

The Wright Brothers

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Orville and Wilbur Wright, sons of Milton Wright, a bishop in the United Brethren Church, changed the way we think about and interact with our world. Before their dramatic flight at Kitty Hawk, North Carolina, on 17 December 1903, conventional wisdom held that the range, speed, and scope

of transportation and communication would never surpass the speed of horses, locomotives, or steamships. Orville captured the wonder and the excitement of their efforts when he remarked, "We had taken up aeronautics merely as a sport. We reluctantly entered upon the scientific side of it. But we soon found the work so fascinating that we were drawn into it deeper and deeper."

The two bicycle-shop owners and inventors from Dayton, Ohio, ushered in the modern era through their methodical approach to solving two basic problems: power and control. The Wrights made their most significant contribution in control, the more important of the two areas. Early experimenters—Otto Lilienthal, Samuel Langley, Octave Chanute, and others—had established a solid base for understanding wing design and air-pressure principles essential to remaining aloft. The Wright brothers acquired the results of earlier experiments from the Smithsonian Institution and sorted out the most important data in order to focus their research efforts. They also obtained weather data from the US Weather Bureau to determine the best site for their experiments, eventually selecting Kitty Hawk because it had the most consistent winds.

Beginning in 1900, they traveled there to conduct increasingly sophisticated experiments with kites and gliders that culminated in their successful flight in 1903. The Wrights' use of the same basic model from kite to the 1903 Flyer reflected just one aspect of their genius that set them apart from other experimenters. They correctly reasoned that they could limit the number of variables by sticking to a standard design. After the glider experiments of 1900, Wilbur wrote, "It is my belief that flight is



possible. I am certain I can reach a point much in advance of any previous workers in this field even if complete success is not attained just at present."

The brothers fabricated their airframe and engine as well as the instruments they used to measure the craft's performance; they even made their own wind tunnel to test their wing and control techniques. By 1904 they had improved their 1903 design to the point that they were able to remain aloft for longer periods of time while controlling their craft well enough to complete a circle—landing near the spot where they had taken off. One witness described this performance as "the grandest sight of my life."

Wilbur died of typhoid fever in 1912 after gaining worldwide acclaim by flying and promoting flight research. Orville spent much of his time after Wilbur's death trying to protect the patent rights to their early aviation technology. He contributed little to the advancement of aviation designs after the 1920s and died after suffering a heart attack in 1948. But both brothers had done enough by solving the problem of leaving Earth under autonomous power and returning under controlled conditions.

To Learn More . . .

Burton, Walt, and Owen Findsen. *The Wright Brothers Legacy: Orville and Wilbur Wright and their Aeroplanes*. New York: Harry N. Abrams, Inc., 2003.

Crouch, Tom D. *The Bishop's Boys: A Life of Wilbur and Orville Wright*. New York: W. W. Norton and Company, 2003.

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