



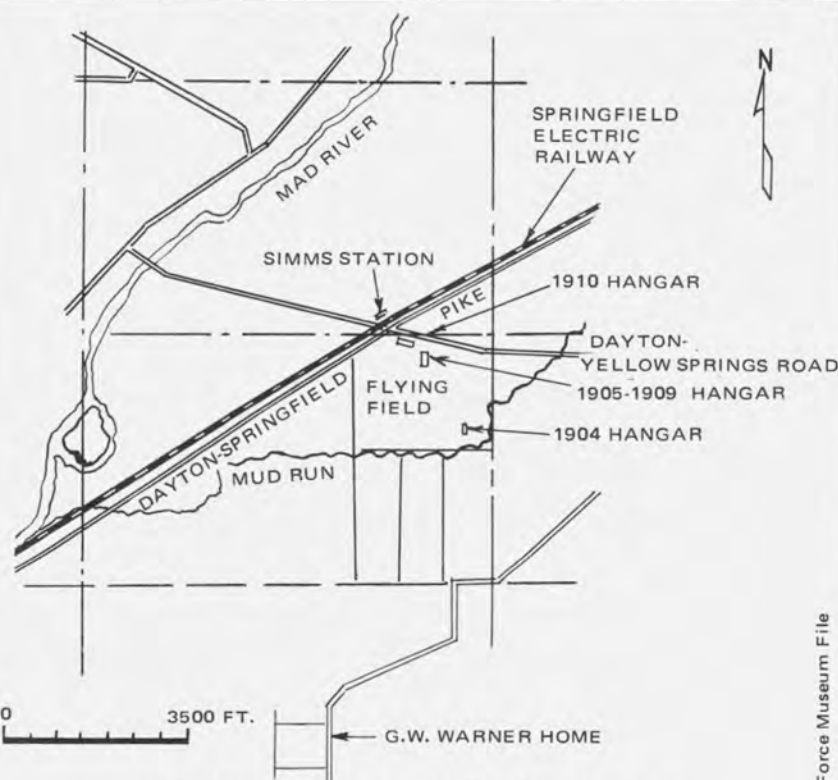
Orville Wright flying over Huffman Prairie, Nov. 16, 1904. A week earlier the brothers made a record flight, four complete circles around the 153-acre field, aloft for five minutes, four seconds. (Courtesy Royal Frey, Air Force Museum)

HUFFMAN PRAIRIE

by G. Allison Long,
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The Air Force Museum is visited by thousands of people every year. But across the railroad tracks and freeway is a little-known spot on Huffman Prairie where the Wright brothers did the flight testing to perfect their aircraft.

Mrs. Harold S. Miller (nee Ivonette Wright) remembers that "One day in August 1911 Uncle Orville took each of us for a flight around the Huffman Prairie. There were three of us, all nieces of the Wright brothers. I was the last of the three to fly. As we circled the field, Uncle Orville yelled over the noise of the engine that the traction car was coming. He could see the car on its way from



Map of Huffman Prairie as described by Mr. Warner.

Air Force Museum File

Springfield to Dayton. He asked if we wanted to catch it to go home and I said yes. So he set the aircraft down right near the Simms Station in time for us to catch the interurban for home." He was certainly the master of his machine. His brainchild responded to his deft touch. That was in 1911!

