Flights Past: The Wright Brothers’ Legacy and Dayton, Ohio

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FLIGHTS PAST: THE WRIGHT BROTHERS' LEGACY
AND DAYTON, OHIO

by

James Clayton Johnson

A Dissertation
Submitted to the
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in partial fulfillment of the
requirements for the
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Dr. Kristin Szyvian, Advisor

Western Michigan University
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During the early twentieth century, Wilbur and Orville Wright faced a lengthy struggle over their recognition as the inventors of the airplane. This controversy still lingers today. Even their hometown, Dayton, Ohio, where the brothers spent years engineering and perfecting the airplane, hesitated in acknowledging their success. Promoted by a small group of individuals from the Smithsonian Institution, a decades long struggle ensued over who first invented an aircraft capable of powered flight. During the “Smithsonian controversy,” the institution embarked on a long and dangerous path of using its status as the nation’s museum in an attempt to rewrite history. The ensuing battle with the Smithsonian Institution as well as other first flight claims left the Wright brothers’ legacy in doubt. As a result, the Wright brothers engaged in a lifelong fight to protect and assure their rightful place in history. The brothers’ drive to protect their legacy and Dayton’s failure to recognize its aviation roots came together to leave aviation’s birthplace without a focal point to commemorate the Wrights. Today, the Wrights’ story is told in Dayton and North Carolina in part by the National Park Service, and at the Smithsonian Institution in Washington, D.C. However, preoccupied with its industrial development and recovery from a devastating 1913 flood, Dayton took nearly a century to fully recognize its
historic links to the Wright brothers and its aviation history.

To analyze how the Wrights' concern over their legacy and Dayton's neglect of its heritage are linked, a chronological survey of the influencing events, trends, and ramifications is presented. The examined issues are often defined by political, social, cultural, and economic factors. How these factors shaped a definable evolutionary process in the connection between the Wrights' legacy and Dayton's commemoration of the Wrights are explored. The findings illustrate that the Smithsonian set a dangerous precedent by using its power as the nation's museum to advance its version of history. Repercussions from the Smithsonian controversy are seen in Dayton as Orville took the steps he felt were needed to assure the brothers' legacy in the United States.
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CHAPTER I

INTRODUCTION

The Smithsonian Institution’s National Air and Space Museum (NASM) is the most visited museum in the world with more than 9 million visiting the popular Washington D.C. attraction annually. During the Centennial of Flight celebrations of 2003, attendance rose to nearly 11 million people.\(^1\) The NASM is the recognized leader in the interpretation of the history of American aviation, despite the 1995 controversy of the proposed *Enola Gay* exhibit. Up until that time many Americans thought that the museum’s role was to simply commemorate and document flight and American air power, not to raise questions concerning its influence on American society and indeed, the world.

The proposed *Enola Gay* exhibit was not the first example of how politics and research have combined to blemish the reputation of the Smithsonian Institution. During the early twentieth century, a decades long struggle took place between the Wright brothers and the Smithsonian Institution over who first invented an aircraft capable of “free, controlled, and sustained power-driven” flight.\(^2\) During the “Smithsonian controversy,” the institution embarked on a long and dangerous path of using its status as the nation’s museum in an attempt to rewrite history favorable to one-time Smithsonian secretary Samuel Pierpont Langley.

\(^2\) This phrase is universally accepted as a broad definition of an airplane.
The resulting battle with the Smithsonian Institution and an accompanying lengthy patent fight with pioneer aviator Glenn Hammond Curtiss left the Wright brothers' legacy in doubt. First labeled as "lairs[sic]" by a skeptical press as to their ability to actually fly, the Wrights faced a lengthy struggle over their recognition as the inventors of the airplane that still lingers a century later. Even their hometown, Dayton, Ohio, where the brothers spent years engineering and perfecting the airplane, hesitated in acknowledging their success. As a result, even to this day, many mistakenly link the Wright brothers' legacy solely to Kitty Hawk, North Carolina. The isolated dunes at Kitty Hawk, a place simply chosen for its sustained winds and desolation, would later be selected for the site of the Wright Brothers National Memorial. Dayton, on the other hand, failed to save many of their treasured links to the Wrights and as a result, nearly lost all hopes of reclaiming its aviation heritage.

The Smithsonian controversy and its linkages to the Curtiss patent lawsuit, as well as other first flight claims, drove Wilbur and Orville to engage in a lifelong fight to protect and assure their place in history. The Wright family went so far as to blame Wilbur's untimely death in 1912 on the stresses of the Curtiss lawsuit. Even with Orville living to 1948, neither brother would live to see their 1903 Kitty Hawk Flyer enshrined in the Smithsonian Institution. During this time, Dayton was more focused on expanding economically as a result of the new aviation industry and neglected its aviation heritage as the Wrights' hometown. The Smithsonian controversy not only affected the message communicated to visitors to the Smithsonian Institution prior to

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1948, it also affected the Wrights’ business and the way in which their invention was recognized and commemorated in Dayton and North Carolina. Orville’s drive to protect their legacy and Dayton’s failure to recognize its aviation roots and preserve landscapes and buildings associated with aviation’s birthplace, left the city without a focal point to commemorate the Wrights. Today, the Wrights’ story is told in Dayton and North Carolina in part by the National Park Service, and at the Smithsonian Institution’s Air and Space Museum in Washington, D.C. However, it took nearly a century before Dayton would finally fully recognize their historic links to the Wright brothers.

The Wrights’ endeavors and publicity efforts during the pioneer days of aviation acted as a catalyst and prototype for many of the nation’s aviation commemorations and celebrations seen today. Eager to capitalize financially on their invention, the brothers formed the Wright Company in late 1909 for the purpose of manufacturing and selling their airplanes. Recognizing the press’s almost insatiable appetite for the adventures of the early airmen, they created an apparatus to take advantage of the publicity. The Wrights formed an exhibition team that traveled throughout the country in order to create a market for their new invention and to compete with the emerging competition. Creating the forerunner of today’s airshows, these exhibitions drew huge crowds that scrambled to see if man could really fly. To teach the new aviators, the Wright School of Aviation was established at the Wrights’
airfield, the Huffman Prairie Flying Field. While the new Wright Company grew, so did Dayton's hopes of becoming known as "Air City."

The story of the Wright brothers' struggle with their legacy as it relates to Dayton's preoccupation of capitalizing on its good fortune includes a series of important firsts as well as a few pitfalls. In addition to the first air exhibitions, the Huffman Prairie Flying Field is an important focal point as it is where the first practical airplane was perfected in the early 1900s. However, as the surrounding airfield evolved into Wright-Patterson Air Force Base, one of the largest Air Force bases in the world, the flying field sat nearly abandoned for decades. While several poorly executed interpretation attempts were presented, it was not until 2002 that substantial changes were made at the Huffman Prairie Flying Field. These recent improvements helped complete the link between the Wrights, Dayton, and the birth of modern aviation.

In 1909, nearly six years after their first flight, the Wrights were finally officially recognized in the United States for successfully solving the mysteries of powered flight. Prior to their need to develop their public business image and wishing to avoid any type of distracting fanfare since their minds were on an upcoming series of critical government flight tests, the Wrights reluctantly attended their official homecoming celebration in Dayton. The event, the Wright Brothers' Home Days Celebration of 1909, represents the first time an aviation event was used for a city's political and economic interests. (Figure 1)
In the 1930s, with fears of losing the global competitive edge and with World War II on the horizon, the United States government made its first effort at developing enthusiasm about aviation in the country via National Aviation Day. Celebrated on Orville’s birthday, the day is now used more for commemorating American aviation heritage and celebrating the Wright brothers. In Dayton for example, the Wrights’ Hawthorn Hill mansion, purchased by the National Cash Register Corporation after Orville’s death in 1948, was handed back to the descendants of Orville and Wilbur on National Aviation Day in 2006. Following the traditions of the original National Aviation Day, the federal government’s involvement in promoting aviation is seen
today through various activities such as participation in numerous military and commercial trade air exhibitions.

The business and city leaders of the Kill Devils Hill, North Carolina area saw early on the benefits of heritage tourism and set out to attract the Wright Brothers National Memorial in the 1920s. However, it was not until after World War II that Dayton began to develop their aviation heritage links in an effort to capitalize on the tourism dollar. Led by local leaders, this interest and a renewed desire to develop its aviation heritage, finally succeeded in resurrecting an important link to the Wrights’ history; the restoration and exhibition of the 1905 Wright Flyer III. The plane, recognized as the world’s first practical airplane, was eventually incorporated into the Dayton Aviation Heritage National Historical Park in 1992.

In part due to the growing influence of Wright-Patterson Air Force Base, the Wright name started to adorn a wide spectrum of businesses and locations throughout the Dayton area by the 1960s. By the 1980s, city leaders as well as Wright-Patterson Air Force Base began partnerships with local Wright enthusiasts in an effort to further develop their links with the Wrights’ history. These partnerships eventually led to the creation of the Dayton Aviation Heritage National Historical Park. Wright-Patterson, Dayton, and the private sector’s efforts at recapturing the Wrights’ heritage culmination is illustrated in the one-hundredth anniversary of the Wright brothers’ flight, celebrated throughout 2003. The Centennial of Flight celebrations were the result of lengthy planning and discussions that were quite bitter at times between those
contending for funding and the tourism dollar. However, as the later centennial celebration of the Wright Flyer III at the Huffman Prairie Flying Field in 2005 and continued Wright enthusiast ventures demonstrate, Dayton finally and successfully resurrected its historical links to their hometown heroes.

To analyze how the Wrights' concern over their legacy, the Smithsonian controversy, and Dayton's apparent single-minded negligence of its heritage are linked, a chronological survey of the influencing events, trends, and ramifications is presented. The Dayton landscape is also scrutinized to determine how it has been shaped to reflect or uphold the views of particular local interests. The examined issues are often defined by political, social, cultural, and economic factors. These factors shaped a definable evolutionary process in the connection between the Wrights' legacy and Dayton's commemoration of the Wrights. Often linked to the influencing factors of the respective era, individuals used their predisposed social, economic, political, and cultural ideas to make correlations with the presented "facts" concerning the Wright brothers, the first powered flight, and the birth of modern aviation. Using this understanding, the impact of the Wrights' actions in protecting their legacy and Dayton's economic ambitions on the area's aviation heritage is explored.

The secondary source material dealing with the Wright brothers features a wide range of subject matter. The vast majority of the writers focus on the Wrights' progression from bicycle mechanics to the inventors of the airplane. The brothers are often portrayed as the quintessential all-American success story in these publications.
and most never really offer any type of analysis of the Wrights' legacy. Of interest to many aviation enthusiasts is the technical aspect of the invention of flight. The Wrights' theory of lift and control still form the basis of powered flight. As a result, the aeronautical engineering achievements of the Wrights are well scrutinized and documented from the engineering point of view. This research is supportive of the Wrights' in their challenges to their legacy as the first to fly and is helpful in understanding their mindset behind their determination in attempting to protect their legacy.

The brothers were amateur photographers and well aware of the importance of creating a photographic record of their work. As a result, they created a wealth of documentary images from their early glider tests until Wilbur's death. In addition to providing an important visual resource on early aviation and on the Wrights' triumphs and tragedies, these documents are especially helpful in examining issues such as the poorly restored 1911 Wright glider and the ineffective early interpretive attempts found at the Huffman Prairie Flying Field.

The largest collection of critical essays and books on the Wright brothers comes from Smithsonian National Air and Space Museum curator Tom D. Crouch. Considered the leading Wright brothers' biographer, his well-received *The Bishop's Boys: A Life of Wilber and Orville Wright* includes research into the far-reaching effects of the Smithsonian controversy and the related legal battles on Orville and Wilbur. In a series of articles, Crouch examines the role of the Smithsonian Institution
in the presentation of American aviation history and includes pivotal events such as the Smithsonian controversy and *Enola Gay* exhibit.\(^3\) Whereas Crouch often delves into the inner workings of the brothers’ psyche and its linkages to the development of the airplane, this study investigates the relationship between the Wrights, their struggles with the recognition of their invention, and how it interacted with Dayton’s own difficulties in dealing with its aviation roots.

