others within the U.S. military. Titled "Employment of Combined Air Force," the authors of the text argued that aviation had changed warfare forever since aircraft could strike the enemy's cities, industrial centers, fuel storage facilities, and others targets that had previously been extremely difficult and costly to reach using land forces. Essentially, the authors maintained that the airpower could decrease the duration of wars by "achieving the military objective with the least possible cost."³⁷⁶

The authors of "Employment of Combined Air Force" had essentially codified for the first time what Douhet, Mitchell, and Trenchard had advocated for close to two decades—an air

³⁷⁵ Finney, *History of the Air Corps Tactical School*, pp. 23-24.

³⁷⁶ *Ibid.*, p. 63.

force could hit the heart of enemy territory and destroy its will and ability to fight. Yet, like their well-known predecessors, the authors of the text had little to no evidence to back up their claims. However, they did persuasively argue that airpower's ability to hit targets deep within enemy territory far surpassed that of any other military asset.

The text "Employment of Combined Air Force" also included a strong emphasis on bombardment aviation. Throughout World War I, pursuit aircraft served as the primary offensive weapon of the belligerent air forces. Zeppelins and various bombardment aircraft had a significant impact on a few occasions but pursuit aircraft clearly held the upper hand throughout the conflict. Yet, as Billy Mitchell's air attacks on naval vessels had demonstrated, bombardment aircraft had the potential to be the decisive weapons in future wars. Fully agreeing with Mitchell's logic, the authors of the text argued that the best way to gain and maintain air superiority was to destroy the enemy's air force before it ever left the ground.³⁷⁷ Pursuit aircraft could achieve that goal but attack aircraft and bombardment aircraft were much better suited for such a task. As a result, the authors stressed that attack and bombardment aircraft would be the key aircraft in any air force.³⁷⁸

"Employment of Combined Air Force" was not the only groundbreaking text the ACTS put forth in 1926. The bombardment text of 1926 stressed the importance of daylight bombing when attacking small targets because the light would allow the attack to be more precise. Thus, for the first time in the institution's history, the ACTS officially advocated what would become

³⁷⁷ Mitchell continued to be a strong influence on the ACTS despite the fact that he had resigned from the U.S. Army on February 1, 1926. In fact, Mitchell's resignation only fueled his desire to gain independence for the Air Corps. With no military duties to slow him down, Mitchell wrote numerous articles aimed at convincing others that airpower would play the most important role in future wars. Roger G. Miller, *Billy Mitchell "Stormy Petrel of the Air,"* pp. 41-43.

³⁷⁸ ACTS, "Employment of the Combined Air Force," 1926.

known as daylight precision bombing. Of course, the aircraft and equipment needed to successfully undertake such missions did not exist in 1926. As a result, the bombardment text continued to emphasize night bombing as the most effective means of destroying an enemy target without substantial loss to the attacking air force.³⁷⁹

A Change of Leaders

While the ACTS instructors worked to strengthen curriculum at the school, General Patrick decided that he was ready to retire from military service in December 13, 1927. Many men in the Air Corps appreciated what Patrick had accomplished. Captain Ira Eaker, who served as Patrick's executive assistant in Washington in 1924, believed that Patrick's temperament had helped reestablish damaged relationships in the wake of Mitchell's court-martial. Eaker explained that Patrick repaired the Air Corps' relationship with the U.S. Army and the U.S. Navy by working "through the established organization, not over or around it." Eaker also argued that Patrick's quiet charm was important. He stated that Patrick "had the great faculty of being able to talk to military leaders, the Chief of Staff of the Army, the Chiefs of the other services, the Secretary of War, and senior members of the Congress."³⁸⁰ Benjamin Foulois, who assumed the position of assistant chief of the Air Corps upon Fechet's promotion, echoed Eaker's sentiments. Foulois argued that Patrick had "brought discipline and order out of the chaos that Mitchell had created by his constant insubordination."³⁸¹

³⁷⁹ ACTS, "Bombardment," 1926.

³⁸⁰ Herman S. Wolk, "Mason Patrick's Inside Game," *Air Force Magazine*, July 2007, p. 70

³⁸¹ General Benjamin Foulois also believed that General Patrick was a tremendous asset to the Air Corps. He argued that Patrick "did more for military flying during his tenure than people realize. Foulois maintained that Patrick's "genius was organization." Foulois concluded that, in spite of his successes, Patrick was largely forgotten because "he was overshadowed by 'the martyr for air power,' Billy Mitchell." Benjamin Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, p. 207.

General Fechet assumed command of the Air Corps from General Patrick on December 14, 1927. Like General Patrick, Fechet believed that air power would function best under the control of airmen. However, also like Patrick, Fechet believed that the best way to achieve such control was to work diligently to show civilian and military leaders what air power was all about. To achieve that goal, Fechet followed Patrick's example throughout his tenure as the Chief of the Air Corps.

To accomplish his goal of gaining greater independence for the Air Corps, Fechet worked to strengthen his service, help the American people understand what air power was about, and convince Congress that the Air Corps could do all that Mitchell and others had claimed. To do this, Fechet relied heavily on the skills and experience of Brigadier General Foulois. Foulois had extensive operational and organizational experience that was almost unmatched. Although he had not been an ace pilot, he had plenty of time at the controls of an airplane. Most importantly, Foulois had been heavily involved in aviation for nearly two decades.³⁸²

Shortly after he started the new position, Foulois studied the Air Corps' budget estimates. He determined that the budget estimates did not include all the necessities because "inexperienced budget makers who were not fliers had been too general in their fund requests."³⁸³ Foulois responded by tasking his staff to apply greater rigor to the estimates and come up with more-exacting figures. Foulois maintained that he had re-examined the figures

³⁸² Benjamin Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, pp. 208-213.

³⁸³ *Ibid.*, p. 209.

because he wanted “those above the Air Corps with the power of cutting our requests to know what they were cutting.”³⁸⁴

After re-examining the budget figures for 1928, Foulois met with General Fechet to discuss the five-year expansion plan that Congress had authorized as part of the Air Corps Act. Fechet and Foulois determined that they had to focus their efforts on building the Air Corps into an organization that could do more than theorize about the potential of air power. Both men wanted the Air Corps to become an organization that could demonstrate that airpower was an indispensable asset to the nation.³⁸⁵ To achieve their goal, Fechet and Foulois focused on developing new aircraft, increasing Air Corps participation in U.S. Army exercises, and training Air Corps officers. They believed that all three of those things were needed to help the Air Corps achieve greater autonomy.

Fechet and Foulois understood that the addition of new aircraft was important because the Air Corps needed new and more capable aircraft to accomplish the missions that the planners and thinkers at the ACTS had devised in their offices and classrooms. They also knew that air forces throughout the world, both friendly and unfriendly to the United States were actively developing new aircraft. Most importantly, they believed that new aircraft were essential to proving to the War Department that the Air Corps could be a decisive force in future conflicts.³⁸⁶

³⁸⁴ Ibid., p. 209.

³⁸⁵ James K. Libbey, *Alexander P. de Seversky and the Quest for Airpower*, p. 87.

³⁸⁶ To see that this happened, Foulois switched jobs with Brigadier General William Gilmore, head of the Air Corps Materiel Division, in September 1929. Foulois argued that he looked at the existing aircraft procurement system, concluding that there were two main problems. According to Foulois, one of the issues was stemmed from the “Failure to use the practical experience of the users—the tactical and strategic units in the Air Corps—prior to awarding experimental contracts.” He maintained that the second problem resulted from the “frequent use of ‘change orders’ whenever someone of the scientists and/or technologies in the Materiel Division had some new ideas which they insisted should be incorporated in a live contract.” Benjamin Foulois and C.V. Glines, *From the Wright Brothers to the Astronauts*, pp. 211-212.

The two seasoned airmen also thought that the Air Corps needed to participate in more exercises in order to train airmen and to show U.S. Army leaders what airpower could do, both in alone and in cooperation with ground forces. Foulis that exercises were important because they allowed the Air Corps to test new tactics and equipment under conditions that were close to those experienced during combat.³⁸⁷

The third focus area for Fechet and Foulis was the education and training of Air Corps officers. Both men believed that their men needed to be knowledgeable about every aspect of airpower, including the aircraft, the flight gear, the existing theories on the employment of airpower, the challenges of working with ground forces, and much more. They also wanted their airmen to be able to promote airpower wherever they went. Finally, Fechet and Foulis worked to get officers from other branches of the U.S. military to attend the Air Corps Tactics School. They did so with the hope that those officers would spread throughout the U.S. Army and the U.S. Navy.³⁸⁸

The ACTS

Fechet's focus on his airmen greatly improved the ACTS. However, instructors at the school realized that Langley Field, Virginia, was expanding, which created a problem for the ACTS. Langley Field simply did not have the space or the facilities to continue to house the ACTS. As a result, Fechet's men in the Office of the Chief of the Air Corps (OCAC) met and discussed other potential locations for the school. Initial possibilities included Miller Field, New York; Richmond, Virginia; Boiling Field, Washington D.C.; Maxwell Field, Alabama; Fort

³⁸⁷ Benjamin Foulis and C.V. Glines, *From the Wright Brothers to the Astronauts*, pp. 217-220.

³⁸⁸ Finney, *The History of the Air Corps Tactical School, 1920-1940*, p. 19.

Riley, Kansas; and San Antonio, Texas. By the end of 1928, the OCAC had determined that Maxwell Field represented the best of all available options. The Following month, January 1929, the OCAC selected a group of officers to determine what needed to happen at Maxwell Field to facilitate the move.³⁸⁹

The officers on the board recommended that Maxwell Field could be expanded by approximately 1,000 acres to accommodate a “Tactical School” of 75 students, a squadron officer course of 50 students per class, and a composite group formed from attack, bombardment, observation, and pursuit squadrons.³⁹⁰ The group provided their recommendations to the OCAC, which then forwarded them to Congress. On the last day of the 1930 session, Congress authorized \$200,000 for the Air Corps to purchase 750 acres adjacent to Maxwell Field. That money came only months after Congress had authorized \$689,000 for new construction at Maxwell Field which included a new landing field, headquarters building, operations building, four hangars, warehouses, officer quarters, nine enlisted barracks, and the ACTS schoolhouse.³⁹¹

The Air Corps initially planned to relocate the ACTS to Maxwell in the summer of 1929. However, construction delays led to an almost two-year wait. Finally, on April 15, 1931, the U.S. Army Adjutant General signed the order that officially transferred the ACTS from Langley Field to Maxwell Field. From June 25, 1931, to July 15, 1931, the men assigned to the ACTS completed the first stage of the move to Maxwell Field. The relocation was important because it provided the ACTS with room to expand—something that was lacking at Langley Field. In

³⁸⁹ Weaver to Frank, 17 Dec 1928, 248.12606, 1927-31. OCAC Personnel Orders 15, 18 Jan 29, 248.12606; Walter Weaver to Jack (Maj John F. Curry) 3 Apr 31 248.12606.

³⁹⁰ Finney, *The History of the Air Corps Tactical School, 1920-1940*, p. 24.

³⁹¹ Congress authorized the \$689,000 in July 1929. War Department Bulletin. 5, April 3, 1930.

addition, Maxwell Field's distance from Washington, D.C. provided the men of the ACTS with a measure of psychological space that provided them the greater intellectual freedom they sought.³⁹²

Foulois has the Stick

Ultimately, the policies set in motion by Fechet and Foulois helped the Air Corps expand during Fechet's tenure as the Chief of the Air Corps. However, the growth during that period proved to be very minimal. For example, in 1927, the year Fechet assumed command, the ACTS graduated 20 officers. The number improved each year with 24 students graduating in 1928, 24 in 1929, and 31 in 1930. A total of 39 in 1931, which was Fechet's final year at the head of the Air Corps.³⁹³ New aircraft were introduced during Fechet's tenure as well. They included the Curtis P-1 Hawk pursuit airplane, the Boeing P-12 pursuit airplane, and the Curtis O-1 Falcon observation airplane, and the Keystone LB-6 and LB-7 bombardment aircraft.

In spite of the slow growth, the Air Corps had survived the bad press that followed Mitchell's court-martial. On December 21, 1931, General Foulois assumed command of the Air Corps following Fechet's retirement the day before.³⁹⁴ Although Fechet had done an excellent job of improving the Air Corps, his efforts were somewhat constrained by his desire to move forward cautiously. Foulois, who could be cautious when needed, believed that he had to press a little harder in order for the Air Corps to gain greater independence from the U.S. Army.

³⁹² TAG to CG 3rd Corps Area, 15 Apr 1931; TAG to CG 4th Corps Area, 15 Apr 1931; A History of Maxwell Field, 1910-1938.

³⁹³ Finney, *The History of the Air Corps Tactical School, 1920-1940*, p. 19.

³⁹⁴ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 220.

The Real Work Begins

As part of the continuing effort to gain greater control of air power, Foulois focused on improving the ACTS. During Foulois' tenure, the officers assigned to the ACTS began the arduous task of creating a cohesive air power doctrine. From the very start, they relied upon the guidance of their predecessors and mentors as they moved forward with their arduous task. This was particularly true for the officers who had served under Billy Mitchell. Laurence S. Kuter argued that Mitchell's "Notes on the Multi-Motored Bombardment Group, Day and Night" served as the "basis of instruction in the Air Corps Tactical School from its inception." Kuter stated: "In 1932, the then Lieutenant K.N. Walker [Kenneth Newton Walker], who was one of General Mitchell's very capable aides, became instructor in bombardment aviation at the Air Corps Tactical School." Kuter also mentioned that Captain Robert Olds, a former aide to Mitchell, was an influential instructor who taught bombardment aviation courses at the ACTS. Kuter asserted that, largely because of Walker and Olds, "Mitchell's work has continued, expanded, augmented, and separated into its several components, including tactics and techniques of attack aviation, tactics and techniques of bombardment aviation, and the employment of air forces."³⁹⁵

Many of Kuter's colleagues agreed with his observations and opinions regarding Mitchell's influence on the ACTS. In his work on the ACTS, historian Robert T. Finney argued: "When instructors at the school [ACTS] began to graft the concept of the primacy of the bomber onto the concept of air warfare and strategic air operations, they were consciously or

³⁹⁵ Major C. W. Williams with Brigadier General Laurence S. Kuter, 21 Oct 1942, in 101-110A.

unconsciously providing the covering for the skeleton built by Mitchell.”³⁹⁶ Indeed, when one examines the various theories and doctrines developed at the ACTS during the 1920s and 1930s, it is clear that Mitchell had a tremendous impact on the officers who followed him.

Commandant Curry

Although Mitchell provided the doctrine and Foulois fought for funding and manpower, Major John F. Curry was the man who supported the officers at the as they worked to develop air power doctrine and strategy. Curry proved to be the strong and capable leader that the ACTS needed to thrive. His tenure as the ACTS commandant lasted through 1935. During that that relatively brief period, Curry accomplished a great deal. To begin with, he helped increase the average size of an ACTS class from 30 students to 65 students. Curry also headed the Air Corps Board, which had been created by the Air Corps Act, and served as Maxwell’s Field’s commander.³⁹⁷ Finally, and perhaps most importantly, Curry served as a mentor for many of the officers who taught at and attended the ACTS.

Curry had previously served as the assistant commandant at the ACTS while the school was located at Langley Field, Virginia. During his tenure as the assistant, Curry worked to ensure that ACTS students had the best training opportunities possible. By 1931, in no small part to Curry’s efforts, as well as those of Fechet and Foulois, the planned U.S. Army War

³⁹⁶ Robert T. Finney, *History of the Air Corps Tactical School, 1920-1940*, p. 57.

³⁹⁷ Maxwell Field, later renamed Maxwell Air Force Base, is well-known for having excellent officer’s quarters that are significantly different than those found on other U.S. military installations. Jefferey Benton, author of *They Served Here: Thirty-Three Maxwell Men*, stated that Curry “oversaw the culmination of the golden age of construction. Maxwell’s impressive, French provincial senior officers’ quarters date from this period [1931-1935].” Benton also argues that Curry and his wife “played a key role in cementing the fine relationship between Maxwell and the city of Montgomery.” The Curry family, which included Curry, his wife, and their daughters, were the first family to live in the commandant’s house at Maxwell Field. In 1974, the commandant’s house was renamed the Curry House in honor of Curry, who retired as a major general. The Curry House has served as the personal residence for the USAF’s Air University (AU) Commander since AU’s creation. Benton, Jeffrey C., *They Served Here: Thirty-Three Maxwell Men* (Maxwell AFB, Alabama: Air University Press, 1999), p. 15.

College exercises for the year had been altered to “inject more aviation into the situation.”

However, ACTS faculty and students who participated in the exercises claimed that aircraft were largely utilized in the combat zone only. Thus, they were unable to attack troop concentrations, industrial targets, and supply areas located in the rear beyond the combat lines. ACTS officers argued that such restrictions tied their hands because the full impact of air power could not be applied. Angry that his men were being constrained, Curry argued that such exercises were not providing ACTS officers with training that was equal to the level of effort they had to put forth in order to participate, especially after the school moved from Langley Field to Maxwell Field.³⁹⁸

When he assumed command of the ACTS, Curry played a significant role in the development of Air Corps theory and doctrine. In 1933, Curry argued that the Air Corps had to acquire new aircraft because he believed that it was “unthinkable to confine our aerial operations to the limited range of present pursuit aviation.” Curry wisely did not throw all of his support behind either pursuit or bombardment aviation. Instead, he stated that the men of the ACTS and the Air Corps had to decide how pursuit aircraft would be used in future operations. Curry stated: “The questions to be determined are: is protection of our formation necessary, and (if so) what should be the proportion between a given number of planes available, how can we deliver the greatest amount of high explosives?”³⁹⁹

Although Curry allowed his men the leeway to debate important doctrinal issues, he was not an ineffective commander. In fact, his greatest attribute was his ability to lead. According to James MacGregor Burns, “leadership is leaders inducing followers to act for certain goals that

³⁹⁸ The War College typically held maneuvers at Fort DuPont, Delaware. Therefore, the distance between the ACTS’s new campus and the exercise location had increased substantially. Finney, *History of the Air Corps Tactical School*, p. 23.

³⁹⁹ Finney, *History of the Air Corps Tactical School*, p. 76.

represent the values and the motivations –the wants and needs, the aspirations and expectations—of both leaders and followers. And the genius of leadership lies in the manner in which leaders see and act on their own and their followers’ values and motivations.”⁴⁰⁰ Curry did just that throughout his tenure at the ACTS.⁴⁰¹

Haywood Hansell believed that Curry’s leadership was critical to the development of air power doctrine at the ACTS. Hansell stated that the ACTS “was blessed with a group of gifted leaders and independent thinkers—Robert Olds, Kenneth Walker, Harold Lee George, Donald Wilson, Muir “Santy” Fairchild—names honored by the Air War College, Air Command and Staff College, Air Force Academy, and throughout the modern Air Force.” However, Hansell stated:

...there was another stalwart leader who has received less recognition, though he should be listed among the best. This was John F. Curry, Commandant of the Air Corps Tactical School from 1931 to 1935, a period when the principal texts were prepared for Air Warfare and Principles of Air Force Employment. Much of the basic strategy of American air power was developed under his regime. At a time when the War Department was threatening dire punishment from above, Curry protected the freedom of his faculty. He made possible the development of doctrine of air power which formed the basis for the creation of the Army Air Forces (AAF) and its employment in World War II. Under his leadership the school bridged the transition from broad generalities of pioneering air prophets to more pragmatic application of air power in attainment of specific objectives.⁴⁰²

⁴⁰⁰ Phillips, Donald T. *Lincoln on Leadership*, p. 3.

⁴⁰¹ John Francis Curry, who served in the U.S. military from 1904-1945, never received the acclaim that many ACTS faculty and students received. Despite his many accomplishments, Curry remains best known for his tenure as the Civil Air Patrol’s (CAP) first national commander from December 1941 to March 1942. Curry helped oversee the creation of CAP wings in every U.S. state then in existence. In total, 10,000 civilians augmented the U.S. military and helped secure the nation during World War II, freeing military aviators to focus on other missions. Following his time with the CAP, Curry served as the Commanding General 4th District, US Army Air Forces Technical Training Command, Commanding General US Army Air Forces Western Technical Training Command, and the President of the Evaluation Board, US Army Air Forces Mediterranean Theater of Operations.

⁴⁰² Hansell, Haywood S., *The Strategic Air War Against Germany and Japan*, p. 7.

A Rift Opens

Although Curry did not advocate for either bombardment or pursuit aviation during his time at the ACTS, there were many instructors and students at the school who did. One such man was Claire Lee Chennault, who proved to be the most well-known and most vocal of the American advocates of pursuit aviation throughout the 1930s. Chennault, who joined the Signal Corps in 1917, became an aviator with the Air Service during World War I. After the end of the conflict, Chennault remained in the Air Service because he had fallen in love with flying. In 1930, Chennault became the Chief of the Pursuit Section at the ACTS. Much like Mitchell before him, Chennault possessed a strong personality and even stronger opinions on the importance of pursuit aviation. His aggressiveness and charisma helped invigorate debate within the ACTS and, simultaneously, increased interest in the Air Corps among the American people and their civilian representatives.⁴⁰³

Chennault, an unrelenting advocate of pursuit aviation, faced a daunting challenge when he arrived at the ACTS. As late as 1930, ACTS instructors had taught their students that pursuit aircraft were essential to the survival of bombardment aircraft because they could intercept and attack enemy fighters. However, within months of moving to Maxwell Field, ACTS bombardment instructors began to argue that bombardment aircraft did not require fighter escorts because the latest Air Corps bombers flew faster, at higher altitudes, and with greater weaponry than their pursuit counterparts. Largely ignoring the possibility of advancements in pursuit

⁴⁰³ Braxton Eisel, *The Flying Tigers: Chennault's American Volunteer Group in China*, p. 3.

aircraft technology and capabilities, many ACTS instructors argued vociferously that bombers would be able to reach their targets.⁴⁰⁴

To counter their arguments, Chennault developed his theory of defensive pursuit. Defensive pursuit, according to Chennault's vision, allowed pursuit aircraft to operate either offensively or defensively in order to gain air superiority by intercepting and destroying enemy aircraft. Chennault's theory, which ran contrary to those of Douhet, Mitchell, and Trenchard, also stressed that pursuit aircraft could further weaken an enemy air force before it ever left the ground by destroying or damaging enemy airfields.⁴⁰⁵

While at the ACTS, Chennault wrote "The Role of Defensive Pursuit." Chennault's work proved to be both highly influential and controversial among those at the ACTS and the Air Corps. Throughout the work, Chennault never argued that bombardment aircraft were not an extremely useful asset for the Air Corps. In fact, he argued that bombardment aircraft were particularly useful when used to attack "industrial establishments, and lines of communication and supply which contribute to the enemy's ability and will to resist."⁴⁰⁶ Chennault also asserted that using large numbers of bombardment aircraft "against factories, lines of communication, mobilization centers, centers of wealth and population, and harbors" could potentially limit or entirely destroy an enemy nation's ability to fight.⁴⁰⁷ Essentially, Chennault agreed on most of the major points that proponents of bombardment aviation had championed since the days of

⁴⁰⁴ Braxton Eisel, *The Flying Tigers*, pp. 3-4.

⁴⁰⁵ Clayton K.S. Chun, *Aerospace Power in the Twenty-First Century a Basic Primer* (Colorado Springs, Colorado: United States Air Force Academy, 2001), pp. 58-59.

⁴⁰⁶ Chennault, Claire L., "Some Facts About Bombardment Aviation," *Infantry Journal*, Sep-Oct 1935, p. 323.

⁴⁰⁷ Chennault, Claire L., "The Role of Defensive Pursuit Part I," p. 414.

Douhet and Mitchell. The difference between Chennault and his opponents centered on the fact that he had a far more inclusive, or perhaps more flexible, view of airpower.

One of the points on which Chennault had great difficulty convincing his colleagues concerned the vulnerability of bombardment aircraft. He argued that despite the advantages that the newest bombardment aircraft had over their pursuit aircraft counterparts they were not immune from attack. Chennault maintained that bombardment aircraft required huge amounts of petroleum, oil, and lubricants (POL) and munitions to complete their missions. Both POL and munitions would have to be loaded in the United States prior to the attack, if the target was close enough to the U.S., or loaded at overseas locations which the U.S. military did not possess in sufficient quantities or locations throughout the 1930s.⁴⁰⁸ Chennault believed that the use of pursuit aircraft could help mitigate some of those issues.

In addition to his work inside the classrooms at the ACTS, Chennault championed the virtues of pursuit aircraft by fostering the school's aerial demonstration team, which Lieutenant Colonel Curry had established shortly after taking over as commandant. Chennault saw the team as a means to an end. As described in his memoirs, Chennault used the team to "show his fellow officers that three planes could execute with accuracy and precision the most violent and difficult maneuvers necessary for successfully attacking and destroying a formation of heavily armed bombers."⁴⁰⁹ Chennault also hoped that his team would impress "the importance teamwork and formation flying in fighter tactics" upon his colleagues.⁴¹⁰

⁴⁰⁸ Claire Chennault, "Special Support for Bombardment," *U.S. Air Services*, Jan 1934, p. 21.

⁴⁰⁹ Claire Chennault, *Way of a Fighter: The Memoirs of Claire Lee Chennault*, p. 25.

⁴¹⁰ *Ibid.*, p. 25.

To build his team, Chennault sought out the best pursuit pilots in the Air Service. In 1932, Chennault selected Sergeant John H. Williamson, Sergeant William C. McDonald, and Lieutenant Haywood S. Hansell for his team. Chennault selected the three men because they alone were able to keep pace with him as he performed a series of acrobatic maneuvers in his aircraft, which they had to mirror as closely as possible. In total, Chennault and his team had more than 24 years and 11,000 flying hours of experience.⁴¹¹

As their cohesion and performance as a team improved, Chennault conducted impromptu airshows to the military men and civilians stationed at Maxwell Field. As described by historian Jerome A. Ennels in “‘Those Daring Young Men’: The Role of Aero Demonstration Teams in the Evolution of Pre-World War II Pursuit Tactics, 1932-1937,” the “slick, fast little bi-planes of the Trapezers dove, rolled, spun, climbed, looped, and side-slipped with daring disregard for speed or danger.”⁴¹² The performance they provided no doubt amazed many in attendance on those days. More importantly, such events helped impress Chennault’s intended audience, the faculty and students of the ACTS.