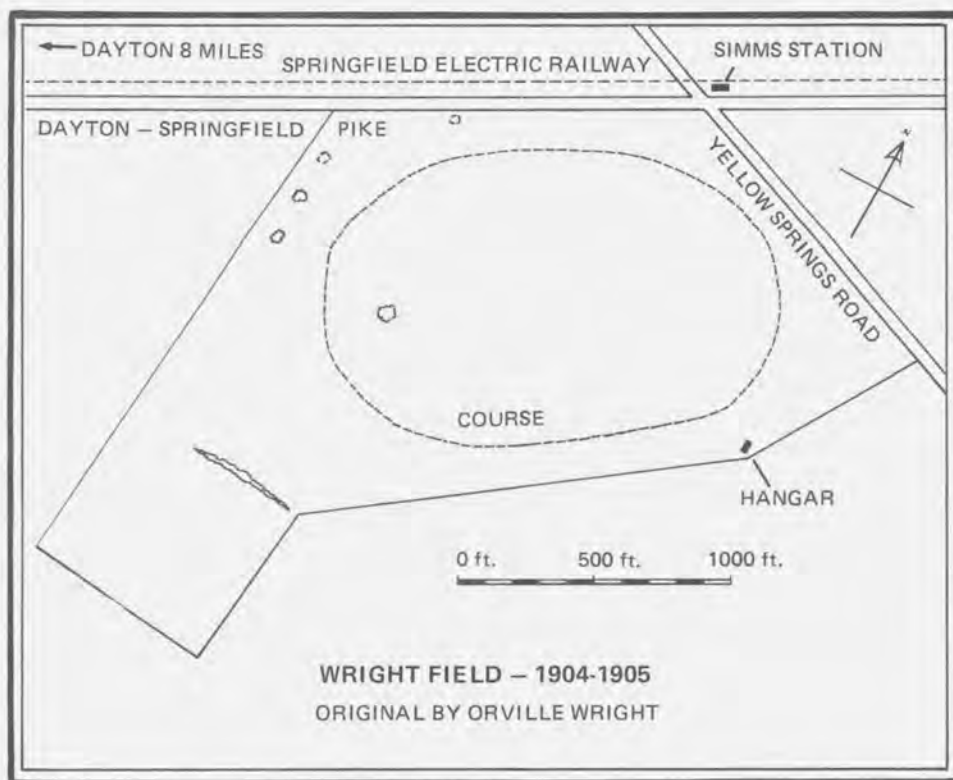
Today, if you drive in the Main Gate of Patterson Field on Wright-Patterson Air Force Base and ask for Huffman Prairie, you will be directed past sprawling new office and laboratory buildings, some termite-laden World War II structures and through a quiet corner of the base: the ammunition dump and recreation area for trap shooting and fishing. There you will find a concrete lean-to and plaque on the edge of Pylon Road. You are now on the edge of the Wright brothers' flying field on Huffman Prairie where 75 years ago grazing cattle were startled by strange big birds with humming propeller blades. No one had heard this before.

The line of tall trees on the northwest side of the Wrights' field today defines the location of the old Dayton-Springfield Pike and the parallel Springfield Electric Railway. The end of this row of trees is the approximate location of the crossroad at Simms Station. Mud Run, shown on the map, has been bulldozed over.

The *Fiftieth Anniversary Review*¹ of Wright-Patterson Air Force Base, 1967, states that "The Wright hangar area is marked by an unpretentious cement structure on the Patterson side (of the twin base) with an engraved plaque reading, THIS IS THE SITE OF THE ORIGINAL HANGAR USED BY THE WRIGHT BROTHERS." (We know now that this is the site of the second hangar.) "The immediate area was their flying field. Wright Brothers' Hill one-and-one-half miles west commemorates their achievement, of which this field was an important factor."

The view of the Prairie from Wright Brothers' Hill reveals the extent of the flat terrain surrounding the area used by the Wrights. Farms of 150 acres or so divided up the Prairie. There was room enough on any one field to land and stop in an emergency.

Wilbur and Orville Wright had made their first powered flights at Kitty Hawk, North Carolina, on December 17, 1903. After this success they came home to Dayton to develop, refine and conduct



Concrete marker and plaque on Huffman Prairie where the Wright brothers flew to develop powered flight, testing their control systems and airframe response, and learning the techniques required for powered flight.
(Courtesy Royal Frey, Air Force Museum)



