



Department of Justice

ADDRESS

BY

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"THE WRIGHT BROTHERS, KITTY HAWK,
AND THEIR NATIONAL GOVERNMENT"

BEFORE THE
75th ANNIVERSARY CELEBRATION
OF THE
FIRST FLIGHT SOCIETY

SUNDAY, DECEMBER 17, 1978
9:30 A.M.

WRIGHT BROTHERS NATIONAL MEMORIAL
KITTY HAWK, NORTH CAROLINA

It is an honor to be on this beautiful and historic stretch of sand where 75 years ago two brothers from Dayton, Ohio launched an invention that would dramatically alter the course of mankind.

The plot upon which we stand is a memorial to the courage, ingenuity, industry, and perseverance of Wilbur and Orville Wright. It is a memorial also to independent initiative, for the Wright brothers utilized their own vision, determination, and analytical insight to construct an engine-powered, heavier-than-air machine that would fly with human hands at the controls -- an achievement that is a model of inspired private endeavor.

Nevertheless, the Wright brothers had contacts with their national government which were to increase as the years went by. In fact, a government agency, the U.S. Weather Bureau, helped steer the adventurous Wrights toward Kitty Hawk.

They had become interested in a great German glider pioneer, Otto Lilienthal, who was killed in 1896, and had read everything they could find on aeronautics. Having exhausted the reading material at hand, the Wrights sent a letter to the Smithsonian Institution in May 1899. The Smithsonian responded with four pamphlets and a list of books which included works by Octave Chanute and the Smithsonian's Samuel P. Langley.

That summer, the Wrights constructed a five-foot biplane kite to test their crucial theories of warping or twisting wingtips to control flight. The result encouraged them to

believe that a similar craft could be made large enough to carry a person.

But a suitable testing ground would be needed: a place with good, steady winds; a landscape free from trees and other tall obstacles; and earth soft enough for safe landings.

The Wrights sent a letter to the U.S. Weather Bureau, which replied with material showing Kitty Hawk as having an average September wind of about 16 miles an hour -- just right for the experiments the brothers contemplated.

Always thorough, the Wrights sought details from the Kitty Hawk weather station.

"The beach here is about one mile wide, clear of trees or high hills, and extends for nearly 60 miles," Joseph J. Doshier replied on August 16, 1900. "I am sorry to say you could not rent a house here, so you will have to bring tents. You could obtain board."

Doshier then asked William J. Tate, husband of the post-mistress, to send a longer letter to the Dayton brothers. Tate wrote on August 18, 1900, giving directions for reaching Kitty Hawk and concluding: "I assure you, you will find a hospitable people when you come among us."

This was long before bridges connected Kitty Hawk with the mainland, so travel to the Outer Banks was by boat. In early September of 1900, after a rough, two-day voyage across Albemarle Sound, Wilbur Wright made his way to the home of the hospitable Tates.

Orville soon joined him there and the Wrights set up a tent about one-half mile away. While awaiting Orville's arrival, Wilbur began assembling their 50-pound glider. He borrowed Mrs. Tate's sewing machine to stitch the sateen covering for the glider's wings.

Flying the \$15 machine as both a kite and a glider, the brothers found that they could land it on sled-like runners at speeds over 20 miles an hour without damage. Although the glides lasted only a few seconds, they inspired the brothers to press ahead.

The following summer, the Wrights returned to Kitty Hawk with a glider nearly twice as heavy. They built a wooden shed for their 1901 machine near Kill Devil Hill and slept in an adjacent tent.

Although the 1901 Wright glider broke existing distance records, Wilbur and Orville were deeply disappointed. Lateral control of the machine was good, but its lift was less efficient than that of the smaller 1900 glider.

The Wrights returned to Dayton in late August convinced that intensive original research would be needed. They had faithfully used aeronautical data compiled by others, principally Lilienthal. Now, in Wilbur's words, they "cast it all aside."

The resourceful brothers built a small wind tunnel, six feet long and 16 inches square, in which they meticulously tested more than 200 types of miniature wing sections. For the first time, scientific data was compiled that would enable

successful design of an airplane.

Using their own calculations, the brothers built a new glider weighing 112 pounds. By late August of 1902, the Wrights were at Kitty Hawk to refurbish and expand their storm-damaged camp. The 1901 glider was destroyed to make room for the new machine, with which the Wrights made nearly 1,000 glides. Wilbur was at the controls on October 23 when distance and duration records were set: 622 feet in 26 seconds.

By establishing the principles of controlled heavier-than-air flight, the 1902 glider became the key that unlocked the aviation door. Even before leaving camp in late October, the elated brothers began planning a motor-driven airplane.