Shortly after the formation of the team, the ACTS, at Chennault’s urging, used the techniques that he had pioneered with his aerial demonstration team to train less-experienced pilots in the intricacies of aerial maneuvers designed to “increase the firepower against an enemy plane.” ACTS students operated in elements of three airplanes during initial training, flights of

⁴¹¹ Staff, “The Men of the Flying Trapeze,” *U.S. Air Services*, October 1934, p. 33.

⁴¹² Jerome A. Ennels, “‘Those Daring Young Men’: The Role of Aero Demonstration Teams in the Evolution of Pre-World War II Pursuit Tactics, 1932-1937” (Washington, D.C.: Air Force History and Museums Program, 1994), p. 5.

nine during follow-on training, squadrons consisting of three flights of nine aircraft during the third training phase, and groups composed of four squadrons during the final phase of training.⁴¹³

After flying on regular basis throughout 1932 and 1933, Chennault decided to test his team's skills at the Cleveland National Air Races held in September 1934. The team impressed the audience and the reporters in attendance, one of whom stated that they had accomplished "information virtually everything other pilots did solo."⁴¹⁴ The performance had the impact that Chennault had desired with newspapers nationwide extolling the team's virtues. In addition, several movie companies visited Maxwell Field to capture the team's performances on film for nationwide distribution.⁴¹⁵

Although Chennault thought that he had made a positive impact on the Air Corps, he was beginning to grow tired of being an outcast at the ACTS. As a result, he retired from the Air Corps in 1937 at his permanent rank of captain. Chennault claimed that he had retired because of hearing loss. However, many of his close friends maintained that Chennault's frequent disagreements with both his colleagues and superiors had all but forced him to retire. The strain associated with being an outcast among his peers must have caused Chennault significant mental and physical stress. Historian Jeffrey Benton contended that Chennault left the service "broken in spirit and body from the constant debate about how airpower should be used."⁴¹⁶

Regardless of the cause, Chennault's departure from the Air Corps left a huge void that could not be easily filled. Historian Phillip S. Meilinger argued that once the "firebrand

⁴¹³ Ennels, "Those Daring Young Men," p. 6.

⁴¹⁴ Staff, "The Men on the Flying Trapeze," *U.S. Air Services*, October 1934, p. 32.

⁴¹⁵ Ennels, "Those Daring Young Men," pp. 18-19.

⁴¹⁶ Jeffrey C Benton, *They Served Here: Thirty-Three Maxwell Men*, p. 21.

Chennault” had left the ACTS, “pursuit doctrine decisively receded into the background, and strategic bombardment became the gospel of American air power.”⁴¹⁷

There were other airmen who believed that pursuit aviation was being neglected at the ACTS. One of these men was Lieutenant Elwood Richard “Pete” Quesada, who had enlisted in the Air Corps in September 1924. After completing pilot training, Quesada commissioned as a second lieutenant. Several years later, in January 1929, Quesada gained fame for participating in the exhausting and record-breaking *Question Mark* flight with Major Carl Spaatz, Captain Ira Eaker, First Lieutenant Harry Halverson, and Master Sergeant Ray Hooe.⁴¹⁸

Quesada arrived in Montgomery, Alabama, on August 17, 1935, to attend the ACTS. He arrived at an unfortunate time considering his strong support of pursuit aircraft, which had fallen out of favor with many instructors at the ACTS. Historian Thomas A. Hughes maintains that by 1935 “pursuit education had fallen to an all-time low, receiving just 56 hours of class time to bombardment’s 310 hours.” However, as Hughes explains, pursuit tactics continued to be taught. In fact, it accounted for “nearly 50 percent of total instruction” at the ACTS.⁴¹⁹

Despite his strong support of pursuit aviation, Quesada did not become Chennault’s ardent disciple. In fact, Quesada “found the clean thought and internal logic of bomber ideas more sound.”⁴²⁰ To his credit, Quesada did not devote his energies to either the pursuit or

⁴¹⁷ Phillip S. Meilinger, *Hoyt S. Vandenberg: The Life of a General*, p. 19.

⁴¹⁸ The Air Corps used the flight of a Fokker Tri-motor named *Question Mark* to demonstrate its growing capabilities. As historian Walter Boyne notes, on January 1, 1929, *Question Mark* “lifted off, and neither the airplane nor crew members would touch the ground again for 150 hours, 40 minutes, and 14 seconds.” The achievement received tremendous press coverage. Walter J. Boyne, “*Question Mark*,” *Air Force Magazine*, March 2003, pp. 66-71.

⁴¹⁹ Thomas A. Hughes, *Overlord: General Pete Quesada and the Triumph of Tactical Air Power in World War II*, p. 55.

⁴²⁰ *Ibid.*, p. 57.

bombardment advocates. Instead, Quesada approached airpower as a pragmatist. He admitted that the ACTS had become “oriented toward strategic bombardment while I was there.” He maintained that he “thought it was overstated then, but it didn’t result to me getting in any debate at Maxwell. I did not become a jealous advocate of it either way.”⁴²¹

Others within the Air Corps shared Quesada’s pragmatism. While Quesada was at the ACTS, General Oscar Westover spoke at Maxwell Field. Westover, the fourth Chief of the Air Corps, knew that his superiors in the U.S. Army and the War Department continued to view the Air Corps as an auxiliary force that existed in order to assist the ground forces. In his speech, Westover stressed the need for cooperation between the Air Corps and the U.S. Army. He stated:

Whatever we may think of air power, we as soldiers must always be in line with our superiors. Without that loyalty which makes our profession a profession, we cannot accomplish a fraction of what we might otherwise do. The fact is that nobody knows what the potential for independent air operations is, but I do know what the damage to Army solidarity can be if we persist in our public disputes with the Army. As soldiers, we must always submit everything to our loyalty up and down the ranks, it is the only thing that makes an effective fighting force.⁴²²

Although Westover’s counsel was wise, especially given the tensions of the period, few of his subordinates had any intention of curbing their enthusiasm. To many of them, their superiors in the U.S. Army and the War Department simply did not understand that the Air Corps had far more to offer than just reconnaissance, observation, and close air support. As a result,

⁴²¹ Hughes, *Overlord*, pp. 58-59.

⁴²² Westover, Oscar, “Lecture at ACTS, April 26, 1935,” AFHRA: 541.127-134.

they were unwilling to end their public debates with the U.S. Army because they believed that doing so would keep the Air Corps from gaining the centralized control that they desired.⁴²³

The Bomber Mafia

General Westover's speech might have had a greater impact on the men of the ACTS if he had delivered it one to two years earlier. However, by the time he delivered his speech most of the instructors at the school had become ardent supporters of bombardment aviation. They had increased their focus on bombardment aviation at approximately the same time that the school moved from Langley Field to Maxwell Field in 1931. Four years later, all but a few of the instructors had joined the "Bomber Mafia," which was the derogatory term for them coined by their opponents in the Air Corps and the U.S. Army.⁴²⁴

The development of the Bomber Mafia during the 1930s happened relatively quickly. While Mitchell had long argued that bombardment aircraft would one day play a vital role in defeating an adversary's military, the views did not begin to dominate the Air Corps until the late 1920s. Bombardment aviation had played a relatively minor role in World War I, but far more effort went into observation, reconnaissance, close air support, and pursuit aviation. As a result, the Air Service's focus on pursuit aviation during the 1920s made sense given the limited capabilities of bombardment aircraft then in use.

The ACTS supported the service's focus on pursuit aviation throughout the 1920s. For example, in *Employment of Combined Air Force*, the ACTS argued that "pursuit in its relation to

⁴²³ Conrad C. Crane, *Bombs, Cities, and Civilians: American Airpower Strategy in World War II*, pp. 17-22; John W. Huston, ed., *American Airpower Comes of Age: General Henry H. "Hap" Arnold's World War II Diaries*, pp. 25-37.

⁴²⁴ The Bomber Mafia included Samuel E. Anderson, Orvil Anderson, Lawrence Kuter, Heywood Hansell, Robert Olds, Max Scheider, Arthur Vannaman, Hoyt Vandenberg, Kenneth Walker. Arthur H. Wagner and Leon E. Braxton, *Birth of a Legend: The Bomber Mafia and the Y1b-17*, p. 55.

the air service...may be compared to the infantry in its relation to the other branches of the Army. Without pursuit, the successful employment of the other branches is impossible.”⁴²⁵

Pursuit aviation maintained its status due to the fact that the U.S. Army ultimately controlled the Air Service. General Foulois did push back against his superiors in an effort to move bombardment aviation up in importance at various times. However, he did so cautiously because he would have risked being quickly replaced if he became too vociferous on the matter. Instead, Foulois, as well as the majority of his subordinates, chose a very diplomatic approach toward increasing the size and importance of bombardment aviation.⁴²⁶

The Bomber Mafia began with Billy Mitchell, whose charm, enthusiasm, and persuasiveness had a significant impact on the younger officers around him. Throughout the 1920s, Mitchell’s young acolytes helped increase the importance of bombardment aviation within the Air Service. As they began to gain positions of greater responsibility, authority, and influence within the Air Corps and the ACTS, charismatic men such as Kenneth Walker, Robert Olds, Major Donald Wilson and Captain Harold L. George used their personalities to rapidly increase the number of bombardment advocates.

Kenneth Walker

Of all the members of the Bomber Mafia, Captain Kenneth Walker was arguably the most vocal. Walker had enlisted in the Aviation Section of the Signal Enlisted Reserve Corps on December 15, 1917 but did not serve overseas during World War I. Over the next few years, Walker served as a pilot, instructor, and supply officer at the Air Service Flying School at Fort Sill, Oklahoma. Following that assignment, Walker transferred to the Philippines where he

⁴²⁵ Williamson Murray, *Strategy for Defeat: The Luftwaffe, 1933-1945*, p. 332.

⁴²⁶ Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 221-234.

served as the commander of the Air Intelligence Section at Camp Nichols and, later, flew with the 28th Bombardment Squadron. Walker's time in the squadron sparked his lifelong support for bombardment aviation.⁴²⁷

After the end of his assignment in the Philippines, Walker transferred to Langley Field, Virginia. While at Langley, Walker served on the Air Service Board before becoming the commander of the 11th Bombardment Squadron and the 2nd Bombardment Group. In December 1928, Walker left relinquished command of the 2nd Bombardment group so that he could attend the ACTS.⁴²⁸ Historian Martha Byrd argues that “All of Walker's prior experience with bombers came into focus when he was a student at the Air Corps Tactical School.” She maintains that “Under instructors that included Major Courtney H. Hodges and Capts George Kenney and Robert Olds, classroom lectures deviated from the operational record to enter the realm of the theoretical—what might happen if.”⁴²⁹

While at the ACTS, Walker participated in the U.S. Army V Corps maneuvers held in Ohio. Although they were brief, the maneuvers helped bolster Walker's view of bombardment aviation. During the exercise, Walker and his fellow ACTS students demonstrated the value of having airmen on the ground assisting the commanders of the ground forces. For example, Major Walter H. Frank, the ACTS's assistant commandant, served as the chief air umpire during the maneuvers. Frank, thoroughly impressed by what he witnessed, asserted: “There is considerable doubt among the umpires as to the ability of any air organization to stop a well-organized, well flown air force attack.” Frank and his colleagues came to that conclusion based

⁴²⁷ Staff, “Brigadier General Kenneth Newton Walker,” *Air Force*, January 2003.

⁴²⁸ Martha Byrd, *Kenneth N. Walker: America's Untempered Crusader*, pp. 20-24.

⁴²⁹ *Ibid.*, p. 24.

on the tremendous difficulties that defending pursuit aircraft had when trying to locate and engage incoming bombardment aircraft. Simply put, the maneuvers all but proved to Frank that “a well planned air force attack is going to be successful most of the time.”⁴³⁰

Following the maneuvers, Walker continued his studies at the ACTS. During his time at the school, Walker found a kindred spirit in Captain Robert Olds. Olds, a former aide to Billy Mitchell, had a profound influence on Walker’s views on airpower. According to Byrd, Olds and Walker “embraced all that Mitchell stood for—the independent air mission, the dominance of bombardment, even the need for aggressive advocacy.” The close relationship between Olds and Walker likely played a significant part in Walker joining the ACTS faculty within months of having completed his studies in June 1929. While at the ACTS, Walker and Olds helped form the original nucleus of the Bomber Mafia.

Shortly after starting his new job at the ACTS, Walker began writing a new bombardment text for use at the school. Wasting little time, Walker sent the polished draft of the text to the Chief of Air Corps for review in March 1930. Several months later, in October 1930, Walker authored an article in the *Coast Artillery Journal*. Titled “Driving Home the Bombardment Attack,” Walker’s article was essentially a condensed version of the ACTS bombardment text that was still under review by General Fechet. In the article, Walker stressed the importance of bombardment aircraft flying in formation in order to maximize both fire power and mutual protection. He maintained that pursuit aircraft could further increase bombardment aircraft’s chances of reaching their targets. However, he ultimately believed: “It is generally conceded, by those who are competent to judge, that an air attack well launched is most difficult

⁴³⁰ Byrd, *Kenneth N. Walker: America’s Untempered Crusader*, p. 24.

to stop.” In order to have any chance of doing so, Walker asserted that the “most efficacious method of stopping a bombardment attack would appear to be an offensive against the bombardment airdrome.”⁴³¹

General Fechet approved Walker’s bombardment text in December 1930. Two months later, in February 1931, the Air Corps published the text. Walker’s bombardment text had a profound impact on the ACTS, the Air Corps, and, more than a decade later, the U.S. Army Air Forces in World War II. Essentially, Walker’s text reiterated many of the arguments that Mitchell, Douhet, Trenchard, Olds, and many others had made over the previous two decades. The influence of those men, especially Mitchell and Olds, was readily apparent throughout Walker’s work, which argued that bombardment aviation was the primary component of the Air Corps. Walker also reinforced his belief that bombardment aircraft, while not invincible, would reach their targets under all but the conditions. In fact, Walker was so confident in the strength of bombardment aviation that he maintained that “bombardment personnel, indoctrinated with the will to reach and destroy the objective, will not be turned from their mission by the threatened or actual antiaircraft defenses of the enemy.”⁴³²

Walker’s text also dealt with the concept of destroying key enemy targets in order to quicken their defeat. Referred to as vital centers, key strategic nodes, industrial centers, and other terms throughout the 1920s, Walker’s theories on disabling key enemy targets had been discussed by most of his predecessors. Therefore, he did not break new ground when he asserted

⁴³¹ Kenneth N. Walker, “Driving Home the Bombardment Attack,” *The Coast Artillery Journal*, Vol 73, No 4, October 1930, pp. 328-341.

⁴³² Kenneth N. Walker, “The Air Force,” April 1930, AFHRA 248.101-1, p. 99.

that “there will probably be certain vital objectives comparatively limited in number which, if destroyed, will contribute most to the success of the combined arms of the nation.”⁴³³

Despite his intense focus on bombardment aviation, Walker was ultimately a pragmatic man. He believed that everyone in the Air Corps needed to put the overall needs of the service above their personal attitudes toward one type of aviation or another. Walker, the man who spent many hours debating Chennault, wrote a letter to his friend Carl Spaatz detailing his thoughts on the internal conflicts that had developed within the Air Corps. He explained to Spaatz that the sometimes bitter debate troubled him greatly. He stated: “Take your own case. I know damned well that you are confident in your ability to command a bombardment, observation or attack group as well as a pursuit group. Where then, is there to be found a place for this fetish of overspecialization?”⁴³⁴

In spite of his opinion that “overspecialization” was bad for the Air Corps, Walker continued to champion bombardment aviation over all other types. In 1933, Walker published “Bombardment Aviation: Bulwark of National Defense.” In that article, Walker stated that “whenever we speak in terms of ‘air force’ we are thinking of bombardment aviation.” Walker thoroughly believed that “a determined air attack, once launched, is most difficult, if not impossible to stop when directed against land objectives.” He also maintained that the Air Corps needed to be “a force with a distinct mission, of importance co-equal to that of the Army and the Navy.”⁴³⁵

⁴³³ Walker, “The Air Force,” p. 69.

⁴³⁴ Copp, *A Few Great Captains*, p. 260.

⁴³⁵ Kenneth N. Walker, “Bombardment Aviation: Bulwark of National Defense,” *U.S. Air Service*, XVIII, pp. 15-18.

By the late summer of 1933, Walker's time at the ACTS came to an end. In August 1933, Walker entered the Command and General Staff School (CGSS) at Fort Leavenworth, Kansas. Despite leaving the ACTS, Walker's influence within the Air Corps did not wane. Rather, he shifted his efforts toward convincing others that the Air Corps needed to have a greater degree of autonomy, if not complete independence, from the U.S. Army.⁴³⁶

Robert Olds

After Walker, Robert Olds was probably the most visible member of the Bomber Mafia. Old, who joined in the Signal Enlisted Reserve Corps in 1917, became part of the faculty at the ACTS in 1928. He remained at the school until 1931 when he left to serve as the operations officer for the 2nd Bombardment Group, Langley Field, Virginia. While at the ACTS, Olds became one of the founding members of the Bomber Mafia.⁴³⁷ Described by Haywood Hansell as "personable and charismatic," Olds had worked closely with Billy Mitchell throughout 1925 at both the Morrow Board hearings and the courts-martial that end Mitchell's military career. The close working relationship that the two shared contributed greatly to Olds' views on airpower.

Olds' views, already influenced heavily by his discussions with Mitchell, were further enhanced by his personal and professional friendship with Kenneth Walker. Their colleagues at

⁴³⁶ On Jan. 5, 1943, Walker, a brigadier general, was reported missing in action following a mission over the Japanese held island of Rabaul, New Britain, Papua, New Guinea. Witnesses explained that they had last seen Walker's aircraft leaving the target area with one engine on fire and several Japanese fighters on chasing after it. Walker, whose body was never recovered, was awarded the Medal of Honor in 1943. Staff, "Brigadier General Kenneth Newton Walker," *Air Force*, January 2003.

⁴³⁷ Olds son Robert "Robin" Olds, Jr., achieved greater fame than his father did. The younger Olds served as a fighter pilot in World War II and Vietnam. During World War II, Robin Olds received official credit for destroying twelve German aircraft. Two decades later, above the Vietnamese jungle, Olds downed four more enemy aircraft. Olds retired from the Air Force on 1 June 1973 as a brigadier general. Olds, Robin, *Fighter Pilot: The Memoirs of Legendary Ace Robin Olds*, pp. 6-25.

the ACTS often commented that the two men frequently fed off each other's ideas. Hansell stated that "Bob Olds and Ken Walker together were dangerously close to being a 'critical mass.' Both were almost explosively intense and dynamic." He argued that, while at the ACTS, Olds and Walker "adopted Ken's contention that bombardment was to air power what the infantry was to the Army—the basic arm."⁴³⁸

Like Walker, Olds viewed bombardment aviation as the Air Corps' most important mission. However, that did not mean that he was blind to the potential of pursuit and attack aviation. Hansell recalled that, "although he was devoted to the concept of bombardment," Olds "found release for his immense physical energies in flying fighter type airplanes.... Hansell remembered that Olds' "return to base from cross-country flights bore his characteristic signature: a slow roll over the flight line in his P-1 pursuit plane, at an elevation well below local regulations."⁴³⁹ Olds, therefore, certainly did appreciate what a pursuit aircraft had to offer. However, that appreciation did little to change his belief that the development of bombardment aviation aircraft and doctrine had to be the Air Corps' primary focus.

Donald Wilson

Major Donald Wilson, another of the Bomber Mafia's strongest advocates, joined the ACTS faculty in 1929 while the school was still located at Langley Field. In 1931, Wilson followed the ACTS to its new home at Maxwell Field, Alabama. While at Maxwell from 1931 through 1935, Wilson developed into one of the "leading theorists at Maxwell during the thirties...."⁴⁴⁰ In particular, Wilson spearheaded the development of the "Industrial Web

⁴³⁸ Hansell, Haywood S., "AWPD-1, The Process," p. 9.

⁴³⁹ Ibid., p. 9.

⁴⁴⁰ Finney, *Air Corps Tactical School*, p. 58.

Theory” (IWT) which posited that an enemy’s industrial capabilities could be disabled or destroyed by destroying critical targets, often referred to as nodes. Wilson’s IWT built upon the theories of Douhet, Mitchell, and others who had argued that attacking an enemy’s “vital centers” could decrease the length of most conflicts. Wilson’s background in the rail industry undoubtedly had a significant influence on his air power theories, especially the IWT. Wilson argued that the development of aerial bombardment meant that the enemy’s troops in the field no longer had to be the primary focus during wartime. Instead, Wilson contended that bombing targets much nearer to the enemy’s heartland had the potential to cripple an adversary’s ability to continue to fight. Vital targets included industrial manufacturing plants, mining operations, railroad junctions, weapons plants, munitions plants, communication facilities, troop concentrations, and aircraft hangers. Ultimately, Wilson and his colleagues concluded that:

Loss of any of these systems would be a crippling blow. Loss of several or all of them would bring national paralysis. As to repair of this devastation, it would seem obvious that any air force worthy of the name should be able to destroy faster than replacement could be effected...The airplane gives us a weapon which can immediately reach the internal organization of an enemy nation, within range, and therefore bring about the defeat of that nation. The fundamental innovation lies in the fact that whole nations now lie within the combat zone.⁴⁴¹

While Wilson developed many of his theories from those presented by Mitchell, Douhet, and others, he did not do so without deviation. Mitchell, Douhet, and Trenchard had advocated attacking an enemy’s population centers in order to induce fear, thereby shortening the conflict via public demand. Wilson maintained that attacks on population centers put enemy civilians, particularly women and children, in unnecessary and unwarranted danger. More importantly, Wilson thoroughly believed that bombing civilians went against American principles. Wilson’s

⁴⁴¹ Haywood S. Hansell, Jr., *The Strategic Air War Against Germany and Japan* (Washington, D.C.: Office of Air Force History, 1986), p. 13.

contemporary, Haywood Hansell, agreed, stating that “the idea of killing thousands of men, women, and children was basically repugnant to American mores. And from a more pragmatic point of view, people did not make good targets for the high-explosive bomb.”⁴⁴²

Once he had developed it and discussed it with his colleagues in the Air Corps, Wilson began to promote the IWT to his colleagues and to teach it to the students who attended his courses at the ACTS. Wilson, who remained at the ACTS longer than many of his colleagues, had more contact with a greater number of students than most. He served as an instructor from 1929 to 1930, a student from 1930 to 1931, an instructor once more from 1931 to 1934, and as the director of the Department of Air Tactics and Strategy from 1936 to 1940.⁴⁴³ Many students who attended the school during Wilson’s many years there recalled that his lectures had a tremendous impact on their attitudes toward air power.⁴⁴⁴

Harold George

Another important member of the Bomber Mafia was Wilson’s friend Harold L. George. George, who became an advocate of bombardment aviation after meeting Mitchell in France during World War I. George, taken in by Mitchell’s persuasive personality, participated in the bombing tests on the German battleship *Ostfriesland* in 1921. George argued that the tests had proved to him that the Air Service faced stiff resistance from others in the U.S. military. Mitchell, George, and others maintained that the U.S. Navy had tried to limit both the type and number of bombs that Mitchell and his men dropped during the tests in an effort to control the

⁴⁴² Hansell, *The Strategic Air War*, p. 13.

⁴⁴³ Finney, *The History of the Air Corps Tactical School*, p. 40.

⁴⁴⁴ Greer, *The Development of Air Doctrine*, p. 207.

outcome. As a result, George believed that airmen would receive little support as they tried to prove that airpower could achieve spectacular results.⁴⁴⁵

Several years after the bombing of the *Ostfriesland*, George was assigned to the Air Corps Operations Division where he served as the Chief of the Bomb Section. While there, Mitchell's defense team asked George to testify on Mitchell's behalf. George explained that most of the men who testified in support of Mitchell were junior officers in the Air Service. George stated: "We didn't know enough about whether you should keep your mouth shut or not. The attitude was what could they do? We could go get another job. Ranking people didn't want to risk trouble and I can understand."⁴⁴⁶

In the years after Mitchell's trial, George continued to demonstrate that he was one of the Air Corps' premier minds. In 1931, he attended the ACTS. The following year, George was selected to serve on the school's faculty. George proved to be highly influential during the four years that he spent at the ACTS, primarily because of his position as the director of the school's Department of Air Tactics and Strategy from 1934 through 1936.⁴⁴⁷ In 1935, George spoke to students on the opening day of the ACTS session for the year. George stated:

From today on much that we shall study will require us to start with nothing more than an acknowledged truth and then attempt, by the utilization of common sense and logic, to evolve a formula which we believe will stand up under the crucial test of actual conditions. We shall attempt to develop logically, the role of air power in future war, in the next war. We are not concerned with fighting the past war;--that was done 18 years

⁴⁴⁵ Harold L. George, transcript of oral history interview by Dr. Murray Green, 16 March 1970 (Maxwell AFB, Alabama: Air Force Historical Research Agency AFHRA#168.7326-169), pp. 27-28.

⁴⁴⁶ *Ibid.*, pp. 5-6.

⁴⁴⁷ Lieutenant George arrived in France in September of 1918. He was assigned to the 7th Aviation Instruction Center, Clermont-Ferrand, France, which was one of two, large flying centers in France that were operated by the U.S. Air Service. Following two months of training, George joined the 163rd Bombardment Squadron, 2nd Day Bombardment Group, on September 5, 1918. Craig R. Edkins, "Anonymous Warrior: The Contributions of Harold L. George to Strategic Air Power," Air Command and Staff College, March 1997, pp. 12-22.

ago. We are concerned, however, in determining how air power shall be employed in the next war and what constitutes the principles governing its employment, not by journeying into the hinterlands of wild imagination but by traveling the highway of common sense and logic.

In pursuing this purpose, we realize that air power has not proven itself under the actual test of war. We must also realize that neither land power nor sea power has proven itself in the face of modern air power.

The question for you to consider from today on war, to have constantly before you as you continue your careers, is substantially this:

Has the advent of air power brought into existence a method for the prosecution of war which has revolutionized that art and given to air forces a strategical of their own independent of either land or naval forces the attainment of which might, in itself, accomplish the purpose of war; or has air power merely added another weapon of waging war which makes it in fact only an auxiliary of the traditional military forces?⁴⁴⁸

Although several of George's statements were posed as questions, he had little doubt as to their answers. For him, airpower would play a primary part in any future war. Airpower was also more than an auxiliary force that existed to assist the traditional military forces. Finally, George firmly believed that bombardment aircraft were the aircraft type that would change modern war forever. George, like Mitchell and Douhet, argued that airpower had the capability to degrade or destroy an enemy's will to continue fighting.⁴⁴⁹ In a lecture to his students, George stated: "The destruction of military forces of the enemy is not and never has been the objective of war; it has been merely a means to an end—merely the removal of an obstacle which lay in the path of overcoming the will to resist. The end was the breaking of the hostile will."⁴⁵⁰

George's impact was on airpower was probably best summed up by Haywood Hansell. Hansell, one of George's friends and colleagues, stated: "Among the Architects of American air power, few rank higher than Harold George. He was a farsighted and courageous prophet, a

⁴⁴⁸ Harold L. George, "ACTS Lecture, An Inquiry into the Subject of War,"(AFHRA#248.11-9).