Although limited, the seriousness of the Smithsonian controversy and its implications has not escaped other scholars. However, its scope is limited to exploring its effects on Orville, Wilbur, and their patent legal battles and not its overall linkages to Dayton. The conflict between the Wrights and the Smithsonian is often relegated to Wright-centric monographs such as biographies or when discussing the overall invention of flight. Other Wright biographers have included discussions of the controversy in their work. They include Fred Kelly’s *The Wright Brothers: The Classic Biography Authorized by Orville Wright*, Fred Howard’s *Wilbur and Orville: A Biography of the Wright Brothers*, James Tobin’s *To Conquer the Air: The Wright Brothers and the Great Race for Flight*, and Dayton Aviation Heritage National Historical Park’s historian Ann Honious’s *What Dreams We Have*.\(^4\) While also

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\(^3\) Examples from Tom D. Crouch include “Capable of Flight: the Saga of the 1903 Wright Airplane” an article found in *Exhibiting Dilemmas: Issues Representation at the Smithsonian*, “The Feud Between the Wright Brothers and the Smithsonian” found in *American Heritage of Invention and Technology* and his biography of the Wright brothers, *The Bishop’s Boys: A Life of Wilber and Orville Wright*. See bibliography for more details.

examining the background behind the Smithsonian controversy, this study connects the dispute to the Wrights' lifelong campaign to protect their legacy and how this drive influenced Dayton's aviation heritage.

Honious's *What Dreams We Have* also includes research on the Wrights' activities in Dayton as well as a discussion of the interaction between the brothers and the city's political and business leaders. Wright-Patterson Air Force Base, the descendant of the Huffman Prairie Flying Field, played an essential role in the growth of the United States Air Force. Its growth is documented through various base histories such as Lois E. Walker and Shelby E. Wickam's *From Huffman Prairie to the Moon: The History of Wright-Patterson Air Force Base.*\(^5\) This study makes a connection with these local histories to the Wrights' legacy, the Smithsonian controversy, and Dayton's aviation historical preservation and economic ambitions.

Albert Boime's *The Unveiling of the National Icons: A Plea for Patriotic Iconoclasm in a Nationalist Era* lends an understanding on how public history institutions and organizations exercise power over the historical interpretations and therefore influence the nation's memory.\(^6\) He argues that "[t]hose who... control the nation's history through visual representations as well as through text are regulators of the social memory and hence of social conscience" and that the resulting "national memory" works within the confines of an individual's historical memory that is

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formed by the public history institutions’ and organizations’ presentations. As a result, the Smithsonian controversy offers a chance to gauge the power of a museum. Through examining the Smithsonian’s attempt to control the history of the first plane capable of flight and Dayton’s slowness in appreciating its aviation heritage, a link can be made to show how the Wrights’ national memory could have been misconstrued over the years.

Thomas P. Hughes’s *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970* places the Wrights in the era of independent inventors along with Alexander Graham Bell and Thomas Edison.7 Hughes’s research into the independent inventors that were prevalent during pre-World War I America helps place the Wrights in context with their fellow inventors. From Hughes’s and other published research, it is evident that these inventors share many similar characteristics with the Wrights including their natural mechanical aptitude and financial interest in marketing, introduction, and production of their invention.8 Automotive industrialist Henry Ford criticized the Wrights for their strict patent enforcement but research indicates that the majority of independent inventors in the United States worked for personal gain rather than nationalistic motives.

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With the worldwide excitement created by the invention of powered flight, the exploits of the early aviators were well covered by journalists. Fortunately for researchers, the Wright brothers maintained meticulous records not only for their aviation endeavors, but also, for nearly every aspect of their adult lives. As a result, their letters and records play a major part in uncovering their true feelings concerning their legacy and their relationship to Dayton. The Wilbur and Orville Wright Papers from the Library of Congress and the Wright Brothers Collection from the Special Collections and Archives of Wright State University, Dayton, Ohio, provided the majority of the Wright material. Other important primary material includes the Wright Brothers Collection from the Dayton and Montgomery County Public Library and the published *Papers of Wilbur and Orville Wright: Including the Chanute-Wright Letters and Other Papers of Octave Chanute*.\(^9\) Significant source material was also found in local, state, and federal government records and in writings and collections from the Smithsonian Institution's Charles G. Abbot and Samuel Pierpont Langley.\(^10\)

The chronological analysis starts with the public debate and controversies over defining the first plane capable of powered flight and concludes with the successful linkage of Dayton's aviation heritage to the Wrights following the Centennial of Flight celebrations held in 2003. The lengthy and public disagreement over the recognition as to who made the first "free, controlled, and sustained power-driven" flight as well as

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the background behind the Smithsonian controversy and its relationship to the Wrights is explored. As Americans enthusiastically adapted to the realities of powered flight, early entrepreneurs rushed to fill the need of a hungry public. With fame and fortune at stake, other first flight claims threatened the brothers’ legacy. The early connection between the Wrights and the city of Dayton is reviewed as both realized the economic possibilities of the new industry. The brothers’ troublesome fights fending off other first flight claims and its impact, even despite evidence to the contrary, is also assessed.

Due to the curiosity created by the newness of the airplane, early flights were often public spectacles. Capitalizing on this public attention, early inventors and manufacturers, including the Wright brothers and Glenn Curtiss, organized exhibitions to highlight the performance capabilities of their respective aircrafts and to attract potential customers. While these early events helped shape the near mythical legacies of the aviators, analysis will show that this is the period in which the Wrights felt they were the most vulnerable.

While aviation feats, pilots, and airplanes were accepted into American popular culture by the 1920s, the Wrights were already often viewed as historical figures. During this time, Dayton was expanding its economic ties with the aviation industry while the Kitty Hawk area addressed its economic plight through its aviation heritage. The lasting impact of Dayton’s direction is explored and how it was not until 1936, after Dayton’s historic Wright buildings were moved to Henry Ford’s Greenfield
museum with Orville's blessing, that Dayton finally moved to address their neglected aviation roots.

Prior to the outbreak of World War II, Congress chose Orville's birthday to drum up public interest in aviation via National Aviation Day. During the post-war era, the commemoration of American aviation moved from the veneration of specific heroes and legends to encompassing the full scope of America's worldwide air dominance. From this time on, America's air power was viewed as a patriotic symbol of pride and strength. This study examines how this government action influenced and was influenced by the Wrights' legacy and how it helped build a foundation for Dayton's aviation heritage. The resulting partnerships between the local, state, and federal government with Dayton area Wright brothers enthusiasts can be credited with the interest and focus on the Wrights seen in Dayton today.
CHAPTER II

LAYING THE FOUNDATION: THE FIRST FLIGHT, PERFECTION, CELEBRATIONS, AND THE SEEDS OF CONTROVERSY

Modern convention accepts the Wrights’ claim to inventing the first machine capable of controlled and sustainable powered flight. However, over the years, others have argued that the evidence suggests that the Wrights are wrongly credited for their feat. During the past century, debates have raged throughout the aviation spectrum over who should be credited with the first free, controlled, and sustained power-driven, heavier-than-air flight. A controversy between the Wrights and the Smithsonian Institution over the first plane cable of flight was a contributing factor and helped set the tone for the ongoing debate.

The various contenders competing against the Wrights for credit, and the accompanying fame and fortune, include the Smithsonian’s Samuel Pierpont Langley, German-born inventor Gustave Whitehead, and aviation pioneers Clément Ader and Alberto Santos-Dumont. Proponents of other possible first flights range from well-respected researchers, such as Albert F. Zahm, a leading aviation scholar, to amateur historians via Internet websites. As a result, plausible accounts of other first flights have been presented to the American public through the years in venues as diverse as the prestigious Smithsonian Institution to the home computer.

1 While Zahm was a confidant of the Wrights during the early 1900s, he would later become one of most vocal opponents to the Wrights during the Smithsonian controversy. See Henry C. Dethloff and Noble L. Snaples Jr., “Who was Albert F. Zahm?” AIAA Paper No. 2000-1049 presented at the 38th Aerospace Sciences Meeting and Exhibit, Reno, NV, January 10-13, 2000.
On the surface, several disputes over the first flight offered convincing arguments that the possibility existed that the Wright brothers were not the first to fly or were even the first to invent a machine capable of flight. With certain wealth and worldwide prestige at stake, some were more than willing to stretch the facts to gain recognition as the first to fly. This is especially the case in what became known as the “Smithsonian controversy.” Lasting over thirty years, the well-publicized dispute pitted the resource-rich Smithsonian Institution against the Wright brothers. Directing their battle with the Smithsonian from Dayton, Ohio, neither Wilbur nor Orville Wright would live to see the successful resolution to the controversy and the subsequent enshrinement of their 1903 Wright Flyer in the Smithsonian in 1948. During the decades long battle, the Smithsonian’s previously spotless reputation was tarnished after the institution’s “reprehensible” actions in supporting the one-time Smithsonian secretary Samuel Pierpont Langley’s Aerodrome as the first machine capable of controlled and sustainable powered flight were made public.2

While the discourse over the first machine capable of flight garnered its roots in the early 1900s, the Wright brothers forged ahead in building upon their successful flight at Kitty Hawk, North Carolina. Returning to their Dayton hometown, the brothers selected a local prairie, Huffman Prairie, to further test and develop their aerodynamic concepts and theories. It was while at the Huffman Prairie Flying Field the brothers perfected the first practical airplane in late 1905. Despite their efforts to

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protect their patent, the Wrights never fully anticipated how much time and money they would need to devote in order to establish and protect their claim.

As a result of their successful public test flights in 1908, the Wrights were widely recognized in the United States for succeeding in solving the mysteries of powered flight. For most of the nation, as well as the world, the brothers were viewed as the conquerors of flight and became the first international celebrities of the twentieth century. Even though their minds were on an upcoming series of critical flight tests and their true desires were to bypass any type of recognition, the Wrights reluctantly attended their official homecoming celebration in Dayton in 1909. Seeing ways to capitalize on the Wrights’ invention and despite the brothers’ wishes, the city of Dayton used the celebration as an opportunity to bolster the city’s image and to promote its business possibilities. The event, the Wright Brothers’ Home Days Celebration of 1909, created a pattern of local leaders rallying behind the hometown inventor or hero with the realization that there was a potential to tap into the notoriety for commercial benefits. (Figure 2) Due to the foresight of city leaders, Dayton benefited economically from the Wrights’ success and the emerging aircraft industry. However, the city’s industrial growth took place at the expense of the city’s links to its aviation heritage. In contrast to Dayton’s laissez-faire approach to its key historical resources, by 1928, the area surrounding Kitty Hawk, North Carolina successfully benefited from the Wrights’ fame by building upon their links to the invention of powered flight.
While arguments persist over the first flying machine, the events immediately leading up to the Wright brothers’ success at Kitty Hawk have, for the most part, been left unchallenged. One of the more thorough accounts of the first flight and that of the Wright brothers is Crouch’s *The Bishop's Boys*. In it, he describes how the first free, controlled, and sustained power-driven, heavier-than-air flight was over almost as soon as it started. Occurring on December 17, 1903, the historic first flight lasted 12

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3 Tom D. Crouch is considered one of the foremost biographers on the Wright brothers and is also a general early aviation historian. Crouch, who received his Ph.D. in history from Ohio State University in 1976, is currently the Senior Curator in the Division of Aeronautics at the National Air and Space Museum of the Smithsonian Institution. In addition to *The Bishop's Boys*, Crouch has authored several monographs on early aviation, including *Dream of Wings: Americans and the Airplane, 1875-1905*, and *Giant Leap: A Chronology of Ohio Aerospace Events and Personalities, 1815-1969*. 