On the strength of their discoveries and towering successes, the Wrights applied for an airplane patent on March 23, 1903, and it was granted by the U.S. Patent Office on May 22, 1906.

The problem of controlled flight solved, the brothers addressed themselves to the remaining hurdles: an engine and propellers. Again, the Wrights had to conduct their own diligent research and experiments.

A mechanic, Charles E. Taylor, helped them build a 200-pound, four-cylinder motor yielding 12 horsepower, and two highly efficient, 8-1/2 foot propellers were made.

By late September of 1903, the Wrights were back at Kitty Hawk building a hangar in which to place the new machine. In the meantime, the 1902 glider was renovated and carried to the sand dunes for approximately 200 practice flights. The wear

and tear of well over 1,000 glides proved too much for the doughty 1902 machine, and it was permanently retired to the campsite on November 12, 1903.

In early October, parts for the new machine, which had wingspan of more than 40 feet, arrived from Dayton. Trouble developed with its propeller shafts, and Orville went 1,000 miles to Dayton for stronger ones. On December 12, the flying machine finally was ready.

After observing the Sabbath on December 13, the brothers decided, because of light winds at ground level, to try a takeoff from Kill Devil Hill. Having won the coin toss, Wilbur took the controls and turned the 605-pound machine upward too soon, causing it to stall. The craft landed about 100 feet down the slope, damaging a skid and several other parts.

The machine was repaired during the next two days. On December 17, the cold winds, ranging from 22 to 27 miles per hour, seemed acceptable for a takeoff from ground level.

The brothers had constructed a 60-foot monorail to serve as their runway. They placed the track in a low area where settling water had made the ground almost flat, the end of the carefully built, \$4.00 rail actually being several inches higher than its starting point.

By pre-arranged signal, personnel from the nearby Kill Devil U.S. Life Saving Station came over, as they had on December 14, to observe and to lend a hand when needed. Three Coast Guardsmen thus witnessed the first flight, as did a man from Manteo and a boy from Nags Head.

It was Orville's turn, and at 10:35 he used about 40 feet of the launching rail to attain a 12-second flight of 120 feet in the perilous winds. The biplane was slightly damaged on landing but was quickly repaired.

Between then and noon, Wilbur and Orville took turns making three more flights, gaining confidence and distance with each one. On the fourth and longest trip, Wilbur covered 852 feet in 59 seconds before bumping down at a distant hummock.

Pleased but outwardly calm, the brothers hauled the damaged machine back to camp with the help of their witnesses. Suddenly, as the group stood talking, a gust lifted the machine and sent it tumbling toward the Atlantic. One of the Coast Guardsmen, John T. Daniels, got tangled in the airplane's mechanisms and suffered scratches and bruises, thus becoming aviation's first casualty.

The badly damaged machine was dismantled and shipped back to Dayton. It never flew again.

The brothers returned home just before Christmas determined to build bigger and stronger airplanes with more powerful engines and sturdier landing skids. In the spring of 1904 and again the following spring, they constructed larger and improved versions of the 1903 Flyer Number One.

To test these airplanes, the Wrights used Huffman Prairie, a 90-acre meadow located on an electric railway near Dayton. With Flyer Two, they made about 80 flights, the longest over five minutes, and learned to circle the field.

With Flyer Three, the brothers soon were able to stay in

the air more than half an hour. On October 5, 1905, Wilbur circled the pasture 29 times in a flight just short of 40 minutes. The airplane had become a viable means of transportation.

With the Wrights in sole possession of a practical airplane, the world should have forged a path to their Dayton home. For a long while, the world did virtually the opposite.

American military skepticism about the airplane was forcefully evinced in January of 1905. The War Department's Board of Ordnance and Fortification informed the Wright brothers that the Board would not "make allotments for experimental development of devices for mechanical flight."

The Wright brothers launched negotiations with various European governments and a French syndicate. Meanwhile, for an incredible two and a half years, they sat patiently on the ground, not displaying the secrets of their flying machine and using the time to build a half-dozen or so improved engines and several Flyers.

In late 1906, the Wrights were contacted by an international firm wishing to market their invention abroad, and the brothers visited European capitals. In the meantime, a New York congressman communicated with President Theodore Roosevelt and reopened War Department consideration of the Wright Flyer.

Finally, in late 1907, the Department drew specifications for a two-seated airplane that would cost \$25,000, and the Wright bid was accepted on February 8, 1908. In late March, agreement was reached with a French syndicate for formation of

a French Wright company.

Having been on the ground for nearly three years, the brothers shipped their 1905 airplane to Kitty Hawk to get in some piloting practice. By this time, the press was hot on the trail of the Wrights, and a covey of reporters secretly followed them. A picture taken from afar was printed May 30, 1908 in Colliers magazine and was the first photograph published of an airplane in full flight.