⁴⁴⁹ Edkins, "Anonymous Warrior: The Contributions of Harold L. George to Strategic Air Power," pp. 12-22.

⁴⁵⁰ Harold L. George, "An Inquiry into the Subject of War" (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA#248.11-9), pp. 5-7.

creator of strategic air concepts, doctrine, and plans, and commander of the World War II Air Transport Command, which added to air power a new element of global, strategic mobility.”⁴⁵¹

Vandenberg

Hoyt Vandenberg, who retired from the military after serving as the U.S. Air Force’s second Chief of Staff from 1948 to 1953, was one of George’s students at the ACTS.

Vandenberg had joined the Air Service shortly after graduating from the U.S. Military Academy at West Point in June 1923. Quickly rising through the ranks, Vandenberg attended the ACTS as a student from August 1934 to June 1935. After completing the course of instruction at the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, in June 1936, Vandenberg joined the ACTS faculty.⁴⁵²

By the time that Vandenberg joined the faculty at the ACTS, many of his peers viewed him as “one of the hottest pilots in the Air Corps.” In the years prior to his arrival at Maxwell Field, Vandenberg had flown a number of different aircraft and accrued more than 3,000 flying hours, which provided him with a significant amount of critical experience that few could match. Thus, it surprised few that Vandenberg became a pursuit aviation instructor during his tenure at the ACTS.⁴⁵³

Despite these credentials, Vandenberg did not come close to matching Chennault’s intensity. In fact, as historian Phillip Mellinger noted, Vandenberg’s “two years at Maxwell proved remarkably unremarkable.”⁴⁵⁴ According to the recollections of many of his fellow

⁴⁵¹ John Frisbee, ed., *Makers of the United States Air Force*, p. 73.

⁴⁵² Phillip S. Mellinger, *Hoyt S. Vandenberg: The Life of a General*, p. 15.

⁴⁵³ *Ibid.*, p. 15.

⁴⁵⁴ *Ibid.*, p. 19.

instructors, Vandenberg served as a mediator of sorts due to his relatively calm personality. Not wanting conflict, Vandenberg sought to foster cooperation between pursuit and bombardment advocates. His lectures focused on the strengths and weaknesses of pursuit aviation.

Vandenberg argued that “it is extremely unlikely that a general defense can be provided that is strong enough to successfully oppose an enemy penetration in force.”⁴⁵⁵ Furthermore, he argued, the technologically more-advanced bombers in use during this tenure at the ACTS had far outpaced their pursuit counterparts. Thus, Vandenberg maintained that pursuit aircraft were best used as airborne anti-aircraft artillery that, at the maximum, could inflict damage on enemy bomber formations.

Vandenberg’s decision to minimize the role of pursuit aircraft likely stemmed from the fact that he was more interested in furthering his career than adding fuel to the debate between pursuit and bombardment advocates. Of course, that is not to say that Vandenberg did anything wrong or dishonest during his ACTS tenure. Rather, Vandenberg understood that the majority of his colleagues at the ACTS and in the Air Corps strongly favored bombardment aviation.⁴⁵⁶

Despite, or perhaps because of, his easy-going nature and desire to get along, Vandenberg’s time at the ACTS proved to be brief. In late 1936, Vandenberg began coursework at the U.S. Army War College (USAWC) at Carlisle Barracks, Pennsylvania. The decision to attend the USAWC fit well within Vandenberg’s pattern of acquiring all the education that he could. The decision to attend the USAWC also proved to be highly advantageous for Vandenberg. While at the USAWC, Vandenberg focused on the air defense for the Philippines.

⁴⁵⁵ ACTS, “Lectures on Pursuit Aviation, October-November, 1936” (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA, 248.2806.1 to 248.2806.9).

⁴⁵⁶ John Frisbee, ed., *The Makers of the United States Air Force*, pp. 206-207.

As soon as he graduated from USAWC, Vandenberg received a call from Brigadier General Carl Spaatz inviting him to join the staff of the Plans Division, which was part of the Office of the Chief of Air Corps.⁴⁵⁷

Haywood Hansell

Haywood S. Hansell, Jr., one of Vandenberg's classmates at the ACTS, also had the potential to assume Chennault's role as the Air Corps leading advocate of pursuit aviation. Like Vandenberg, Hansell seemed like a perfect candidate to bolster Chennault's theories at the ACTS. After all, Hansell's early association with Claire Chennault had a significant impact on his early career in the Air Corps.⁴⁵⁸ Hansell, who flew with Chennault as part of the "Flying Trapeze," received the nickname "Pursuit Possum" due to his support of his mentor's theories on airpower and his resemblance to an opossum. Initially, Hansel agreed with Chennault's arguments on the merits of pursuit aircraft. However, the focus on bombardment aviation in the curriculum at the ACTS convinced Hansel to veer from the path he had begun to follow as a young lieutenant.

After a few months at the ACTS, Hansell could no longer correctly be referred to as "Pursuit Possum." Historian Charles Griffith argues that Colonel John Curry, Lieutenant Colonel Harold George, Captain Robert Webster, Major Donald Wilson, and Lieutenant Kenneth Walker "had a vicarious impact on Hansell" that strongly shaped his attitudes toward airpower.⁴⁵⁹ In fact, Griffith's argues that their influence was so strong that it almost completely

⁴⁵⁷ William H. Bartsch, *December 8, 1941: MacArthur's Pearl Harbor* (College Station: Texas A&M University Press, 2003), pp. 50-54.

⁴⁵⁸ Haywood S. Hansell, Jr., *The Air Plan that Defeated Hitler* (Atlanta: Higgins-McArthur, 1972), p. 20.

⁴⁵⁹ Charles Griffith, *The Quest: Haywood Hansell and American Strategic Bombing in World War II* (Maxwell AFB, Alabama: Air University Press, September 1999), pp. 42-43.

changed the way Hansell viewed the application of airpower.⁴⁶⁰ Simply put, the strong personalities that surrounded him convinced Hansell to join the “bomber mafia.” He quickly developed into one of bombardment aviation’s strongest supporters.

Lawrence Kuter, who argued that Mitchell’s theories were the primary influences on the instructors at the ACTS, was another member of the Bomber Mafia who seemed poised to take Chennault’s place as the service’s premier pursuit advocate. Kuter, a highly skilled pilot, flew with Chennault in *The Flying Trapaze*.⁴⁶¹ However, Kuter became convinced that bombardment aviation was the way forward for the Air Corps. Much like Hansell, Kuter had a growing devotion to bombardment aviation that trumped any desire he may have had to support Chennault’s passionate arguments regarding pursuit aviation.

In 1934, Kuter joined the ACTS as a student. After graduating the following spring, Kuter continued on at the ACTS as a faculty member in the bombardment aviation section. During his tenure as an instructor, Kuter frequently found himself at odds with his former teammate. Kuter argued that Chennault believed that pursuit aircraft should be used as an offensive and defensive weapon. Kuter maintained that, as a result of such views, Chennault would not admit that either attack aircraft or bombardment aircraft could be as effective as pursuit aircraft when it came to destroying enemy targets on the ground.⁴⁶² According to Kuter, Chennault refused to conceive of pursuit aircraft as anything less than the Air Corps’ most important type of aircraft. Therefore, Kuter stated that Chennault rejected the idea of using

⁴⁶⁰ Griffith, *The Quest*, pp. 42-47.

⁴⁶¹ Arthur H. Wagner and Leon E. Braxton, *Birth of a Legend: The Bomber Mafia and the Y1B-17* (Trafford, 2012), p. 77.

⁴⁶² Copp, *A Few Good Captains*, p. 322.

pursuit aircraft to escort bombardment aircraft on long missions over enemy territory. However, as historian Dewitt Copp argued, “the bomber supporters were as dogmatic in their rejection of the need for fighter escort in any form....” The result, as Copp concludes, was that “when reality caught up with the supremacy of the bomber theory, the price paid for the error would be bitterly high.”⁴⁶³

Kuter, as a firm believer in the “supremacy of the bomber theory,” no doubt helped perpetuate the belief that bombardment aircraft were almost invincible. During his ACTS lectures, he argued that the Air Corps would one day field a force of 10,000 aircraft capable of reaching nearly any spot on the globe. Although Kuter understood that this day had not yet arrived, he believed it would come in the near future.⁴⁶⁴

FAA Commission

By 1934, the members of the ACTS’ Bomber Mafia had developed a coherent airpower theory that heavily emphasized the use of bombardment aircraft. They maintained that large numbers of bombardment aircraft would alter how nations waged wars. They also asserted that only airmen could properly use such assets. Basically, they continued Mitchell’s argument that airmen must have control over airpower for it to achieve its full potential.⁴⁶⁵

In November 1934, several Air Corps officers testified before the Federal Aviation (FAC) Commission. The men included Major Wilson, Captain George, Captain Olds, and Lieutenant Walker. President Franklin Roosevelt established the FAC in June 1934 and tasked

⁴⁶³ Copp, *A Few Good Captains*, p. 322.

⁴⁶⁴ Leland Kinsey Cowie II, “Pattern for Victory: Forging and Leading Air Power at War” (Fort Leavenworth, Kansas: School of Advanced Military Studies United States Army Command and General Staff College, 2012), pp. 7-17.

⁴⁶⁵ Williamson Murray and Alan Millet, *Military Innovation in the Interwar Period* (Cambridge, United Kingdom: Cambridge University Press, 1998), p. 174.

the members of the committee with examining aviation in its entirety. The FAC hearings did not start off well for the Air Corps officers. Brigadier General C.E. Kilbourne, the assistant chief of staff of the War Plans Division, instructed the men to acquaint themselves with existing Air Corps policy on aviation. Kilbourne also made it clear that they were not to voice their personal opinions unless asked to do so by one of the members of the FAC.⁴⁶⁶

In spite of General Kilbourne's directive, the Air Corps officers who testified before the FAC spoke as freely as they did when teaching at the ACTS. During his testimony before the committee, Major Robert Olds stated: "A determined air armada loaded with modern agencies of destruction, in readiness within range of our great centers of population and industry, may eventually prove to be a more convincing argument against war than all the Hague and Geneva Conventions put together."⁴⁶⁷

Captain George agreed with Olds' statement. However, he focused much of his testimony on convincing the FAC members that the Air Corps did not have the aircraft to undertake this task. George stressed that an attack of any size could only be carried out if such an air armada existed. George stated: "Future wars will be fought by the air forces that are in existence when the war breaks out and not by air forces which are created after the war commences."⁴⁶⁸

Lieutenant Walker's testimony supported that of both Olds and George. Walker maintained that air power would be of vital importance in any future war. However, he was clear that neither the U.S. Army nor the U.S. Navy did not have the vision to properly employ

⁴⁶⁶ Futtrell, *Ideas, concepts, doctrine*, p. 71.

⁴⁶⁷ Tate, *The Army and Its Air Corps*, p. 147.

⁴⁶⁸ Futrell, *Ideas, Concepts, Doctrine*, p. 72.

aircraft in either an offensive or defensive manner. When he addressed the committee, Walker stated: “Gentlemen, unless we create an adequate and separate Air Force, this next war ‘will begin in the air and end in the mud’—in the mud and debris of the demolished industries that have brought us to our knees.”⁴⁶⁹

Olds, George, Walker, and their colleagues hoped that their testimony would convince the members of the FAC to put greater emphasis on the Air Corps and its place within the existing defense establishment. Their efforts paid substantial dividends. In their final report, the committee members explained that they understood that “the present degree of mutual understanding between the Army and the Navy is less than might be desired.” That understanding led the committee to state that airpower had evolved. The committee members stated:

there is ample reason to believe that aircraft have now passed beyond their former position as useful auxiliaries, and in the future must be considered and utilized as an important means of exerting directly the will of the Commander in Chief. An adequate striking force for use against objectives both near and remote is a necessity for a modern army, and the projected G.H.Q. [General Headquarters] Air Force must be judged with reference to its effectiveness in this respect.⁴⁷⁰

Although the committee’s statement did not change the Air Corps overnight, it did indicate that years of lobbying had convinced many that airpower had developed into more than just an auxiliary force. Yet, the committee members were not ready to let the Air Corps separate from the U.S. Army. The fact that the plans for a General Headquarters Air Force (G.H.Q. Air Force) had already been drawn up allowed the committee to bypass the contentious issue.⁴⁷¹

⁴⁶⁹ Futrell, *Ideas, Concepts, Doctrine*, p. 72

⁴⁷⁰ 74th Congress, 1st Session, *Report of the Federal Aviation Commission*, January 1935.

⁴⁷¹ On December 31, 1934, Secretary of War George Dern directed that the General Headquarters Air Force activate at Langley Field, Virginia, by March 1, 1935. All Air Corps attack aircraft, bombardment aircraft, and pursuit

Conclusion

Billy Mitchell's court-martial and resignation early in 1926 had left the Air Corps without its most powerful and persuasive advocate. However, there were many officers who possessed the same "us versus them" mindset that had developed among early airmen. Much like Mitchell, these officers thought strongly about air power and wanted independence from the U.S. Army. Some of these airmen, such as Robert Olds and Newton Walker, had been heavily influenced by Mitchell in their efforts to promote the primacy of bombardment aviation. Others, such as Claire Chennault, took a different approach that favored an air force in which bombardment and pursuit aircraft were of nearly equal importance. Alienated by their superiors in the U.S. Army and the War Department, the men in the Air Corps worked to gain control over air power because they believed that only airmen could employ large air forces properly.

Air Corps leaders also became more devoted to acquiring independence for their service following Mitchell's departure. Even though General Patrick, General Fechet, and General Foulois did not agree with Mitchell's tactics and often arrogant behavior, they supported his goal of achieving greater, if not total, independence from the U.S. Army. As a result, they improved the ACTS, increased Air Corps participation in U.S. Army exercises, and aggressively lobbied Congress and the War Department. Foulois was particularly important during the period because he led the Air Corps through the air mail scandal of 1934 and the lean budgets of the 1930s.

Following Mitchell's resignation, the men in the Air Corps came to the realization that they would have to join forces in order to gain greater control of airpower. Although no single individual approached the level of influence that Mitchell had enjoyed, these men possessed

aircraft were subsequently assigned to G.H.Q. Air Force. Robert F. Futrell, *Ideas, Concepts, Doctrine: basic thinking in the United States Air Force*, p. 73.

forceful and charismatic personalities that helped the Air Corps gain greater support among the U.S. military, Congress, and the American public. Firm believers in air power, they threw their efforts into developing a strategic bombardment doctrine that built upon the theories of Mitchell, Douhet, and Trenchard. Some, such as Chennault, dissented and fought for an Air Corps that championed pursuit aviation as much as it did bombardment aviation. Yet, they all believed that the Air Corps could achieve independence from the U.S. Army by proving that no one else could employ airpower as well as airmen.

Chapter 5 – Pushing for Separation: The Air Corps’ Drive for Independence

In their quest to prove that the Air Corps should be an independent branch, the men of the Air Corps decided that they needed to increase visibility of their service. They continued to feel alienated from their superiors, so that, all the more, these airmen felt sure that the U.S. military, Congress, and the American people were not going to grant their service independence just because they wanted it. To prove that they were capable of existing as a separate service, the men of the Air Corps seized every opportunity they could in order to show their doubters that air power had evolved into a force capable of acting both independently and in conjunction with ground forces.

After a great deal of thought and discussion among themselves, the men of the Air Corps determined that U.S. military maneuvers were the best venues available where they could show that air power was no longer just an auxiliary of the U.S. Army. Air Corps leaders, especially Major General Benjamin Foulois, were the driving force behind the Air Corps’ participation in the maneuvers. Foulois, in particular, firmly believed that the maneuvers would allow his airmen to demonstrate that they were ready for a separate service.

Although they were critical to the Air Corps’ push for independence, the military maneuvers were not the only place where airmen chose to demonstrate their service’s capabilities. General Foulois and other Air Corps leaders sought out other opportunities for airmen to substantiate their arguments for a separate service. Those opportunities included the search for the *Mount Shasta*, the Army Air Corps Mail Operation, and the effort to locate the Italian ocean liner *Rex*.

Although most of the maneuvers and the other missions that airmen undertook in the 1930s helped show the U.S. military, Congress, and the American public that the Air Corps was

far more capable than it had been in World War I, there were problems. In particular, the botched handling of the Air Mail operation fueled the doubts of those who had argued that the men of the Air Corps had overstated their capabilities. The negative response to the air mail operation, which required a great deal of effort and sacrifice on the part of many airmen, further reinforced their feelings of alienation and their desire to separate from the U.S. Army.

Air Corps Command and Staff Exercises

The Air Corps, officially the Air Service at the time, conducted the service's first annual maneuvers in 1925. The maneuvers allowed commanders to test the Air Corps' equipment, tactics, and logistics. Each maneuver was different than the last so that new challenges could be explored and new problems solved. Throughout the mid-to-late 1920s, the exercises were relatively small in size and scope due to the size of the Air Corps and the small budget appropriations that the service received each year from the War Department. In fact, the Air Corps did not have maneuvers in 1930 because of lack of a lack of funds that resulted from the stock market crash of 1929.⁴⁷²

In 1931, F. Trubee Davison, Assistant Secretary of War for Aviation, decided that the Air Corps needed to increase its profile. He decided to hold maneuvers with as many men and aircraft as possible in order to help the American people appreciate the Air Corps and its capabilities.⁴⁷³ Although Secretary Davison had decided on the scope of the maneuvers, it was Major General Benjamin Foulois, Chief of the Air Corps from 1931 through 1935, who was the

⁴⁷² The 1927 maneuvers pitted a field army and its aviation forces against a simulated enemy. In 1928, the Air Corps did not have maneuvers. Instead, the Air Corps sent a composite group around the U.S. to demonstrate Air Corps operations to the faculty and staff of the U.S. military's various service schools. In 1929, the Air Corps merged several units into a provisional wing to test the service's logistical capabilities. Maurer Maurer, *Aviation in the U.S. Army, 1919-1939* (Washington, D.C.: Office of Air Force History, 1987), p. 239.

⁴⁷³ *Ibid.*, pp. 246-247.

driving force behind them. Foulois, who began his career as a military aviator in 1908, believed that the maneuvers were the best venue to demonstrate the Air Corps' capabilities and to test the service's theories and tactics under close to "real world" conditions.⁴⁷⁴

1931 Exercises

General Fechet, whose term as Chief of the Air Corps was about to end, chose General Foulois to command 1931 maneuvers. After a great deal of discussion, Foulois and the rest of the men assigned to the Office of the Chief of the Air Corps (OCAC) decided to form a provisional air division composed of 667 aircraft, 692 officers, 69 flying cadets, and 643 enlisted men of all types.⁴⁷⁵ The OCAC decided to involve such a large number of aircraft in order to comply with Secretary Davison's directive and to test the Air Corps' ability to mobilize and move a force of significant size—something which American airmen had not been done since the final months of World War I.⁴⁷⁶

The maneuvers proved to be challenging for the Air Corps. The logistical demands required to gather that number of airplanes and men in one location were significant. The Air Corps had to scour the nation to find enough aircraft and pilots to meet the planned scope of the maneuvers. To do so, the Air Corps tasked nearly all of its squadrons stationed in the U.S., most

⁴⁷⁴ Historian Mark David Mandeles argues that the "leaders of the Army Air Forces (AAF—created on June 20, 1941) devoted little attention to training with ground forces or techniques implementing coordinated air and ground operations. Mandeles also maintains that "Airmen reiterated doctrine, and made little effort to analyze and test it. Mark David Mandeles, *Military Transformation Past and Present: Historic Lessons for the 21st Century* (Praeger, 2007), p. 43.

⁴⁷⁵ War plans envisioned a division of some 2,200 aircraft, 4,000 officers, and 28,000 enlisted men attached to General Headquarters. Maurer Maurer, *Aviation in the U.S. Army, 1919-1939*, p. 246.

⁴⁷⁶ The U.S. Air Service, AEF, concentrated and employed large numbers of aircraft during the Battle of Saint-Mihiel in September 1918 and the Meuse-Argonne Offensive that followed.

of the aircraft and pilots assigned to the Air Corps' Advanced Flying School, and 19 squadrons from the National Guard.⁴⁷⁷

All elements of the division had arrived at Dayton, Ohio, by May 16, 1931. After a one-day delay caused by bad weather, the division moved across the country. The first demonstration occurred over Chicago, Illinois, on May 21, 1931. The second over New York, New York, on May 23, 1931, followed by aerial demonstration over Boston, Massachusetts; Atlantic City, New Jersey; Philadelphia, Pennsylvania; and Washington, D.C. While over each location, approximately 30 aircraft from the 13th Attack Squadron, 11th Bombardment Squadron, and 95th Pursuit Squadrons demonstrated high-speed dives and engaged in mock aerial combat. After that, the division's bombardment wing, one of the observation wings, the attack group, and the other observation wing flew over in mass formation.⁴⁷⁸

The maneuvers received considerable press attention, the majority of which was favorable. The size of the maneuvers intrigued many people, including U.S. Senator Hiram Bingham of Connecticut; Howard S. Smith, Chairman of Aeronautical Committee, Dayton Chamber of Commerce; Secretary of War for Aviation F. Trubee Davison; and pioneer aviator Orville Wright.⁴⁷⁹ Not everyone was pleased that the Air Corps was conducting large maneuvers during some of the darkest days of the Great Depression. However, Davison answered any

⁴⁷⁷ The Air Corps did have Reserve personnel during the period, but they were not assigned to units like National Guard personnel were. Gerald T. Cantwell, *Citizen Airmen: A History of the Air Force Reserve, 1946-1994* (Washington, D.C.: Air Force History and Museums Program, 1997), pp. 5-22.

⁴⁷⁸ Maurer Maurer, *Aviation in the U.S. Army, 1919-1939*, p. 247.

⁴⁷⁹ Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935*, p. 39.

critics by explaining that the maneuvers did not cost the American people any extra money because they had been paid for by appropriations that had been approved two years before.⁴⁸⁰

The President Hoover congratulated the Air Corps on the “remarkable success of the maneuvers.” In a letter to Secretary of War Patrick J. Hurley, Hoover stated: “To have mobilized, from all parts of the country, a force of 672 airplanes and maneuvered it from the middle west to, and along, the eastern seaboard from Maine to Virginia without any serious mishap, is very convincing evidence of the efficiency of the Army's air forces.” Hoover also concluded that the maneuvers “reflected great credit on our military establishment.”⁴⁸¹ Secretary Davison was equally pleased. He thanked the American people and the press for showing “an appreciation of the fact that the purpose of these maneuvers was to solve in actual operation difficult problems which can be solved in no other way.” Davison argued that the maneuvers put “the United States in first place in so far as the operation of large units is concerned.”⁴⁸²

The *Mount Shasta* Incident

In spite of the overall success of the maneuvers that took place in 1931, there were problems. In August 1931, just two months after the air division maneuvers, the General Staff approved the Air Corps' request to conduct bombing tests on a freighter, the *Mount Shasta*. To facilitate the tests, the ship was towed approximately 55 miles off the coast of Virginia. Shortly after the ship reached its destination, the American press learned of the tests, which they theorized were as important as the bombing of the SMS *Ostfriesland* had been over a decade

⁴⁸⁰ Maurer, *Aviation in the U.S. Army, 1919-1939*, p. 248.

⁴⁸¹ Herbert Hoover, ‘Letter to the Secretary of War About Army Air Corps Maneuvers,’ June 2, 1931.

⁴⁸² F. Trubee Davison, ‘Assistant Secretary of War for Aviation, Press Release, May 31, 1931 (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA 248.2122-2.

prior.⁴⁸³ However, the Air Corps officers who devised the tests had not intended to make them public because they did not view them as anything more than simple bombing practice. As a result, the airmen did not obsess over the details.

On August 11, 1931, a squadron of nine bombardment aircraft commanded by Major Herbert Dargue left Langley Field, Virginia to bomb the *Mount Shasta*. Each aircraft carried several 300-pound bombs, which Dargue believed would be enough to sink the old ship. After searching for it for some time, the squadron failed to find the *Mount Shasta*. Three days later, the squadron found the ship but the 300-pound bombs proved to be too weak to sink it.⁴⁸⁴

The squadron's failure to sink the *Mount Shasta* led the American press and the U.S. Navy to question the Air Corps' ability to locate and destroy a vessel out at sea. Hanson Baldwin, the military affairs editor for *The New York Times* criticized the squadron for its' inability to find the ship on August 11. Baldwin wrote: "The inability of the army aviation...to find a floating target not more than sixty miles away—a problem which is solved almost monthly by Navy fliers—is certainly a definitive example of the value of specific training for a specific task."⁴⁸⁵

General Foulois, the Acting Chief of the Air Corps, was angered that he had not been properly informed about the tests. He stated: "The Mount Shasta incident...left a lingering distrust in the public mind."⁴⁸⁶ Thus, he worried that the failure to find and sink the *Mount Shasta* would undo the progress that the men of the Air Corps had made toward proving that they

⁴⁸³ Jeffrey Underwood, *The Wings of Democracy: The Influence of Air Power on the Roosevelt Administration, 1933-1941* (Texas A&M University Press, 1991), p. 25.

⁴⁸⁴ John F. Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935*, p. 57.

⁴⁸⁵ Hanson W. Baldwin, "Airplanes vs. Ships," *The New York Times*, August 30, 1931, pp. III-1.

⁴⁸⁶ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 218.

needed centralized control over their own service. Foulois was equally frustrated by the U.S. Navy's reaction to the affair. He argued that the U.S. Navy's used the event to "question the needs of the Air Corps for planes, and brought their guns to bear on the next round of hearings for military appropriations."⁴⁸⁷

Although the *Mount Shasta* incident did not cause lasting damage to the Air Corps, it did embarrass the service in the short run. More importantly, it demonstrated that many in the public and the U.S. military remained skeptical about the Air Corps' ability to execute the important coastal defense mission. This skepticism proved to the men in the Air Corps that they had to do more to convince people that their service deserved greater independence from the U.S. Army.