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seconds as the plane traveled a distance of 120 feet. There were three other flights at Kitty Hawk on that day, with the longest flight lasting fifty-nine seconds and covering a distance of 852 feet. The Wright brothers' flying activities were cut short when an unexpected gust of wind flipped the unsecured craft over, damaging the flyer.4

After storing the damaged plane back in its hanger and eating lunch, the Wrights made arrangements to announce their success by sending a telegram to their family in Dayton. The isolation of Kitty Hawk made it necessary to send the telegraph through the local Weather Bureau station. Somewhere during the message's meandering route, Orville's name was misspelled. The telegraph read:

Success four flights Thursday morning # all against twenty one mile wind started from Level with engine power alone # average speed through air thirty one miles longest 57 seconds inform Press home #### Christmas.

Orevelle Wright5

Prior to their trip to Kitty Hawk, the Wrights made arrangements with another brother, Lorin, to act as their press agent. Upon receiving news of a successful flight, Lorin was to notify local newspapers and the Associated Press. Lorin dutifully went to the downtown offices of the Dayton Journal and presented the local Associated Press representative, Frank Tunison, news of Orville and Wilbur's successful feat. Tunison's surprising reply was: "Fifty-seven seconds, hey? If it had been fifty-seven minutes then it might have been a news item."6

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4 Crouch, The Bishop's Boys, 267-268.
Back in Norfolk, Virginia, where Orville’s original telegram was retransmitted, the *Virginian-Pilot* picked up on the story via the local telegraph operator. Lacking any real details of the flight, the writers simply created their own. The resulting headline on December 18 in the *Virginian-Pilot* read:

"Flying Machine Soars 3 Miles in Teeth of High Wind Over Sand Hills and Waves at Kitty Hawk on Carolina Coast."7

Leading with the claim that there was “no balloon attached to aid it,” several of the articles “enhancements” included details of the machine, describing that a “six-bladed underwheel” that lifted the craft into the air, the engine attached underneath the “navigator’s car, and the machine was controlled via a “huge fan-shaped rudder of canvas.”8 Although the Associated Press failed to pick up on the story, several newspapers did, including the *New York American*, and the Cincinnati *Enquirer*. As for the local Dayton papers; the *Dayton Journal*, simply printed a condensed version of the *Virginian-Pilot’s* story while Dayton’s afternoon paper, the *Daily News*, created a story just as erroneous and buried it in what could be considered the neighborhood news section. Signaling the nation’s forthcoming questioning of the Wrights’ qualifications, the *Dayton Daily News* featured the headline “Dayton Boys Emulate Great Santos-Dumont.”9 The brief article included news from the brothers’ December 17 telegraph and left out the wild descriptions of the plane and flight.

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8 Ibid.
The following day, the Associated Press placed a 400-word version of the *Virginian-Pilot*’s story on its wire service while even wilder versions of the Wright brothers’ first flight began to appear in papers throughout the country. Sending a wire prior to their arrival in Dayton on December 23, the Wright brothers sent one more telegram home, commenting that they “[h]ave survived [the] perilous trip reported in [the] papers....”10 While it appears that many of the erroneous stories were simply fabricated, they did create a public knowledge of the Wrights’ success at Kitty Hawk. However, despite their accomplishment and the subsequent publication of the factual story, the brothers would not be hailed as heroes until five years later.

The Wright brothers surely could never have imagined that even after a century, there would still be challenges to their place in history. Orville, after the death of his brother in 1912, spent a considerable amount of his remaining years defending the Wrights’ historic flight and their claim to inventing the modern airplane. With the most difficult challenge coming from the Smithsonian Institution, Orville had a formidable task ahead of him and would not live to see the fruits of his efforts.

One of the most significant and widely recognized aviation images ever produced is the Wright brothers’ successful first powered flight at Kitty Hawk, North Carolina on December 17, 1903. Taken by John T. Daniels of the Kill Devil Hills Life Saving Station, the photograph captures Orville at the controls and Wilbur running

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10 Orville Wright to Katharine Wright, December 23, 1903, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 1, 400.
along side of the flyer as it successfully lifts off. To capture the image, Orville set up his camera and tripod at the end of the launching rail and instructed Daniels on how to operate the camera. Unsure if Daniels captured the moment, it was not until after their return to Dayton did the Wrights realize that their historic flight was captured on film. (Figure 3)

Figure 3. Photograph of the Wright Brothers' First Powered Flight. This December 17, 1903, photograph is one of the most recognized and reproduced aviation images in history. Courtesy of Special Collections and Archives, Wright State University.

Surprisingly, the Wrights initially failed to recognize the considerable historical importance the world's first airplane represented to the United States, let alone the world. Fortunately, unlike their earlier gliders that were simply left to rot at Kitty Hawk and their first subsequent powered airplanes that were either burned or abandoned, the 1903 Flyer, though heavily damaged, was packed in crates and shipped back to Dayton. The plane sat packed away in Dayton until 1916, luckily surviving the

11 A forerunner of the United States Coast Guard, the members of the United States Lifesaving Service at Kill Devil Hills often served as an unofficial ground crew during the Wrights' activities at Kitty Hawk.
devastating Dayton flood of 1913. In 1916 Orville recognized that the restored plane could be used to resolve the controversy that was developing with the Smithsonian Institution over who invented the first machine capable of powered, sustained, and controlled flight. With its roots going back to December 1903, the conflict between the Smithsonian Institution and the Wright brothers would last for over thirty years.

The “Smithsonian controversy” dwarfs the more recent and more memorable disagreement involving the *Enola Gay* and the Smithsonian’s exhibit, *The Crossroads: The End of World War II, The Atomic Bomb, and the Origins of the Cold War*. Both show there was more than just heated differences in views of exhibit interpretation. The *Crossroads* exhibit received widespread attention through several books, journals, articles, and editorials, whereas the Smithsonian controversy is mostly overlooked with the exception of several in-depth Wright histories. While the *Enola Gay* exhibit’s eventual cancellation and the issue of the museum’s authority to represent or voice an opinion has served as great fodder for historians and museum professionals to examine, the Smithsonian’s first major *faux pas* has largely escaped historical scrutiny.

During the decades long controversy, the Smithsonian Institution used its immense power and wealth as the United States national museum to knowingly perpetuated a campaign of public deceit through misleading exhibits and falsified publications. Directed from the highest levels from within, the Smithsonian used its

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reputation in an attempt to distort history in an effort to protect the reputation of the Institution and its former Secretary, Samuel Pierpont Langley. The Wright brothers suffered personally and professionally as a result of the Smithsonian’s misleading version of the birth of powered flight. Knowing that the Smithsonian was deceiving the public and directly challenging their rightful place in history, Orville fought back.

The impetus behind the Smithsonian’s participation in the controversy was the Langley Aerodrome, created by then Smithsonian Secretary Samuel Pierpont Langley, its two public failures, and resulting public humiliation. Langley, a recognized leader in early aerodynamic research, successfully developed two unpiloted aircraft that were capable of sustained flight. They represented a considerable step in the race for a man-carrying, controlled, and sustained power-driven, heavier-than-air craft.

Successfully flown in 1896, the unmanned Langley Aerodromes No. 5 and No. 6 poised Langley as the most likely candidate to create a manned aircraft. With the help of Langley’s friend and succeeding Secretary of the Smithsonian Charles D. Walcott, Langley received a $50,000 grant from the United States Army’s Board of Ordnance and Fortification in 1898. With needed funds in hand, Langley quickly began work on his Great Aerodrome (also referred to as Aerodrome A) in the fall of 1898.

Although the craft was a scaled-up version of his previously successful Aerodromes, the resulting Great Aerodrome was a hefty fifty-two feet long and

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processed a wingspan of just under fifty feet. It exhibited numerous problems that threatened the overall success even before his first flight attempt. With the help of Charles Matthews Manly, Langley’s chief aerodromic assistant, the initial underpowered Balzer eight-horsepower engine was reengineered to create over fifty-two horsepower, a significant amount of power in 1903.\textsuperscript{14} Despite the increased engine power, the Great Aerodrome possessed poor structural integrity and a poorly designed control system. The controls only allowed for slight vertical movement and lacked any lateral control. In addition, the large craft was weak and fragile to the point that the entire craft could be distorted if the slightest pressure was placed on any of its numerous supports or bracing wires. Perhaps the greatest concern for the pilot, Manly, was that he was to be housed in a fabric cockpit placed beneath the craft. Designed to be catapulted at nearly 60 miles an hour from a houseboat and lacking any type of provisions for landing, Langley hoped the Aerodrome would land in the water. Had the Aerodrome successfully flown, in all likelihood, Manly would have suffered the brunt of the landing, be it submerged underwater or on the ground.

The first attempt at flight for the Great Aerodrome was on October 7, 1903 on the Potomac River, close to Widewater, Virginia.\textsuperscript{15} Among the many spectators were individuals from the powerful Washington press corps. With Manly strapped into the cockpit, the craft plunged directly into the water upon its release from the catapult and

\textsuperscript{14} Stephen M. Balzer, a New York automobile builder, was originally contracted by Langley to design and build an engine which would create a minimum of 12 horsepower. However, since his engine failed to meet Langley’s specifications, his contract was canceled and Charles Manly assumed responsibility of developing the Great Aerodrome’s engine.

never became airborne. The crash caused significant damage to its wings and rudder while the frame and engine, for the most part, survived. Upon examination, both Langley and Manly concluded that the crash was the result of the launching catapult failing to release the craft once it reached the end of its track, not the Great Aerodrome itself. Realizing the scope of the public failure and pushed for an explanation, Manly released a statement to the press explaining “[i]t must be understood that the test today was entirely an experiment, and the first of its kind ever made. The experiment was unsuccessful.” Langley later released a statement clarifying the cause of the failure to be the catapult.

Despite Manly and Langley’s statements, the press reported the event much differently. The scathing reports helped lay the foundation for the public disgrace of Langley and to an extent, the Smithsonian Institution. The Washington press was quick to exploit the first spectacular public failure of the Great Aerodrome, stating that the craft had the “flying characteristics of a handful of mortar” and nicknaming the craft the “buzzard.” While many of the first press accounts of Langley’s failure were universally degrading, several, such as the Chicago Tribune did come to his defense, editorializing that while “[i]t is impossible not to admire the pluck of Professors Langley and Manly whose motto is ‘if at first you don’t succeed, try, try again!’ We all

17 Ibid., 266.  
18 Crouch, The Bishop’s Boys, 263.  
19 The October 9, 1903 edition of the Washington Star labeled the Great Aerodrome as a buzzard, describing that “…of all the creatures that has soared in the air, feathered or otherwise, since history began, Langley’s was the strangest looking.”
may sail through the air yet.”\textsuperscript{20} While as a scientist, Langley may have come to expect failures as a normal process of experimentation. However, his public failure contributed to the increasing speculation that manned flight was even possible.

With his funding resources nearly exhausted and increasing pressure from the press to show results for the government’s considerable financial investment, Langley staged a second public test flight on December 8, 1903 with Manly once again at the Great Aerodrome’s controls. Launched on the Potomac River in Washington D.C. from atop the houseboat apparatus, the Great Aerodrome once again immediately plunged into the water, collapsing and temporally trapping Manly in the frigid water. The resulting public humiliation of Langley began to know no bounds as the press instigated public debates over his failures. Those that once supported his efforts, such as the \textit{New York Times}, began attacking Langley, stating that “he [Langley] is capable of service to humanity greater than would be expected as a result of trying to fly”\textsuperscript{21} and that “[t]he scientist will undoubtedly work away at this fascinating task although there is no danger that the bird’s monopoly of the air will never be disturbed.”\textsuperscript{22}

The public grumblings of Langley’s failure was not reserved solely for the press. Upon the dramatic failures of the Aerodrome in 1903, Langley, the Smithsonian, and the United States Army received the scrutiny and scorn of government officials who viewed the project as a huge waste of taxpayer money. Articles and editorials linking his failure with government funding that was initially sponsored by subsequent

\textsuperscript{20} Chicago Tribune, 9 October 1903.
\textsuperscript{21} New York Times, 9 December 1903.
\textsuperscript{22} Chicago Tribune, 10 December 1903.
Smithsonian secretary Charles D. Walcott started to receive widespread circulation.\textsuperscript{23} This criticism did not escape Congress, especially due to 1904 being an election year. Through House Resolution Number 160, Nebraskan Congressman Gilbert Hitchcock instigated the full-scale investigation of Army funding and subsidy of flying machines. The resulting inquiry focused on “Langley’s Scheme,” the behavior of the Smithsonian Institution, and the Board of Ordinance.\textsuperscript{24} This action, combined with Congress’s consistent tightfisted approach to funding technological innovations, threatened to end the federal government’s investment in powered flight experimentation and left a lasting legacy of reluctant government funding throughout the pioneering days of aviation.

