

Whether you're longing to begin your own entrepreneurial venture, handle a new difficulty or basically learn how to fly, the account of the Wright brothers is a perfect source of inspiration. These two pioneers of innovation and aviation made the world's first effective airplane.

However, behind every success story, there are untold disasters, fights, and essential failures. These book chapters will provide you a behind-the-scenes look at the path and development of the Wright brothers' lives and innovations, and state the story of how they turned into idols for generations of inventors the world over.

## Chapter 1 - The Wright brothers' traits and background made them a successful team.

You most likely understand that the Wright brothers created the airplane –however, do you understand how they reached the amazing moment when their airplane had its first flight? Let's return to where everything began.

Wilbur Wright was the older of the two brothers and he was given birth to on the 16<sup>th</sup> of April 1867, four years before Orville was born which was the 19<sup>th</sup> of August 1871.

Throughout their lives, these two were basically inseparable. Not only did they eat their food together or had a joint bank account, they even had handwriting that is alike

However, they had their own exceptional traits. The most intellectual out of the two was Wilbur, and with his nerves of steel, he was evidently the unspoken leader. Whereas Orville was a gentle person who was more sensitive to criticism than Wilbur. However, Orville was also more cheerful and more skilled in the business aspects of things.

The brothers had a modest upbringing in Dayton, Ohio, which was the state's fifth-biggest city as of then.

Bishop Milton Wright who was their father motivated his children to be open-minded and hard-working and ensures that their modest home was really filled with books.

Susan Koerner Wright who was their mother later died due to tuberculosis when the boys were just in their early twenties.

Also, boys had a younger sister called Katharine Wright, who stayed with them, and two older siblings known as Reuchlin and Lorin, who lived at another place.

Bishop Wright was keen to motivate his boys' education; however, he allowed them to miss school if they wished to use the advantage of the books at home instead.

This motivation made Orville find an early interest in business, and he began his own print shop while he just in high school. After, Orville and Wilbur would start a bicycle shop, which assisted them to fund their work on airplanes.

Meanwhile, it was Wilbur who became captivated with flight, all thanks to his Bishop Wright private library.

He was particularly fond of birds, and the work of Otto Lilienthal who was a German glider enthusiast, and Pierre Mouillard, both a French poet and farmer who also shared a deep love of flight.

## Chapter 2 - In the face of huge difficulties, Wilbur and Orville created an innovative glider.

The Wright Brothers weren't all alone in their vision of flight. During the beginning of the twentieth century, a lot had already attempted and failed, and the press was usually fast to jump on these failures.

One famous source of mockery was Charles Dyer, who had created an aircraft in the shape of a duck during the 1870s.

However, the risk of failure and ridicule did not discourage Wilbur and Orville, and they proceeded to create significant understandings, particularly when it came to equilibrium.

For them to sustain flight, the brothers understood that the entire forces of the aircraft had to be balanced well and able to change with the wind. Hence, the crucial thing to flight was in letting the pilot acclimatize to fluctuating winds by controlling the aircraft accurately and fast.

Wilbur was the one who fixed the issue. They had to make the wings of their glider to bend or “warp” for them to attain different angles and make the plane to turn. If the pilot could control the warping, they could control the plane as well.

With this understanding, they proceeded to work on their first glider during the summer of 1899.

The popular fields of Kitty Hawk, in the isolated region of Dare County, North Carolina is where the two of them did their first and successful tests with their glider.

The region had the perfect settings: stable winds to raise the glider and sand dunes to offer a shield for any crash landings.

September of 1900, that was when the first test flights happened when their gathered glider weighed only less than 50 pounds. It had two fixed biplane wings that were on top of each other, and it could be maneuvered with the warping controls and a movable rudder that is at the front.

The pilot for this flight would lie on his stomach along the middle of the lower wing, looking forward. Considering the worst-case scenario, the brothers decided never to pilot the glider together; therefore if one of them died, the other would still remain to carry on the work.

Their first trials were extraordinarily successful, reaching glides of about 300 to 400 feet at 30 miles per hour – obviously, the brothers were up to something.

## Chapter 3 - After gliding, the brothers proceeded to motorized flying.

In spite of their remarkable first glides, the brothers were keen to keep developing their design.

For them to do that, Orville and Wilbur constructed a laboratory on top of their bike shop, which held a custom-made wind tunnel containing a wooden box that is six-foot-long with an opening on one end and a fan on the other. This enabled them to try out different wing shapes and curvatures.

Just in a few years, the outcomes had assisted them to form a new and upgraded glider; also, in August of 1902, they were set to do new test runs at Kitty Hawk.

The results were excellent. During the course of two months, they did nearly 2,000 glides, one of them spanning 600 feet.

It was clear to the brothers at this moment that they had perfected gliding –it was now time for a motor.

Unluckily, they couldn't get anybody who understood how to make a motor light enough for their aircraft.

Therefore, they called their mechanic friend named Charlie Taylor their friend, Taylor was the one that made a custom-made, 12-horsepower motor that weighed 152 pounds. For the propellers, the brothers made their propellers themselves from scratch.