To help rectify the situation, Foulois asked the General Staff to allow the Air Corps to set-up a school that focused on the particulars of defending the coast using airplanes. On February 18, 1932, General Douglas MacArthur, Chief of Staff of the U.S. Army, approved Foulois' request to develop a school to teach coastal defense tactics. The Air Corps wasted little time, opening the school at Bolling Field, Maryland, in April 1932.⁴⁸⁸

Deepening Depression

The *Mount Shasta* incident did not mark the end of difficulties for the Air Corps. On February 4, 1932, just two weeks before General MacArthur approved the Air Corps' request for a new school, Foulois testified before the House Committee on Expenditures in the Executive Departments. The committee was reviewing two separate pieces of legislation aimed at merging

⁴⁸⁷ Ibid., pp. 18-19.

⁴⁸⁸ Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935*, p. 59.

the U.S. Army and U.S. Navy into a Department of National Defense. Both bills proposed a cabinet-level official for the U.S. Army, U.S. Navy, and a U.S. air force.⁴⁸⁹

The hearings were contentious at times. Representative Charles Martin, a former Chief of Staff of the Army, was especially critical of the Air Corps. Martin stated:

I tell you that if you turn those air birds loose, you will have to organize something like the Veterans Bureau to take care of the appropriations to keep them going. They are the most extravagant, undisciplined people on earth. They go up in a plane and fly three or four times, then they go out yelling about flying flaming coffins. If we had followed Mitchell's program, we would bankrupt the government. Those fellows have no sense of economy.⁴⁹⁰

Foulois was quite agitated by Martin's harsh criticism of airmen. He explained to the committee that Martin's comments showed "a pitiful lack of knowledge regarding the administration and operation of the Army Air Corps during the past five years [1928-1932]." Foulois also argued that the Air Corps contained "a body of men who, in my opinion, are not exceeded in efficiency today by any other branch of the United States Army."⁴⁹¹

Neither bills the committee discussed survived. Foulois was disappointed, but he had grown accustomed to such things over his long military career. He had larger problems to contend with, including the election of President Franklin Roosevelt. Foulois did not know precisely how Roosevelt felt about the Air Corps, but he had his suspicions based on the fact that the President was a former Secretary of the Navy. Not wanting to disappoint Roosevelt, Foulois

⁴⁸⁹ Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 221-222.

⁴⁹⁰ *Ibid.*, p. 222.

⁴⁹¹ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 222.

tasked his subordinates to “push the state of the flying art at every opportunity.”⁴⁹² Fortunately for the Air Corps, it did not take long for an opportunity to present itself.

During the winter of 1932-1933, powerful blizzards wreaked havoc in parts of Arizona, Colorado, New Mexico, and Utah. The blizzards led to tremendous hardships for the people living in those areas, especially the approximately 21,000 Native Americans who faced starvation on their isolated reservations. Once he became aware of the situation, Foulois contacted Hap Arnold, who commanded the 1st Wing at March Field, California. Foulois asked Arnold if he and his men could do anything to help those in need.⁴⁹³ Arnold agreed and prepared to airdrop food and other supplies from Air Corps bombers. The 1st Wing loaded Curtiss B-2 and Keystone B-4, B-5 and B-6 bombers with food. Over the next few weeks, Arnold and his men dropped the vital supplies on the Native American settlements. The mission proved to be a success and generated a sizeable amount of favorable press for the Air Corps. It also provided the men of the 1st Wing with valuable training that they would not have normally received due to the hazards associated with flying in such extreme conditions. However, the mission reminded the men of the Air Corps that they had to constantly try to prove themselves to their doubters.⁴⁹⁴

March Field Exercises, 1933

At roughly the same time that Arnold and his men were assisting the Native Americans who were in distress, Foulois and his men in the OCAC began planning for another large exercise. Foulois ordered his men to prepare for the exercise after the War Department informed

⁴⁹² Ibid., pp. 225-226.

⁴⁹³ Ibid., p. 226.

⁴⁹⁴ Richard G. Davis, *Henry H. Arnold Military Aviator* (Washington, D.C.: Air Force History and Museums Program, 1997), p. 15.

him that the Air Corps would be expected to undertake long-range reconnaissance and operations “to the limit of the radius of action of the airplanes.”⁴⁹⁵

On January 18, 1933 the Air Corps organized the General Headquarters (GHQ) Air Force (Provisional) in order to facilitate the maneuvers at March Field, California. Foulois stated that the GHQ (Provisional) was formed “to test the value of such an organization under wartime conditions.”⁴⁹⁶ Brigadier General Oscar Westover, the Assistant Chief of the Air Corps, assumed command of the GHQ (Provisional). With approximately \$19,500 at their disposal, Westover and his staff met in Washington, D.C. to prepare for the exercise. General Westover and his staff, which included Lieutenant Colonel Henry H. “Hap” Arnold serving as Chief of Staff, created the Air Force for the exercise, which included 350 officers, 530 enlisted, and 280 airplanes.⁴⁹⁷

The men and airplanes for the exercises came from 1st Bombardment Squadron, Mitchel Field, New York; 2nd Bombardment Squadron, Langley Field, Virginia; 3rd Attack Group, Fort Crockett, Texas; 9th Observation Squadron, March Field, California; and 12th Observation Squadron, Brooks Field, Texas. Transporting the men and aircraft to March Field proved to be a

⁴⁹⁵ Foulois argued that the Air Corps’ fortunes changed after he and his staff started referring to the defensive capabilities of aircraft, rather than the offensive capabilities. He asserted that “the climate became more favorable as we dropped the word “offense” from our justification papers. Thus, historians will note that our plans continually stressed the *defense* of our coasts and our overseas possession from that point in time on.” Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 227.

⁴⁹⁶ *Ibid.*, p. 228.

⁴⁹⁷ Report of GHQAF (Provisional), 1933, in AFHRA 248.2122-248.2122.3. Westover determined that all Air Corps units could be gathered together at one geographic locations within two-and-a-half days if needed. Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 228.

difficult process due, in part, to the fact that the units were located in several different states. After some struggle and delays, the various units arrived at March Field on 8 May 1933.⁴⁹⁸

Once all the GHQ staff arrived, Lieutenant Colonel Arnold and his colleagues tried to “find the right way to handle the GHQ Air Force.”⁴⁹⁹ The various units participating in the exercise operated out of airports in southern California where they waited for the GHQ to issue the operation order for each day from May 12 1933 to May 26 1933.

The Air Corps Command and Staff exercises held at March Field, California, in May 1933 served as the first major exercise of the period.⁵⁰⁰ The Air Corps held the exercises to test the effectiveness of coastal defenses against an attacking force, particularly an attacking air force. The planning staff for the exercise, led by Brigadier General Oscar Westover, divided the exercise into several phases in order to test a broad range of Air Corps capabilities.⁵⁰¹

The first phase of the exercise tested the Air Corps ability to quickly deploy attack, pursuit, observation, and bombardment forces from various locations to March Field. The phases that followed the initial deployment tested the Air Corps’ ability to conduct offshore reconnaissance, attack naval ships, and to attack and defend land-based air forces. During the

⁴⁹⁸ Report of GHQAF (Provisional), 1933, in AFHRA 248.2122-248.2122.3.

⁴⁹⁹ Ibid.

⁵⁰⁰ The United States Air Service established Alessandro Flying Training Field in February 1918. Alessandro FTF served as one of the thirty-two Air Service training camps established after the United States entry into World War I in April 1917. In March 1918, the Air Service changed the name of Alessandro FTF to March Field in honor of Second Lieutenant Peyton C. March, Jr., who had died in an airplane crash in Texas fifteen days after receiving his commission. March was the son of U.S. Army Chief of Staff Peyton C. March, Sr.

⁵⁰¹ Oscar Westover, “Report of the Commanding General of the General Headquarters Air Force (Provisional) on the Air Corps Command and Staff Exercises of 1933,” Maxwell AFB: AFHRA #248.2122-248.2123, pp. 3-4.

attack and defend scenarios, the Air Corps pitted pursuit forces against bomber forces, specifically attacking bomber forces.⁵⁰²

During the exercises, Lieutenant Robert M. Lee, Jr., who later achieved the rank of four-star general, flew with the pursuit forces. Lee explained that the pursuit forces conducted air patrols, searched for bombers from the opposing force, and practiced escorting bombers during the exercise. To do so, Lee stated that the pursuit aircraft would ascend to altitudes above the bombers to provide “high cover” from attacking pursuit aircraft from the opposing force.⁵⁰³

Following the end of the exercise, General Westover, his staff, wing commanders, group commanders, and squadrons commanders met in Seattle, Washington, to discuss the maneuvers. In the report he issued after the conclusion of the exercises, General Westover asserted that attacking bombers had great prospects. He stated: “Bombardment aviation has defensive fire power of such quantity and effectiveness as to warrant the belief that with its modern speed it may be capable of effectively accomplishing its assigned mission without support.”⁵⁰⁴ Westover was not as complimentary about observation and pursuit aircraft. He stated:

During these exercises, observation aviation appeared woefully obsolete in performance, as did pursuit aviation in speed characteristics. Since new bombardment aircraft possesses speed above 200 miles per hour, any intercepting or supporting aircraft must possess greater speed characteristics if they are to perform their missions. In the case of pursuit aviation, this increase of speed must be so great as to make it doubtful whether pursuit aircraft can be efficiently or safely operated either individually or in mass.⁵⁰⁵

⁵⁰² Ibid., pp. 3-4.

⁵⁰³ Kohn, Richard H. and Harahan, Joseph P., *Air Superiority in World War II and Korea* (Washington, D.C.: Office of Air Force History, 1983).

⁵⁰⁴ Brigadier General Oscar Westover, report of the Commanding General of the General Headquarters Air Force (Provisional) on the Air Corps Command and Staff Exercises of 1933, (Maxwell AFB: AFHRA #248.2122-3), pp. 3-4.

⁵⁰⁵ Ibid., pp. 3-4.

In addition to the observations made by General Westover, the group determined that a GHQ Air Force should be made part of the U.S. Army under the Office of the Chief of the Air Corps. The group argued that this structure would provide the Chief of the Air Corps with operational control of all Air Corps units. In addition, the commander of the GHQ Air Force would oversee the development, training, and employment of all Air Corps units.⁵⁰⁶

Fort Knox Exercises, 1933

Several Air Corps units participated in joint exercises at Fort Knox, Kentucky, during approximately the same period other Air Corps units flew at March Field. The Fort Knox exercise, held from May 15, 1933 to May 27, 1933, were important because they allowed the Air Corps to assess the effectiveness of using anti-aircraft weapons against aircraft, to examine the effectiveness of using an “intelligence net” to defend against air attack, and to test existing Air Corps tactics.⁵⁰⁷ Most importantly, the exercises provided a venue that the Air Corps could use to demonstrate that airmen could employ air power better than anyone else.

The exercise employed an attacking and a defending force. The Blue force, the attacking force, consisted of a bomber force of Curtiss B-2 *Condor*, Douglas Y1B-7, and Boeing YB-9 *Death Angel* aircraft from March Field, California, and Langley Field, Virginia.⁵⁰⁸ The Blue

⁵⁰⁶ Ibid., pp. 3-4

⁵⁰⁷ To thoroughly test the units participating in the exercise, planners drew a line between Indianapolis, Indiana, and Cincinnati, Ohio. The operating area for the exercise covered approximately 16,000 square miles. The forces north of the line operated as the Blue force, while the forces to the south of the line operated as the Red force. Green, Lieutenant Colonel Joseph A., “The Fort Knox Distant Intelligence Net,” *The Coast Artillery Journal*, no. 4, July-August 1933, pp. 247-252.

⁵⁰⁸ The Curtiss B-2 was powered by two Curtiss V-1570-7 Conqueror V-12 engines that produced 630 horsepower each. The B-2’s armament included six .30-caliber machine guns and 2,500 pounds of bombs. The Douglas Y1B-7 was powered by two Curtiss V-1570-27 Conqueror engines that each produced 675 horsepower. The Y1B-7’s armament included two Browning .30-caliber machine guns and 1,200 pounds of bombs. The Boeing YB-9 was powered by two Pratt & Whitney R-1860 radials of 575 horsepower each. The two .30-caliber machine guns and 2,200 pounds of bombs.

force also contained an attack group composed of Curtiss A-8 assigned to Fort Crockett, Texas, and Berliner-Joyce P-16 aircraft assigned to Selfridge Field, Michigan. After leaving their home stations, the Blue force operated out of Patterson Field, Ohio.⁵⁰⁹

The 1st Pursuit Group (1 PG), led by Major George H. Brett, comprised the bulk of the air component for the Red Force. The 17th Pursuit Squadron and the 27th Pursuit Squadron joined the 1 PG on the Red force. The 1 PG flew P-16s, the 17 PS flew P-6Es, and the 27 PS flew P-12Es throughout the exercise.⁵¹⁰ In addition to aircraft, the Red force contained anti-aircraft artillery units from Fort McClellan, Alabama; Fort Sheridan, Illinois; and Fort Totten, New York.⁵¹¹

The exercise tested an intelligence net warning system that Claire Chennault had developed after extensive study of the techniques the British Army used to locate enemy aircraft. Chennault divided the 16,000 square mile play area into twelve subsectors. Soldiers operated 69 observation posts spread on three arcs located at distances of 50 miles, 75 miles, and 100 miles from Fort Knox.⁵¹² To aid them in their duties, the soldiers who manned the stations received aircraft identification training.⁵¹³

⁵⁰⁹ The P-16 was powered by one Curtiss V-1570-25 Conqueror engine that produced 600 horsepower. The Douglas A-8 attack aircraft was powered by the Curtiss V-1570-31 Conqueror engine that produced 600 horsepower. The A-8's armament included four forward-firing .30-caliber machine guns and one flexible .30-caliber machine gun for the rear gunner. The A-8 could carry up to 488 pounds of bombs mounted on wing racks.

⁵¹⁰ Green, Lieutenant Colonel Joseph A., "The Fort Knox Distant Intelligence Net," *The Coast Artillery Journal*, no. 4, July-August 1933, pp. 247-252.

⁵¹¹ Green, Lieutenant Colonel Joseph A., "The Fort Knox Distant Intelligence Net," *The Coast Artillery Journal*, no. 4, July-August 1933, pp. 247.

⁵¹² The Fort Knox Intelligence Net's 12 subsectors were named Negro, Annex, Bubble, Caooc, Danger, Excuse, Funny, Gander, Happy, Intense, and Lucky. The names helped the exercises participants quickly and easily relay the position of both friendly and opposing forces. Each arc of the subsectors was labeled as 1, 2, 3, 4, and 5. Arc 1 covered the initial 25-miles out from Fort Knox. Arc 2, which spanned 25 miles, represented a distance of 50 miles from Fort Knox at its farthest point. Arc 3, which spanned another 25 miles, represented a maximum of 75 miles

Once the soldiers located an aircraft, or a group of aircraft, they then contacted the intelligence center at Fort Knox. The operators at Fort Knox then contacted the operations center at Bowman Field and relayed the pertinent data. The soldiers at the operations center then plotted the position of the aircraft onto a large map that depicted all participating forces. The system worked well. The field operators typically reported aircraft positions within one minute to three minutes of spotting the opposing aircraft.

Chennault's system also required pilots to communicate extensively with their superiors on the ground. To facilitate communications, each squadron operating with the Red force had six SCR-183 two-way radios, and five SCR-192 receivers. Major Brett carefully watched for the updates to come in on the map at Bowman Field. Brett then relayed the information to his forces in the air, which allowed them to intercept the opposing forces aircraft more quickly and effectively.⁵¹⁴

Led by Captain Ross G. Hoyt, Brett's forces used an ingenious three-method approach to intercept opposing force aircraft. When using the first method, Hoyt's forces first acquired data from the ground forces to determine the opposing aircraft's position. Then, they altered their flight paths as new information arrived from the spotting stations. When using the second method, the squadrons operated independently from "standby" areas until they received instructions to intercept opposing force aircraft. When employing the third method, Hoyt's

from Fort Knox. Arc 4, also 25 miles in length, represented a maximum of 100 miles from Fort Knox. Finally, Arc 5, which covered the final 25 miles, represented a maximum of 125 miles from Fort Knox at its farthest point. Ibid., pp. 247-252.

⁵¹³ Ibid., pp. 247-252.

⁵¹⁴ Claire L Chennault, "The Role of Defensive Pursuit, Part II," *The Coast Artillery Journal*, 77, no. 1, (January-February 1934): pp. 7-11.

forces operated in flights of six that patrolled 50 mile areas. Upon locating formations of the opposing force, Hoyt directed his forces to intercept them.⁵¹⁵

Colonel Arthur S. Conklin led a Composite Regiment composed of personnel from the 61st Antiaircraft Regiment, Fort Sheridan, Illinois; 62nd Antiaircraft Regiment, Fort Totten, New York; and 69th Antiaircraft Regiment, Fort McClellan, Alabama. In total, Conklin commanded approximately 50 officers and 1,000 enlisted men. To accomplish their mission, the Composite Regiment utilized 17 search-lights, 15 sound locators, 12 three-inch anti-aircraft guns, 60 .50-caliber machine guns, and approximately 200 vehicles of various sizes.⁵¹⁶

Conklin stated that his units prepared for the Fort Knox exercises by studying documents issued by the Fifth Corps. Colonel Conklin and his men spent four months dissecting Air Corps formations so that they could determine the best defense against them. Once they had finished studying the formations, Conklin's subordinates lectured their men on the "identification of aircraft and the characteristics of the same."⁵¹⁷

After training everyone about aircraft types and their characteristics, Colonel Conklin's forces established a communications net designed to transmit field messages, flash messages, and journals from various points throughout the Defense Forces territory. The net covered a radius of 11 miles and an area of more than 350 square miles. To cover all that territory, Conklin's men laid over 300 miles of wire to connect the numerous command posts and operations posts used during the exercise. Ultimately, the communications net played a key role

⁵¹⁵ Arthur S. Conklin, "Report of Regimental Commander concerning Joint Exercises," May 26, 1933, pp. 4-7.

⁵¹⁶ The sound locators used by the Composite Regiment "operated in a medium affected by density of air, velocity, and direction of wind. The velocity of the sound is low-about 1050 feet per second." Unfortunately for the Composite Regiment, the "presence of attack planes in front of the sound locator line seriously affects the serious use of the instrument." *Ibid.*, pp. 4-7.

⁵¹⁷ Arthur S. Conklin, "Report of Regimental Commander concerning Joint Exercises," May 26, 1933, p. 1.

for the Defense Forces throughout the exercise because they allowed them to compete with the fast moving airplanes flown by the Offense Forces.⁵¹⁸

In his report, Conklin asserted that the Fort Knox exercise had been “of inestimable benefit to both Arms. Friendly feeling and cooperation were shown at all times by the Air Corps toward the Antiaircraft Artillery.” Conklin maintained that the exercise proved to him that the Air Corps and the Antiaircraft Artillery should continue under the oversight of the War Department as “an integral part of the Annual Training Program.”⁵¹⁹

In his report to the Commanding General, Fifth Corps Area, on the Fort Knox exercises, Brigadier General J. Lindsey determined that “daylight bombardment of an objective defended by aircraft, antiaircraft, and an intelligence net, will very likely result in heavy losses to the attacking forces.” General Lindsey also stated that he believed that a pursuit force would maintain an advantage over bomber aircraft during daylight hours regardless of the speed advantage that bombers enjoyed over pursuit aircraft.⁵²⁰

Conklin and Lindsey were not the only ones to report on the Fort Knox exercises. The War Department sent observers to report back on the exercises. The observers commented that the “success of day bombing attacks was problematical, under conditions as they existed. Due to the efficient operation of the distant intelligence net, many of the bombing attacks were

⁵¹⁸ During daylight hours, the Offense Forces aircraft typically flew at high altitudes in staggered formations. The combination of the two made it rather difficult for the Defense Forces’ anti-aircraft units because the Offense Forces aircraft passed over the guns very quickly, which limited the amount of time the gunners had to fire on the targets. The anti-aircraft units did have some success at night against high-altitude attacks if the attacking aircraft were effectively illuminated by searchlights. The Offense Forces did attack at low-level during the exercise but, as Conklin indicated in his post-exercise report, such an approach largely proved that low-altitude attacks were “extremely hazardous for the Air Corps” due to the “favorable target presented to the machine guns.” *Ibid.*, p. 1.

⁵¹⁹ Arthur S. Conklin, “Report of Regimental Commander concerning Joint Exercises,” May 26, 1933, p. 10.

⁵²⁰ Brigadier General J. Lindsey, “Report by the Director of Joint Antiaircraft—Air Corps Exercises, 29 June 1933, (Maxwell AFB: AFHRA #248.2124-13), p. 2.

intercepted by the defending pursuit ship, which, in some cases, were slower than the bombers they attempted to intercept.”⁵²¹

Ultimately, the Fort Knox exercises demonstrated that pursuit aircraft could successfully intercept bomber aircraft despite the speed advantage that most bombers of the period enjoyed. While the intelligence net contributed significantly to the success of the pursuit aircraft, it was certainly not the only factor.

Chennault Speaks Out

Chennault participated in the Fort Knox exercises as a member of General Lindsey’s staff. Chennault felt compelled to write about the effectiveness of pursuit aircraft during the Fort Knox maneuvers. Using the *Coast Artillery Journal* as his outlet, Chennault reiterated his belief that bomber aircraft on the attack could be defeated if quickly detected, reported, intercepted, and destroyed by pursuit aircraft.⁵²² Chennault maintained that an intelligence net similar to that used during the Fort Knox exercises was essential. However, Chennault did not echo General Lindsey’s belief that the intelligence net had been a key component during the Fort Knox exercises.

Chennault argued that the intelligence net would have been far more effective if the U.S. Army soldiers manning the observation posts had had more training in identifying aircraft and relaying that information to a higher level. Chennault used the altitude reporting as an example. He stated that the “altitude was reported by the indefinite terms, ‘low,’ ‘high,’ and ‘very high.’

⁵²¹ Air Corps Tactical School Summary of Reports on Fort Knox Exercises, 15-27 May 1933, (Maxwell AFB: AFHRA #248.2124—13), p. 4.

⁵²² Claire L. Chennault, “The Role of Defensive Pursuit, Part II,” *The Coast Artillery Journal*, pp. 7-11.

This indefiniteness as to altitude made the tracking, identification, and interception of hostile aircraft very difficult.” Chennault argues that the imprecise altitude reporting forced pursuit aircraft “to search a vertical band many thousand feet deep in order to intercept airplanes reported by different posts as ‘high’ and ‘very high.’”⁵²³

To emphasize his point, Chennault used the same British examples that he had used when designing the intelligence net for the Fort Knox exercises. He asserted that the British, after several attempts, had determined that the quality of the intelligence net was largely governed by the quality of the men serving as observers. In fact, to meet that need, the British had created the Royal Observers Corps in 1925. Chennault believed that the United States desperately needed to create a similar organization.⁵²⁴

In addition to the issue of the quality of the U.S. Army observers, Chennault argued that certain restrictions imposed during the maneuvers had tainted the results. The Air Corps wanted to test efficacy of engine mufflers on bomber aircraft. As a result, pursuit pilots were ordered not to operate within 25 miles of Fort Knox. Chennault believed that prohibiting pursuit aircraft from that area kept ground observers from locating bombers using the noise produced by the pursuit aircraft trying to intercept the bombers. He also argued that the prohibition allowed the bombers to fly further apart, which decreased the possibility of detection, because they did not have to fear attack from pursuit aircraft within 25 miles of their target.⁵²⁵

Ultimately, Chennault placed the blame for the issues at Fort Knox at the feet of the men, especially the U.S. Army officers, who had organized the exercises. He maintained that they had

⁵²³ Ibid., pp. 7-11.

⁵²⁴ Claire L. Chennault, “The Role of Defensive Pursuit, Part II,” *The Coast Artillery Journal*, pp. 7-11

⁵²⁵ Ibid., pp. 7-11.

failed to invite someone with significant tactical pursuit experience to their planning meetings. He maintained that they simply did not fully appreciate how some of their decisions would negatively impact pursuit forces during the exercise.⁵²⁶

The Air Mail “Fiasco”

The Air Corps’ growing sense of separation and alienation continued. On February 9, 1934, Secretary of War George Dern met with President Roosevelt to determine what to do about the air mail scandal. The scandal began after a Senate investigation discovered that Postmaster General Walter Brown had unfairly awarded air mail contracts. Dern, who wanted to help Roosevelt resolve the issue, told Roosevelt that the Air Corps could do it. Yet Dern had no idea if the service could actually accomplish this task because he had not spoken about the matter to Foulois, or any other airman for that matter. Foulois found out about that the Air Corps had been volunteered after Harlee Branch, the Second Assistant Postmaster General of the United States, called him to his office. While there, an impromptu meeting among representatives of the Air Corps, U.S. Post Office, and the Aeronautics Branch of the Commerce Department took place. Although surprised by Dern’s proposal, Foulois agreed that his men could do the job. He estimated that the Air Corps could begin delivering air mail in less than two weeks.⁵²⁷

After receiving word that Foulois had agreed to the endeavor, President Roosevelt suspended all airmail contracts effective at midnight on February 19, 1934. Roosevelt then released Executive Order 6591, which directed the War Department to give the U.S. Postmaster General "such air airplanes, landing fields, pilots and other employees and equipment of the

⁵²⁶ Ibid., pp. 10-11.

⁵²⁷ Maurer, *Aviation in the U.S. Army, 1919-1939*, p. 301.

Army of the United States needed or required for the transportation of mail during the present emergency, by air over routes and schedules prescribed by the Postmaster General.”⁵²⁸

On February 14, 1934, Foulois testified before the House of Representatives Post Office Committee regarding the Army Air Corps Mail Operation (AACMO). Foulois outlined the steps that the Air Corps had taken to prepare, as well as the fact that the pilots who would be delivering the mail were some of the service’s most experienced. However, Foulois’ statements were not entirely accurate. He left out the fact that he had decided not to withdraw the Air Corps’ most experienced pilots from their assignments at the service’s aviation schools and the Air Corps Tactical School. He also failed to mention that the Air Corps’ aircraft were not outfitted with the proper instrumentation for night flying. Basically, Foulois neglected to tell the committee the truth because he believed that he had to assure them that the Air Corps was up to the task.⁵²⁹

Immediately after testifying before the committee, Foulois and his staff in the OCAC began planning. Foulois explained that he “held meeting after meeting with my staff and hammered away at the thousands of questions that had to be answered” prior to the start of the AACMO.⁵³⁰ General Douglas MacArthur made Foulois’ job somewhat easier by giving him special authorization to handle the AACMO in its entirety. MacArthur did so because he did not want Foulois to have to come to him to ask permission every time a decision regarding the AACMO had to be made. However, Foulois soon regretted that the responsibility for the AACMO fell entirely on his shoulders.