Stating that more experimentation would guarantee success, Langley approached the Board of Ordinance requesting an additional grant of $25,000. The Board denied his grant and by April of 1904. Just months after the Wrights’ successful flight at Kitty Hawk, the Board of Ordinance elected that for the government to fund any experimentation into powered flight, a proven prototype flying machine must be presented.\textsuperscript{25} While the strict criteria imposed by the Board did quiet the critics of “Langley’s Scheme,” the calls for more control on the Army’s funding in flight

\textsuperscript{23} Syndicated columnist Mark Sullivan wrote one of the more widely distributed editorials addressing Langley’s failure with taxpayers’ funds. In part, he wrote that “[h]ere is $100,000 of the peoples’ money wasted on this scientific aerial navigation experiment because some man, perchance a professor wandering in his dreams, was able to impress officers that his scheme had utility. Perhaps if Professor Langley had only thought to launch his airship bottom up, it would have gone up into the air instead of down into the water.” See Walter T. Bonney, \textit{Prelude to Kitty Hawk Pegasus} (Fairchild Engine and Airplane Corporation) n.p., n.d. p.25.

\textsuperscript{24} Russell Jay Parkinson, “Politics, Patents And Planes, Military Aeronautics in the United States, 1863-1907” (Ph. D. diss., Duke University, 1963), 82-83.

\textsuperscript{25} \textit{Ibid.}, 87-88.
experimentation and the public's resulting apprehension over the possibility of powered flight did adversely affect others pursuing aeronautical research, including the Wright brothers.

Due to their bicycle business, the lack of government financial support did not impede the Wrights and their flight experiments. However, the public Langley debacle did have a lasting impact on the brothers and their legacy. First used in a 1906 *New York Herald* article, the phrase “fliers or liars” was often associated with the Wright brothers in the years immediately after their Kitty Hawk success.26 Due to the earlier failures of Langley and his Aerodrome and the fact that the Wright brothers were essentially untrained in the field of engineering, their claims to having invented a truly controllable airplane were cast in doubt. It was not until the public flight exhibitions at Fort Myer, Virginia and Les Hunaudieres, France in the summer of 1908 that the Wrights were finally recognized as having truly invented a flying machine as earlier claimed. (Figure 4)

In *American Genesis: A Century of Invention and Technological Enthusiasm*, Thomas P. Hughes placed the Wrights in the era of independent inventors.27 Starting with “heroic” inventors such as Alexander Graham Bell and Thomas Edison, Hughes described the period from about 1870 to 1920 a time where independent inventors were free to select the problem to be solved and were not hemmed in by the post-

26 Titled “Are They Fliers or Liars?” the February 10, 1906 *New York Herald* article reads: “[t]he Wrights have flown or they have not flown. They possess a machine or they do not possess one. They are in fact either fliers or liars. It is difficult to fly. It is easy to say, 'We have flown.'”
World War I military and corporate controlled research and development. Hughes explained that the folklore created by the early press accounts and public image of the Wrights tinkering in their bicycle shop masked the brothers’ methodical and scientific technical problem solving. This mythical perception of the Wrights helps explain their initial problems in convincing a skeptical government and public in their actual ability to fly.

The Wrights’ bicycle business gave them the luxury of a dependable steady income that allowed them the flexibility to concentrate on solving the problems of flight at their own pace. While many were discounting the Wrights’ ability to successfully solve the problem of flight after the high-profile failure of Langley, Hughes suggests that the brothers’ self-confidence and ability to analyze their

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28 Ibid., 18-19.
predecessors' failures, was a common trait found among other independent inventors such as Bell and Edison.\(^\text{29}\) Like Edison, the Wrights served as cultural folk heroes and often had their image exaggerated by the media. Similar to Edison who "never spoke of service to humanity or his mission in life" and made "commercial demand" as the "measure of need," the Wrights' determination to build on their 1903 Kitty Hawk flight success was more of a business decision than a venture to better mankind.\(^\text{30}\) Like many of the other inventors of the period such as Hiram Maxim of machine gun fame, radio pioneer Reginald Fessenden, and Edison, the Wrights never attended college but did exhibit a natural mechanical aptitude.\(^\text{31}\) Similar to the other independent inventors, the Wrights directly managed the marketing, introduction, and eventual production of their invention. However, perhaps due to their devoting their entire lives in following their inventive spirit, one characteristic that does stand out when compared to most of the "Great Inventors," is that neither of the Wright brothers married nor fathered any children.\(^\text{32}\)

Doubts in the Wright brothers' ability to fly, in retrospect, is perhaps understandable due to the method in which they carried out efforts to secure a contract for the purchase of their airplane. In short, the Wright brothers were fearful that someone would steal their invention. Prior to securing patents in France, Belgium, and

\(^{29}\) Ibid., 58-59.  
\(^{31}\) Hughes, American Genesis, 16.  
\(^{32}\) In a survey conducted of 371 American inventors listed in the Dictionary of American Biography alive prior to 1937, it was found that only 13, or 3.5% of the inventors remained single. It was also found that of the married inventors, when the data was available, that the average number of children fathered by an inventor was five. See Sanford Winston, "Bio-Social Characteristics of American Inventors" American Sociological Review vol. 2, no. 6 (December 1937), 842-845.
Great Britain in 1904 and in the United States in 1906, the Wright brothers offered their invention for sale to all prospective buyers sight unseen. While they were eager to profit from their invention, the Wrights were willing to wait for the protection granted by the patent and felt its safeguards would be enough to secure their claim. Once granted, the Wrights' broad patent also helped lay the foundation for the Smithsonian controversy and set in motion a series of bitter and lengthy lawsuits. Always leery of the press, the Wrights were unwilling to publicly risk their invention by demonstrating it in a Langley-like fashion until their legal rights were secured. Their lengthy secrecy, when combined with the Smithsonian controversy, helps explain that when compared to the other inventors of the time, only the Wrights would need the next forty years to consolidate their legacy.

With wealth and international fame beckoning, it is reasonable to expect that in addition to Langley, a number of contenders would vie for recognition as the first to fly. It seems that in the first few years of the young century, local papers throughout the country echoed a story similar to those of the Wrights' first flight. These claims did not escape the attention of Orville and Wilbur. With the need to protect their legacy, their inventive and engineering talents were often diverted in efforts to fend off threats to their place in history. These claims probably would not have been as troublesome to the Wrights if the Smithsonian Institution had fully recognized the brothers' accomplishment early on.
While most of these “new breakthroughs” in powered flight development can be discounted, several individuals are worthy of recognition as they were viewed as more than a nuisance by Wilbur and Orville. Despite their arguable secondary importance compared to the Smithsonian controversy, their cases offer examples concerning how museums and community promoters have overlooked various facts over the past hundred years. These early aviation pioneers include Gustave Whitehead, Clément Ader, and Alberto Santos-Dumont.

Perhaps the most enduring challenge to the Wright brothers’ place in history is that of Gustav Whitehead, an aviator who claimed to be the first to fly a powered aircraft. Whitehead, also known as Gustave Weisskopf, allegedly flew a powered, heavier-than-air machine over a half-mile in 1901 in Bridgeport, Connecticut, a full two years prior to the Wright brothers’ first flight. *Scientific American* first published the story on June 8, 1901. This story included a detailed description of the “bat or bird-like” design and was subsequently published in the *New York Herald, American Inventor*, and the *Bridgeport’s Sunday Herald*. Whitehead also claimed to have made several longer flights, including some that lasted upwards to seven miles (keeping in mind that the Wrights’ first flight lasted 12 seconds and traveled 120 feet). Whitehead eventually produced photographs of what he asserted to be his aircraft in flight in 1902.
Under Langley's direction, the Smithsonian investigated the aviator's claims and found that the Whitehead craft "did not appear to be airworthy." Without the support of the Smithsonian, interest in Whitehead's claims faded for the next several decades. However, in the 1930s, Stella Randolph, a journalist, revived interest in Whitehead through the publication of *Lost Flights of Gustave Whitehead*. As a result of her initial "research," a cottage industry has grown over the past seventy years with museums, publications, and Internet websites flourishing today in support of Whitehead's claim to be the first to fly.

With the recent hundredth anniversary of the Wrights' first flight, other claims attempting to dethrone the Wrights have reappeared. With the help of impassioned followers, old arguments have been revived in an effort to draw public attention to other possible first flights through recent publications and exhibits. Clément Ader is perhaps the closest of the early aviation pioneers that came close to becoming the first to fly. Ader claimed to make the first powered flight of man on October 9, 1890 with a steam-powered craft called the Éole. However, his claimed first flight did not meet the strict requirement of a free, controlled, and sustained power-driven, heavier-than-air machine due to his inability to control the craft. Ader completed the steam-powered Avion III in 1897. With testing conducted in secret, Ader claimed he successfully made a controlled powered flight in October 1897.

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When public tests were conducted, Ader appeared to have left the ground but there was question as to if the wheels actually left the ground. Ader felt his wheels left the ground while those in attendance were left unsure of Ader’s success. Ader’s Avion III tests were cut short due to high winds and a subsequent crash that damaged the machine beyond repair. While there is a general consensus that Ader’s 1890 flight probably does represent the first uncontrolled powered flight, the controversy over Ader rests with the debate if the Avion III’s wheels left the ground during his controlled flight attempt in 1897. Many have recognized Ader as the “father of aviation” based on his 1897 test. However, Ader’s supporters do not provide any evidence that an actual “airborne translation” occurred.

Similar to Gustave Whitehead’s followers, Ader gained a substantial following based on eyewitness testimony. As a result of flaws persistent with eyewitness testimony, Ader’s claims are left for speculation. In an effort to put to rest the speculation surrounding Ader’s flight, Wilbur, shortly before his death in 1912, wrote a rebuttal to Ader’s claims. In “What Clément Ader Did,” Wright contends that eyewitnesses stated that Ader was capable of steering his Avion III with enough precision to swerve around obstructions on the ground. Wilbur argues that the inexperienced Ader was steering his plane with the rear wheel since any swerving maneuvers “could not have been done if he had been in the air.” Dismissing Ader’s

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claims, he explains Alder's flight as simply an illusion of flight based on the observations of the *Avion's III* front wheels leaving the ground while the rear wheel remained on the ground providing full control of the craft. Wilbur concludes that Alder's efforts "contributed nothing of the final success [of powered flight]."\(^{38}\)

Today, many historians do not discount the fact that Clément Ader did probably momentarily leave the ground with his *Avion III* craft though it was never controlled.\(^{39}\) Compared to Whitehead, Ader has been credited for his contributions to aviation by more than just conspiracists or enthusiasts. In France, Ader's native country, he is still often recognized as the first to fly. As a result, he has been honored with a French issued postage stamp. French aircraft maker Airbus named the largest aeronautical plant in Europe after Ader. In addition, his restored *Avion III* currently hangs at the Conservatory of Arts and Industry in Paris.

Alberto Santos-Dumont, who immigrated to France from Brazil as a child, successfully flew his *14-bis* on September 13, 1906 and subsequently set the first aviation record in Europe several months later. Santos-Dumont eventually designed and produced a successful monoplane, the *Demoiselle*, in 1909. By contrast to the Wrights who sought to make a profit off their invention, Santos-Dumont offered the plans to the *Demoiselle* free and they were published throughout the world. His generosity is credited with helping fuel the widespread interest in aviation prior to World War I.

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\(^{38}\) Ibid.

