Sumner Evans

Professor Toni Nicholas

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Dreams of Flight

Kitty Hawk, NC, December 14, 1903: The weather is perfect for flight. My brother, Wilbur, and I flip a coin to see who will be the first to test our machine: the *Flyer*. Wilbur wins the toss and climbs aboard the craft. The engines are started, and the *Flyer* slides along the tracks. After climbing a few feet, the *Flyer* stalls and settles at the bottom of the hill. The flight is unsuccessful, but **we are the Wright brothers; we are persistent, and we never give up in the face of failure**. In the wake of our unsuccessful experiment, we retrieve our plane and begin to repair it for another attempt at flight.

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Wilbur was born in 1867 near Millville, Indiana, and I, Orville, was born four years later in Dayton, Ohio (Tise 14). From childhood, we were encouraged by our parents to pursue our interests. Our enthusiasm for flight was kindled when our father brought home a "hélicoptère," a small toy which used a rubber band to rotate two propellers and lift the trinket into the air. Although it "lasted only a short time in [our] hands . . . [the] memory was abiding" (Burton and Findsen 24).

As adults, our interest in flight was renewed when we learned about Otto Lilienthal, a German aeronautics pioneer who was attempting flight (Walsh 18). We began studying books on aviation and observing the flight mechanics of birds. We built a kite with wings that could be warped, allowing us to control the kite in the air, just as a bird's wings give it control over its flight. Our next endeavor, building a real glider, was "the best fun we'd ever had" (Burton and Findsen 26).

We chose to test our new glider at Kitty Hawk, North Carolina because of the high winds and soft sand present at that location. Unfortunately, the wind conditions were extremely unfavorable during our tests from September to November of 1900. For a large part of the time, we had to content ourselves with flying our glider as a large kite. Despite the adverse winds, we were still able to make a few glides, proving that balanced flight was possible.

We returned to Kitty Hawk in July of 1901 with the largest glider ever built. That summer, however, was not a success, as we encountered many hardships. The mosquitoes were atrocious, the heat was intense, and the results of our tests were mediocre at best. Despite the fact that the curvature of our glider's wings was exactly as specified by Lilienthal's calculations, we were not always in complete control of our craft. On one of my glides the glider suddenly rose 30 feet and lost forward momentum. Fortunately, instead of tumbling to the ground as was the fate of many aeronautical pioneers, I made a gentle, level decent. Our design had proven to be the safest ever.

Despite our advances in safety, we were extremely discouraged after that summer at Kitty Hawk. Wilbur even stated that he believed no one would fly for another thousand years. A friend sensed our dismay and reminded us that we had achieved a great deal in our experiments. Our spirits were revived due to his encouragement. With renewed enthusiasm, we returned to our

research. Building a wind tunnel to test out many different wing shapes allowed us to discover that wings made with a curvature according to Lilienthal's calculations did not give the most lift. Equipped with our new data, we were able to redesign our wings to maximize lift.

With our newfound knowledge, we set out to create an even larger glider. We returned to Kitty Hawk in September of 1902 to test our new glider. It worked beautifully. At the beginning, we were consistently making glides of around 200 feet, but the vertical tail fins would sometimes cause a loss of control. In one instance, I lost control at 30 feet and crashed into a sand dune. I was unscathed, but the machine was a wreck. We were persistent and sought ways to improve our glider. Removing one of the tail fins helped, but our control was still unsatisfactory. One night, as I lay awake due to too much coffee, I came up with the solution: we needed to allow the tail fin to move in conjunction with the wings. Finally, we had a practical, controllable glider.

After our successes with the glider, we arrived home jubilant and immediately commenced production of a larger aircraft powered by a motor. The first challenge was to fashion a propeller for our aeroplane. No one, not even builders of boat propellers, knew exactly how to make one suitable for the air; therefore, we had to rely on our own calculations. Our next task was to create a motor capable of turning the propellers. After building our propellor and motor, we returned to Kitty Hawk in September of 1903. Unfortunately, problems with the propeller shafts delayed us until December 14. On that day, Wilbur almost became the first to fly.

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Kitty Hawk, NC, December 17, 1903: We are not going to let these setbacks deter us, and, although it is windy today, we are going to make another attempt at motorized flight. Since Wilbur won the coin toss three days ago, it is now my turn to fly. Wilbur and I each take a

propeller and spin it. The motor starts, and I climb aboard the *Flyer*. The machine slides slowly forward as Wilbur runs alongside the track. At the end of the track, the *Flyer* lifts slowly into the air. I am airborne! After flying close to the ground for 120 feet, I skid to a stop on the sand. We have achieved what no man has ever done before; we have made a machine that can fly.

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Orville and Wilbur made three more flights that day. The longest reached 854 feet in 59 seconds. Unfortunately, as they were repairing the Flyer for another flight, a strong gust of wind blew it over, destroying it. The Flyer would never soar again.

To achieve that first flight in 1903, Wilbur and Orville overcame many difficulties, including lack of control over their gliders, mechanical troubles, wrecked aircraft, and even depression. Through it all, the Wright brothers never gave up, always pursuing their dream of flight. Despite the ridicule of their revolutionary notions of flight in the age of horses and carriages, the Wright brothers were never dissuaded from developing a flying machine. Their innovative experiments uprooted much of the conventional knowledge of aeronautics. To this day, the Wright brothers' theories form the basis for our knowledge of flight. Little did the Wright brothers know on that fateful day in 1903 that their ideas would revolutionize the way we travel. That day, in 12 short seconds, the Wright brothers ushered in a new age where distances no longer separate peoples and where nations and oceans are no longer barriers to exploration.

(Daniels: *First Flight*)

Works Cited

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Tise, Larry. *Conquering the Sky: The Secret Flights of the Wright Brothers at Kitty Hawk*. New York: Palgrave Macmillan, 2009. Print.

Walsh, John Evangelist. *One Day at Kitty Hawk: The Untold Story of the Wright Brothers*. New York: Thomas Y. Crowell Company, 1975. Print.

Daniels, John. "First Flight." 1903. Library of Congress, Washington, D.C.. *[First flight, 120 feet in 12 seconds, 10:35 a.m.; Kitty Hawk, North Carolina]*. Photograph. 30 Oct. 2013.