⁵²⁸ John T. Correll, “The Air Mail Fiasco,” *Air Force Magazine*, Vol. 91, No. 3, March 2008, p. 61.

⁵²⁹ John L. Frisbee, “AACMO—Fiasco or Victory?,” *Air Force Magazine*, Vol. 78, No. 3, March 1995.

⁵³⁰ Foulois and Glines, *From the Wright Brothers to the Astronauts*, pp. 239-240.

The weather throughout the winter of 1934 proved to be quite poor for flying. On February 16, 1934, just three days before the AACMO had officially begun, three Air Corps officers died during route familiarization flights in the western United States.⁵³¹ The problems grew worse for the Air Corps. For example, the weather was so bad that the pilot flying the first official AACMO mission required three attempts in three different aircraft to get airborne. Approximately ten minutes after leaving the field, the pilot returned because his compass and cockpit lights were not working.⁵³² A few days later, two more airmen died while trying to deliver the mail. Another airman died one day after that.⁵³³

The deaths led to an immediate outcry from the American public. President Roosevelt responded to the criticism by ordering Foulois to account the accidents. Following the tense meeting between Roosevelt and Foulois, the Air Corps implemented new flight safety regulations designed to mitigate accidents. Foulois issued the following orders:

Only pilots of more than two years' service in the Air Corps will be used on air-mail operations involving night flying unless weather conditions all along the route to be flown are excellent. After taking off on a night air-mail run, no pilot will proceed on his flight unless his flight instruments are working satisfactorily and he is receiving proper reception on his radio. Pilots on night runs will not commence flights under unfavorable weather conditions, nor will they continue flights into unfavorable weather conditions.⁵³⁴

⁵³¹ The airmen killed were Lieutenant James W. Eastham, Lieutenant Jean D. Grenier, and Lieutenant Edwin D. White. Grenier and White died when their Curtiss A-12 *Shrike* crashed in Weber Canyon, Utah. Eastham died when his Douglas YB1-7 crashed short of the runway at Jerome, Idaho. John L. Frisbee, "AACMO—Fiasco or Victory?" *Air Force Magazine*, Vol. 78, No. 3, March 1995.

⁵³² Kenneth P. Werrell, "'Fiasco' Revisited: The Air Corps and the 1934 Air Mail Episode," *Air Power History*, March 2010.

⁵³³ On February 22, 1934, Lieutenant Durwood O. Lowry flew his Curtiss O-39 *Falcon* into a snow storm over the town of Deshler, Ohio. He tried to bail out, but he was killed when his parachute became entangled on the aircraft's vertical stabilizer. That same day, Lieutenant Fred L. Patrick died while trying to land his Boeing P-26A *Peashooter*. The next day, February 23, 1934, the pilot of a Douglas C-29 *Dolphin* ditched his aircraft near Rockaway Beach. The pilot survived, but the passenger, Lieutenant George P. McDermott, drowned in heavy seas before rescuers arrived. Thomas M. Coffey, *Hap: The Story of the U.S. Air Force and the Man Who Built It* (New York: The Viking Press, 1982), p. 154.

⁵³⁴ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 245.

The measures that Foulois implemented did not achieve the desired results.

From March 8 through March 9, 1934, four more Air Corps pilots died in crashes, which brought the total number of airmen killed during the AACMO to ten.⁵³⁵ The climbing death toll spurred Edward Rickenbacker and Charles Lindbergh, who both worked for private airlines, to comment on the AACMO. Rickenbacker, who had achieved fame during World War I, argued that the Air Corps' attempt to deliver the air mail amounted to "legalized murder."⁵³⁶ Lindbergh, who served as an air mail pilot in the 1920s, argued that the Air Corps' delivering the mail was "unwarranted and contrary to American principles."⁵³⁷

The criticisms from two well-known aviators, both of whom had served as U.S. military airmen, bothered President Roosevelt and fueled the public outcry. However, the deaths of three airmen in early March led Roosevelt to demand answers. On the morning of March 10, 1934, General MacArthur called Foulois and told him that the president wanted to see them both. Upon arriving at MacArthur's office, Foulois found him pacing back and forth nervously. MacArthur stated: "Benny, you're in trouble. I don't know how you are going to explain three fatal accidents in different parts of the country in one night, but I think you had better try and find the words somehow. The President is extremely upset by the public reaction to these three deaths."⁵³⁸

After arriving at the White House, General MacArthur and General Foulois were ushered to President Roosevelt's bedroom. After General MacArthur introduced Foulois, Roosevelt

⁵³⁵ John T. Correll, "The Air Mail Fiasco," *Air Force Magazine*, Vol. 91, No. 3, March 2008, p. 61.

⁵³⁶ James P. Tate, *The Army and Its Air Corps: Army Policy Towards Aviation, 1919–1941*, p. 133.

⁵³⁷ James P. Tate, *The Army and Its Air Corps: Army Policy Towards Aviation, 1919–1941*, p. 144.

⁵³⁸ Foulois and Glines, *From the Wright Brothers to the Astronauts*, p. 254.

stated: “General, when are these air-mail killings going to stop?” Foulois, a man who had dealt with the dangers of aviation most of his adult life, responded: “Only when airplanes stop flying, Mr. President.” Roosevelt, angered by Foulois’ response, proceeded to give both men “a tongue-lashing which I put down in my book as the worst I ever received in all my military service.”⁵³⁹

Foulois came away from the meeting certain that Roosevelt simply did not understand “air power, airplanes, or any of the problems of flying and apparently did not want to learn.”⁵⁴⁰ Roosevelt may not have understood, but he did not have to. He trusted his military leaders to accomplish the tasks he gave to them, which Foulois did despite the fatalities. In addition, Roosevelt’s critics blamed him for the fiasco. Thus, Roosevelt was right to be upset that Foulois did not provide him with a plan to reduce the risks associated with the air mail flights.

To his credit, Foulois knew that he had to do something to mitigate the risks because publicity generated by the AACMO risked undoing much of the progress the Air Corps had made toward convincing the American people, Congress, and the War Department that they needed independence from the U.S. Army. As a result, Foulois met with his staff and informed them that he was suspending the AACMO for ten days so that they could introduce a reduced route structure. Unfortunately for the Air Corps, another crash occurred two days before the AACMO resumed.⁵⁴¹

Secretary of War Dern had finally had enough. On April 17, 1934, Dern ordered an investigation of the Air Corps. The committee, officially titled the War Department Special

⁵³⁹ Ibid., pp. 254-255.

⁵⁴⁰ Ibid., pp. 255-256.

⁵⁴¹ Kenneth P. Werrell, “Fiasco’ Revisited: The Air Corps and the 1934 Air Mail Episode,” *Air Power History*, March 2010.

Committee on the Army Air Corps, was commonly called the “Baker Board” because former Secretary of War Newton Baker served as the chairperson of the committee. Dern tasked Baker and the rest of the committee members with examining the AACMO and the overall state of the Air Corps. Of the twelve members, only three were friendly to the Air Corps.⁵⁴²

The Baker Board, much like the Drum Board had done in 1933, concluded that the Air Corps should remain an auxiliary of the U.S. Army. The members of the Baker Board also disagreed with the Air Corps’ contention that the United States needed a large air force to defend against a major air attack. Thus, they opposed increasing the size or power of the Air Corps. However, the Baker Board was not completely against the Air Corps. The committee members called for the activation of the General Headquarters Air Force, which would oversee and direct all airpower within the continental U.S.⁵⁴³

Overall, the AACMO, as well as the scandal that resulted, proved to be the most significant threat that the men of Air Corps faced during the 1930s. Foulois hoped that the AACMO would demonstrate the skills and capabilities of his men, thereby garnering more responsibility and independence for the Air Corps. In spite of the fatalities, he remained optimistic throughout the ordeal because he believed that his men had to do things that put them in the public eye. He understood that flying was dangerous and wanted to prove that his men could persevere despite the hardships. Others, including President Roosevelt, were not as willing to accept such losses. As a result, the last AACMO flight took place on June 1, 1934.

⁵⁴² Those men included Major James Doolittle, Edgar Gorrell, and Dr. G.W. Lewis. Bernard C. Nalty, *Winged Shield, Winged Sword: A History of the United States Air Force*, p. 126.

⁵⁴³ James P. Tate, *The Army and Its Air Corps: Army Policy Towards Aviation, 1919–1941*, pp. 139-146.

The AACMO's impact on the Air Corps was significant. Foulois received most of the blame for the Air Corps' difficulties. Consequently, his days as the Chief of the Air Corps were numbered. With his assignment due to end in December 1935, Foulois chose to retire at that time.⁵⁴⁴ His men, however, fared far better because the AACMO highlighted the fact that the Air Corps needed better equipment, improved aircraft, and larger budget appropriations.⁵⁴⁵ Most importantly, the problems experienced during the AACMO helped lead to the establishment of the separate General Headquarters Air Force in March 1935.⁵⁴⁶

A New Boss

Major General Oscar Westover replaced Foulois as the Chief of the Air Corps on December 22, 1935. Westover, who served as the Assistant Chief of the Air Corps during Foulois' tenure, believed that the Air Corps had to refocus following the AACMO. To achieve that goal, Westover wanted to improve cooperation between the Air Corps and the U.S. Army. Thus, Westover placed a great deal of emphasis on exercises that tested the Air Corps' ability to work with U.S. Army ground forces. However, he also wanted to continue research, development, and operational testing of new bombardment aircraft. Some in the War Department had other plans, which further exacerbated the growing divide between the Air Corps and the rest of the U.S. Army.⁵⁴⁷

⁵⁴⁴ Foulois began terminal leave in September 1935. Rondall Ravon Rice, *The Politics of Air Power: From Confrontation to Cooperation in Army Aviation Civil-Military Relations* (Lincoln: University of Nebraska Press, 2004), pp. 118-129.

⁵⁴⁵ Ibid., pp. 118-129.

⁵⁴⁶ When activated the General Headquarters Air Force contained two attack groups, four bombardment groups, three pursuit groups, and four reconnaissance squadrons. In total, the GHQ Air Force had approximately 1,000 aircraft. Futrell, *Ideas, Concepts, Doctrine*, p. 79.

⁵⁴⁷ Thomas H. Greer, *The Development of Air Doctrine in the Army Air Arm, 1917-1941*, pp. 89-101.

In 1936, Major General Stanley D. Embick, the Deputy to the Chief of Staff, and Brigadier General George R. Spalding, Assistant Chief of Staff, G-4, joined the U.S. Army General Staff. Both men hoped to save the U.S. Army money by reducing the amount of money and personnel spent on research, which included the Air Corps' efforts to build new long-range bombardment aircraft. On June 25, 1936, General Spalding released a study that had been prepared by the War Department that the B-17 and planned XB-15 were not necessary to complete any of the Air Corps' missions. Spalding recommended that the Air Corps procure the Douglas B-18 *Bolo* because it was best suited to the Air Corps' existing missions.⁵⁴⁸

General Westover and Brigadier General Frank Andrews, who led the GHQ Air Force, worried that the General Staff was trying to limit the Air Corps' capabilities by limiting the development of new aircraft. Both men knew that they had do something to convince the General Staff and others that new bombardment aircraft were absolutely necessary to the nation's defense. To help achieve that goal, Westover and Andrews continued to lobby Congress and the War Department.⁵⁴⁹ They also used Air Corps maneuvers to demonstrate that the bombardment aircraft of the day were beginning to lose ground.

Defending with Aircraft

The first major maneuvers during Westover's tenure took place at Muroc Lake, California, in May 1936. The Air Corps held the maneuvers to examine the efficacy of pursuit aircraft defending a large city. In total, the exercises involved nearly 300 aircraft and approximately 3,000 enlisted men and officers. The defending force flew P-36 aircraft while the offensive forces flew Martin B-10 bombers and Northrop A-17 attack aircraft. The attacking

⁵⁴⁸ Greer, *The Development of Air Doctrine in the Army Air Arm, 1917-1941*, pp. 95-96.

⁵⁴⁹ *Ibid.*, pp. 99-101.

force benefitted greatly by using diversionary tactics to confuse the defenders. Part of the bombardment force split from the main force in order to confuse the defenders. The gambit worked, allowing the main bombardment force to proceed to their targets without significant resistance.⁵⁵⁰ James Ferguson, who flew for the defending forces, stated: “Bombers came in too high for us to reach them, and the attackers used terrain masking to surprise us on the ground.” Thus, “with no other means of warning, we were caught and treated to a good dose of tear gas which took two weeks to shake out of our blankets.”⁵⁵¹

The difficulties that the defending forces experienced during the Muroc Lake exercise did pay some unexpected dividends for pursuit aviation advocates who had long argued that pursuit aircraft development had long been neglected in favor of bombardment aircraft. From Ferguson’s perspective, the exercise “helped General Arnold and others in Washington to persuade the Army staff that higher performance aircraft were needed.”⁵⁵²

The exercise also bolstered the case of bombardment advocates who became convinced that the medium-range bombardment aircraft such as the B-10 and the B-12 were not able to compete against pursuit aircraft of equal or superior performance. Immediately after the exercise ended, Major General Frank M. Andrews briefed the nation’s press. Andrews asserted that the exercises had all but proven that the U.S. had only enough airpower to fight a one-front war. Andrews’ main complaint was that he could only field about one third of the aircraft that he was supposed to have at his disposal according to the 1932 Air Corps Act. More importantly, General Andrews used the results of the exercise to lead the Army Air Corps’ efforts to convince

⁵⁵⁰ Copp, *A Few Great Captains*, p. 388.

⁵⁵¹ Kohn, and Harahan, *Air Superiority in World War II and Korea*, p. 26.

⁵⁵² *Ibid.*, p. 26.

the War Department that high-performance bombardment aircraft were an absolute necessity if the U.S. hoped to compete.⁵⁵³

Ultimately, the Muroc Lake exercises benefitted all parties involved. Both the pursuit advocates and bombardment advocates better understood that the aircraft then in use did not possess the performance needed to compete against the Air Corps' most likely allies—Germany and Japan. The exercise also benefitted both groups because the U.S. news media covered the exercises and reported Andrews' and others' complaints to the nation. The coverage helped increase support in the U.S. military and Congress for more aircraft and increased funding.⁵⁵⁴

1937 California Exercises

In May 1937, General Andrews moved GHQ Air Force to several locations in California in order to conduct field maneuvers from May 10 to May 23, 1937. The exercise plan, largely created by Andrews, involved B-10 bombers attacking the city of Los Angeles and A-17 attack aircraft using tear gas on the defensive forces' positions, particularly their airfields and anti-aircraft batteries. Conversely, Andrews tasked the defending force with using camera guns to attack bomber aircraft so that the details of the attacks could be dissected after the exercise.⁵⁵⁵

⁵⁵³ Copp, *A Few Great Captains*, pp. 388-393.

⁵⁵⁴ Kohn and Harahan, *Air Superiority in World War II and Korea*, p. 26.

⁵⁵⁵ Staff, "Reports on GHQAF Exercises, May 1937." Maxwell AFB, Alabama: Air Force Historical Research Agency (AFHRA 248.2122-7). Brigadier General Delos Emmons, commander of the 1st Wing, March Field, California, led forces defending "Los Angeles" from attack. For simplicities sake, Emmons forces used lime to create the outlines of buildings at Muroc Lake, California, rather than Los Angeles. To defend the mock city, Emmons used one PB-2 squadron, two P-26 pursuit squadrons, and the 63rd Coast Artillery (Antiaircraft). Brigadier General Gerald C. Brant, commander of the 2nd Wing, Hamilton Field, California, led the offensive forces composed of three B-10 squadrons and three A-17 squadrons. The B-10 squadrons operated from Fresno, California; Stockton, California; and Merced, California. The A-17 squadrons operated from Bakersfield, California; Delano, California; and Visalia, California. Staff, "Reports on GHQAF Exercises, May 1937," AFHRA 248.2122-7.

The exercise pitted aircraft of nearly equal speed against one another. The P-26 aircraft had a slightly higher top speed but the B-10s minimized that advantage to some extent by flying at high altitudes. After the first few days of the exercise, the P-26 pilots quickly determined that the best method for successfully attacking the B-10s required them to attack at roughly the same altitudes the bombers were flying at. The pursuit pilots had tried to attack from above and below but both approaches proved to do little more than expose them to the B-10's gun because they presented a larger target than they did when flying head-on.⁵⁵⁶

At the same time that the P-26 pilots honed their tactics, the B-10 aircrews did much the same. The B-10 aircrews quickly determined that flying in close formation had the dual-edged effect of increasing the effectiveness of their bombing accuracy while at the same time increasing the chances of being hit by anti-aircraft fire. Thus, the B-10 crews shifted tactics and began flying in columns with increased separation between each aircraft. The B-10 crews also discovered that bombing as the sun was either rising or setting increased their chances of avoiding enemy searchlights and artillery batteries.⁵⁵⁷

Overall, the maneuvers proved the Andrews and his men with valuable information on the performance and capabilities of both pursuit aircraft and bombardment aircraft. In particular, the maneuvers indicated that bombardment aircraft were vulnerable to pursuit aircraft under all but the best conditions. The B-10 crews had some success, but it typically came at brief periods each day when the rising or setting sun decreased the ability of the ground forces to detect them.

⁵⁵⁶ Maurer, *Aviation in the U.S. Army, 1919-1939*, p. 401.

⁵⁵⁷ Staff, "Reports on GHQAF Exercises, May 1937," AFHRA 248.2122-7.

The maneuvers also showed that the darkness of night did not make the B-10 crews task any easier because they had great difficulty seeing their targets.⁵⁵⁸

Finding the *Rex*

The 1937 maneuvers in California provided the Air Corps with a great deal of useful information on the performance of bombardment and pursuit aircraft. Yet General Westover and General Andrews agreed that much work remained. Thus, in May 1938, Andrews assembled 450 officers, 2,300 enlisted men, and 130 aircraft to participate in coastal defense exercises in the eastern United States.⁵⁵⁹ Andrews tasked three B-17 aircrews with finding the *Rex*, an Italian ocean liner used to represent an enemy surface fleet. Andrews, aware that some still questioned the feasibility of an aircraft locating a ship at sea, used the exercise to demonstrate that aircraft could locate and disable enemy ships long before they became a problem for coastal defense forces.

Andrews' three B-17s left Mitchel Field, New York, early on the morning of May 12, 1938. At the time that the aircraft departed, the *Rex* was approximately 725 miles off the coast of the U.S. and headed toward New York City. The navigator of the lead aircraft, Lieutenant Curtis LeMay, faced the daunting task of locating the *Rex* in the vast sea of blue with heavy cloud cover. Whether through sheer luck or sheer talent, Lieutenant LeMay's navigational skills put the aircraft within visual distance of the *Rex* at the time he had predicted (12:25pm).⁵⁶⁰

⁵⁵⁸ Ibid.

⁵⁵⁹ S.L. Zamzow, "Ambassador of American Airpower: Major General Robert Olds" (Maxwell AFB, Alabama: Air University Press, 2008), p. 46.

⁵⁶⁰ John T. Correll, "Rendezvous with the Rex," *Air Force Magazine*, 2008, Vol. 91, No. 12, p. 56.

The effort to locate and intercept the *Rex* proved to be well worth the effort that Andrews and his men had put into the endeavor. Since each aircraft carried a newspaper reporter, the story of the feat reached millions of Americans within short order. The achievement also proved that bomber aircraft could locate small targets under difficult conditions, thereby reversing some of the bad press that the Air Corps had received following the *Mount Shasta* incident in 1931. However, the success of the mission had an adverse effect that Andrews had not anticipated. Based on U.S. Navy pressure, the War Department restricted the Air Corps to operating within 100 miles of the U.S. coast. Essentially, the War Department blocked the Air Corps' ability to cross into the U.S. Navy's traditional realm once the airmen had proven that they could successfully do so.⁵⁶¹ The War Department's decision angered Andrews and further fueled the men of the Air Corps' sense of alienation and desire for a separate service.

Fort Bragg Exercises

In the months following the successful search for the *Rex*, Air Corps leaders continued testing the effectiveness of the men, technology, and tactics. More importantly, they hoped to once again demonstrate that airmen were capable of running the Air Corps without the U.S. Army's help. From October 3, 1938, to October 15, 1938, Air Corps units participated in air defense exercises at Fort Bragg, North Carolina. The exercises tested the U.S. Army's ability to defend an area against attacking air forces. The War Department authorized \$75,000 for the exercises. Brigadier General Fulton C. Gardner, defense commander during the exercise, stated that the maneuvers were held to determine the anti-aircraft requirements for defending an air base against attack from the air; to test the coordination between the Air Corps, Anti-Aircraft

⁵⁶¹ Underwood, *The Wings of Democracy*, p. 119.

Artillery, and Aircraft Warning Systems; to test using non-military personnel as part of an Aircraft Warning System; to examine ground observers proficiency at detecting and reporting aircraft information; to determine the Anti-Aircraft Artillery Intelligence Service's ability to detect, locate, and report attacking aircraft; to discover the most effective formations and tactics for bombing areas defended by aircraft, anti-aircraft artillery, an Aircraft Warning System, and Anti-Aircraft Artillery Intelligence Service; and to determine the effectiveness of bombing targets defended by anti-aircraft batteries.⁵⁶²

During the exercise, the attacking force of B-10, B-17, and B-18 bombers operated from a simulated aircraft carrier on Langley Field, Virginia. The defending force, which included anti-aircraft units, an Aircraft Warning System (AWS), and P-35 pursuit aircraft, operated out of Pope Field, North Carolina. Approximately 1,500 civilians drawn from the area around Fort Bragg served as observers for the AWS.⁵⁶³

The Fort Bragg exercises once again provided ample firepower for both bomber and pursuit proponents. Lieutenant Colonel E.W. Kepner, the commander of the pursuit forces, commented that the B-10 and B-18 bombers were “easy prey for any pursuit [aircraft] now in use by the GHQ Air Force” whenever they did not have pursuit aircraft escort.⁵⁶⁴ The newer and more-capable B-17 bombers fared better but, as Kepner noted, “B-17s unaccompanied by pursuit can be intercepted in fair weather when operating singly or in group formations” which allowed

⁵⁶² Brigadier General Fulton C. Gardner, “Report of the Defense Commander, Joint Antiaircraft-Air Corps Exercises, Fort Bragg, North Carolina, 29 October 1938,” Maxwell AFB: Air Force Historical Research Agency (AFHRA #248.2124-18), pp. 1-2.

⁵⁶³ Colonel J.B. Bennett, “Joint AA-Air Corps Exercises,” *The Coast Artillery Journal*, 81, no. 6 (November-December 1938): pp. 442-446.

⁵⁶⁴ Lieutenant E.W. Kepner, “Final Report (Pursuit Aviation), Joint Antiaircraft—Air Corps Exercises, Fort Bragg, 1938,” Maxwell AFB: Air Force Historical Research Agency (AFHRA #248.2124-18), p. 2.

P-35s and other pursuit aircraft to “intercept a high percentage.”⁵⁶⁵ Despite everything, Kepner admitted that numbers of B-17s protected by pursuit aircraft presented a difficult target that would have to be attacked with enough pursuit aircraft to overwhelm both the bombers and the pursuit aircraft.⁵⁶⁶

Overall, the Fort Bragg exercises did little more than to reaffirm what had already been all but proven during previous exercises—bomber aircraft could be successfully intercepted using a combination of pursuit aircraft, anti-aircraft batteries, and an intelligence net manned by trained observers. Brigadier General Fulton Q. C. Gardner, the Defense Commander during the exercise, stated that the “exercise has shown definitely that both pursuit aviation and antiaircraft artillery have important roles in antiaircraft defense, that each supplements the other, and that joint training is necessary in order to insure the most effective use of both in war.”⁵⁶⁷

Some at the ACTS complained that Kepner had ordered his pursuit pilots to identify attacking bombers. Proponents of bombardment aviation stated that the net worked very well. However, they argued that Kepner had “never thoroughly trusted it...because he still employed a combination of air patrol, air alert, and ground alert methods, keeping at least two-thirds of the force in the air at all times.”⁵⁶⁸ They complained that, while functional, Kepner’s approach would have exhausted his forces in real-world operations of any duration. Essentially, the ACTS

⁵⁶⁵ Ibid., p. 28.

⁵⁶⁶ Ibid., p. 23.

⁵⁶⁷ Lieutenant E.W. Kepner, “Final Report (Pursuit Aviation), Joint Antiaircraft—Air Corps Exercises, Fort Bragg, 1938” (Maxwell AFB: Air Force Historical Research Agency - AFHRA #248.2124-18), p. 23.

⁵⁶⁸ Major F. Epling, “Study of Report on Antiaircraft Artillery—Air Corps Exercise, Fort Bragg, 1938, 24 April 1939” (Maxwell AFB: Air Force Historical Research Agency - AFHRA #248.2124-18), pp. 7-8.

observers argued that the exercise results did not reflect what would happen under real-world conditions.

Other ACTS members disagreed with their colleagues and sided with Kepner. Major Fenton Epling and Major James Parker discussed the Fort Bragg exercise during a Reserve Officers Association of the United States meeting on March 6, 1939. They argued that several nations had sophisticated intelligence nets that did not require the level of aircraft support Kepner had used. Epling and Parker stated that Germany had a net that the Germans claimed could “plot the movement of any aircraft throughout its flight across the Fatherland.” They added that Germany was divided into defense sectors each headed by a Defense Commander. Each sector worked in conjunction with other sectors to increase the probability of defeating the attacking force. Epling and Parker noted that France had a similar system.⁵⁶⁹

Although the Fort Bragg maneuvers caused some disagreements among the men of the Air Corps, they once again demonstrated that airmen could effectively lead large numbers of aircraft in combat scenario. The maneuvers also showed the U.S. Army that air power, particularly pursuit aircraft, were critically important to defending a large area from an attacking air force. Most importantly, the Fort Bragg maneuvers proved to be another important milestone in the Air Corps’ push for a separate service because they showed that air power had developed into more than just an auxiliary for the U.S. Army’s ground forces.