The new aircraft was known as the "Flyer," and it had two 8.5-foot propellers, which rotated in opposite directions in order not to pull the craft to one side.

Back at Kitty Hawk, the brothers tossed a coin to know who would ride the Flyer first.

Wilbur was the winning; however, during the flight, he pulled really hard on the rudder and crashed, leading to a few days of repairs.

Afterward, on Thursday the 17<sup>th</sup> of December 1903, it was Orville's turn to fly. At precisely 10:35 AM, with a small group of five locals watching, the Flyer took off and flew for just 12 seconds over a distance of 120 feet, starting a new era of motorized flight.

Even at that, the Wright brothers weren't about to stop on their achievements, as more developments were coming.

## Chapter 4 - The brothers kept making developments, regardless of skepticism from the press and military.

As they progressed, the brothers began finding a new place for their test flights.

In order to save time and transportation expenses, they discovered a cow pasture known as Huffman Prairie in their home state of Ohio.

Since the winds weren't as perfect as Kitty Hawk's, they made a catapult to assist with their departures. It worked by dropping weights from a height of 20 feet, making a sling to push the plane down a track and up to the air.

It required a few failed trials; however, soon they were making huge progress, even handling a half turn to land back where they began.

Strangely enough, now that they were working on a motorized flight, the local press wasn't concerned.

The publisher of the Dayton News named James Cox, later disclosed that he and his staff assumed the reports of the brothers' flights were false; therefore, they never followed it up.

One cause for their skepticism was the current failed trial at mechanized flight by Professor Langley at the Smithsonian Institution in December 1903.

The government paid \$50,000 for Langley's aircraft, and its failure had gotten a fair share of mockery from the press.

The first correct detail of the Wright brothers' accomplishments would be from Amos I. Root, a beekeeper and flight enthusiast, who published the outcomes in the 1905 edition of his Gleanings in Bee Culture periodical.

Undeterred by the lack of press, the brothers started reasoning commercially.

With their patriotic inclinations, they tried to sell their discovery to the military after filing their patent in 1903. But, in spite of two different proposals, the army never answered, probably as a result of the recent failures with Langley.

Therefore, Wilbur and Orville went to British and French representatives, eventually signing a contract with a team of businessmen from France in December 1905.

They received \$200,000 from the contract, for a Flyer, which was subject to specific circumstances, like the public demonstrations that would ultimately take them halfway across the world.

## Chapter 5 - Commercial ventures made the brothers travel to New York and then to Europe

In 1907, the brothers got a patent for the Wright Flying Machine, and their business in the European market rapidly improved.

German interests proposed \$500,000 for 50 Flyers whereas the contract with the French businessmen was in negotiation.

To assist in these issues, the brothers employed the New York firm Flint & Company as their sales representatives. They had skill in selling military goods to Europe, and would just get a 20-percent commission on European sales, leaving the US market for the brothers to deal with.

After a few months, Hart O. Berg, Flint & Co's European representative recommended that at least one brother should go with him to Europe and talk to the buyers one on one. As expected, the more serious-minded Wilbur was picked, and on the 18<sup>th</sup> of May, 1907, he boarded the RMS Campania for Europe.

On the journey, Wilbur was given a luxury first-class travel treat. Hart O. Berg was used to luxury, and as soon as they got to London, the first thing Berg did was ensure that Wilbur got a

tailored suit from the Strand. In Paris, Berg rented a room for Wilbur at the New Hotel Meurice, decorated with a rooftop garden and a panoramic scene of the city.

Unfazed by the luxurious treatment, but, Wilbur was more concerned about European art and architecture and wrote home frequently to provide his views on the city's buildings and museums. Wilbur wrote about his dissatisfaction with da Vinci's Mona Lisa, saying he liked the obscure John the Baptist more.

Meanwhile, their business in Europe was delaying, and Wilbur was finally joined in Europe by his brother Orville during the late July of 1907, after that, their mechanic friend, Charlie Taylor came to join them

The newest model of their plane, the Flyer III, was packed and shipped to Europe for the demos.

Unluckily, the demos had to be delayed; the three of them went back home in November 1907 with the Flyer still held at customs in Le Havre, France.

## Chapter 6 - First public demonstrations were a huge victory.

Eventually, during early 1908, the brothers received some good news: the US War Department had consent and agreed on their \$25,000 deal for a Flyer. However, there was a catch, the catch was the Flyer had to pass their numerous tests.

Meanwhile, public demonstrations in France were still scheduled for the summer of 1908.

Therefore, that means back to France for Wilbur. However, before that, the brothers had arranged a new Flyer at Kitty Hawk that enabled the pilot to sit at the cable controls instead of needing to lie down. Also, there would even be a seat for one passenger.

On the 8<sup>th</sup> of June, 1908, Wilbur got back to France, only to discover that their Flyer had been extremely ruined by the customs agents at Le Havre.

