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**A Concise History  
of the  
U.S. Air Force**

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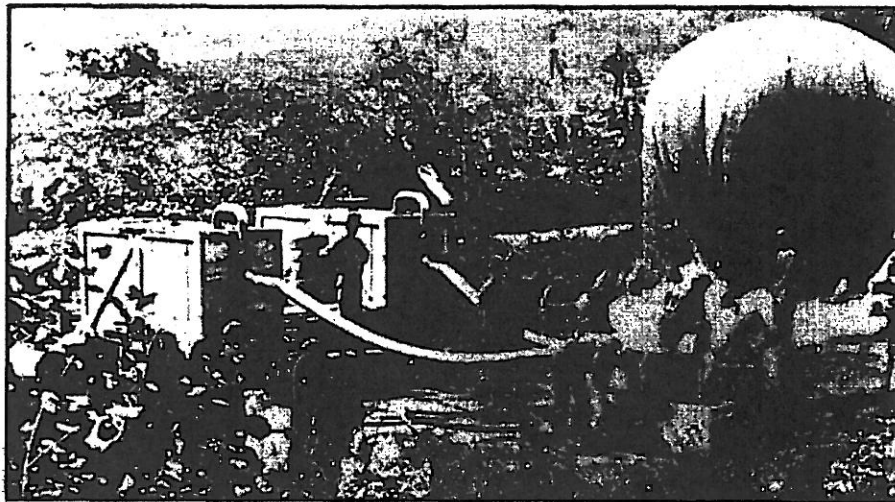
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*They shall mount up with wings as eagles.*  
—Isaiah 40:31

## The Genesis of American Air Power

Americans took to the skies at an early date. Benjamin Franklin considered the possibility of using balloons in warfare in 1783, only days after the first successful hot-air balloon flights in France. John Sherburne, frustrated by the Army's ineffectiveness during the Seminole War of 1840, proposed using balloons for observation above the wilderness that hid the adversary. John Wise, dismayed by the prospects of a long and costly siege of Veracruz during the Mexican War, suggested using balloons in 1846 for bombing defending forces, three years before Austria actually did so against Venice.

John LaMountain and Thaddeus Lowe successfully launched manned reconnaissance balloons in support of Union operations during the American Civil War. In late June 1861 Lowe's map of Confederate positions in Falls Church, Virginia, was the first significant contribution of manned flight to American warfare, although the Union lost the battle at Bull Run in July. The map allowed Lowe to report after the battle that the Confederates were not advancing on Washington. He was thus able to help prevent panic following the defeat. In September he demonstrated the balloon's potential when he directed artillery fire at Confederate posi-