Conclusion

The maneuvers and missions that the men of the Air Corps participated in throughout the 1930s were important for several reasons. To begin with, they provided Air Corps leaders and

⁵⁶⁹ Major James Parker, “ACTS Presentation to the Reserve Officers Association, 6 March 1939” (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA #248.2124-18), pp. 9-11.

personnel at the ACTS with ample evidence regarding the performance of bomber aircraft and pursuit aircraft. The Fort Knox exercises, for example, indicated that pursuit aircraft could locate and intercept bomber aircraft quite easily when cooperating with an information net. In addition, the Air Corps' work in the 1930s changed the way in which the American public, Congress, and the War Department viewed the Air Corps and airpower. At the start of the 1930s, much of what the men of the Air Corps claimed that they could do was theoretical. By the end of the 1930s, airmen had demonstrated that the airplane had developed into more than just an auxiliary force for the U.S. Army. Airmen showed that air power could be used to great effect in both defensive and offensive roles while supporting either supporting U.S. Army ground forces or operating as an independent air force.

The events of the period also reinforced airmen's desire for greater autonomy. The men of the Air Corps continued to grow disenchanted with their subordinate position within the U.S. Army because they believed that the U.S. Army, U.S. Navy, and the War Department as a whole, still did not fully appreciate air power. They argued that the War Department had used their failures during the Mount Shasta incident and the AAMCO scandal as rationale for keeping their service under the control of the U.S. Army. As a result, airmen increased their efforts to separate from the U.S. Army.

Chapter 6 – Evidence for Independence: The Spanish Civil War and the Second Sino-Japanese War

The Spanish Civil War (July 17, 1936 - April 1, 1939) and the opening years of the Second Sino-Japanese War (July 7, 1937 – September 9, 1945) were the most significant conflicts prior to World War II. Both clashes, which involved military aircraft of all types, demonstrated that air power had evolved significantly since the end of World War I. They showed that air power had developed into a critical component of a nation's military. But for the most ardent advocates of air power, acceptance as just one component among several was still problematic. Most importantly, then, the two wars intensified the differences between air advocates and ground-force exponents in the United States military, especially those in the U.S. Army Air Corps and the U.S. Army.

The men of the Air Corps, were airmen who, in some cases, had fought to gain independence for nearly three decades. They were convinced that air power had proven itself to be vital in both conflicts. Airmen, especially those men assigned to the Air Corps Tactical School, closely followed the use of aircraft in both major pre-World War II conflicts through first-hand reports from U.S. and foreign military personnel stationed in the warring nations, as well as through radio and newspaper accounts of the destruction caused by aircraft. These events abroad further solidified airmen's belief that the U.S. Army and the War Department did not appreciate the air power and the Air Corps. Thus, the conflicts were important for the men of the Air Corps because they increased airmen's sense of alienation and frustration, even though the understanding of the impact of air power was growing among non-airmen, and this further fueled their desire to separate from the U.S. Army.

The Spanish Civil War

In *A Few Great Captains: The Men and Events That Shaped the Development of U.S. Air Power*, historian DeWitt Copp argues that the Spanish Civil War “failed to make much of an impression on bomber theorists at Maxwell Field and elsewhere.” He asserts: “that may have been so because there were very few qualified air observers on the scene.”⁵⁷⁰ However, the use of aircraft in the Spanish Civil War was closely followed by men of the U.S. Air Corps. Although no American airmen participated in the conflict, they monitored the clash between Republican and Nationalist air forces very carefully because it provided them with the opportunity to study air power in combat. More importantly, the conflict provided them with more evidence that they used to support their drive for independence.⁵⁷¹

The Spanish Civil War began on July 17, 1936 after several Spanish Republican Armed Forces generals led by Jose Sanjurjo issued a declaration of opposition (*Pronunciamiento*) expressing their extreme dissatisfaction with the government of Manuel Azaña.⁵⁷² The following day, a series of well-coordinated uprisings led by the Spanish military occurred throughout the nation. Despite their best efforts, the Nationalists faced a great deal of resistance from the Republicans.⁵⁷³ The Nationalists then turned to the Spanish Army of Africa which was stationed

⁵⁷⁰ Copp, *A Few Good Captains*, p. 371.

⁵⁷¹ Several airmen who taught at the ACTS, including Kenneth Walker, recalled that the Spanish Civil War was a topic of conversation at the school throughout the late 1930s. Harrison G. Crocker, “The Use of Aviation in the Spanish War” (Maxwell AFB, Alabama: Air Force Historical Research Agency, AFHRA#168.7045-34), p. 18.

⁵⁷² The Nationalists enjoyed the support of Spanish conservative groups such as the Fascist *Falange Española*, the Carlists, and the Spanish Confederation of the Autonomous Right (*Confederación Española de Derechas Autónomas*). Carlism took hold in Spain beginning in 1833 following the death of Ferdinand II which caused a dispute over the succession to the throne of Spain. The Carlists wanted Spain return to an absolute monarchy.

⁵⁷³ On July 19, 1934, the Spanish government did what the United States government had considered doing several times during the 1920s—they placed the nation’s naval aviation, army aviation, and civilian aviation under one organization. One year later, in July 1935, the government added the Meteorological Department to the organization. The Spanish government then created the position of Director General of Aeronautics, who reported

in Morocco. Unable to transport the Spanish Army of Africa back to Spain, the Nationalists, led by Francisco Franco following Sanjurjo's untimely death in an airplane crash, turned to Adolf Hitler and Benito Mussolini for assistance.⁵⁷⁴

Shortly after Franco issued his call for help, the German and Italian aircraft arrived in Morocco to transport the Spanish Army of Africa to Seville, Spain. Hitler, aware that the airlift effort had saved the Nationalists, stated "Franco ought to erect a monument to the glory of the Junkers 52," the aircraft type that had done most of the major lifting.⁵⁷⁵ Most historians who have written about the Spanish Civil War have agreed with Hitler's assessment of the *Luftwaffe's* (German Air Force) role in keeping the Nationalists from an early defeat in the conflict.⁵⁷⁶

With their immediate survival guaranteed, the Nationalists began to try and solidify their position throughout Spain during a series of bloody battles that occurred in and around Madrid, Spain's capital city. The Nationalists had a small contingent of Spanish aviators at their disposal.⁵⁷⁷ However, they knew that they would need a much larger force if they hoped to

to the President of the Council of Ministers, to lead the organization. The government's efforts to unify Spanish aviation provided the Spanish Air Force with a level of unity of command that was readily apparent to foreign observers and other aviation specialists. Shortly before the start of the Spanish Civil War in 1936, the Spanish Air Force had six pursuit squadrons, nine observation squadrons, two reconnaissance squadrons, one bombardment squadron, and three torpedo squadrons. One disadvantage for the Spanish stemmed from the fact that most of the aircraft they flew were manufactured by other nations, including France, Italy, and the Soviet Union. The Spanish attempted to bolster their air force by ordering military aircraft from the U.S. However, the start of the civil war in July 1936 kept the orders from being delivered. E.H. Alexander, "Pursuit Tactics and Technique" (Maxwell AFB, Alabama: Air Force Historical Research Agency), p. 14.

⁵⁷⁴ Robin D.S. Higham, *One Hundred Years of Aviation and Air Power* (College Station: Texas A&M University Press, 2003), p. 96.

⁵⁷⁵ Hugh Thomas, *The Spanish Civil War*, p. 370.

⁵⁷⁶ Higham, *One Hundred Years of Aviation and Air Power*, p. 96; Greer, *The Development of Air Doctrine in the Army Air Arm, 1917-1941*, pp. 101-103.

⁵⁷⁷ E.H. Alexander, "Pursuit Tactics and Technique," p. 14.

compete against the Republicans.⁵⁷⁸ As a result, the Nationalists turned to the Germans and Italians for further assistance. Franco's Nationalists unarguably benefitted significantly from the support of Adolf Hitler and the growing German war machine because, "except for foreign participation, there might have been practically no air warfare during the course of the subsequent fighting." Hitler, in turn, used the conflict to train and season *Luftwaffe* pilots and aircrews. Approximately 5,000 Germans from the *Luftwaffe* and the *Wehrmacht Heer* (German Army) volunteered to fight for Franco from 1936 to 1939. Known as the Condor Legion, these men provided expertise and firepower that proved instrumental in Franco's triumph.⁵⁷⁹

The French also participated in the Spanish Civil War by supplying aircraft to the Republican government. By November 15, 1936, the French had delivered 25 Potez 58

⁵⁷⁸ In 1937, Spanish official M.A. Valencia wrote a report detailing the use of airpower during the Spanish Civil War up to April of that year. Valencia explained that the Republican air force flew just about any aircraft type that they could acquire. As a result, he stated that "it frequently resulted that a pursuit squadrons was made up of three or four different pursuit types all of which had their own particular characteristics." He argued that, due to the various types in use, "intelligent tactical employment was impossible." The result of such a reality was a great deal of individualism, a significant loss of fire power, and a lack of "protective unity." Most importantly, Valencia maintained that the situation led to "many losses that could have been prevented had certain performance characteristics been known." In his report Valencia addressed the Republican's opponents at great length. He explained that the Republican air forces quickly came to fear the Junker Ju-52, the Heinkel He-51, and the Fiat Cr. 32. U.S. Military Attaché at Valencia, Spain, "Spain," April 25, 1937, (Maxwell AFB: AFHRA #248.282), p. 1.

⁵⁷⁹ The Condor Legion had the arduous task of putting theory into practice during the Spanish Civil War. General Walther Wever, the *Luftwaffe*'s first chief of staff, was the man responsible for the great bulk of those theories. Wever's masterwork, titled *Die Luftkriegführung* (The Conduct of the Air War), became the *Luftwaffe*'s guidebook beginning in 1936. Much like his counterparts at the ACTS, Wever argued that bombardment aviation would play a critical role in future conflicts. However, Wever did deviate from his American contemporaries by asserting that aerial interdiction, close air support, and air superiority were also of key importance. Ultimately, Wever's theories played a substantial role in the *Luftwaffe*'s development prior to World War II. Wever and his co-author's maintained throughout their work that the *Luftwaffe* should assist the *Heer* whenever practicable. They maintained that air and ground commanders had to work together closely, especially during the most intense phases of combat. Wever and his colleagues believed that bombardment aircraft could play an important role during battle. They stated that "the closer the contesting armies are locked in combat and the closer the decision in battle comes, the greater will be the effectiveness of bomber attacks in the battle area." The Condor Legion's air force consisted of *Kampfgruppe* 88 which had three squadrons of Ju 52 bombers; *Jagdgruppe* 88 equipped with three Heinkel He51 fighter squadrons; *Aufklärungsgruppe* 88; *Flakteilung* 88, an anti-aircraft group; and *Nachrichtenabteilung* 88, a signals group. Generalmajor Hugo Sperrle, who served in the *Luftstreitkräfte* (German Air Service) during World War I, commanded the Condor Legion with Alexander Holle as his chief of staff. Williamson Murray, "The *Luftwaffe* Experience, 1939-1941," in B. Franklin Cooling, ed., *Case Studies in the Development of Close Air Support*, pp. 73-74.

observation aircraft, 16 Dewoitine D.371 and D.372 monoplane pursuit aircraft, 20 Potez 540 reconnaissance/bombardment aircraft, two Dewoitine pursuit aircraft, six Loire 46 monoplane pursuit aircraft, one Bloch MB-210 bombardment aircraft, seven transport aircraft, 1 Bleriot-Spad S.91 biplane pursuit aircraft, and several “utility” aircraft.⁵⁸⁰ In addition to aircraft, the French sent trained aircrews from the *Armée de l’Air* (French Air Force) to help train the Republican Air Force. The French, however, did not send any weapons along with the aircraft, which forced the French aircrews to retool gun mounts to accommodate the weapons provided by the Republican Air Force.⁵⁸¹

Germany, Italy, and France were not the only nations to send aircraft and advisors to assist in Spain. The Soviet Union sent a large number of aircraft and personnel to assist the Republicans. By mid-November 1936, the Soviets had delivered 40 Tupolev SB *Katiuska* bombardment aircraft, 24 Polikarpov I-15 *Chaika* biplane pursuit aircraft and 36 Polikarpov I-16 *Ishak* monoplane pursuit aircraft.⁵⁸² Unlike the French, the Soviets had sent the requisite armament along with the aircraft and the personnel to fly them. First Lieutenant E.H. Alexander, a U.S. Air Corps officer, stated that the Soviet personnel he came into contact with “were excellently trained, and displayed the best of discipline. They knew what their job was, and had been trained how to accomplish assigned tasks in the most workman-like manner.”⁵⁸³

The Battle of Guadalajara

⁵⁸⁰ E.H. Alexander, “Pursuit Tactics and Technique,” p. 14.

⁵⁸¹ *Ibid.*, pp. 16-17.

⁵⁸² *Ibid.*, pp. 17-18.

⁵⁸³ *Ibid.*, pp. 17-18.

In March 1937, Nationalist and Italian troops captured Malaga, a resort town on Spain's Mediterranean coast. The easy victory emboldened the Nationalists and quickly led them to prepare plans to attack Guadalajara, a city 800 kilometers north of Malaga. The Nationalists and approximately 20,000 of their Italian allies began the push north on March 8, 1937. Heavy rains soon interceded, slowing their progress down considerably. On March 11, 1937, a reconnaissance aircraft from the Republican Air Force located the large number of Italian trucks spread along about 20 kilometers of the Saragossa Highway. The pilot subsequently reported the Italians' location to his superiors. The following day, the Republican Air Force initiated the Battle of Guadalajara by attacking the Italian convoy.⁵⁸⁴

The initial strike force consisted of approximately 20 Soviet *Katiuska* bombardment aircraft, 20 Soviet attack aircraft, and 84 I-15 and I-16 Soviet pursuit aircraft. The Soviet force dropped an estimated 100 bombs and fired approximately 20,000 rounds of ammunition.⁵⁸⁵ The Italians, mired in the mud, were caught unprepared without any anti-aircraft defense. Worse yet, the Italian troops had difficulty doing anything because of the muddy conditions. Realizing the severity of their enemy's predicament, the Soviets flew two more sorties against the Italians. The Soviets dropped a total of approximately 492 bombs and fired around 200,000 rounds of ammunition. The attack led the Italian troops to abandon their vehicles and equipment.⁵⁸⁶

Guernica

⁵⁸⁴ E. H. Alexander, "Pursuit Tactics and Techniques," p. 26.

⁵⁸⁵ Ibid., pp. 26-27.

⁵⁸⁶ Ibid., pp. 26-27.

The bombing of the town of Guernica most definitely caught the attention of the bomber theorists in the Air Corps. In fact, the attack on Guernica was so widely publicized that few people in the Europe or the United States would not have heard about it.

The attack on Guernica began more than one month after the Battle of Guadalajara. On April 26, 1937, the Nationalists ordered *Oberstleutnant* Wolfram Freiherr von Richthofen, the Condor Legion's commanding officer, to bomb the town of Guernica in order to bolster the Nationalist's hold in that area. Although Guernica had little appreciable military importance—other than its general location—the Condor Legion and the *Aviazione Legionaria* dropped incendiary bombs, often referred to as firebombs, on the town of approximately 10,000.⁵⁸⁷

Although *Luftwaffe* doctrine did not advocate terror bombing, the attack was characterized as that by many. Historian James S. Corum argues: “The bombing of Guernica was quickly turned into an event of mythical proportions and the version of events accepted by the public and the leadership of nations in Europe and America seemed to prove out all the worst predictions of civilian casualties that would result from aerial bombardment.”⁵⁸⁸

The Basque government claimed that the bombing killed 1,654 civilians and wounded another 889. Other reports suggested that the death toll was as low as 153. Regardless of the exact number of deaths, news of the bombing shocked the international community, which referred to the attack as “terror bombing.” Spanish artist Pablo Picasso was so moved by the bombing that he almost immediately began working on a painting of the event at his home in Paris, France. Completed in June 1937, his painting *Guernica* evoked the brutality of the

⁵⁸⁷ James S. Corum, *Wolfram von Richthofen: Master of the German Air War* (Lawrence: Kansas University Press, 1997), p. 270; Copp, *A Few Good Captains*, p. 386.

⁵⁸⁸ James S. Corum, “Inflated by Air: Common Perceptions of Civilian Casualties from Bombing” (Maxwell AFB, Alabama: School for Advanced Airpower Studies, April 1998), p. 7.

bombing and the deadly affect that it had on its victims. In fact, it was the twisted and deformed bodies that Picasso depicted that helped bring international attention to the violence then underway in Spain.⁵⁸⁹

Observer Reports

Reports from military observers stationed in Spain proved to be highly valuable to the men of the Air Corps. The reports provided the Air Corps with insight into how the various factions used the aircraft, including what types of aircraft and tactics worked best. The reports also helped American airmen support their contention that air power had, in fact, changed the way wars were fought. The reports showed that the success of ground forces was often reliant on air power. Therefore, the men of the Air Corps used the reports to bolster their case for separation from the U.S. Army.

The most detailed reports on the use of aircraft during the Spanish Civil War came from Colonel Stephen D. Fuqua, the U.S. Military Attaché stationed in Valencia, Spain, and Captain Townsend Griffiss, his assistant.⁵⁹⁰ Fuqua, a career infantry officer, and Griffiss, an Air Corps officer, were tasked with gathering any intelligence they could regarding military operations during the conflict. To do so, Fuqua and Griffis compiled a great deal of information from

⁵⁸⁹ Corum, "Inflated by Air: Common Perceptions of Civilian Casualties from Bombing," pp. 7-8; Picasso's painting was exhibited at the Spanish display at the Exposition Internationale des Arts et Techniques dans la Vie Moderne (Paris International Exposition) in the 1937 World's Fair in Paris, France. After the end of the World's Fair, the painting was displayed at various venues around the world in order to raise money for those affected by the Spanish Civil War. David Cohen, "Hidden Treasures: What's So Controversial about Picasso's Guernica?", *Slate*, February 6, 2003.

⁵⁹⁰ Colonel Fuqua joined the U.S. Army during the Spanish-American War. Fuqua was the Chief of the Infantry Branch from March 1929 through March 1933. He was sixty-two years old at the start of the Spanish Civil War. Captain Griffiss, an Air Corps officers, was Fuqua's resident specialist on aviation and air power. Kim M. Juntunen, "U.S. Army Attachés and the Spanish Civil War, 1936-1939: The Gathering of Technical and Tactical Intelligence" (West Point, New York: The U.S. Military Academy, May 1990), pp. 12-13.

official Spanish government forces, newspaper reports, and interviews with pilots flying with Republican forces.⁵⁹¹

The level of detail that the Fuqua and Griffiss included in their reports was astounding. For example, they reported that “The Junker-52 bombardment plane is absolutely vulnerable to a head-on attack, or nearly head-on attack, made at the same altitude.” They added: “The bombers had two gunners on aft on top and the other aft and any other attack approach exposes the attacker to machine gun fire. The forward part is unprotected and just above the heads of the pilot and bomber is the exposed reserve gasoline tank.”⁵⁹²

Fuqua and Griffiss also discussed the tactics that each side employed. Franco’s Nationalists would fly Junkers in formations of 11 to 22 aircraft with protection from Heinkel and Fiat pursuit aircraft. The Junkers flew in a large “V” formation or a line formation. The Heinkel and Fiat aircraft flew in smaller formations at higher altitudes. To combat such formations, the Republicans would typically use I-15s to attack while I-16s provided protective fire. Fuqua and Griffiss explained that the I-15s flew at a designated altitude while the I-16 pilots ascended to a higher altitude in order to use their aircraft’s potential energy to dive upon their targets. The I-15s would attack the Junkers, while the I-16s fought off any He-52s or Cr.32s that attacked the I-15s. To further increase their odds of survival, some of the I-15s did

⁵⁹¹ From July 1936 through 1939, U.S. Army attachés in Europe gathered tactical and technical information about the Spanish Civil War. Author Kim Juntunen argued that the “body of information that the attachés collected provided the United States Army with clear indications of the development of German, Soviet and Italian weapons, and pointed toward the possible tactical employment of those weapons in future wars.” *Ibid.*, pp. 7-31.

⁵⁹² U.S. Military Attaché at Valencia, Spain., “Spain,” April 25, 1937, (Maxwell AFB: AFHRA #248.282), p. 1.

not attack the Junkers. Instead, they held off so that they could help the I-16s fend off attacks from the Nationalist's aircraft.⁵⁹³

The Republicans also worked very hard to compensate for their enemy's changing tactics. Fuqua and Griffiss explained that, when possible, Republican I-16 pilots would attack Junker formations "on the hit and run principle and from all angles." However, the I-16 pilots had to be careful because attacking a well-armed Ju-52 often had disastrous results for an "overenthusiastic attacker."⁵⁹⁴

The Republican pilots used their experience attacking the Ju-52s to help better protect their own bombardment aircraft. The twin-engine Russian bombers that the Republicans flew were fast and well armed. As a result, they frequently flew without pursuit protection. During particularly difficult missions, I-15s and I-16s accompanied the bombers. To increase their chance for survival, the bomber pilots flew flights of three aircraft in a "V" formation directly in front of the lead bombardment aircraft. The other pursuit aircraft would fly on either side of the main bomber formation. When they encountered enemy pursuit aircraft, the I-15s and I-16s would break formation and attack.⁵⁹⁵

Fuqua and Griffiss also reported that both the Republican and Nationalist air forces conducted a significant number of ground-attack sorties during the Spanish Civil War. In fact, the sheer number of ground attacks surprised the attaché who commented that both sides

⁵⁹³ The Republican's tactics proved to be well-conceived. The attaché marveled at the fact that the Junkers did not appear to have significantly adjusted their own tactics to remedy the situation. Instead, the Junkers crews worked to keep the formation together while relying on the He-52s and Cr.32s to protect them. To do so, the Nationalist's pilots sometimes flew at altitudes below the Junkers so that they could intercept the I-15s as the pilots dove to set themselves up for another attack. *Ibid.*, pp. 2-3.

⁵⁹⁴ U.S. Military Attaché at Valencia, Spain, "Spain," April 25, 1937, (Maxwell AFB: AFHRA #248.282), p. 3.

⁵⁹⁵ *Ibid.*, p. 5.

employed every aircraft in their respective arsenals during such missions. Pursuit aircraft seemed to perform the bulk of such missions due to their maneuverability. Fuqua and Griffiss reported that pursuit aircraft pilots typically used two different methods to attack their targets. The first method involved attacking from a high altitude. During that type of attack, the attacking aircraft often climbed to approximately 14,000 and initiated a steep dive on their intended target. Then, at approximately 7,500 feet, the pilot or bombardier would release their bombs while continuing to dive and fire on their target with machine guns until they reached approximately 4,500 feet. At that point the attacking aircraft would depart the target area. Fuqua and Griffiss commented that “strange as it may seem it is reported that excellent results have been accomplished by high-altitude ground attack.”⁵⁹⁶

Conversely, the second method involved attacking from a very low-altitude that used the element of surprise as a force multiplier. The low altitude attacks depended on the weather, the target, enemy anti-aircraft, the size and location of enemy air forces, and the number of friendly aircraft that provided protection. Fuqua and Griffiss noted that pilots attacking from low altitudes would frequently drop their bombs from an approximate altitude of 600 feet to 1,500 feet in order to avoid being affected by the explosion. The pilots would then use machine-guns until they reached approximately 100 feet and broke off their attack.⁵⁹⁷

While both sides conducted the early ground attacks with whatever aircraft they had at their disposal, specialized ground attack aircraft quickly entered the conflict. The Russian-built Polikarpov R-5 proved to be a highly-useful ground attack weapon for the Republican Air Force. A two-seat biplane, the R-5 carried up to 550 pounds of bombs on external bomb racks. In

⁵⁹⁶ U.S. Military Attaché at Valencia, Spain., “Spain,” April 25, 1937, (Maxwell AFB: AFHRA #248.282), p. 5.

⁵⁹⁷ *Ibid.*, p. 6.

addition, it had one forward-firing Pulemet Vozdushny PV-1 machine gun on each wing and one Degtyaryov machine gun in the rear of the aircraft.⁵⁹⁸ To protect the aircraft from ground fire, the Russians added armored plating around the engine and encircling most of the cockpit. In addition to the aforementioned ground attack tactics, R-5 pilots often approached their targets at an altitude of about 100 before climbing to 450 feet to 500 feet just prior to dropping their bombs.⁵⁹⁹ Fuqua and Griffiss stated:

The value of ground attack has been clearly shown in recent air operations. In my opinion the most important development that has taken place in the Government Air Force is the tactical cooperation that now exists between the pursuit, bombardment and ground-attack aviation. With internal understanding it has been a great deal easier to build up coordination and cooperation between the Air and Ground.⁶⁰⁰

The arrival of the twin-engine Junkers Ju-86 in February 1937 forced the Republican Air Force to alter their tactics to some degree. Designed as both a bomber and a civilian airliner, the Ju-86 served as a very stable bombardment platform. More importantly, the Ju-86 had multiple guns in the front, top, and belly, which could quickly be brought to bear on an enemy aircraft. To counter the Ju-86, the Republican Air Force pilots had to try and fly in the aircraft's blind spot in order to avoid being hit as they attacked. According to the Fuqua and Griffiss, the tactic worked with "four or five" Ju-86s being shot down by April 1937.⁶⁰¹

The report that Fuqua and Griffiss produced was long and extremely detailed. Yet that is exactly what the U.S. military wanted such reports to be. The reports contained very few general

⁵⁹⁸ Ibid., p. 6.

⁵⁹⁹ U.S. Military Attaché at Valencia, Spain, "Spain," April 25, 1937, (Maxwell AFB: AFHRA #248.282), p. 6.

⁶⁰⁰ Ibid., p. 8.

⁶⁰¹ Ibid., p. 8.

statements. Instead, the reports contained paragraph after paragraph and page after page of highly detailed and useful data that an intelligence officer, commander, or military leaders could read to gain an appreciation of the topic covered in the report. Thus, the reports issued by Fuqua and Griffiss provided the Air Corps with data on the performance of bombardment and pursuit aircraft in combat. Most importantly, they warned the Air Corps that “the Flying Fortress died in Spain.” Furthermore, they asserted: “The peacetime theory of the complete invulnerability of the modern type bombardment airplane no longer holds. The increased speeds and modern armament of both the bombardment and pursuit plane have worked in favor of the pursuit.” Fuqua and Griffiss determined that, based on their data and observations, “the old formula of high altitude bombing is exploded.”⁶⁰²

The exhaustive report that Fuqua and Griffiss compiled was not the only source the Air Corps had for information about the use of aircraft during the Spanish Civil War. Another Air Corps officer, Captain Harlan McCormick, studied the conflict for the term paper that he completed while attending the ACTS. McCormick interviewed a Royal Air Force officer about the conflict in Spain. The officer explained to McCormick that “The escort of bomber formations proceeding to and from their objectives by double, or more than double, their number of fighters, has been found by both sides to be a necessity, notwithstanding the ability of the bomber to shoot down fighters.”⁶⁰³

The military forces of the Soviet Union also paid careful attention to the Spanish Civil War. In addition to aircraft and technicians, the Soviets sent their own military attachés and

⁶⁰² U.S. Military Attaché at Valencia, Spain, “Spain,” April 25, 1937, (Maxwell AFB: AFHRA #248.282), p. 10.