Aviation historians do not dispute Santos-Dumont’s accomplishments and contributions in the development of early aeronautical engineering. Those supporting Santos-Dumont agree that his flight was nearly three years after the Wrights’ first flight in 1906. They argue that the Wrights worked secretly and never made a public flight until their 1908 public exhibition flights. Also, since the Wrights used a catapult as compared to Santos-Dumont’s unassisted take-off, their flights should be considered “assisted.” As a result, they dispute the Wrights’ first flight claims and since there was no question as to Santos-Dumont’s successful 1906 flight, he should be considered the first to fly.

However, Santos-Dumont’s supporters overlook the fact that the Wrights made numerous public flights at the Huffman Prairie as they perfected their flyer during 1904 and 1905. With the flying field next to an interurban route, these flights were often observed. In addition, the Wrights, bowing to growing pressure to install wheels, did eventually remove the landing skids and installed wheels. They proved that their planes could fly just as well with or without wheels. Orville and Wilbur simply concluded that using a catapult was a more effective way of taking off and the landing skids were easier to move around on the unimproved flying fields of the day.

While there are ardent followers in the United States, Alberto Santos-Dumont supporters are mainly located in Brazil. There, he is often referred to as the “Father of Aviation.” While it could be argued that the former dictator Getúlio Vargas’s insistence that non-Brazilian accomplishments not be taught in schools thereby deleting the
Wrights from their collective memory is the root of the Brazilian passion for Santos-Dumont, it is more likely simple Brazilian national pride. Santos-Dumont’s Brazilian home has been converted into a museum in his honor, and the Demoiselle is currently exhibited at the Paris Space and Air Museum. In Bagatelle, France, a monument is erected at the location where Santos-Dumont flew in 1906. The marker celebrates the location of the establishment of the “first aviation record of the world,” however, it does not state that he was the first to fly. In September 2006, a replica of Santos-Dumont’s Demoiselle was exhibited outside of Brazil for the first time at Sinclair Community College in Dayton. The flying replica was later demonstrated at the Dayton-Wright Brothers Airport prior to its temporary exhibit at the Smithsonian Air and Space Museum.

Similar to the followers of Gustav Whitehead, those that advanced the first flight claims of the other earlier aviation pioneers over the past century were discounted by their aviation peers as well as most historians. However, as time moved away from the actual event and interest and enthusiasm for these aviators grew and individuals supporting them correspondingly increased. With the exception of Alberto Santos-Dumont, the Wright brothers were the only ones that successfully built upon their early flights. The Wrights’ concern over the other first flight claims is seen in Wilbur’s written response to Alder’s “flight” and Orville’s public rebuttal to the

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40 Santos was affected with multiple sclerosis and returned to Brazil in 1916. He committed suicide on July 23, 1932 allegedly due to his despair over use of aircraft in war.
Whitehead claims. Another recognized first flight would no doubt jeopardize the Wrights' ability to develop stature among the scientific community. Often times, their lack of formal education and their profession as bicycle mechanics would creep into discussions as to the brothers' capacity to successfully crack the mysteries of powered flight.

The Wrights' road to fame gathered momentum following their successful 1903 flight. However, even after securing a patent and several contracts, the brothers would not reap the financial rewards for their invention for years. Wishing to perfect their airplane and due to the costly, time-consuming excursions to Kitty Hawk, the Wright brothers sought a test airfield closer to their home in Dayton. In 1904 the Wright brothers selected a parcel of land approximately seven miles from downtown Dayton, known as Huffman Prairie, to become their first airfield. The Huffman Prairie Flying Field subsequently evolved into one of the largest air force bases in the world.

The Wright brothers' experimental flights at the flying field lasted from 1904 to 1905 and proved that the theories of aerodynamics they developed in their Dayton bicycle shop were correct. These endeavors resulted in the first practical airplane in the world; the Wright Flyer III of 1905. The Wright brothers' aerodynamic theories still form the foundation of modern aviation today, from the simplest ultra-light aircraft to the latest Space Shuttle.

After gaining success with the Wright Flyer III in 1905 at the Huffman Prairie Flying Field, Wilbur described the thoughts behind the Wrights' decision to build on
their success at Kitty Hawk. Wilbur wrote to Albert Francis Zahm, a friend and an early aviation pioneer and researcher who would later become the Wrights' adversary, that:

[W]e found ourselves standing at a fork in the road. On one hand we could continue playing with the problem of flying so long as youth and leisure would permit but carefully avoiding those features which would require continuous effort and the expenditure of considerable sums of money. On the other hand, we believed that if we would take the risk of devoting our entire time and financial resources we could conquer the difficulties in the path to success before increasing years impaired our physical ability. We finally decided to make the attempt but as our financial future was at stake [we] were compelled to regard it as a strict business proposition until such time as we had recouped ourselves.43

Essentially, in order for the Wrights to continue, they needed to treat their desire to proceed as a business decision no differently than they would with their bicycle shop operation. The brothers felt that their expenses could be recouped since Huffman Prairie offered a convenient, low-cost alternative when compared to North Carolina's Outer Banks.

In 1904, Wilbur wrote Octave Chanute, the Wrights' longtime confidant and a leading civil engineer, describing the selected area. Noting the differences between Kitty Hawk and the Huffman Prairie Flying Field, Wilbur wrote:

You are quite right in thinking our Kitty Hawk grounds possess advantages not found at our present location, but we must learn to accommodate ourselves to circumstances. At Kitty Hawk we had unlimited space and wind enough to make starting easy with a short track. If the wind was very light we could utilize the hills if necessary in getting the initial velocity. Here we must depend on a long track, and light winds or even dead calms. We are in a large meadow of about 100 acres. It is skirted on the west and north by trees. This not only shuts off the wind somewhat but also probably gives a slight down trend. The greater troubles are the facts that in addition to cattle there have been a dozen or more horses in the pasture and as it is surrounded by barbwire fencing we have been at much trouble to get them safely away before making trials. Also the ground is an old swamp and is filled with grassy hummocks some six inches high so that it resembles a prairie-dog town. This makes the track laying slow work. While we are getting ready the favorable opportunities

43 Wilbur Wright to Albert Francis Zahm, December 22, 1905, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 1, 527.
slip away, and we are usually up against a rain storm, a dead calm, or a wind blowing at right angles to the track.\(^4\)4

The Huffman Prairie Flying Field is located within an area known as the Huffman Prairie. The prairie is located along the eastern shore of the Mad River approximately eight miles east of Dayton and is now located on Wright-Patterson Air Force Base. The designated Huffman Prairie area covers 109 acres, which makes it one of the largest tallgrass areas in the state of Ohio, and consists of mostly flat land in the river bottom of the Mad River’s flood plain.\(^4\)5

The reasons behind why the Wright brothers specifically chose Huffman Prairie remain vague. In the late 1800s, Huffman Prairie was used as an outdoor laboratory by the local schools and Orville made numerous trips to the prairie as a student. While perhaps it was these childhood memories that drew the Wright brothers back to Huffman Prairie, in all likelihood, the Wrights selected the field because it fulfilled two of their experimental needs. First, Huffman Prairie was located directly on an interurban rail line. Bordering a cow pasture on the northern side of the prairie was the Dayton-Springfield-Urbana electric interurban rail system. The trolley stop bordering the prairie was known as Simms Station.\(^4\)6

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\(^4\)4 Wilbur Wright to Octave Chanute, June 21, 1904, in Octave Chanute Papers: Special Correspondence – Wright Brothers, 1904, Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

\(^4\)5 The wildlife inventory of Huffman Prairie consists of birds such as sedge wrens, grasshopper sparrows and bobolinks and other wildlife such as groundhogs and deer. The plant inventory, aided by a garden of native prairie plants reintroduced in 1991, includes Indian grass, big bluestem, ox-eye daisy, and blazing star. Although Huffman Prairie is managed with respects to maintaining its prairie ecosystem, due to the organic nature of the prairie, the wildlife and plant inventory is constantly changing.

\(^4\)6 The name “Simms Station” is often used in referring to the Huffman Prairie Flying Field when it was an active airfield. The term “Huffman Prairie Flying Field” became the accepted name for the flying field during the construction of the Wright brothers’ memorial.
allowed the Wright brothers to travel and transfer equipment easily from their West Dayton bicycle shop.47 (Figure 5)

Figure 5. Photograph of a Wright Flyer Over Huffman Prairie Flying Field. In this photograph, note the interurban, the early automobiles, and the handful of spectators. Courtesy of Special Collections and Archives, Wright State University.

Perhaps just as important as easy access, was the sense of isolation Huffman Prairie offered. Having already accomplished the first powered flight at Kitty Hawk in 1903, the Wright brothers were wary of the fact that other aviators were very interested in their accomplishments. Although they had already applied for the patent in 1903, a patent would not legally protect the Wrights’ invention until 1906. As a result, they were fearful someone would steal their aircraft design. Therefore, aware that they were susceptible to the theft of their design, the Wright brothers sought a place they could perfect their airplane in relative privacy. In essence, Huffman Prairie offered the close proximity and privacy the Wright brothers desired.

47 The popular name for the interurban route among the locals was the “Damned Slow and Uncertain.” See Lois E. Walker and Shelby E. Wickam. From Huffman Prairie to the Moon: The History of Wright-Patterson Air Force Base (Dayton, Ohio: Air Force Logistics Command, 1983), 3.
Huffman Prairie derived its name from its owner, Torrence Huffman. A Dayton West Side banker, Huffman was familiar with the Wright brothers’ flying endeavors. Although Huffman claimed the Wright brothers were “fools,” he consented to allowing the brothers to use his property.\footnote{Crouch, \textit{The Bishop's Boys}, 279.} The only stipulation Huffman asked of the Wright brothers was that they drive the cows and horses outside of the flying area before they flew.

The first improvement the Wright brothers made to the prairie was to build a hangar. The hangar, built in 1904, was a wooden structure that resembled a shed. (Figure 6) The hangar featured a low gable roof with horizontal board siding. On the end of the narrow portion of the hangar, a wooden door could be swung outward, allowing it to be propped open, creating an awning and allowing the aircraft to be

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{hanger.png}
\caption{Photograph of the 1904 Wright Hanger. This photograph illustrates how the airplane was stored in the 1904 hanger. The airplane was pushed into the hanger by sliding it along a wooden ramp and stored lengthwise after the front rudder assembly was removed. \textit{Courtesy of Special Collections and Archives, Wright State University.}}
\end{figure}

\footnotetext{Crouch, \textit{The Bishop's Boys}, 279.}
placed in the hangar lengthwise. The 1904 hangar was converted into a livestock shelter during the winter and was subsequently torn down.

Despite their confidence and enthusiasm entering into a new flying season in May of 1904, the Wrights did not have much luck building upon their Kitty Hawk success. Often, they were only able to muster hops no more than a couple of hundred feet. It took until August 13 to beat their 852-foot 1903 Kitty Hawk record.\footnote{Arthur George Renstrom, \textit{Wilbur & Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, August 19, 1871} (Washington, D.C.: National Aeronautics and Space Administration, Office of External Relations, NASA History Office, NASA Headquarters, 2003), 8.} As Wilbur explained to Chanute, the brothers:

\begin{quote}
...found great difficulty in getting sufficient initial velocity to get real starts. While the new machine lifts at a speed of about 23 miles, it is only after the speed reaches 27 or 28 miles that the resistance falls below thrust. We have found it practically impossible to reach a higher speed than about 24 miles on a track of available length, and as the winds are mostly very light, and full of lulls in which the speed falls to almost nothing, we often find the relative velocity below the limit and are unable to proceed.\footnote{Wilbur Wright to Octave Chanute, August 8, 1904 in Octave Chanute Papers: Special Correspondence – Wright Brothers, 1904, Wilbur and Orville Wright Papers.}
\end{quote}

In other words, at the Huffman Prairie Flying Field, they lacked the wind velocity and sustained, strong winds found at Kitty Hawk. Their first public exhibitions did not meet with great success. In attempt to look at the positive side of a series of failures, the \textit{Dayton Press} reported that Wrights’ May 1904 test flight was “given a successful test” when Orville at the controls, “rose in the air about 12 feet and sped alone for about 25 feet. Then it fell to the ground because the power had not been kept up.”\footnote{“Flying Machine Given a Successful Test By Messrs. Wright This Afternoon,” \textit{Dayton Press}, 26 May 1904.} While the public failure helped fuel the speculation as to if the Wrights could actually...