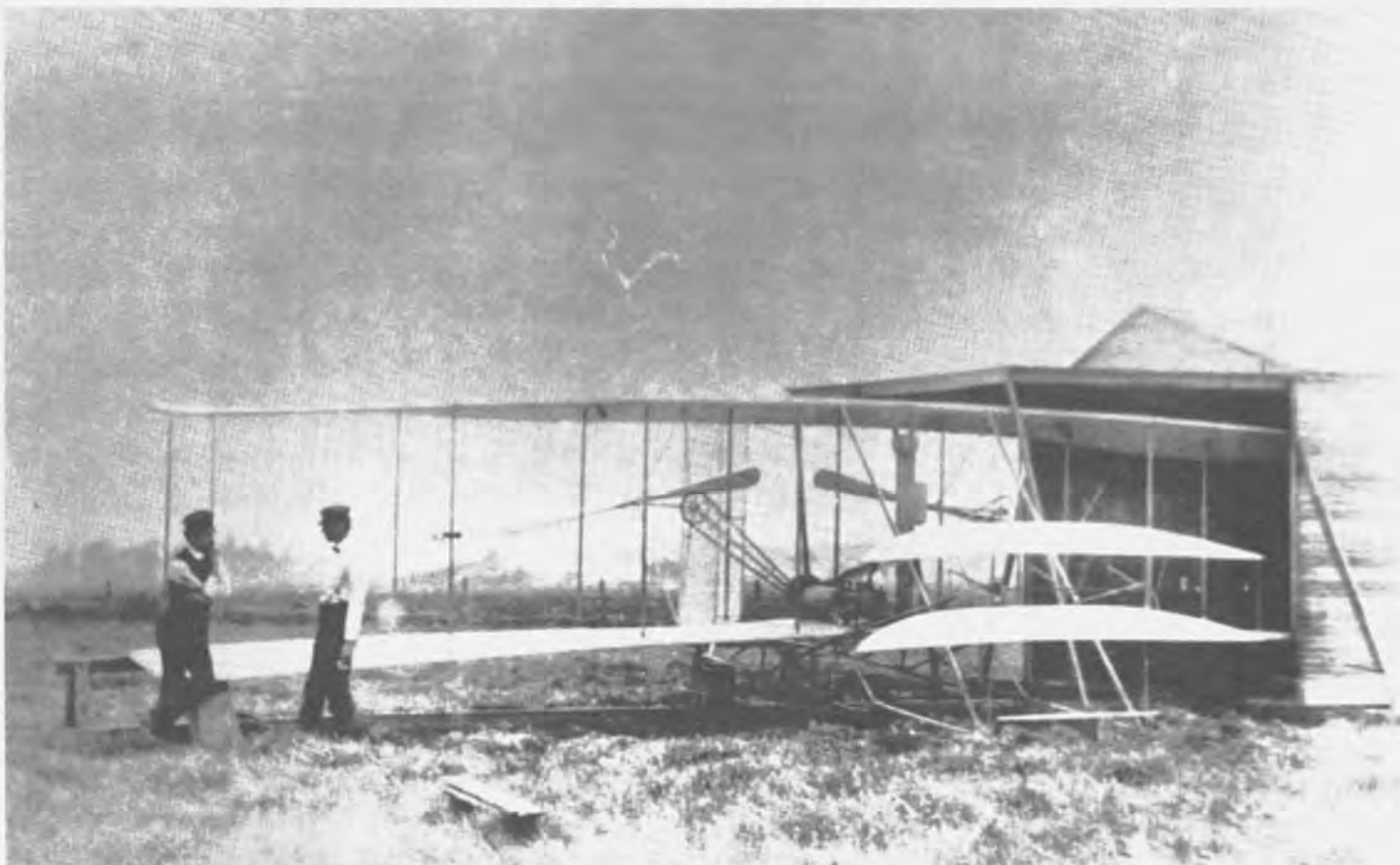


Orville and Wilbur Wright made Dayton the birthplace of aviation. Early flying was done at Huffman Prairie, now in the Patterson side of the twin base. Orville was born in 1871, died in 1948. Wilbur was born in 1867, died 1912. (Courtesy Royal Frey, Air Force Museum)

1904-1905 hangar used by the Wrights. Flying developed here where the Wrights refined their ability to control and maneuver their machines. (Courtesy Royal Frey, Air Force Museum)

further flight tests. Much of the development work was done at the bicycle shop in West Dayton. Here on the east side of town, a neighbor, Mr. George W. Warner, said, "The field on Huffman Prairie was used by the Wright brothers during the period 1904-1905." Mr. Warner is quoted from a sworn statement for Mr. Royal D. Frey, Chief, Research Division of the Air Force Museum.² This was the period of testing and refining the initial improvements. It was also the time for the concomitant perfection of their skills in flight control and maneuvering.

The Wrights were interested in those design details that would give them the greatest lift or the maximum control effectiveness. It was natural for them to use a bicycle as a secondary tool to move test samples through the air and measure the test results. In addition to their own work they had been in constant touch with Octave Chanute in Chicago since early 1900. Chanute had collected and published all the known work to date on glider design. He and the Wrights were not satisfied with the empirical test data of other experimenters. After their "laboratory" work, their first flights were exploratory and educational, revealing the shortcomings of a design and what



needed to be done for the machine to respond correctly to the pilot's touch.

The Wrights built their first hangar as far from the main roads as possible. It is reported that they waited for the traction car to pass before they tried a flight. Some say this was because they were secretive. Perhaps they were not as secretive as much as concerned for the safety of their incomplete design. In 1904 a small shed of approximately 25 by 40 feet was used for both hangar and shop.