⁶⁰³ Harlan T. McCormick, “History and Development of Pursuit Aviation” (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA 248.282-36), pp. 24-25.

intelligence operatives to gather information. Two people who observed the conflict for the Soviet Union were P. Mikhailow and G. Gagarin.⁶⁰⁴

In his report, titled “Tactical Employment of Pursuit Aviation: Experiences of the Spanish Civil War,” Mikhailow explained that the Republican Air Force had begun the conflict flying outdated Newport aircraft that were both slow and unable to fly at high altitudes. The Nationalists, who Mikhailow referred to as “insurgents” throughout his report, flew more modern and more capable German and Italian aircraft. He argued that the Nationalists’ superior performing aircraft gave them an initial advantage that forced the Republican Air Force to undertake a high number of raids.⁶⁰⁵

However, the outdated equipment did not prohibit the Republican Air Force from achieving some success in defending Madrid, Spain, from Nationalist air attacks. Mikhailow stated that Republican Air Force leaders “adopted a system for guarding the city from nearby airdromes, whence planes would take to the air on a given signal from air observation posts.” According to Mikhailow, the “system of defense requires a smoothly functioning aircraft warning service along with properly developed airdromes to insure instantaneous take-off of all aircraft.”⁶⁰⁶ The Republican Air Force based their warning system on the model that the U.S. Air Corps had created in the early 1930s.⁶⁰⁷

⁶⁰⁴ Mikhailow, P. “Tactical Employment of Pursuit Aviation: Experiences of the Spanish Civil War, February 8, 1938” (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA #248.282).

⁶⁰⁵ Mikhailow, “Tactical Employment of Pursuit Aviation: Experiences of the Spanish Civil War, February 8, 1938,” pp. 1-2.

⁶⁰⁶ Ibid., p. 2.

⁶⁰⁷ See: Lieutenant Colonel Joseph A. Green, “The Fort Knox Distant Intelligence Net,” *The Coast Artillery Journal*, No. 4, July-August 1933, pp. 247-252; Claire L. Chennault, “The Role of Defensive Pursuit, Part II,” *The Coast Artillery Journal*, 77, No. 1, (January-February 1934): pp. 7-11.

Mikhailow reported that, unlike their counterparts in the United States, the pursuit aircraft used in Spain by both sides typically possessed better speed and maneuverability than their bombardment counterparts.⁶⁰⁸ Thus the pursuit aircraft had a great deal of success against the slower bombardment aircraft, “often compelling them to turn back and to abandon their missions.”⁶⁰⁹ To protect their bombardment aircraft, the Nationalists placed them in the center of their aerial formations. A group of pursuit aircraft flew approximately 3,000 feet in front of the bombardment aircraft to both protect them and attack enemy pursuit aircraft. Another group of pursuit aircraft flew behind the bombardment aircraft at an altitude 2,000 feet to 3,000 feet above them to protect them from rear attacks. In addition, the Nationalists had “outstanding pilots” fly high above the formation so that they could dive upon enemy aircraft as needed.⁶¹⁰

The Nationalists’ tactics worked well in many instances, but they still suffered significant losses during daytime bombardment operations. In spite of the initial lack of personnel trained to fly at night, the Nationalists soon implemented nighttime bombardment operations in order to minimize their losses. The Republican Air Force did not allow the Nationalists to conduct their nighttime raids unopposed. In July 1937, Republican Air Force pursuit aircraft shot down a Nationalist bombardment aircraft at night in the vicinity of Madrid. The shoot-down, the first of the conflict, proved that nighttime bombardment was not free from danger.⁶¹¹

Although bombardment aircraft performed many missions during the Spanish Civil War, their achievements paled in comparison to those of pursuit aircraft. Mikhailow reported that

⁶⁰⁸ Claire L. Chennault, “The Role of Defensive Pursuit, Part II,” *The Coast Artillery Journal*, 77, No. 1, (January-February 1934): pp. 7-11.

⁶⁰⁹ Mikhailow, P., “Tactical Employment of Pursuit Aviation: Experiences of the Spanish Civil War,” pp. 1-2.

⁶¹⁰ *Ibid.*, p. 5.

⁶¹¹ *Ibid.*, pp. 6-7.

pursuit aircraft performed several functions throughout the conflict, including pursuit, attack, ground-attack, bombardment, observation, and reconnaissance. In fact, Mikhailow argued that the Republican air force's pursuit aircraft were so successful when used as defensive weapons that the Nationalist bombardment aircraft "hardly ever risked attacks on any loyalist forces that were protected by pursuit aircraft."⁶¹² In addition, the presence of friendly pursuit aircraft boosted the morale of Republican soldiers who, feeling strong protection in the air, carried out their combat missions with greater assurance.⁶¹³

Mikhailow maintained that Republican Air Forces' pursuit aircraft were equally useful as offensive weapons. Frequently, Republican pursuit aircraft joined with friendly attack and bombardment aircraft to attack Nationalist troop formations. During the Guadalajara operation, Republican pursuit aircraft initiated the attack before climbing to higher altitudes in order to provide cover for the attack aircraft. Mikhailow claimed that Republican pursuit aircraft acted as an "air cavalry" that disrupted the Italian corps they attacked.⁶¹⁴

Overall, Mikhailow's report provide ample evidence to support his contention that pursuit aircraft had played a prominent role for both the Nationalist and the Republican air forces throughout the Spanish Civil War. While he did not address the fact that Soviet pilots flew for the Republicans and German pilots flew for the Nationalists, his report nonetheless indicated that pursuit aircraft played an indispensable part in the conflict.⁶¹⁵ Moreover, his reports shows that

⁶¹² Mikhailow, P., "Tactical Employment of Pursuit Aviation: Experiences of the Spanish Civil War," pp. 8-9.

⁶¹³ Ibid., pp. 8-9.

⁶¹⁴ Ibid., p. 10.

⁶¹⁵ Ibid., p. 10.

bombardment aircraft were highly vulnerable when opposed by well-trained pilots at the controls of capable pursuit aircraft.

Another thorough report on the use of airpower in the Spanish Civil War came from a Soviet military officer named G. Gagarin. In May 1938, Gagarin wrote a report titled “Aviation in Defensive Actions (Experience of the Spanish Civil War).” In his report, Gagarin, echoing the U.S. military attaché and Mikhailow, focused on the importance of pursuit aircraft during the Spanish Civil War. Gagarin explained that both the Republicans and Nationalists quickly discovered that infantry and tanks suffered heavy losses when they were without accompanying artillery and aviation support. Thus, to avoid “protracted position warfare” similar to that experienced during World War I, the opposing sides began using both artillery and aircraft in order to achieve breakthroughs along the defensive lines. Gagarin maintained that, of the two, airpower proved particularly effective because “troops in the front lines found it impossible to withstand the onslaught and began withdrawing even before the enemy advanced to the attack.” He also reported that, at other times, the infantry that had survived the initial aerial attacks “proved capable of organized resistance.”⁶¹⁶

In his report, Gagarin came to much the same conclusion that Mikhailow had regarding pursuit aircraft. Gagarin indicated that, when acting in a defensive role, pursuit aircraft had to “maintain a constant patrol of the air” in order to be successful. However, he argued that even the most active pursuit aircraft “were always too late to prevent the hostile bombers from their bombs on their objectives.”⁶¹⁷

⁶¹⁶ G. Gagarin, “Aviation in Modern Combat,” 26 April 1938 (Maxwell AFB: Air Force Historical Research Agency - AFHRA #248.282), p. 1.

⁶¹⁷ Ibid., p. 2.

Despite stating that pursuit aircraft had an almost impossible task facing them when it came to stopping bombardment aircraft, Gagarin maintained that “the modern pursuit craft may be considered a most formidable weapon, both as a means of anti-aircraft defense and for general combat for control of the air.” He continued: “Regardless of the efforts that may be made to increase the speed of the bomber, it will always fail to attain the speed of a fast pursuit craft.”⁶¹⁸ While later bombers did surpass the capabilities of their contemporary pursuit aircraft, at least for brief periods of time, Gagarin’s correct that pursuit aircraft historically possessed superior speed and maneuverability compared to bombardment aircraft.

In addition to the overall superiority of pursuit aircraft, Gagarin argued that their effectiveness was exponential when working in conjunction with anti-aircraft weapons and aircraft warning systems. Gagarin asserted that, during the Spanish Civil War, pursuit craft aided by anti-aircraft weaponry greatly increased the number of bombardment aircraft lost by the attacking force. Gagarin postulated that “pursuit craft employed in cooperation with anti-aircraft defense weapons may completely prevent hostile bombers from reaching defended areas.”⁶¹⁹

Some in the United States agreed with Mikhailow’s and Gagarin’s assessments that bombardment aircraft were far from perfect. In an article titled “The Misuse of Air Power,” Dallas D. Irvine strongly criticized the Air Corps in a different way. He argued that the war in Spain, particularly the bombing of Guernica, led many airmen to believe that terror bombing worked. Irvine stated:

The aeromaniacs assume that direct attack on civilian population may indeed be effective, and even decisive, in breaking a people's morale. In this assumption lies a most extraordinary fallacy. How anyone familiar with the fortitude shown

⁶¹⁸ G. Gagarin, “Aviation in Modern Combat,” p. 2.

⁶¹⁹ Ibid., p. 2.

by the human species among the horrors of war in the past can make this assumption is not easy to understand. The theory that the determination of a people to carry on war can be broken by mere punishment rests upon the grossest misunderstanding of the social psychology of war. Since exactly that theory is finding credence today, even in the circles of military supreme commands, it is desperately necessary to impress upon the minds of all who are thinking about future war that the determination of a people to prosecute a war is dependent not at all upon the punishment to which that people is subjected, but upon two things: (1) its belief in the Justice of its cause, and (2) its belief that it has a fair chance of winning, or in any case, of avoiding defeat. For substantiation of this assertion let one study the causes of the German collapse in 1918.⁶²⁰

Irvine maintained that bombing people to break their will would never work. Instead, he argued: "The only proper use of violence in war is for taking away a determined people's hope of victory, and this can be accomplished only by destroying or neutralizing that people's material power for attack or resistance in whatever degree is necessary." Therefore, he asserted air power should be used to destroy a nation's "mechanism of supply and communication" rather than its people.⁶²¹

The criticisms of bombardment aircraft during the Spanish Civil War continued. In September 1937, the U.S. Army War College in Carlisle, Pennsylvania, conducted a course that addressed military events abroad. Throughout the course, the instructor argued against nearly everything that the Air Corps had championed for almost two decades. The text used for the course, *Air Forces and War*, argued that Italian Air Force's experience in Ethiopia and the Luftwaffe's actions in the Spanish Civil War both provided enough evidence to indicate that bombardment aviation, especially high-altitude bombardment, was not nearly as effective as

⁶²⁰ Dallas T. Irvine, "The Misuse of Air Power," *The Coast Artillery Journal*, May-June 1937, pp. 230-231.

⁶²¹ *Ibid.*, p. 231.

many in the Air Corps had long argued. Worse yet for the Air Corps, the text maintained that smaller bombardment aircraft and pursuit aircraft had proven more useful in Spain.⁶²²

Despite reports to the contrary, not everyone agreed that the Spanish Civil War had proven that bombardment aircraft were vulnerable to pursuit aircraft. Lieutenant Roger Colton, a U.S. Army Officer, argued that the majority, if not all, of the commentaries had a significant degree of bias. In an article published in *The Coast Artillery Journal*, Colton asserted that many people had ulterior motives when completing their assessments of airpower during the Spanish Civil War. In 1939, Colton argued that “commentators appear to be using the Spanish Civil War to support their own preconceived theories.”⁶²³

In the article, titled “Bombing Operations in the Zone of the Interior,” Colton focused on defending against land-based bombardment aircraft.⁶²⁴ Colton explored the history of bombardment operations in World War I, Ethiopia, China, and Spain. Regarding Spain, Colton asserted that both the Republicans and the Nationalists had used the “tactics and techniques” developed during previous conflicts. Colton suggested that others were using the conflict in Spain to support their own theories and ideas on airpower. Trying to prove his point, Colton explained that “reports from air enthusiasts credit AA artillery with little success, while those at the other extreme report marvelous accomplishments of the AA guns.” He maintained: “Some

⁶²² John F. Kreis, *Piercing the Fog: Intelligence and Army Air Force Operations in World War II* (Washington, D.C.: Air Force History and Museums Program, 1996), pp. 36-37.

⁶²³ Lieutenant Colonel Roger B. Colton, “Bombing Operations in the Zone of the Interior,” *The Coast Artillery Journal*, Vol. 81, no. 3. (May-June 1938), p. 165.

⁶²⁴ The Zone of the Interior represented the part of the theater of war not included in the theater of operations. Targets in the Zone of the Interior included “facilities having the most direct bearing on the outcome of the war.” *Ibid.*, pp. 163-164.

even claim that the guns can, with a dozen or so shots, bring down any ship flying in daylight below 12,000 feet; they also credit the guns with 80% of all airplanes brought down.”⁶²⁵

Colton’s criticisms of the reports concerning the use of airpower during the Spanish Civil War were valid. Yet, most of the reports on the roles that airpower played during the conflict were far from one-sided attacks on bombardment aviation, pursuit aviation, or their vulnerability to anti-aircraft fire. In fact, the majority of the reports were detailed and thorough assessments of the air war over Spain that included both the positives and the negatives of bombardment and pursuit aviation. Therefore, his critiques point to his own bias on the matter. Moreover, the conclusions that Colton reached further demonstrate that, whether he was aware of it or not, he had his own agenda. His conclusion: “As in the World War, the bomber can be greatly hindered, but cannot be stopped until the enemy as a whole has been definitely defeated.”⁶²⁶ For Colton, bombardment aircraft were of primary importance.

Although not everyone trusted the report coming in from the Spanish Civil War, many did. Major General Malin Craig, Chief of Staff of the U.S. Army, read the reports and believed that they indicated that new weapons, including pursuit aircraft, had “restored to the defense the superiority it seemed to lose with the advent of the new offensive arms.” Craig maintained that the effectiveness of the new weapons reaffirmed to him that “the Infantry is the core and the essential substance of an army. It alone of all the arms approximates a military entity. It alone

⁶²⁵ Ibid., p. 165.

⁶²⁶ Lieutenant Colonel Roger B. Colton, “Bombing Operations in the Zone of the Interior,” *The Coast Artillery Journal*, Vol. 81, no. 3. (May-June 1938), p. 165.

can win a decision. Each of the other arms is but an auxiliary—its utility measured by the aid that it can bring to the infantry.”⁶²⁷

General Craig’s statements were a tremendous blow to the morale of the men in the Air Corps who had fought to prove that airpower was far more than an auxiliary force. The reports from the conflict in Spain had firmly convinced Craig that the Air Corps’ focus on bombardment aircraft was misguided. In the summer of 1938, General Craig refused to authorize the Air Corps to buy an addition B-17 bombers. Shortly thereafter, on August 6, 1938, General Westover received word that developmental expenditures for fiscal years 1939 and 1940 were to be “restricted to that class of aviation designed for the close support of ground troops and the protection of that type of aircraft.”⁶²⁸

The Sino-Japanese War

The Spanish Civil War was not the only conflict of the period that provided data on the performance of pursuit and bombardment aircraft. The Second Sino-Japanese War, which lasted from 1937 into 1945, provided a mountain of data for Air Corps officers to analyze.⁶²⁹ During the conflict, the Chinese Air Force (CAF) and the Imperial Japanese Navy (IJN) fought one another using some of the most advanced aircraft of the period. Both air forces also employed pursuit and bombardment aircraft to a great extent throughout the conflict. The combination of the two proved to be of immense interest and value to the United States, Italy, the Soviet Union,

⁶²⁷ Harry Hines Woodring, “United States War Department, Report of the Secretary of War to the President, 1938” (Washington, D.C.: Government Printing Office, 1938), pp. 29-30.

⁶²⁸ Futrell, *Ideas, Concepts, Doctrine*, p. 46.

⁶²⁹ The First Sino-Japanese War took place from August 1, 1894-April 17, 1895. The conflict began after the Qing Empire in China and the Empire of Japan began to fight for dominance over the Korean peninsula. Japanese land and naval forces won the majority of the battles during the conflict. As a result, the Qing Empire ended the conflict when it sued for peace. S.C.M. Paine, *The Sino-Japanese War of 1894–1895: Perceptions, Power, and Primacy*, (Cambridge University Press, 2003), p. 3.

and Germany, each of which sent aviation advisors to China either to assist or to report on the conduct of the air war.⁶³⁰

The United States watched events developing in China in the early 1930s very closely. During that period the Nationalist Chinese, led by General Chiang Kai-Shek, and the Communists, led by Mao Zedong, were fighting a bitter civil war. In 1931, the Japanese military took advantage of China's internal divisions and launched an invasion of Manchuria. Japanese forces quickly pushed the overwhelmed and overextended Nationalist forces back.⁶³¹

In 1932, Colonel John Jouett led a group of American aviators, who were not members of the U.S. Army Air Corps, to China to help build the CAF. To assist their American friends, the Chinese provided the funds for Jouett and company to establish a flight-school in Hangchow, China, that trained aviators using a syllabus based on the model developed by the U.S. Air Corps.⁶³² Disagreements between Chiang and Jouett regarding the level of American involvement in China soon developed. Chiang had asked Jouett to order his men to bomb Chinese rebels, but Jouett explained that he could not assist because that kind of action went far beyond his mandate in China. The rift that developed led many of the Americans aviators to leave when their contracts expired in 1934.⁶³³

⁶³⁰ John A. Lance, "Icarus in China: Western Aviation and the Chinese Air Force, 1931-1941," Western Carolina University, July 2014, pp. 13-80.

⁶³¹ Werner Kruhl, "The Great Asian-Pacific Crescent of Pain: Japan's War from Manchuria to Hiroshima, 1931-1945," in Peter Li, ed., *Japanese War Crimes: The Search for Justice* (New Brunswick and London: Transaction Publishers, 2009), pp. 243-259.

⁶³² William M. Leary, Jr., "Wings for China: The Jouett Mission, 1932-1935," *Pacific Historical Review*, Vol. 38, No. 4 (Nov 1969), 452-453.

⁶³³ Xiaobing Li, Hongshan Li, eds., *China and the United States: a new Cold War History*, p. 264.

Following Jouett's departure, prospective CAF pilots received training from the small number of Americans who decided to remain at Hangchow, as well as members of the Italian Air Force who had established a flight-school at Loyang under the command of General Silvio Scaroni. The Italian trainers passed every student who attended their courses, which degraded the quality of the CAF. To make matters worse, the Italians sold the CAF outdated Fiat pursuit aircraft and Savoia-Marchetti bombardment aircraft that "rarely were in commission due to high accident rates."⁶³⁴ Ultimately, the relationship between the CAF and the Italians did not last because of the developing alliance between Italy, Germany, and Japan.

The developing conflict between China and the Empire of Japan drew a great deal of interest from numerous foreign governments and military forces. On April 28, 1933, Major Fugo of the Chilean Air Force published an article in the magazine *Chile Aereo*. In the article, titled "El Empleo de la Fuerza Aerea en el Conflicto de Shanghai," Fugo provided his assessment of the conflict then underway in China.⁶³⁵ He did not believe that the engagements between the Chinese and Japanese had been significant enough to provide anyone with concrete examples of "aviation in a conflict of great importance." He maintained that the air forces on both sides were too "deficient in number" to conclusively demonstrate "the real possibilities of aviation."⁶³⁶ However, Fugo did not argue that the conflict between the Chinese and the Japanese was unworthy of examination. Rather, he suggested that those interested in aviation operations during wartime could glean some useful lessons from the aerial engagements in the vicinity of Shanghai.

⁶³⁴ Eisel, *The Flying Tigers*, p. 6.

⁶³⁵ Major Fugo, "El Empleo de la Fuerza Aerea en el Conflicto de Shanghai," *Chile Aereo*, Feb-Mar 1933.

⁶³⁶ *Ibid.*, p. 1.

Fugo observed that the Japanese clearly had more aircraft in operation near Shanghai. He noted that the Japanese aircraft carrier *Kaga* had a complement of 28 bombardment aircraft and 16 pursuit aircraft. In addition, the Japanese had the aircraft carrier *Hosho* with 20 pursuit aircraft; the *Notoro* with 10 seaplanes, six reconnaissance aircraft, and four pursuit aircraft; and 18 bombardment aircraft, 15 pursuit aircraft, and 18 observation aircraft based on land.⁶³⁷ Despite the significant number of aircraft, Fugo did not believe that they “reach to exceptional conditions.”⁶³⁸

The U.S. Navy and U.S. Air Corps were also watching the development of the air war between China and Japan. In a report released three months after Fugo’s article, a U.S. Navy officer named S.B. Warner sent a confidential report to Captain A.W. Johnson, the U.S. Navy’s Director of Naval Intelligence. In his report, Warner candidly discussed a recent visit that a German citizen had made to the Wright Aeronautical Corporation in Paterson, New Jersey. Warner explained that the German, who had flown in World War I, had a staff of approximately 65 Japanese engineers working for him. Although the German argued that the Japanese engineers were highly skilled and educated, he explained that “they were not in the least creative. They had absolutely no inventive genius and consequently were only good helpers.”⁶³⁹

During the visit, the German spoke to Warner about various information that he had obtained in conversations with various Japanese officers. The German explained that the Japanese officers wanted to take India from Great Britain and rule the “whole east.” In fact, the

⁶³⁷ Ibid.

⁶³⁸ Major Fugo, “El Empleo de la Fuerza Aerea en el Conflicto de Shanghai,” *Chile Aereo*, Feb-Mar 1933.

⁶³⁹ S.B. Warner, “Report of Conversation with [name unknown]” (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA 248.4357), p. 312.

German argued that the Japanese had planned the attack Manchuria. To support his claim, the German maintained that the Japanese had requested that all of their aircraft be equipped with wider tires in order to handle the soft ground common throughout Manchuria.⁶⁴⁰

Warner had a particular interest in the state of Japanese naval aviation. When discussing the subject, the German explained that the Japanese Air Service was far ahead of the Imperial Japanese Navy with regard to aviation. The German argued that the Japanese Air Service's success during the Manchurian campaign placed the Air Service in high esteem among Japanese military commanders.⁶⁴¹ Most importantly of all, especially given later developments, the German mentioned that the Japanese with whom he worked had already determined that a conflict between Japan and the United States was "inevitable at some date." He explained that the presence of U.S. Navy vessels at various bases throughout the Pacific was particularly worrisome to them. He then stated that the Japanese also kept a close eye on the Soviet Union and feared that the Soviets had amassed a large number of aircraft and personnel along the Manchurian border. The fact that the Soviets had signed peace treaties with several European nations had all but convinced the Japanese that the Soviets would likely attack at some future date.⁶⁴²

The situation did not improve for the Chinese between 1933 and 1936. As a result, Chiang and his top commanders realized that they had to try to mend their damaged relationship with the United States. Thus, in early 1936, General Mow Pang-tsu visited the U.S. to discuss aviation-related concerns with the Americans in the hopes of generating support for the CAF.

⁶⁴⁰ Ibid., p. 312.

⁶⁴¹ S.B. Warner, "Report of Conversation with [name unknown]," p. 313.

⁶⁴² Ibid., p. 314.

Soon after arriving in the U.S., General Mow witnessed as Chennault and his colleagues performed aerial acrobatics as the Flying Trapeze. Impressed by the team's skills, Mow asked Chennault if he knew of any good aviators who were willing to move to China in order to join the existing American-led school at Hangchow.⁶⁴³ Chennault stated that he would ask around, but he found no takers. The following spring, General Mow asked Chennault if he would visit China in order to evaluate the CAF's abilities. Chennault agreed, retired from the U.S. Army on April 30, 1937, and left for China the following day with a three month contract that paid \$1,000 per month.⁶⁴⁴

During May and June 1937, Chennault conducted a thorough examination of the CAF in order to determine the service's capabilities. At the time, the CAF had 500 aircraft divided among 31 squadrons. Much to Chennault's dismay, approximately half of the aircraft were not in serviceable condition with only 91 being mission ready.⁶⁴⁵ Disturbed by the state in which he found the CAF, Chennault met with Soong May-ling to discuss the issues he had uncovered. Commonly referred to as Madame Chiang, Soong served as the head of the Chinese Aeronautical Commission. More importantly, Soong was married to General Chiang Kai-Shek, who was the head of the Kuomintang (KMT). The mutually respectful relationship between Soong and Chennault paid great dividends for Chiang as Japan began to exert greater pressure on China.⁶⁴⁶

Shortly after Chennault completed his inspection of the CAF, the U.S. military discovered the exact size of the force that the Chinese airmen faced. On July 1, 1937, Captain

⁶⁴³ Stanley, *Prelude to Pearl Harbor*, p. 137.

⁶⁴⁴ Eisel, *The Flying Tigers*, p. 5.

⁶⁴⁵ Byrd, *Chennault: Giving Wings to the Tiger*, p. 36.

⁶⁴⁶ *Ibid.*, pp. 91-100.

John Weckerling, an assistant U.S. military attaché in Japan, issued the “Annual Aviation Intelligence Report.” Weckerling determined that the Japanese had 1,225 aircraft divided among 39 squadrons, only 21 of which were located in Japan.⁶⁴⁷ Interestingly, Weckerling reported that most of the Japanese squadrons were “equipped with few thoroughly modern planes.” However, he did state that “prospects of greatly improving this equipment by an ambitious building program during 1937-1938 were excellent.”⁶⁴⁸

In addition to the quality and number of Japanese aircraft, Weckerling addressed the characteristics of the Japanese aviators he had met. He explained that the “morale, discipline, and fanatic devotion to a cause of the personnel of the Japanese is an important factor to be considered in an evaluation of the combat strength of the [Japanese] Army Air Corps.” More ominously, he stated that “inferior equipment, heavy casualties and training programs are not likely to affect the morale of Japanese air units noticeably no matter to what degree efficiency may be lowered.”⁶⁴⁹

Captain Weckerling’s report arrived less than one week before hostilities between China and Japan worsened. Sporadic fighting had taken place for several years, but the exchange of gunfire between Chinese and Japanese forces near the Luguo (Marco Polo) bridge in Beijing on July 7, 1937, marked the official start of the Second Sino-Japanese War. Commonly referred to as the “Marco Polo Bridge Incident,” sporadic firing quickly developed into more widespread combat that led to the fall of the Chinese cities of Beijing and Tianjin. The Japanese Imperial General Headquarters did not want to expand the conflict but General Chiang Kai-Shek and

⁶⁴⁷ Captain John Weckerling, “Annual Aviation Intelligence Report – July 1, 1937.” AFHRA 248.____, pp. 5-6.