Extraordinarily, Wilbur did what he had to do and basically reconstructed a new Flyer from scratch, nearly completely on his own.

Two months after which was on the 8<sup>th</sup> of August, the new Flyer was set, and Wilbur flew to the skies before a small however powerful group at the Le Mans racetrack. He flew for two miles, at 30 to 35 feet above the ground, making two successful half turns and landing safely.

It was a great success, leading to an instant change in public view.

Any skeptics in the crowd were amazed, and within 24 hours Wilbur's flight had turned to international news, with papers in London, Chicago, and Paris announcing its success.

The entire world was put on notice as Wilbur kept providing increasingly general demonstrations, with crowds increasing to thousands.

Back in the US, Orville was close to doing an equally astounding demonstration at Fort Myer, Virginia.

On the 3<sup>rd</sup> of September 1908, he flew for a small group of military officials, beginning cautiously; however, becoming more and more daring in his next demonstrations. He quickly became the new star of aviation, and in a few weeks, he set seven new world records, as well as the ones in altitude, speed, and duration.

However, the trials weren't finished yet.

## Chapter 7 - Orville had a brush with death; however, that didn't make the brothers stop.

All thanks to his bold military demonstrations and world records, Orville used a few weeks outdoing his brother Wilbur.

However, then, on the 17<sup>th</sup> of September, 1908, things took a terrible change.

At Fort Myer, Orville flew with a passenger, a brilliant young officer called Lieutenant Thomas Selfridge.

Orville had already flown with two separate passengers; however, this time around, one of the propeller blades broke in mid-flight, making it get twisted with a wire that controlled the rear rudders. The plane thrashed wildly in the air before diving head-first into the ground from a 125 feet height.

Sadly, Lt. Selfridge died of a fractured skull, whereas Orville was extremely injured: he had a fractured leg and hip, and four broken ribs.

Orville would ultimately get better, all thanks to the assistance of his sister Katharine, who remained by his bedside day and night.

For a while after, Orville had to walk with the assistance of a cane. However, in spite of this obstacle, the brothers would proceed to make history.

After adjourning some demonstrations while Orville got better, Wilbur eventually went back to flights, and their achievement resumed together with them, with about 200,000 people present to see his recent flights at Le Mans.

As part of the conditions of his agreement with the French businessmen, he started training three French aviators, receiving \$35,000 by January of 1909.

The brothers were offered a lot of awards in France, as well as the Legion of Honor. Also, Wilbur was the winner of the Michelin Cup of aviation after creating a new distance record of 77.5 miles.

Orville and Katharine ultimately went to meet Wilbur in France, where they got to encounter various spectators, as well as King Edward VII of England and King Alfonso XIII of Spain

Their time they used in Europe was a great success for the Wright brothers; however, their story's ending happens back home in the United States.

## Chapter 8 - The brothers turned to America's heroes; however, they didn't stop working.

On the 13<sup>th</sup> of May, 1909, Orville and Wilbur went back home from Europe, \$200,000 richer and with a number of prestigious awards. However, unknown to them that the celebrations were just beginning.

When they got to New York, they got a hero's welcome as a crowd of fans and reporters went after them all the way to their house to Dayton, where the festivities actually started

When they eventually got home, about 10,000 people were present to greet them at their front porch. As it turned out, the city had planned a big, two-day-long celebration in their honor, full of a parade that proudly included the whole history of the United States and Dayton.

Incredibly, to celebrate the successes of these two men, 15 floats and 560 historically dressed actors paraded through Dayton, together with 2,500 school children dressed in white, blue and red singing the national anthem.

This whole thing was topped off with a tour to the White House, where President Taft gave the brothers gold medals.

However, this being the Wright brothers, they didn't stop working

Within 48 hours of the parade's completion, they were on a train for Fort Myer in order for Orville to finish passing the speed and endurance tests and finish the conditions to finalize their sales to the US Army.

Less exciting was an unresolved legal issue of Glenn Curtiss, a 31-year-old celebrity pilot, who was unlawfully making use of their patented wing-warping system. This led to a complete patent war that would continue for almost a decade with no apparent winner.

Meanwhile, aviation was attaining new heights worldwide

Wilbur began by flying along the Hudson River and rounding the Statue of Liberty.

Two weeks after in France, a Russian-born aristocrat that Wilbur had taught, called Charles Lambert, flew 1,300 to 1,400 feet high over Paris and the Eiffel Tower.

Lastly, at Huffman Prairie, the brothers took their father with them to finish a personal milestone by flying together for the first time. The two brothers eventually left the earth together on the 25<sup>th</sup> of May, 1910.

After, Orville took flight with his Bishop Wright his father, who was 82 during that time.

As the plane flew above the Ohio landscape, Bishop rested on to his son to mention one thing: "Higher, Orville, higher!"

## The Wright Brothers by David McCullough Book Review

The story of the Wright Brothers' is as extraordinary as their success. Against all the odds and in the face of various difficulties and obstacles, they succeeded to invent and master the art of flying through pure talent and ambition.

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