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fly, unbeknownst to the spectators, the failure was symptomatic of the wind velocity problem plaguing the Wrights.

The process of preparing to take-off at the flying field during the summer of 1904 was to lay twenty-foot sections of railing for the plane’s lift off and hope that the wind would increase and not shift later in the day. More often than not, the brothers would rush to attempt a take-off during a gust of wind with the craft either failing to lift-off or crashing to the ground when the wind subsided. The unsuccessful launches and crashes took their toll on both men and their equipment. In Wilbur’s August 1904 letter to Chanute, the brothers realized that they would need “to build a starting device that will render us independent of the wind, and are now designing one.”

Described by Wilbur as a “starting apparatus” and pleased that it was operating “perfectly,” the Wrights’ invention of a catapult launching system in September 1904 solved their wind velocity problems and paved the way for their eventual success. The catapult system consisted of a derrick, weights, and rails. The derrick, constructed from wood, was approximately twenty-two feet tall and the rails were placed at the base of the derrick. To launch a plane, a 1600-pound weight was

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52 The early Wright Flyers lacked landing gear and wheels.
53 Fred Kelly explains that residences near the flying field kept tabs on the brothers’ safety after seeing the craft crash and that Wright mechanic Charlie Taylor stated “every time he saw one of the brothers start on a flight he felt that he was seeing him alive for the last time.” See The Wright Brothers: The Classic Biography Authorized by Orville Wright London: George G. Harrap and Company Limited, 1944; New York: Bantam Books, 1983), 76.
54 Wilbur Wright to Octave Chanute, August 8, 1904 in Octave Chanute Papers: Special Correspondence – Wright Brothers, 1904, Wilbur and Orville Wright Papers.
55 Wilbur Wright to Octave Chanute, September 18, 1904 in Octave Chanute Papers: Special Correspondence – Wright Brothers, 1904, Wilbur and Orville Wright Papers.
pulled to the top of the derrick by a set of ropes and pulleys. The plane was secured to the rail and when the pilot released the weight, the plane was propelled down the short, wooden launching rail. The derrick and weight launching system was used at Huffman Field until the Wright brothers installed skids on their airplanes in 1910. (Figure 7)

![Figure 7](image.png)

Figure 7. Photographs of the Catapult System in Use. After releasing the weight in the derrick, the aircraft was propelled down a rail. If conditions were right, the plane would take off by the time it reached the end of the ramp. The launching rail was several pieces of lumber connected in a straight line. The Wright brothers recorded the cost of the wood used on the rail at $4.00. Courtesy of Special Collections and Archives, Wright State University.

The use and placement of the launching system was important due to the flying field’s landscape limitations. Trees flanked the flying field and just beyond the tree line were cornfields and rough, grassy hummocks. These landscape features dictated where the Wright brothers could take-off, fly, and land. After several experimental flights, the Wright brothers developed an elliptical flight path with a large thorn tree as their turning point. Based on their success in the fall of 1904, the Wrights “now regard[ed] the practicability of flying as fully established” and began plans to construct their next plane, the Wright Flyer III.57

56 Originally, the Wrights used local grindstone wheels for their derrick weights.
In 1905, the Wright brothers returned to the field and constructed another hangar. The 1905 hangar was similar in construction and design to the 1904 hangar but was larger in size. The 1905 hangar remained standing until 1910.\textsuperscript{58} By late June, the newly constructed Wright Flyer III was ready for flight-testing. This craft was longer than the previous models and featured revamped flight controls based on their previous seasons’ trials. The most important innovation was their decision to give the pilot full control of the aircraft through an expanded control system. However, as a result of a serious accident while Orville was at the controls in July, the Wrights were forced to make several final modifications to the flight control system. By September, the Wrights resumed their test flights with dramatic results.

By the early fall, the Wrights were routinely flying and landing, at will. Their years of experimentation finally resulted in a series of record flights during the remainder of their stay at the flying field in 1905. By the end of October, circling the field, Wilbur flew nearly twenty-five miles in about forty minutes and only landed because he ran out of gasoline.\textsuperscript{59} Their repeated success at the Huffman Prairie Flying Field in 1905 proved to the Wrights that they achieved their goal of controlled and sustained powered flight. With the Wright Flyer III, the Wrights succeeded in creating

\textsuperscript{58} United States Department of the Interior. \textit{Huffman Prairie Flying Field}, 1-2.

\textsuperscript{59} Their record flights in the fall of 1905 included: September 26 – 11 1/8 miles in 18 minutes, 9 seconds; September 29 – 12 miles in 19 minutes, 55 seconds; October 3 – 15 1/4 miles in 25 minutes, 5 seconds; October 4 – 20 1/4 miles in 33 minutes, 17 seconds; and October 5 – 24 1/5 miles in 33 minutes, 3 seconds. Fred Kelly, \textit{The Wright Brothers}, 82-83.
and perfecting the first practical airplane in a modern sense in that it could take to the
air, fly under full control of the pilot, and land safely at the will of the operator.\[^{60}\]

The Wrights' extended flying times could no longer be concealed from the
large crowds of curiosity seekers gathering at the flying field. Since their decision to
build upon their 1903 success at Kitty Hawk at the field was a business venture, the
Wrights were fearful that without a secure patent their years of hard work and sizable
investment would be difficult to safeguard. As a result, the Wright brothers suspended
their flying operations at the Huffman Prairie Flying Field after their last flight on
October 16, 1905 in order to concentrate on securing their patent and to market their
invention.

In 1904, they hired local patent attorney Henry Toulmin.\[^{61}\] Toulmin was able
to successfully devise an in-depth patent that covered the Wrights' control system and
technically prohibited others from building a controllable airplane without paying a
royalty to the Wrights. Although the Wrights were granted patents in Great Britain,
France, and Belgium in 1904, it was not until May 23, 1906 that the United States
approved their application.\[^{62}\] The three-year delay was due in part because the
Wrights' initial patent, filed prior to Toulmin's retention, was rejected. Following the

\[^{60}\] The original Wright Flyer III is exhibited at the John W. Berry, Sr. Wright Brothers Aviation Center in
the Carillon Historical Park, Dayton, Ohio. The exhibit is part of the Dayton Aviation Heritage National
Historical Park.

\[^{61}\] To honor and celebrate the Wrights' patent attorney Henry Toulmin, a sculpture was dedicated on
October 5, 2006, the patent's 100th year anniversary. The sculpture is located in front of Toulmin's
former Springfield, Ohio's office location. Created by local artist Mike Majors, the project was
commissioned by Springfield and Dayton heritage groups and funded by the Turner Foundation, the
Aviation Heritage Foundation, the American Bar Association Section of Intellectual Property Law, the
Federal Circuit Bar Association, and the University of Dayton School of Law.

trend established at the turn of the century, nearly eighty-one percent of the patents
granted in the United States were awarded to independent inventors similar to the
Wright brothers.63

Prior to receiving the United States patent, the brothers were unsuccessful in
their attempts to sell their invention sight unseen and were unable to secure any
contracts. However, after obtaining their broad patent, the Wrights placed a bid of
$25,000 per plane with the newly formed Aeronautical Division of the United States
Army Signal Corps.64 Their bid was accepted and the stage was set for the Wrights to
prove to the world that they indeed succeed in inventing a plane capable of practical
flight. The Wrights erased any doubts with their public flight exhibitions of the
world’s first production aircraft, the Wright Model A in 1908. Separated for their
invention’s public introduction, Orville flew a Model A at for the U. S. Signal Corps
trails at Fort Myer, Virginia in September 1908 and Wilbur flew a Model A near Le
Mans, France in August 1908. With its first purchase by the military, the Wrights’
plane was the precursor for the government and military’s entrance into the more
controlled and complex technological driven inventiveness that would emerge several
years later during World War I.

After successfully selling one airplane each to the United States Army and a
French syndicate in 1908 while still operating under the Wright Cycle Company, the

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64 The initial Army requirements stated that the machine was to weigh between 1100 to 1250 pounds, capable of carrying two men, carry a total payload of 350 pounds, fly at least 40 mph, and able to remain aloft for at least one hour.
Wrights incorporated the Wright Company on November 22, 1909. The company's corporate office was located in New York while the manufacturing facility was built in Dayton. After establishing their new enterprise, the Wrights returned to the Huffman Prairie Flying Field in 1910. There, they constructed a new, larger hangar for the growing Wright Company. In an effort to improve accessibility to Huffman Field for the growing number of automobiles, the 1910 hangar was built near the intersection of nearby Yellow Springs Pike and Springfield Pike. In addition to its use by the Wright Company for testing their experimental aircraft from 1910 to 1916, the Wright School of Aviation also used the 1910 hangar. (Figure 8)

![Figure 8. Photograph of the Wright Company's 1910 Hangar. Used from 1910 to 1916, it was not unusual to see livestock grazing on the field during the early days of the Wright Company at the Huffman Prairie Flying Field. The Wright School of Aviation also used this hanger during this time. Courtesy of Special Collections and Archives, Wright State University](image)

The Wright School of Aviation opened at the Huffman Prairie Flying Field under the direction of the Wright brothers in the spring of 1910. The school was responsible for training many of the first pilots in the world. After the sale of the

65 Among other firsts associated the Huffman Prairie Flying Field was it was the site of America’s first commercial airfreight flight when a flight was made to Columbus, Ohio on November 7, 1910, carrying a shipment of silk for a local department store.
Wright Company in 1915, the company operations and aviation school ceased to operate at the field. The 1910 hangar, the last built by the Wright brothers, was subsequently abandoned, left to decay. Lacking any preservation foresight, the Miami Conservancy District tore down and removed the hangar in 1938. While the surrounding grounds continued to focus on aviation development, the expanding military air base all but swallowed the Huffman Prairie Flying Field. The flying field was virtually abandoned until Dayton's city leaders started its long path to recognition in 1939.

It took nearly six years for one of the most important technological feats of man to be fully recognized. Despite their abilities and qualifications coming under scrutiny or even simply dismissed during those six years, the Wrights quietly and feverishly worked to perfect their invention and avoided the spotlight. This changed in 1909. Held in Dayton, the 1909 official homecoming celebration for the Wrights represents the first time an aviation event was used for political and economic intentions. The celebration illustrates how Dayton was focused on capitalizing on the Wrights and their technical achievements. The city's agenda is directly linked to the local business interests as both looked to ride the coattails of the brothers' virtual overnight fame for an opportunity to expand the areas' economic base.

With their successful unveilings in the United States and Europe in 1908, the Wrights became overnight, international celebrities. With their photographs splashed in newspapers worldwide, royalty and world leaders sought the attention of the shy
and unpretentious brothers to lavish them with accolades and medals. The leaders of the Wrights' hometown, Dayton, Ohio, were no different. They felt they could use the brothers' fame to promote the city to national prominence through the veil of honoring the Wrights. (Figure 9) The Wrights and the city of Dayton were aided by this media attention differently. The Wright brothers used their fame to promote their invention and subsequent airplane company and flight school. They really did not cooperate with the press except in instances that they could have things their way. By contrast, the

Figure 9. 1909 Cleveland News Cartoon. This cartoon illustrates how many saw Dayton's sudden recognition of the Wright brothers once they achieved their fame. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.
city of Dayton used the brothers’ fame to promote itself and attract military and manufacturing investment.

_The Dayton Herald_ first called for the city to take “the initial step” in hosting a reception for the Wrights in September 1908, stating that although “Dayton may crumble in dust...the name of the Wright brothers will endure as long as earth endures.” The _Herald_ suggested that “the people of the Gem City, rich and poor alike, in public or private life, [should] unite to express their admiration and esteem of the Wright brothers.” The paper, realizing that Dayton, for the most part, ignored the two prior to their worldwide acclaim, advocated that it was “time Dayton gets acquainted” with the Wrights. Setting the stage for celebrations nine months later, the _Herald_ proposed that Dayton host a reception that “will make them feel until their dying days that the people of Dayton really and truly are proud to call them sons and brothers.