More than 100 flights were made there with the second flyer in 1904. One notable event of the period was the flying of a complete circle for the first time and landing at the point of departure. This occurred on September 20, 1904—less than a year after the Kitty Hawk tests. Another accomplishment was two flights of three miles each. One was on November 9th, the other on December 1, 1904. The flat terrain was most favorable for flight testing. There was plenty of room to maneuver and to verify the shop test data. There were relatively few obstructions in the line of flight. A couple of miles were available to try out the controls. *Life Science Library-Flight* quotes the Wrights as saying, "Our scientific approach freed us from trial and error and enabled us to say

that we knew more about the aerodynamic response of curved surfaces, a hundred times over, than all our predecessors put together." They could claim this with confidence because in addition to their own work they had assimilated Octave Chanute's collected data from every known source of aerodynamic endeavor. Chanute had been their friend, mentor and advisor on the science of flight.

The second hangar was constructed in 1905 for the 1905 Flyer. This hangar was large enough for storage of several of their flyers. Note that it was closer to the road and to the traction line. The Wrights considered the 1905 aircraft "the first practical Flyer." It is shown in the *Life Science Library* on a 21-mile, 33-minute flight. Its performance was the result of two basic factors: aircraft performance and operator skill.

The third hangar was built even closer to the crossroads for greater convenience of their pilot trainees, as well as for themselves.

It is reported that before 1910 there were at least seven different aircraft models. During this period only a few men were taught to fly. Most of the Wright students were taught to fly when the third hangar was in use.

In July 1909 the federal government finally procured its first aircraft, a Wright Model B, known as Signal Corps No. 1.

Military aviation was accorded statutory recognition by Congress on 18 July 1914 by the creation of an Aviation Section in the U.S. Army Signal Corps, just 10 days before war began in Europe. On 6 April 1917 America declared war on Germany. General George O. Squier, Chief Signal Officer, said that it was their plan to "put the Yankee punch into the war by building an army in the air: regiments and brigades of winged cavalry mounted on gas-driven flying horses."

About this time, Col. Edward A. Deeds, former head of National Cash Register and founder of the Miami Valley Flood Control Corporation, was a member of the Munitions Standards Board of the Council of National Defense. Deeds was influential in bringing military aviation to Dayton. On 6 July 1917 the tract on Huffman Prairie was leased by the U.S. Army Signal Corps for the training of pilots. In 1942, a local organization donated more than 4500 acres of Huffman Prairie in Greene and Montgomery Counties, Ohio, to the U.S. government for laboratory and flight tests. This became known as Wright-Patterson Air

Modified Wright B Flyer and hangar at Simms Station about 1910. (Courtesy Royal Frey, Air Force Museum)





View of Huffman Prairie today as seen from Wright Memorial on Wright Brothers' Hill. Concrete marker for hangar is the white square to the right side. (Author)

Aerial view, Wright-Patterson Air Force Base. Wright Field is triangular airfield. Patterson Field and the city of Fairborn is at top. (Courtesy S.E. Wickam, W-PAFB Historian)



Force Base. Today Huffman Prairie continues as a base for aircraft research and development as well as a facility for training Air Force personnel and the headquarters for USAF procurement.

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ABOUT THE AUTHOR

G. Allison Long, Jr., was educated in Baltimore Polytechnic Institute and Johns Hopkins University, followed by two years in the laboratories of General Electric, Schenectady, where he worked with Dr. E.F.W.



Alexanderson and Frank Benford, and recorded his first patent.

Al divides his subsequent career into three parts of about 13 years each. First was the New Business Department of the Baltimore Gas & Electric Company as a registered professional engineer. In 1937 he was pressed into (moonlight) service by the faculty of St. Johns College, Annapolis, to reproduce original experiments in physics and to assist in laboratory instruction. World War II attracted him into the U.S. Navy in 1942 where he learned radar at Harvard and MIT and then directed a section in the Bureau of Aeronautics for research and development of classified devices and systems. In 1956 he accepted a position in the Foreign Technology Division of the U.S. Air Force where he directed special activities in program planning and project direction. Along the way he wrote a number of papers, obtained several classified patents and received several letters of commendation as well as being listed in "Who's Who in Engineering." He is a life member of IEEE and its Engineering Management Society, its Aerospace Electronics Systems Society, the American Security Council and others.