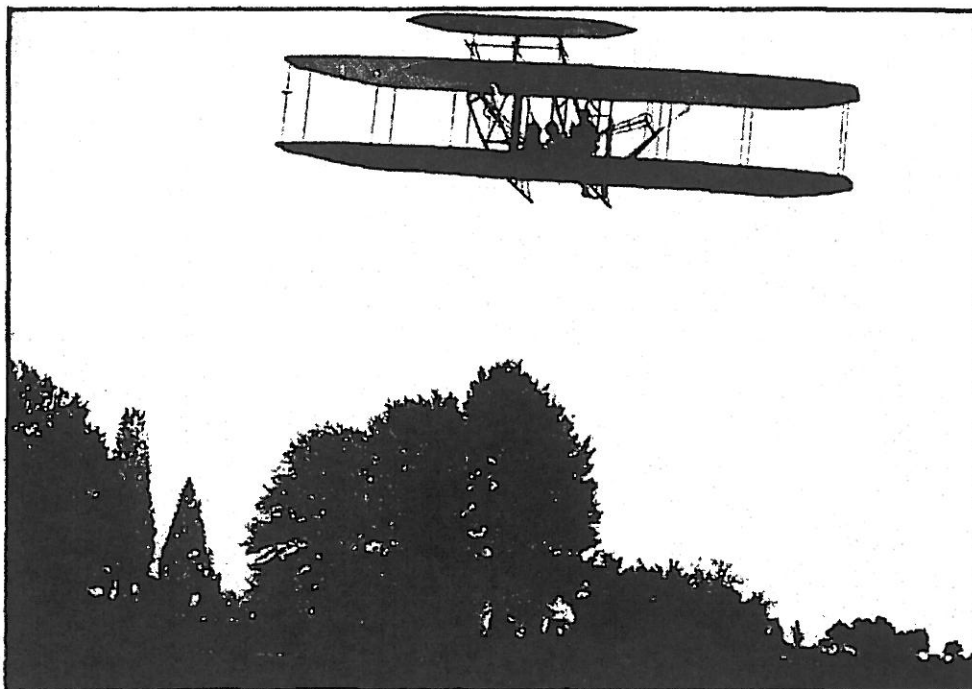


By means of such balloons as the *Intrepid*, shown being inflated during the Civil War battle at Fair Oaks outside Richmond, Virginia, in the spring of 1862, the Union Army conducted reconnaissance missions over enemy territory in America's first use of air power.

tions. He went on to establish the first U.S. "air force," the Balloon Service of the Army of the Potomac, although weather, technological limitations, bungling, and military opposition prevented further development and exploitation.

His Civil War experience convinced Brigadier General Adolphus Greely of the Army Signal Corps that the balloon's capabilities had been unrealized. As part of a special section formed in 1892, his one balloon directed artillery fire during the Battle of San Juan Hill in the Spanish-American War and reported the presence of the Spanish fleet at Santiago de Cuba Harbor. This limited success with lighter-than-air balloons (enemy ground fire destroyed the section's balloon in Cuba) encouraged Greely and the Army to give Samuel Langley, Secretary of the Smithsonian Institution, \$50,000 in 1898 to build a powered heavier-than-air flying machine. The spectacular failures of Langley's Aerodrome launched over the Potomac River on October 7 and December 8, 1903, soured Army opinions on the practicality of flight for several years. When Orville and Wilbur Wright succeeded in the world's first powered, heavier-than-air, controlled flight on December 17, 1903, the Signal Corps expressed no interest. Establishing the Aeronautical Division of the Signal Corps on August 1, 1907, the Army ignored the Wrights and their achievement. It preferred experimenting with the steerable airship or dirigible, then being perfected in Europe. The desertion of a private cost the Aeronautical Division half of its enlisted strength, but did not prevent the Army from ordering its first nontethered airship, Dirigible No. 1, for \$6,750 in 1908.

The Wrights' successes came to the attention of others, however, and President Theodore Roosevelt directed the Army to entertain bids for an aircraft in late 1907. Meanwhile, intrepid airmen pressed on. Lieutenant Frank Lahm became the first officer to fly in an aircraft in early September 1908. Not even the death of Lieutenant Thomas Selfridge, America's first military aviation fatality, killed in what the New York Times called a "wreck of bloodstained wood, wire, and canvas," could stop the advance of military aviation. On August 2, 1909, the Army awarded the Wrights \$30,000 for delivering Aeroplane No. 1, and a \$5,000 bonus for exceeding specifications. The Aeronautical Division now had one aircraft, but no pilots, ground crews, or training establishment. Wilbur Wright taught Lieutenants Frank Lahm, Benjamin Foulois, and Frederic Humphreys to fly. (He included Humphreys as a passenger on the world's first night flight.) Penury soon reduced America's air force to one pilot (Foulois) flying one much-damaged, much-repaired aircraft.



**The Wright Military Flyer during flight tests held at Fort Myer in northern Virginia just across the Potomac River from Washington, D.C., 1908. Orville Wright was at the controls. The Flyer is shown over a gate and wall of nearby Arlington National Cemetery.**

This was America's air force until Congress approved \$125,000 in 1911 for its expansion, despite the objection of one member: "Why all this fuss about airplanes for the Army? I thought we already had one." In Wright and Curtiss aircraft early Army flyers began stretching aviation's limits with bomb-dropping, photography, and strafing while forming their first unit, the 1st Aero Squadron, on December 8, 1913. These achievements convinced Congress to give the Army's air force official status on July 18, 1914 as the Aviation Section, Signal Corps, which absorbed the Aeronautical Division and its 19 officers, 101 enlisted men, 1 squadron, and 6 combat aircraft.

Orville Wright's first flight in 1903 had lasted twelve seconds; by 1916 flights of four-hours duration had become possible. This progress was soon tested. Brigadier General John Pershing pursued Pancho Villa in Mexico from 1916 to 1917 to bring the Mexican revolutionary to justice for attacking an American border town, Columbus, New Mexico. Captain Benjamin Foulois, with ten pilots and eight aircraft of the 1st Aero Squadron, struggled against winds, storms, and high mountains to locate Villa; but a series of disasters, some comic, some tragic, stood in

vivid contrast to aerial achievements on the Western Front of the Great War in Europe that had begun two years earlier.