⁶⁴⁸ Captain John Weckerling, “Annual Aviation Intelligence Report – July 1, 1937.” AFHRA 248.____, pp. 5-6.

⁶⁴⁹ Ibid., pp. 5-6.

others in the Kuomintang (KMT) argued that Japanese aggression had to be checked immediately. Chiang quickly placed the Chinese army and air force under his direct command and attacked Japanese forces occupying Shanghai on August 13, 1937.⁶⁵⁰

Chiang's bold attack on the Japanese prompted a swift Japanese response on August 14, 1937, which included the use of large numbers of Mitsubishi G3M *Rikko* bombers assigned to the Imperial Japanese Navy (IJN). The IJN hoped to strike a decisive blow at Jianqiao Airfield in Hangzhou and Guangde Airfield in Anhui that would forever cripple the Chinese Air Force (CAF). However, the CAF used American-built P-26 *Peashooter* aircraft and Chinese-built Curtis *Hawk III* aircraft to meet the Japanese attack. While they also suffered significant losses, the CAF's 4th Pursuit Group (4 PG) inflicted heavy damage upon the IJN units sent to annihilate them. According to estimates from the time, the IJN squadrons lost approximately 50 percent of the aircraft they deployed against the Chinese.⁶⁵¹

On 15 August 1937, the 4 PG intercepted 12 Japanese Type 89 torpedo bombers near Hangzhou, shooting down eight aircraft. Later that same day, CAF aircraft from the 8th Squadron, 17th Squadron, 28th Squadron, and 34th Squadron intercepted 20 Japanese *Rikko* bombers, destroying four and damaging another six. Unfortunately for the Chinese, the trend did not continue over the next few months. From July 1937 to November 1937, CAF aircraft flew 137 sorties and engaged in aerial combat with the Japanese on 57 separate occasions. During

⁶⁵⁰ Eisel, *The Flying Tigers*, p. 6.

⁶⁵¹ John F. O'Connell, *The Effectiveness of Airpower in the 20th Century* (New York, Lincoln, Shanghai: iUniverse, Inc., 2007), .pp. 205-207.

those engagements, CAF pilots shot down 94 IJN aircraft and damaged another 52 on the ground.⁶⁵²

The destruction of the Japanese aircraft did not come easy with the CAF losing 131 aircraft in combat. The loss of valuable aircraft and pilots was particularly damaging for the CAF because the Japanese had a much deeper reserve of aircraft and aviators at their disposal. The Chinese pleaded with nearly anyone they could for new aircraft, including the Soviet Union, but the experienced aviators who met their deaths could not be replaced nearly as easily.

The Soviet Union and the United States responded to China's call for help by sending advisors to China to train the CAF. Both nations also rushed to provide the CAF with new aircraft. The KMT signed a non-aggression pact with the Soviet Union in August 1937. That same month, Chennault unofficially became General Chiang's principal aviation advisor. For a brief time, both nations worked to help the Chinese survive the Japanese onslaught.⁶⁵³

As part of their efforts to assist the Chinese, the Soviets began to ship aircraft to the CAF in early 1938. The Soviets also sent approximately 250 volunteer aviators to pilot the Polikarpov I-15 *Chaika* biplane aircraft they sent.⁶⁵⁴ Although support from the U.S. remained minimal during 1937, the Soviets began to steadily increase their support to China throughout 1938.⁶⁵⁵

⁶⁵²Xiaobing Li, Hongshan Li, eds., *China and the United States: a new Cold War History*, p. 264.

⁶⁵³ Anatolii Demin, "Soviet Fighters in the Sky of China, 1937-1940," *Aviatsiia i Kosmonavtika*, December 2000, p. 1. Soviet airmen remained in China until 1941. That year, the Soviet Union and Japan signed the Russo-Japanese Neutrality Pact. The pact officially ended the Soviet Union's support of Chiang and the Guomindang. John Lance, "Icarus in China: Western Aviation and the Chinese Air Force, 1931-1941," pp. 8-9.

⁶⁵⁴ Guangqiu Xu, *War Wings: The United States and Chinese Military Aviation, 1929-1949* (Westport, CT: Greenwood Press, 2001), p. 57.

⁶⁵⁵ Soviet aircraft factories produced approximately 45,000 aircraft from 1929 to 1939. Robin Higham and Stephen J. Harris (editors), *Why Air Forces Fail: The Anatomy of Defeat* (Lexington, KY: The University Press of Kentucky, 2006), pp. 269-270.

By September 1938, the Soviets had provided approximately 360 aircraft to the CAF. Nearly one full year later, on 18 July 1939, the Soviets delivered another 30 *Chaika* aircraft. The following month the Soviets delivered 30 Polikarpov I-16 *Ishak* monoplane aircraft.⁶⁵⁶

As the Soviets increased their support for the CAF, Chennault redoubled his efforts to recruit Americans to help him train new CAF pilots. While small at first, Chennault's actions were critically important to the CAF's survival. On October 26, 1939, Chennault returned to the United States alongside four Chinese officials in an effort to recruit pilots, acquire new aircraft, and educate his fellow Americans about the worsening situation in China.⁶⁵⁷

Chennault returned to the United States the following year and repeated his pleas for help. Accompanied by Madame Chiang's brother, Dr. Tse-ven, usually cited as "T.V." Soong, Chennault went to Washington, D.C., to discuss the possibility of creating a group of American volunteers who would fight the Japanese alongside the CAF. On December 21, 1940, Chennault, Dr. Soong, and General Mow met with Henry Morgenthau, Jr., U.S. Secretary of the Treasury. During the meeting, those assembled discussed what the Chinese needed in order to more-effectively fight the Japanese.⁶⁵⁸ The meeting produced significant results. Convinced by Morgenthau and Frank Knox, Secretary of the Navy, to assist China, President Roosevelt dispatched his administrative assistant to China to examine the situation in person. His assistant, Dr. Lauchlin Currie, went to China and reported that the country needed emergency aid from the United States if it were to continue to fight the Japanese.⁶⁵⁹

⁶⁵⁶ Ray Wagner, *Prelude to Pearl Harbor: The Air War in China, 1937-1941*, p. 23.

⁶⁵⁷ Byrd, *Giving Wings to the Tiger*, pp. 250-260.

⁶⁵⁸ Eisel, *The Flying Tigers*, p. 11.

⁶⁵⁹ *Ibid.*, p. 9.

The initial plan to aid the CAF involved creating a First American Volunteer Group composed of one hundred pursuit aircraft and personnel, another group of one hundred bombardment aircraft and personnel, and a third group of pursuit aircraft and personnel. According to the plan, the United States would provide the aircraft and personnel while the Chinese Aircraft Manufacturing Company (CAMCO) would pay for the aircraft, the Americans' salaries, and any other items needed to keep the aircraft running.⁶⁶⁰ The arrangement would, at least in theory, provide the U.S. with plausible deniability if the Japanese ever questioned transactions. In reality, the arrangement provoked a great deal of concern among Japanese leaders. However, the U.S. government felt that keeping China out of Japanese control was worth the risk.⁶⁶¹

The first group of American aviators consisted of 95 pilots who had either U.S. Navy, U.S. Army, or U.S. Marine experience. The first group also included 184 aircraft crew chiefs, mechanics, parachute riggers, photographers, propeller specialists, weather specialists, clerks, and other necessary personnel. The draw for many of these men stemmed from the excellent pay offered to them by CAMCO. Most of the enlisted men received \$300 per month working for CAMCO versus the \$72 per month that a staff sergeant in the Air Corps made. The same held

⁶⁶⁰ The Japanese attack on the U.S. Navy's base at Pearl Harbor, Hawaii, abruptly ended the plan to create a Second and Third AVG. As a result, the First American Volunteer Group simply became the American Volunteer Group (AVG). The U.S. did not have enough aircraft to provide to the Chinese at the time of the meeting between Soong and Morgenthau. However, Soong and Morgenthau worked with the British on a deal that provided 100 P-40 *Warhawk* aircraft to the Chinese. The aircraft had been slated to be sent to the British Royal Air Force but the British let the Chinese have the aircraft since the U.S. had agreed to send the 100 more advanced P-40s to the RAF as soon as they were manufactured. Eisel, *The Flying Tigers*, p. 9.

⁶⁶¹ *Ibid.*, pp. 9-10.

for officers who received at least \$600 a month to fight for the Chinese.⁶⁶² Others, including Chennault and Greg Boyington, joined for the chance to prove themselves and their theories in combat against a highly-skilled enemy.⁶⁶³

Testing Ground

The Second-Sino Japanese War was a struggle for survival for the Chinese, a battle for domination for the Japanese, and a laboratory for Italy, Germany, the Soviet Union, and the United States.⁶⁶⁴ Nations that sent military aircraft and personnel could, see how their aircraft, aviators, and equipment fared during wartime. In addition, the conflict allowed those nations to see tactics and doctrine put into action on the battlefield, as well as above it.⁶⁶⁵

The Japanese used the conflict to test their newest aircraft. After some initial difficulties while fighting against the CAF, the Japanese introduced the Mitsubishi A5M “Claude” carrier-based fighter aircraft, the first monoplane aircraft launched from aircraft carriers. The A5M’s arrival on November 18, 1937, did not immediately turn the air battle in Japan’s favor but it did portend things to come. A few years later, the Japanese began flying the Mitsubishi Navy Type 0 Carrier Fighter in China. Better known as the A6M “Zero,” the Type 0 quickly proved to be

⁶⁶² CAMCO provided each recruit with a train ticket to California, per diem, money for “incidentals,” passage aboard a ship, and \$500 for their eventual return voyage back to the U.S. If injured or killed, CAMCO agreed to pay six month’s pay to the recruit’s beneficiary. CAMCO recruiters also explained that their company would pay recruits \$500 for each Japanese aircraft that they destroyed. *Ibid.*, p. 10.

⁶⁶³ Greg “Pappy” Boyington had substantial financial obligations that he had to fulfill. Thus, he joined CAMCO, at least in part, to help meet his obligations and pay off existing debts. Boyington gained fame during World War II as the leader of VMF-214. Known as the “Black Sheep” squadron, VMF-214 destroyed 203 enemy aircraft and 93 air-to-air victories. Boyington received a Congressional Medal of Honor the Navy Cross for his actions during WWII. Eisel, *The Flying Tigers*, p. 13.

⁶⁶⁴ Over 200 Soviet airmen were killed while helping China during the Second Sino-Japanese War. Fourteen Soviet airmen became “Heroes of the Soviet Union” as a result of their actions. Anatolii Demin, “Soviet Fighters in the Sky of China, 1937-1940,” *Aviatsiia i Kosmonavtika*, p. 1.

⁶⁶⁵ Guangqiu Xu, *War Wings: The United States and Chinese Military Aviation, 1929-1949*.

one of the best fighter aircraft in existence.⁶⁶⁶ In September 1940, Japanese pilots flying A6M's attacked and destroyed all 27 CAF I-15s and I-16s that they engaged.

The Americans benefitted from the conflict as well. While the aircraft that the U.S. sold to the Chinese were not the most-advanced pursuit aircraft that the U.S. had to offer, they nonetheless provided the U.S. with a strong sense of how their equipment performed versus a highly-capable opponent.

Impact on the Air Corps

The Second Sino-Japanese War provided a mountain of data that demonstrated that air power had become an indispensable military weapon.⁶⁶⁷ Both the Chinese and Japanese employed large numbers of pursuit and bombardment aircraft throughout the conflict. The majority of reports on the use of aircraft during the war indicated that pursuit aircraft had proven very successful against attacking bombardment aircraft. In 1937, the U.S. Naval attaché in Japan reported that “the modern fighting plane remains a potent weapon against the high speed bomber. This has been forcibly demonstrated in the Nanking attack during which a number of the 96 twin-engine bombers have been shot down by the Chinese Curtis ‘Hawks.’”⁶⁶⁸

One year later, in 1938, ACTS instructor Captain Kerwin Moore wrote a report on the conflict. Captain Moore asserted that “the modern pursuit plane remains a potent weapon against the modern high speed bomber and retains in full the value attributed to it in the past.”

⁶⁶⁶ Paolo Matricardi, *Aerei Militari. Caccia e Ricognitori*, (2006), p. 88.

⁶⁶⁷ The First Sino-Japanese War took place from August 1, 1894- April 17, 1895. During the conflict, much of which occurred on the Korean peninsula, China's ruling Qing Dynasty fought Meiji Japan. The Japanese armed forces repeatedly defeated Chinese forces in engagements on both land and sea. As a result, the Qing dynasty sued for peace in February 1895. Japan's victory firmly secured the nation's place as the dominant power in Asia. Marius B. Jansen, *The Emergence of Meiji Japan* (Cambridge University Press, 1995), pp. 312-320.

⁶⁶⁸ U.S. Military Attaché, “Report No. 252, Aviation Activity, Shanghai Area, 14 August to 22 September, 29 September 1937 (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA #248.501-65), pp. 1-3.

Moore stated: “Losses of unsupported bombardment attacked by hostile pursuit in the operations in China were very high, approximately three or four bombers lost to one pursuit plane.”⁶⁶⁹

A 1938 report from the U.S. military attaché in China confirmed many of Malone’s conclusions. In his report to the U.S. War Department, the attaché explained that the Japanese initially flew bombers without pursuit protection because they did not believe that protection was needed. However, the attaché reported that significant losses early in the conflict led the Japanese to equip pursuit aircraft with auxiliary fuel tanks and send them as escorts for bombardment aircraft.⁶⁷⁰

The reports received from the Sino-Japanese War clearly indicated that bombardment aircraft remained vulnerable to attack from pursuit aircraft. However, what is also clear is that the information regarding the vulnerabilities of bombardment aircraft either did not reach or did not substantially dissuade bombardment advocates in the ACTS and the Air Corps. Captain Moore’s report was able to all ACTS students and leaders but, given the events that followed, it is unlikely that it received much attention at the time.

Conclusion

The Spanish Civil War and the Second Sino-Japanese War increased American airmen’s dissatisfaction with their position in the U.S. military. They looked at the events abroad and worried that the Air Corps might fall behind the more experienced air forces of Japan and Germany, which had proven their success in battle. They argued that both conflicts showed that air power had developed into an essential weapon of war, but few in the War Department seemed

⁶⁶⁹Captain Kerwin Moore, ACTS Report, “Pursuit Aviation in the Sino-Japanese War, 1938-1939,” pp. 23-25.

⁶⁷⁰ Special Report on New Japanese Bomber from the Office of Military attaché, Canton, China to War Department (Maxwell AFB, Alabama: Air Force Historical Research Agency - AFHRA #248.501-65), pp. 6-7.

to understand or care. However, the men of the Air Corps did care because they had read the detailed reports produced by the U.S. military attachés from Spain. They also read the many reports coming in from U.S. military attachés in China and Japan. The combination of the two exacerbated the long-simmering sense of alienation that most airmen had, which only increased their desire for independence from the U.S. Army. For airmen, the U.S. Army, the War Department, and Congress still didn't get it—things had to change!

Conclusion - The Culmination of a Dream

The Push for Air Power

By the late 1930s, President Franklin Roosevelt and his administration realized that the United States would likely become embroiled in the conflicts that were developing abroad.⁶⁷¹ Air Corps leaders, especially General Arnold, had also been paying close attention to events unfolding overseas. They understood that war would require the Air Corps to expand rapidly in terms of men, equipment, and aircraft. As a result, they began to prepare for the likelihood that the Air Corps would soon be involved in a major war against the experienced air forces of Japan and Germany. General Arnold began to press hard to get the Air Corps in a position to handle the oncoming war. Fortunately for Air Corps, President Roosevelt had been well-briefed on the strength of Germany's Luftwaffe by Hugh R. Wilson, the U.S. ambassador in Berlin.⁶⁷²

On November 14, 1938, Roosevelt met with his principal military advisors to discuss the need to expand the Air Corps. Roosevelt, who believed that a large air force would impress Hitler more than a large army, told General Marshall and General Arnold that they should ask Congress for at least 20,000 aircraft and a production capacity of 24,000 per year.⁶⁷³ Roosevelt's support and enthusiasm shocked Arnold, who had spent a great deal of his military career arguing for an independent service with military and civilian leaders who had been reluctant to

⁶⁷¹ The Japanese moved into Manchuria in 1931. In 1935, Italian troops invaded and occupied Ethiopia. The following year, German forces moved into the Rhineland in violation of Articles 42-44 of the Treaty of Versailles. Then, in 1938, German troops annexed Austria. Martin Gilbert and Richard Gott, *The Appeasers* (Phoenix Press, 2000), p. 41.

⁶⁷² Tate, *The Army and Its Air Corps*, p. 170.

⁶⁷³ Henry H. Arnold, *Global Mission* (Tab Books, 1989), pp.179-180.

increase the size and budget of the Air Corps. Arnold argued that Roosevelt's support was the Air Corps' Magna Carta.⁶⁷⁴

Several months after he discussed the expansion of the Air Corps with his advisors, President Roosevelt addressed Congress regarding the matter. During this speech on January 12, 1939, Roosevelt urged Congress to immediately act to strengthen the Air Corps. Shortly afterwards, Congress passed a budget authorization of \$300 million for the Air Corps. The immense sum allowed the Air Corps to greatly expand its existing aircraft fleet by 3,251 aircraft over a two-year period.⁶⁷⁵ More importantly, it provided an unprecedented level of official support for the Air Corps. However, the need of countries friendly to the United States to purchase American aircraft threatened to interfere with the Air Corps' own expansion and surely to slow it down. Thus, even so remarkable an endorsement of air power as President Roosevelt had shown was offset, to some degree, by the U.S. government's concern to back friendly countries, allowing some airmen to feel aggrieved even as they were being supported.

The invasion and defeat of Poland in the fall of 1939 led Congress to pass a "cash and carry law" in 1939. The law allowed nations to purchase U.S. military goods and transport them home aboard their own ships, thereby removing U.S. vessels from the dangers associated with travel across the Atlantic Ocean during wartime. Great Britain and France took advantage of the new law immediately by ordering approximately 2,500 aircraft from American aircraft manufacturing companies. That total number of aircraft sold to foreign nations since the start of the program was over 8,200 as of late March 1940.⁶⁷⁶

⁶⁷⁴ Arnold, *Global Mission*, p. 179.

⁶⁷⁵ Tate, *The Army and Its Air Corps*, p. 171.

⁶⁷⁶ *Ibid.*, pp. 171-172.

General Arnold worried that the foreign orders would harm the Air Corps by decreasing the number of aircraft that American aircraft companies could provide to the service since no new factories had been opened to meet the increased demand. Once again, President Roosevelt came to the rescue of the Air Corps. During his speech to Congress, Roosevelt asked for \$1 billion for the Air Corps and U.S. Navy aviation. He maintained that the United States needed to increase its aircraft production immediately in order to protect the nation and provide aircraft to allied nations fighting World War II.⁶⁷⁷

Others soon joined Roosevelt in arguing for more air power. Henry L. Stimson, the U.S. Secretary of War, stated: “Air power has decided the fate of nations; Germany, with her powerful air armadas, has vanquished one people after another. On the ground, large armies had been mobilized to resist her, but each time it was additional power in the air that decided the fate of each individual nation.”⁶⁷⁸

American ace Edward “Eddie” Rickenbacker, who rose to fame after having achieved 28 aerial victories in World War I, soon offered his assessment of the situation. He argued that American military aviation was at least a decade behind that of Germany.⁶⁷⁹ Like other American airmen, Rickenbacker was not placated by the large appropriation that the Air Corps had recently received—he wanted concrete action. Rickenbacker stressed his stance on aviation in a report to Secretary Stimson. Rickenbacker stated: “The enterprise which begins on land or sea without air

⁶⁷⁷ 77th United States Congress, *Congressional Record*, 1940.

⁶⁷⁸ Quoted in Arnold, *Global Mission*, p. 199.

⁶⁷⁹ W. David Lewis, *Rickenbacker: An American Hero in the Twentieth Century* (Baltimore, Maryland: John Hopkins University Press, 2002), pp. 329-340.

superiority is foredoomed to failure. The enterprise which starts with air control is already on the high road or the sky road to success.”⁶⁸⁰

Rickenbacker’s concerns were shared by aviator and inventor Alexander de Seversky, who thought that American air forces should not only be independent but pre-eminent in war-fighting, at the expense of ground and sea forces. De Seversky, who had flown with the Imperial Russian Navy prior to the Russian revolution, argued that the United States had to increase the size of its air forces without delay. Four months after the Japanese attack on Pearl Harbor, Hawaii, de Seversky published the book *Victory Through Air Power*. In his book, which reached the top spot on the *New York Times* bestseller list in August 1941, de Seversky asserted that the United States needed an independent air force that was equipped with long-range bombardment aircraft. He maintained that such a force should not focus on supporting the ground forces. Instead, he argued in favor of a strategic air force that would attack targets deep within enemy territory.⁶⁸¹ De Seversky’s book, released in the wake of a devastating air attack on the United States, was quickly adapted into an animated film by Walt Disney Productions in 1943.⁶⁸²

The combination of de Seversky’s book and the Disney film brought the essential elements of the arguments that American airmen had made for years to the American public in a way that General Mitchell, General Arnold, and the rest of the men in the Air Corps could not have done. Therefore, although he was no longer in a military uniform, de Seversky was as

⁶⁸⁰ Lewis, *Rickenbacker: An American Hero in the Twentieth Century*, pp. 404-405.

⁶⁸¹ Alexander de Seversky, *Victory Through Air Power* (New York: Simon and Schuster, 1942).

⁶⁸² James Combs and Sara T. Combs, *Film Propaganda and American Politics: Analysis and Filmography* (New York, New York, and London, England: Garland Publishing, 1994), p. 35. Film historian and journalist Richard Schickel argues that Walt Disney felt so strongly about *Victory Through Air Power* that he "pushed the film out in a hurry, even setting aside his distrust of limited animation under the impulses of urgency." Richard Schickel, *The Disney Version: The Life, Times, Art, and Commerce of Walt Disney* (New York: Simon and Schuster, 1968), pp. 273-275.

strong a proponent of air power as Mitchell, Arnold, and the rest. Like them, de Seversky was never quite satisfied.

While de Seversky promoted strategic air power to the public, American airmen began to plan for the post-war world. Between 1943 and 1945, airmen assigned to the Post War Division of the Air Staff and the Special Project Office focused on how the Army Air Forces could achieve their long-coveted goal of an independent air force. They determined that the Army Air Forces would have to be a strategic air force similar to the one then fighting World War II.⁶⁸³ Although they wanted all aviation under their control, airmen believed that focusing on the perceived success of strategic bombing was necessary for them to gain independence.⁶⁸⁴ Major General Orvil Anderson, a member of the Strategic Bombing Survey, summed up the Army Air Forces' logic quite succinctly. He stated: "Since airpower is the only force capable of being launched directly against the enemy economy, it has become the primary weapon and must dictate the overall strategy of another war."⁶⁸⁵

Independence

The leadership that Arnold provided during the war as the Chief of the Army Air Forces and acting Deputy Chief of Staff for Air, combined with years of effort from many different airmen, helped convince the War Department that an independent air force was not only feasible

⁶⁸³ Herman S. Wolk, *Planning and Organizing the Postwar Air Force, 1943-1947* (Washington, D.C.: Office of Air Force History, 1984), pp. 47-48.

⁶⁸⁴ Perry McCoy Smith, *The Air Force Plans for Peace* (Baltimore, Maryland: John Hopkins University Press, 1970), pp. 27-30.

⁶⁸⁵ Gian P. Gentile, *How Effective is Strategic Bombing: Lessons Learned From World War II to Kosovo* (New York, New York: NYU Press 2000), p. 112.

but that, it was necessary.⁶⁸⁶ Thus, the efforts of American airmen to achieve independence from the United States Army reached fruition with the creation of the United States Air Force on September 18, 1947. That event represented the culmination of an idea—some might say a dream—that began almost immediately after the creation of the Aeronautical Division, U.S. Army Signal Corps on August 1, 1907. It began when airmen realized that the majority of their military and civilian leaders viewed aviation as a novelty of little military value. As a result, they developed a culture that stressed the unique nature of aviators and aviation. They came to believe that people who did not fly simply could not understand how to properly develop and air force and employ air power.

American airmen had remained persistent in their quest for greater control over their service until they achieved it. Their actions from 1907 to 1947 support the fact that they saw themselves as underappreciated by their superiors in the U.S. Army, who frequently stressed that air power existed to support the infantry—the “Queen of Battle.” Their actions also demonstrated that they did not believe that the War Department, Congress, or the American people, truly understood what air power had to offer. Airmen continuously lobbied Congress for more money and manpower. They also conducted aerial demonstrations in order to increase enthusiasm for air power among the American public. At every opportunity that they had, airmen worked to prove that aviation was more than just a passing fad.

Billy Mitchell’s forceful efforts to achieve a greater level of independence for the Air Service following World War I was the best known example of airmen’s desire to separate from the U.S. Army. Yet, Mitchell was only the most vocal member of an ever-expanding group of

⁶⁸⁶ After a great deal of discussion, General Arnold and General Marshall agreed that U.S. Army Air Forces would postpone their effort to achieve an independent service until World War II was over. Nalty, *Winged Sword, Winged Shield*, pp. 179-180.

airmen who believed that only they were qualified to handle air power. Airmen such as Benjamin Foulois, Hap Arnold, Kenneth Walker, and Claire Chennault firmly believed that air power was a military weapon of tremendous potential that should be controlled by airmen.

The history of American airpower from 1907 forward demonstrates that airmen were never satisfied with being controlled by non-aviators. Airmen were a difficult lot for the military and civilian supervisors to understand. They argued for a separate service when their superiors in the U.S. Army said no to their requests for more money and personnel. They wanted a separate service when their superiors said yes because they believed that they had not received enough—enough control over their service, enough airplanes, enough men, or enough money. Simply put, they were not happy as long as they were part of the U.S. Army. But because of frustrations and anxieties accumulated in the decades-long quest for independence, they were not entirely happy even when they achieved it.

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