Still recovering from a crash during the 1908 Fort Myer, Virginia trials, Orville was accompanied in his trip overseas by the brothers’ sister, Katherine. The two joined Wilbur in Europe in January 1909. During Wilbur’s successful demonstration flights in Europe in 1908, the Europeans quickly became fascinated with everything

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66 “Let Dayton Honor Orville and Wilbur Wright,” _The Dayton Herald_. 10 September 1908.
67 Ibid.
68 Ibid.
69 Ibid.
70 Orville Wright suffered a broken thigh, several broken ribs, scalp lacerations, and back injuries during a crash on September 17, 1908 during the U.S. Army trials at Fort Myer, Virginia. His passenger, Lieutenant Thomas E. Selfridge was killed during the crash and is the first powered airplane fatality. The cause of the crash was due to a propeller failure that caused the plane to lose control and nosedive approximately seventy-five feet to the ground.
that had to do with the Wrights and the press began covering the smallest details of their daily lives. The Americans were also becoming well aware of the new international celebrities and were anticipating their return from Europe. With great fanfare, Orville, Wilbur, and Katherine arrived in New York City on May 11, 1909 and were greeted by a large and exuberant crowd. The three arrived in Dayton from New York on May 13 and were greeted at the train station by over ten thousand well-wishers. Despite their need to focus on solving the propeller problem that caused the Fort Myer accident and their work constantly being interrupted, Wilbur and Orville graciously and quietly endured the seemingly endless hometown admirers.

A battle over what city was going to host the Wrights’ official homecoming was already brewing. Both New York and Dayton were planning on a celebration for the Wrights. In 1909, the United States Congress, the Smithsonian Institution, the Aero Club of America, the State of Ohio, and the City of Dayton voted to award the Wrights medals for their achievements. Attempting to illustrate the significance of the Wrights’ accomplishments and to place the national spotlight on the city, New York Congressman Herbert Parsons (R-NY) asked President William Howard Taft to award the national medals at a ceremony in New York City. However, Representative James M. Cox of Ohio (D-OH) objected to Parson’s plans contending that it would be more fitting that the nation’s welcoming celebration be held in Dayton, the brothers’

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71 The Aero Club of America was founded in 1905 as a private organization to help fund and promote aviation in America.
hometown.\textsuperscript{72} Cox, from the southwestern Ohio area, was also the publisher of the \textit{Dayton Daily News} and had a vested interest in Dayton hosting the event.\textsuperscript{73} Interestingly, during the Wrights’ Huffman Prairie Flying Field days, the Dayton newspapers, rarely mentioned the brothers’ flying activities. However, by mid-1909, the Wrights were routinely featured with page-wide headlines and were finally becoming the talk of the nation. (Figure 10)

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{figure10}
\caption{1909 Cleveland Leader Cartoon. As this cartoon illustrates, the Wrights were already worldwide heroes when they arrived back in the United States. Note the adoration shown in the boy and even in the picture on the wall. \textit{Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.}}
\end{figure}

The Wrights made it known that they were more focused on preparing for a set of new flight trials at Fort Myer in June 1909 and really would rather skip the entire

\textsuperscript{72} James Middleton Cox, a Democrat, initially served in the House of Representatives from 1909 to 1913 and also served as the Governor of Ohio in 1913-1915 and in 1917 to 1921. Cox won the Democratic Party’s nomination for president in 1920 with Franklin Delano Roosevelt as his running mate. Cox lost to fellow Ohioan, Warren G. Harding.

\textsuperscript{73} The Wright family was not politically active or connected. Wright biographer Tom Crouch states; “Orville’s politics are difficult to categorize. He had some faintly socialist notions about production and finance” and that he was an “admirer of Roosevelt [FDR].” Crouch, \textit{The Bishop’s Boys}, 503.
formalities of any celebration. The brothers' work ethic and shyness caused them to view the increasing publicity as a hindrance compared to any type of benefit. However, they realized that they could no longer enjoy the seclusion they once had. The Wrights capitulated and agreed to receive the public's praise. In order to meet scheduling needs of the Wrights and President Taft, the president presented the Wrights the Aero Club of America medal on June 10, 1909 in Washington D.C. The formal commemoration, the Wright Brothers' Home Days Celebration, would take place on June 17-18, 1909.  

Expressing both brothers' discontent and interest in concentrating on the June flight trials, Wilbur complained to their mentor Octave Chanute about the planned celebration feeling that "[T]he Dayton presentation has been made the excuse for an elaborate carnival and advertisement of the city under the guise of being an honor to us. As it was done in spite of our known wishes, we are not as appreciative as we might be." Chanute, in an attempt to comfort the Wrights in their newfound international celebrity status and realizing they were "modest men," advised the brothers they were due the praise that was conveyed to them. He wrote to Wilbur that you "have brought the trouble upon yourselves by your completing the solution of a world-old problem, accomplished with great ingenuity and patience at much risk of personal injury to yourselves."

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74 Crouch, The Bishop's Boys, 391.  
75 Wilbur Wright to Octave Chanute, 6 June 1909, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 2, 953-954.  
Dayton’s Mayor Edward E. Burkhart formed a committee of local businessmen and political leaders to plan the Wright Brothers’ Home Days Celebration in late 1908.77 Dayton attorney J. Sprigg McMahon headed the committee.78 The group was focused on linking the success of the Wright brothers to the City of Dayton in order to promote the city to one of national prominence and modern capabilities similar to the nearby cities of Cincinnati and Columbus and to gain and edge over the city’s economic and political competitors. In addition to advertising the celebration, publicity of the event often referred to Dayton as “The Gem City of the World” and included statistical facts about the city.79 With its industrial base and its majority white, native born population, Dayton reflected most mid-west cities of the time of the celebration.

One serious concern of the committee was the $30,000 cost of the celebration.80 The committee elected to ask every Daytonian to contribute. A solicitation committee was organized and the city was divided for a door-to-door collection campaign. While this did not add much to the fund coffer, it did give the Dayton community a sense of participation in helping with the event regardless of economic stature. In addition to the door-to-door campaign, funds for the celebration were generated through donations and reserved seat and event ticket sales.81

77 “Name People Soon To Plan Reception,” The Dayton Herald, 12 September 1908.
78 Mark Bernstein, Wright Brothers’ Home Days Celebration, 1909: Dayton Salutes Wilbur, Orville, and Itself (Dayton, Ohio: Carillon Historical Park, 2003), 57.
79 Fred C. Fisk and Marlin W. Todd, The Wright Brothers- From Bicycle to Biplane: An Illustrated History of the Wright Brothers (West Milton, Ohio: Miami Graphic Services, Incorporated, 1995), 79.
80 “Dayton’s Sons Have Shown the Way; All Nations Bow in Acknowledgement,” Dayton Daily News, 16 June 1909.
81 Bernstein, Wright Brothers’ Home Days Celebration, 1909, 96.
The two-day Wright Brothers’ Home Days Celebration began at 10:00 a.m. Symbolic of the industrial might of Dayton, the event opened with a cannon salute followed by a ten-minute concert of noise from factory whistles and bells throughout the city. In an ironic twist to the modern, technological themed event, Wilbur and Orville were transported downtown to the festivities by horse drawn carriages. Local officials and an actor portraying the city’s namesake, Jonathan Dayton, greeted the brothers and their entourage at Van Cleve Park. Although Jonathan Dayton, a founding father of the United States, never visited his namesake, those in the Miami Valley often viewed him as a visionary due to his support of the Miami and Erie Canal and its contribution to the industrialization of the Dayton area. Local leaders saw the enormous business opportunity that the Wrights’ fame could bring to Dayton and linking them to Jonathan Dayton’s economic influence is understandable. The Dayton Herald reported that although the two seemed “touched” by the tribute, “[n]either of the brothers made any responses to the remarks of the speakers.” After the celebration, the Dayton Journal reported that the brothers appeared to have a “‘bully good time’ yet [did] not shake off [their] mantle of modesty and reserve.”

During the afternoon the brothers were awarded keys to the city and reviewed a parade by the Dayton Fire Department and units from the United States Army and Navy. Later in the evening, the brothers attended a formal reception held in their honor by the YMCA. There, in keeping with their appeasing nature concerning the event, the

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82 “Tears Come to Wilbur’s Eyes,” The Dayton Herald, 17 June 1909.
83 Ibid.
84 “Wrights on Stage a Character Study,” The Dayton Journal, 19 June 1909.
Wrights greeted and shook hands with “so many well-wishers that they discreetly hid their sore hands behind their backs for the rest of the festivities.” The brothers were able to excuse themselves and return to work at their bicycle shop but were forced to cover the windows in an effort to hide from the spectators that had gathered around their shop. However, they were able to find the time to witness an elaborate fireworks exhibit featuring themselves prominently displayed in the sky.

The first day was only a warm-up with the main events scheduled for June 18. In front of a backdrop of 2,500 Dayton public school children arranged as a living American flag, the link between American aviation and patriotic symbolism was established when Wilbur and Orville were awarded their medals from the federal, state, and local governments. (Figure 11) Granted by an act of Congress, the brothers were awarded Congressional gold medals and the Chief Signal Officer of the Army

Figure 11. Photograph of the Wrights at the Home Days Celebration. Bishop Wright, the Wrights' father, delivered the invocation at the June 18, 1909, medal ceremony. The flag in the background is comprised of local school children. Courtesy of Special Collections and Archives, Wright State University.


**"Thousands Cheer Fiery Images of the Aeroplanists," The Dayton Herald, 18 June 1909.**

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General James Allen presented them. Ohio Governor Judson Harmon presented the medals awarded by the Ohio legislature and Dayton’s Mayor Burkhardt bestowed the medals from the city. In addition to the local, regional, and national dignitaries, the international community made its way to the Dayton ceremony with representatives from Germany and Cuba in attendance.

During the afternoon, the Wright family reviewed the Grand Parade. Witnessed by over 75,000 people, the large spectacle snaked its way through downtown Dayton and included local fraternal organizations as well as United States military units. Suggesting a future of mobility, change, and diversity, the transportation themed parade featured a series of floats that symbolized the past values of the city and their links to the vitality of the present. The evening was capped off with an “Illuminated Automotive Parade.” With automotive travel still in its infancy, the event in itself was a considerable undertaking and featured the history of the automobile to that date.

The brothers left the closing ceremony as early as their civility would comfortably allow them. Throughout the entire celebration, their attention was focused on the preparations for the upcoming Fort Myer flight tests and not the lavish tributes heaped upon them. On the following day, June 19, Wilbur and Orville left for Virginia for the trials needed to meet the requirements set forth in the United States Army contract. During a series of flights in July, with Orville at the controls, the Wrights more than met the terms of the contract. As a result, the Wrights finally succeeded in

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87 “Celebration Program is Completed,” The Dayton Herald, 16 June 1909.
89 “Auto Parade Swell Event,” The Dayton Herald, 19 June 1909.
selling one plane to the United States government at a final purchase price of $30,000.90

Despite the City of Dayton's sincere desire to showcase their hometown heroes and to promote the Wrights as "regular hometown type boys," it is difficult to overlook the self-serving promotion the celebration organizers weaved into the event. Success at the impending flight trials and the resulting sale of their airplane was the main goal of the brothers, not the worldwide fame and attention that was lavished upon them after revealing their invention to the public. However, the celebration succeeded in more than the city's planned goal of honoring the Wrights and focusing attention on Dayton. The event helped bridge the divide between the classes and successfully brought together an entire population of a mid-sized American city. Regardless of wealth and status, the local citizenry was allowed to participate in celebrating the Wrights' success.

The Dayton's Wright Brothers' Home Days Celebration illustrated how politicians and the business community sought to shape or manipulate American aviation commemorations for their own economic and social needs. Despite the Wright brothers' desires, Dayton's city leaders spared no expense in using the Wright Brothers' Home Days Celebration to promote the city as one that was ripe for industrial expansion. The 1909 Dayton commemoration set the mold for local

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90 Crouch, The Bishop's Boys, 399.
municipalities that still currently use airshows, festivals, and celebrations to generate income and promote their region.