## **Trial and Error in World War I**

The potential of the airplane was proved in World War I when its use in critical reconnaissance halted the initial German offensive against Paris. It was not used to harass troops or drop bombs until two months into the war. On the basis of an aviator's report that the German army had a large gap in its lines and was attempting to swing wide and west around the British army, British commander Sir John French refused requests from the French to link up his army with their forces to the east. At the resulting battle of Mons southwest of Brussels on August 23, 1914, the British slowed the overall German advance, forcing it to swing east of Paris. The Allies, on the basis of a British aviator's report of the move, stopped the Germans at the battle of the Marne from September 6 to 9. The Germans, on the basis of one of their aviator's observation of the Allies' concentration, retreated behind the Aisne River. These actions, spurred by aerial observation, forced the combatants into fixed positions and initiated four years of trench warfare.

When American aircrews arrived in France three years later to join the conflict, they found mile after mile of fetid trenches protected by machine guns, barbed wire, and massed artillery. The airplane's primary roles remained reconnaissance and observation over the trenches of both sides, into which were poured men, supplies, and equipment in huge quantities easily seen from the air. Thousands of aviators fought and died for control of the skies above armies locked in death struggles below.

In 1914 the U.S. Army's Aviation Section of the Signal Corps had five air squadrons and three being formed. By April 6, 1917, when the United States declared war on Germany, it had 56 pilots and fewer than 250 aircraft, all obsolete. Congress appropriated \$54.25 million in May and June 1917 for "military aeronautics" to create a total of 13 American squadrons for the war effort. However, French Premier Alexandre Ribot's telegraphed message to President Woodrow Wilson in late May revealed that the United States did not yet comprehend the scale of the war. Ribot recommended that the Allies would need an American air force of 4,500 aircraft, 5,000 pilots, and 50,000 mechanics by 1918 to achieve victory. Trainer aircraft and spare parts would increase America's contribution to over 40,000 aircraft—this from a country that had produced only a few hundred, both civilian and military, from 1903 to 1916.



In the United States an outpouring of patriotism accompanied the declaration of war. Talk of "darkening the skies over Germany with clouds of U.S. aircraft" stiffened Allied resolve. It also appealed to the American people. Congress supported their sentiments when it approved \$640 million on July 24, 1917, the largest lump sum ever appropriated by that body to that time, for a program to raise 354 combat squadrons.