On May 14, the newsmen witnessed, from seclusion, the first heavier-than-air vehicle carrying two men. Mechanic Charles W. Furnas of Dayton flew first as Wilbur's passenger and then as Orville's.

Wilbur hurried to France, and by August a Wright machine was assembled for a doubting public at a small race track near Le Mans. Although in the air less than two minutes, Wilbur made two beautiful circles around the field. France and Europe were agog.

Orville, meanwhile, journeyed to Fort Myer, the site just across the Potomac River from Washington that had been designated for the U.S. Army tests. Accompanied by Taylor and Furnas, Orville took quarters in the Cosmos Club in Washington and began demonstrations on September 3, 1908. To the amazement of Washington spectators, Orville piled up endurance records, once staying aloft nearly an hour and a quarter.

On September 17, 1908 the Wrights suffered their worst mishap. A propeller split, causing the Fort Myer airplane to malfunction. Orville was almost, but not quite, able to prevent

the crash. His passenger, Lt. Thomas E. Selfridge, was killed. Orville received a broken leg and other injuries that were to plague him for the rest of his life.

In January of 1909 Orville, still convalescing, and his sister Katharine joined Wilbur in southern France, where Wilbur continued to train French pilots in accordance with their contract. In April, the three Wrights went to Rome, where Wilbur made approximately 50 flights in the process of training two Italian students and taking passengers for joy rides.

In late June, it was back to the unfinished business at Fort Myer. Orville made a spectacular flight of one hour and 12 minutes on July 27, 1909, with Lt. Frank P. Lahm aboard, more than fulfilling the Army's requirements. President Taft, the Cabinet, and 10,000 others witnessed the successful test of the world's first government-owned airplane. This Signal Corps machine can now be seen at the National Air and Space Museum in Washington, as can be the 1903 Flyer and the 1911 Wright "Vin Fiz."

Orville next went to Berlin to complete negotiations with private German interests. Wilbur, meanwhile, traveled to New York to institute the first of several patent suits that would occupy the Wrights for years to come.

In a series of exhibition and training flights at Tempelhof Field near Berlin, Orville entertained a crowd estimated at 200,000 on September 9, 1909. He then moved to Potsdam to train a pilot for the German Wright Company.

Wilbur fulfilled a \$15,000 contract with the Hudson-

Fulton celebration in New York. He took off from Governors Island on September 29, 1909, circled the Statute of Liberty, and returned. On October 4, he flew 21 miles along the Hudson River, turning north of Grant's Tomb and returning to Governors Island. Vast numbers of New Yorkers saw their first airplane.

In late October of 1909, talks began with New York financiers toward establishing a Wright company in Dayton. This was done November 22, 1909, with Wilbur as president and such luminaries as Cornelius Vanderbilt and August Belmont on the executive committee.

Seeking a warm climate in which to train exhibition pilots, the Wrights selected what now is Maxwell Air Force Base at Montgomery, Alabama, and Orville took charge of a class of five. Upon his return to Dayton, Orville convened flying classes at Huffman Prairie -- the beginning of a flight school that was to operate for six years.

In 1911, Wright flying schools were opened in Augusta, Georgia, and Belmont Park, New York. Wilbur took a look at the Wright European interests, making the last flight of his life as a pilot in Berlin.

In October of 1911, the Wrights made their final Kitty Hawk experiment. Orville arrived at Kitty Hawk on October 10, followed by reporters. He wanted to test an automatic stabilizer he had been working on, but because of the large press gathering he decided against revealing it. Using a motorless machine, Orville set a soaring record of nine minutes and 45 seconds

that stood for 10 years.

In mid-April of 1912, Wilbur traveled to the East Coast on business and became ill. He returned to Dayton, and it was found that he had typhoid fever. On May 30, 1912, Wilbur Wright died at the age of 45. Orville succeeded Wilbur as president of the Wright Company.

Despite his near-fatal 1908 accident, Orville continued to fly often to train new pilots and to test new devices. Many flights tested the automatic stabilizer, for which he was, in February of 1914, awarded the Aero Club of America trophy.

On January 13, 1914, the national government's third branch, the judiciary, upheld the Wrights in their 1909 suit against the Curtiss interests. The U.S. Second Circuit Court of Appeals ruled that the Wrights had pioneered in warping, or twisting, wingtips to control heavier-than-air flight and that their patent was entitled to broad construction. In 1915, Orville's physical welfare and his desire to do more research induced him to sell the Wright Company to a syndicate headed by, among others, Harry Payne Whitney and T. Frank Manville.