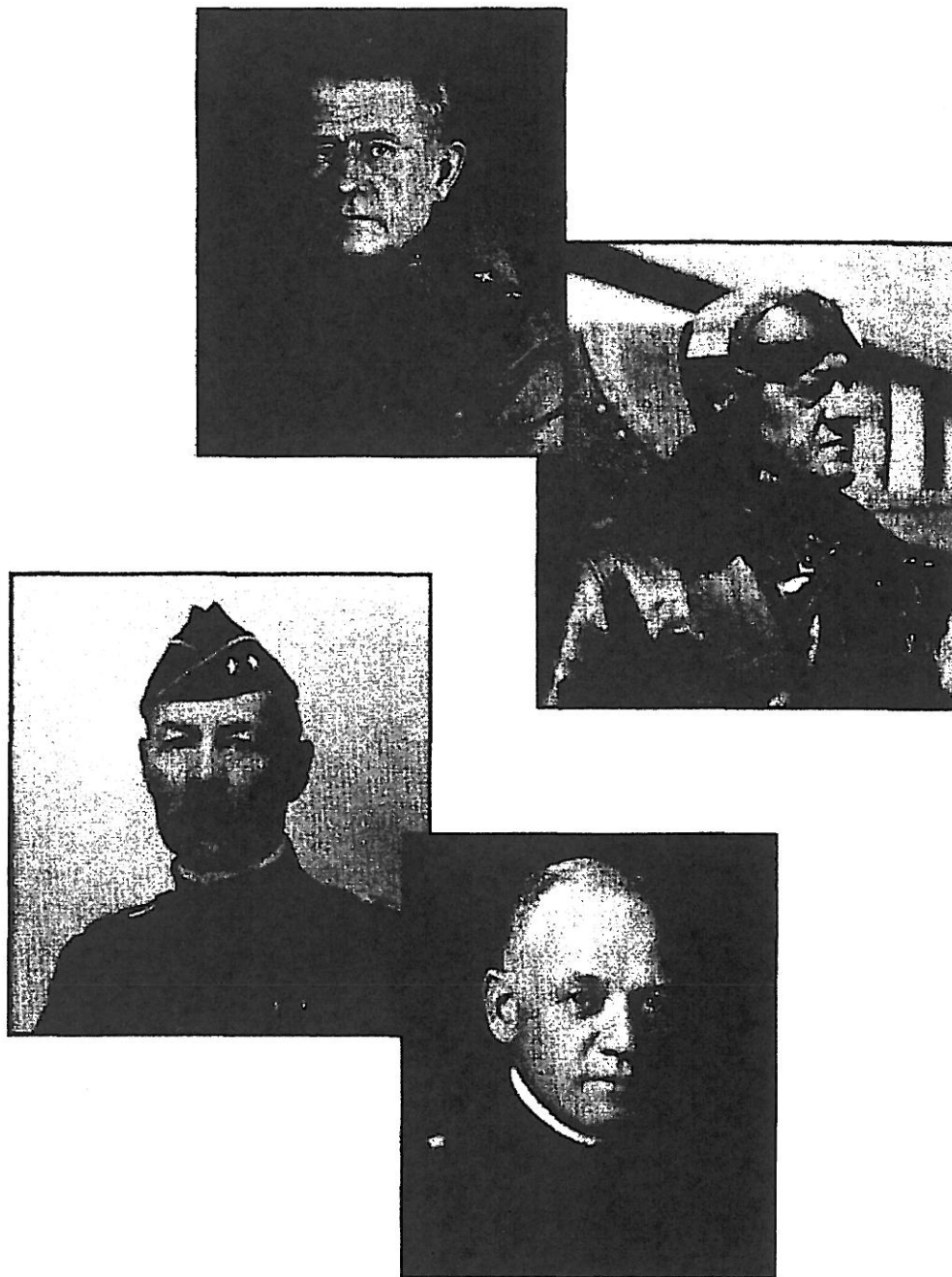
President Wilson immediately created the Aircraft Production Board under Howard Coffin to administer an expansion, but the United States had no aircraft industry, only several shops that hand-built an occasional aircraft, and no body of trained workers. The spruce industry, critical to aircraft construction, attempted to meet the enormous demand under government supervision. A production record that approached a national disaster forced Wilson on May 21, 1918, to establish a Bureau of Aircraft Production under John Ryan and a separate Division of Military Aeronautics under Major General William Kenly. The division would be responsible for training and operations and would replace the Aviation Section of the Signal Corps. Perhaps as an indication of the Army's attitude toward the new air weapon, the two agencies remained without a single overall chief. Not until four months before the end of the war did Wilson appoint Ryan Director of the Air Service and Second Assistant Secretary of War in a late attempt to coordinate the two agencies.

Despite President Wilson's initiatives American aircraft production fell far short of its goals. In June 1917 a mission led by Major Raynal Bolling to investigate conditions on the Western Front, decided that America's greatest contribution to the war besides its airmen would be its raw materials from which the Allies could produce the necessary aircraft in Europe, rather than in the United States. This time-saving approach was not particularly popular, given American chauvinism at the time. The United States would build engines, trainer aircraft, and British-designed DH-4 bombers. It would buy combat aircraft from France (4,881), Britain (258), and Italy (59).

American industry managed to turn out 11,754 aircraft, mostly trainers, before the end of the war—a significant accomplishment. Detroit produced 15,572 Liberty engines, big 12-cylinder in-line liquid-cooled power plants of 400 horsepower that were more efficient than other wartime engines. The Army set up ground schools at 8 universities, 27 primary flying schools in the United States, and 16 advanced training schools in Europe. On Armistice Day the Air Service had 19,189 officers and 178,149 enlisted men filling 185 squadrons.

One of the first American airmen to reach France was Major William "Billy" Mitchell, who studied British and French aerial tech-

# Early Military Aviation Leaders



**The three Chiefs of Air Service, AEF: Major Generals William Kenly, *top, left*, Benjamin Foulois, *top, right*, and Mason Patrick, *bottom, left*. Major General Charles Menoher, *bottom, right*, Chief of Air Service after World War I, set up tactical, training, and engineering centers at Langley, Brooks, Kelly, and McCook Fields.**