At about this time another troublesome controversy, not unrelated to the nagging patent battles, took shape. The Smithsonian Institution's 1914 annual report, published in the summer of 1915, asserted that the late Dr. Langley had built the first airplane capable of carrying a man. Using a \$2,000 Smithsonian allocation, Glenn Curtiss had flown the doomed

Langley invention briefly, but not until it had been modified and strengthened extensively.

The remodeled Langley plane was able to make short hops of no more than five seconds, and the 1914 Smithsonian report stated falsely that the born-again machine had done so "without modification." Orville was so outraged that he decided, a decade later, to place the 1903 Wright Flyer in a British museum, and it remained in England until after World War II.

In 1917, the Dayton Wright Airplane Company was organized, with Orville serving as a director and consulting engineer. His last flight as a pilot came on May 13, 1918, when he piloted a 1911 Wright biplane alongside the first De Havilland-4 built at Dayton Wright's Moraine plant.

Shortly after World War I, the Justice Department asked Wright to supply a deposition in a patent suit filed against the government by the heirs of Professor John J. Montgomery, a Californian who was killed in a 1911 glider crash. The case would put Orville back in touch with his original Kitty Hawk host, "Captain" W. J. Tate.

Orville submitted depositions in early 1920 and again a year later. In early 1922, he heard from Tate, who was by now living in Coinjock and working for the U.S. Lighthouse Service. Tate informed Wright that he had been contacted by the Justice Department regarding the Wright experiments at Kitty Hawk.

Depositions were supplied in 1922 by two Coast Guard witnesses to the historic 1903 flight. The government probably concluded that these eyewitness accounts were sufficient, for

the record shows no deposition from Tate.

The government, which had plunged heavily into aircraft purchases during World War I, estimated that loss of the case could cost as much as \$10 million, but in 1928 the U.S. Court of Claims dismissed the suit.

Impressed with Orville's performance, the Justice Department called upon him to supply depositions in 1925 and again in 1927 and 1935 in a similar patent infringement case demanding \$4 million from the government. In 1938, this suit met the same fate as the Montgomery suit and was dismissed by the Court of Claims.

During the 1920's, Orville Wright's painful dispute with the Smithsonian came to a head. In early 1928, the Flyer was shipped to the Science Museum in London.

In 1942, however, the Smithsonian recanted. In 1943, on the 40th anniversary of the first flight, President Franklin Roosevelt announced that the Kitty Hawk Flyer would come back to the United States. In 1948, the Flyer returned to America with appropriate ceremonies on both sides of the Atlantic. The machine now occupies a place of honor in the central lobby of the National Air and Space Museum.

At least as far back as 1913, various ceremonies have been held to commemorate the events of December 17, 1903. I would like to recall, for a moment, the ceremony held 25 years after the first flight.

On December 15, 1928, a distinguished party of more than 200 persons, Orville Wright among them, departed Washington

by chartered steamer on an organized pilgrimage to Kitty Hawk. The first stop was Norfolk, where the Langley Field laboratories were inspected on December 16.

The party departed Norfolk the following morning on buses. It was met at the Currituck County courthouse by automobiles and volunteer drivers from the area and carried 30 miles to Point Harbor. An improvised ferry and small boats transported the group across Currituck Sound to Kitty Hawk, which Orville had not seen in 17 years.

The cornerstone was laid for the Wright Brothers monument that afternoon, and "Captain Bill" Tate spoke prior to the unveiling of a granite marker at the spot where the first flight originated.

The party returned to Washington by the same route it came. No part of the pilgrimage involved air transportation.

The audience at the 25th anniversary celebration was told that a bridge soon would connect Kitty Hawk with the mainland. In September of 1930, the three-mile Wright Memorial Bridge across Currituck Sound was opened, and in May of 1932 Orville crossed the bridge to visit his Kitty Hawk friends. That November, Orville returned for the dedication of the 60-foot Mount Airy granite memorial that we now see atop Kill Devil Hill.

Orville Wright's last trip to Kitty Hawk came on April 18, 1939. He was accompanied by Tate and another old friend, aviation writer Earl N. Findley.

On January 30, 1948, Orville Wright died of a heart attack at the age of 77. He was the last survivor of the immediate

Wright family that had watched the airplane come into being.

When the cornerstone was laid for the Wright memorial in 1928, Orville Wright is supposed to have remarked to Congressman Lindsay Warren of North Carolina, one of the speakers on that occasion:

"I wonder if this whole thing isn't a mistake. Fifty years from now might be soon enough to determine if this memorial should be built. To do it now seems like an imposition on the taxpayers."

Fifty years today have passed, and I think it can be said without fear of contradiction that there was no imposition and no mistake in erecting this splendid Wright memorial here at Kitty Hawk.