By 1909 the foundation was laid. The seeds for the Wrights’ concern over their legacy would begin to grow as the Smithsonian controversy developed and other first flight claims from other pioneer aviators endured. The Wrights did receive affirmation from other sources and as a result, their place in history seemed assured based on their standing in much of the world. However, this recognition failed to divert the brothers’ attention away from the Smithsonian’s actions. Other than turning to a patent attorney, the Wrights were not prepared to spend the time and money needed to defend their accomplishment. Even after it became evident that they would need to allocate resources into defending their position, they did so begrudgingly.

Despite the attacks on their reputation, their attention was never really focused on trying to manage their image. Similar to the other noteworthy inventors of the time, the media focus on the Wrights helped create a mythical image of two brothers who tinkered their way into a groundbreaking invention. However, the fact was that the Wrights were actually methodical, scientific thinkers that when combined with their mechanical ability, gave them the capacity to tackle the difficult technical issues surrounding powered flight. Other than their lengthy fight to protect their legacy, the Wrights were remarkably similar to the pre-World War I independent inventors. Taking into consideration the distractions caused by the patent fights and the
increasingly heated debate with the Smithsonian, it is amazing that Wilbur and Orville were left with the capacity to concentrate on their emerging aircraft business at all.

Dayton and its boosters were not discouraged by the Smithsonian controversy. The city’s path to become the industrial center of the new aviation industry seemed assured as the Wrights showed no intentions of leaving their hometown. The city’s lavish praise for the brothers during the 1909 celebrations included a genuine sense of pride and respect for the two. Wishing to attract both military and civilian aviation interests, Dayton was willing to contour itself in an effort to retain and build upon the potential economic boom that was laid on its doorstep. With so much promise seen on the horizon for both the Wrights and Dayton in the upcoming years, it would seem that nothing short of a major catastrophe could prevent the euphoria from growing.
The Wright brothers' triumphant 1908 public unveilings in Virginia and France brought them worldwide fame and recognition. After meeting their contractual needs with the United States government and European investors, and with the 1906 patent secured, the Wrights successfully built upon the public's curiosity and enthusiasm through numerous exhibitions in 1909. (Figure 12) With the help of the exhibitions and the media's attention, the world was soon abuzz with aviation. The daring aviators were heralded as the new explorers of the day and the Wrights were viewed as their elder statesmen. This short period of frenzied obsession with aviation prior to World War I endeared the legacy of the Wrights in the memory of Americans.

Figure 12. Photograph of the Wright School of Aviation in 1910. A crowd gathers at the Huffman Prairie Flying Field to watch students train at the Wright School of Aviation in 1910. Flight exhibitions became an important source of income for the Wrights, however these spectators were enjoying the sights for free since the flying field was located along an interurban line. Note the trolley car in the background. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.
By 1910, Dayton was realizing its dream. Although headquartered in New York, the Wrights established their new company's operations just miles from their home. The new business attracted the biggest names in American industry and quickly expanded to Europe. Meanwhile, a growing number of aircraft designers and builders were willing to ignore the Wrights' broad patent. This blatant action threatened the Wrights, as well as Dayton's economic fortunes. To counteract the Wrights' legal action, one of the more prolific patent infringers, Glenn Hammond Curtiss, teamed up with officials at the Smithsonian Institution to attack the brothers' claim that they invented the first plane capable of flight. As a result, the Wrights' legacy faced a decades long challenge that reached as high as the President of the United States. While the brothers confronted the provocation, Dayton was more interested in expanding its aviation economic footprint.

The sense of optimism during this time is overshadowed by the reality that the Wrights still shouldered the financial burdens of their invention. The federal government's reluctance to invest in aeronautical research and development following the Langley Aerodrome debacle, despite the Army's interest in the flyer's military potential, forced the Wrights to search for other avenues of revenue. Orville and Wilbur realized they needed to promote their invention in order to continue their momentum and make a profit. While the wisdom of supporting stunts and commercial products to gain credibility is questionable, one man teaming with the Wrights and a soft drink company captured the nation's undivided attention for most of 1911. Flying
a specially created Wright Flyer, Calbraith “Cal” Rodgers became the first person to fly across the continental United States. Rodgers and the other pioneering aviators of the time highlight the enthusiasm of the period. However, many of these pilots died horrible, public deaths while attempting to thrill the growing throngs of spectators. In 1912, the underpinnings of the infant aviation age was dealt a catastrophic blow with the death of Wilbur.

Seemingly overnight, the Wrights and their planes were no longer alone. Despite their patent that essentially required anyone flying a controllable plane to pay royalties to the Wrights, others were building, flying, profiting, and making headlines with planes not sanctioned by the brothers. The Wrights had competition and in their view, it was illegal. They also realized that they needed to start generating revenue from their invention. Despite the Army and European contracts and the various cash payments for their exhibitions, the Wrights were barely breaking even. In order to continue on, the brothers sought compensation through two avenues. One was to seek royalties based on their 1906 patent and the second was to manufacture and license Wright airplanes.

Feeling that any other airworthy craft infringed upon their patent, the Wrights were quick to pursue legal action to protect their royalties. This stance is understandable since it was Orville and Wilbur, who working without any outside

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1 Wright biographer Tom D. Crouch estimates that from 1906 until late 1909, the Wrights earned approximately $250,000. This amount includes various fees for training, exhibition flights, aircraft sales, patent royalties, and European contracts. See Tom D Crouch, The Bishop’s Boys: A Life of Wilbur and Orville Wright (New York: W.W. Norton and Company, 1989), 410.
private or government assistance, solved one of the most complicated engineering problems of their time. Not only did they sacrifice their own resources, they often were ridiculed for their efforts. One drawback in relying on royalties is that once their patent was filed, it became public record. As a result, their once guarded secrets were available for the public to view at the patent office, accompanied with descriptive technical drawings. In addition to swift legal action, the Wrights began to exert pressure on club and event organizers as other early builders' planes based on their patent began to appear at flight exhibitions. By the end of 1909, the legal issues surrounding their patent and resulting royalties began to consume greater portions of the brothers' valuable time and drained their creative skill.

The Wrights felt those who violated their patents were nothing more than pirates. They had invested and risked their savings, spent endless days and nights laboring over every detail of their invention, and faced the ridicule and scrutiny of the world for years. For the countless years of sacrifices, they felt they were justified in seeking compensation. For vindication, the Wrights elected to use the civil justice system to pursue those they felt were profiting by infringing on their patent. However, their near obsession with the patent infringers left the Wrights technologically vulnerable in the very science they invented.

While there was no shortage of early aviators crossing the legal boundaries of the Wright patent, Glenn Hammond Curtiss was to have the most impact on the

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2 In May 1908, L'Aérophile, a French aviation magazine, published full details of the Wright patents (French patents 384,124 and 384,125) on record with the French Patent Office.
Wrights and their legacy. Curtiss, of Hammondsport, New York, first became known for his early motorcycle speed records and motorcycle manufacturing company. The G. H. Curtiss Manufacturing Company’s powerful and lightweight motorcycle engines intrigued balloonist Captain Tom Baldwin. Baldwin successfully used Curtiss’ engines in a series of dirigibles and subsequently relocated his operations to be closer to Curtiss in Hammondsport.

The reputation of Curtiss’ powerplants also came to the attention of Alexander Graham Bell. Bell convinced Curtiss to join him in his heavier-than-air flying machine experiments. The result of their partnership was the Aerial Experiment Association (AEA). Joining the two in attempting to develop an improved flying machine were Frederick “Casey” Baldwin, John McCurdy, and Lieutenant Thomas Selfridge of the United States Army. The AEA built four planes with two of them, the Silver Dart and the June Bug, meeting with success. The June Bug went on to win the Scientific American Association’s “Scientific American Trophy” in 1908 after flying more than 5000 feet. More interested in profits than experimentation, Curtiss abandoned the AEA and formed a new partnership with Augustus Herring. Herring was an aviation “insider” who had earlier ties with Octave Chanute and the Smithsonian’s Samuel Langley. The Herring-Curtiss Company was established in February 1909.

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3 Glenn Curtiss established one of the first world’s record on a motorcycle in January 1904. He covered a distance of ten miles in 8 minutes, 54.4 seconds. In January 1907, he set several motorcycle records for speed including covering a mile in 26.4 seconds, a record that stood until 1930. As a result of the record, Curtiss was widely known as the “fastest man in the world.” See Chelsea Fraser, Famous American Flyers (New York: Thomas Y. Crowell Company, 1942), 54-55.

4 The Silver Dart had over 200 successful flights and was the first airplane flown in Canada.

From the *June Bug* on, Curtiss designed planes featured a landing system consisting of three motorcycle-styled wheels compared to the skids originally used by the Wrights. The tricycle style landing gear is still widely used today. For control, instead of warping the wings, Curtiss made his wings rigid and mounted hinged flaps, the forerunner of today’s ailerons. The flaps were controlled through a steering wheel in contrast to the Wrights’ lever controlled system of cables and pulleys. When pilots compared the Wright and Curtiss control systems, they often would comment that one had to “think” about flying a Wright plane whereas a Curtiss plane was more “instinctive.” Curtiss is later credited as the inventor of the first seaplane and hence is often referred to as the “Father of Naval Aviation.”

In early 1909, Curtiss contracted to build an airplane for the Aeronautic Society, an amateur aviation group. For $5,000, Curtiss agreed to provide a plane and flight training for two students. Hoping that it would be enough, the resulting *Golden Flier* featured control surfaces between the wings in an attempt to bypass the Wright patent. After its initial unveiling days earlier, on July 17, Curtiss proceeded to win the Scientific American Trophy in front of a paying audience of thousands. The front-page stories of Curtiss’s exploits did not escape the Wrights’ attention. The Wrights were more than aware of Curtiss’s intentions. Captain Baldwin warned Orville that Curtiss and his group was doing work in Hammondsport that “would infringe the

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6 Glenn Curtiss was issued United States Patent Number 1,170,965 for the “Hydroaeroplane” in 1916.
7 Chelsea Fraser, *Famous American Flyers* (New York: Thomas Y. Crowell Company, 1942), 60.
8 Ibid.
Wright patents.\textsuperscript{9} The Wrights attempted to negotiate and resolve possible patent infringement issues with Curtiss. However, Curtiss simply disregarded their attempts and despite his earlier assurances to the contrary, continued to profit from his airplane business through exhibitions and sales. By August of 1909, the Wrights took action.

\textit{Wright v. Herring-Curtiss} was filed in New York in August 1909. The legal action sought to prevent Curtiss and the Herring-Curtiss Company from the production, sale, or exhibition of airplanes. By January 1910, the Wrights successfully pressed for an injunction keeping Curtiss and his company grounded while the legal process evolved. Despite Curtiss posting a $10,000 bond and filing an appeal, the injunction doomed the Herring-Curtiss Company. Unable to generate an income, they filed for bankruptcy in April 1910. The patent fight continued on as \textit{Wright v. Curtiss}.

The United States Circuit Court of Appeals lifted the injunction against Curtiss in June 1910. With the legal burden temporarily lifted, Curtiss launched the Curtiss Aeroplane and Motor Company in December 1911. Due to his growing interest in aviation and concerns over the legal implications of the patent fight, Henry Ford visited Curtiss in 1912. Ford was convinced that patent protections “should be used to bring new innovations to the market” and were not to be used “to stifle competition.”\textsuperscript{10} Based on his earlier successful patent battles, during his visit, Ford persuaded Curtiss to fight the Wrights’ patent in court. Ford’s fight against George Selden’s patent was


over the claim that the Selden patent covered any automobile that was propelled by an internal combustion engine powered by gasoline. Ford successfully fought the lawsuit arguing that there was a difference in the types of engines used in his automobiles.11 However, the Wright patent “covered a brilliant achievement that deserved protection under law” while the Selden patent was simply a “legal loophole to exploit the system.”12

Through the help of one of Ford’s attorneys, W. Benton Crisp, Curtiss found a possible loophole. He modified his control system to work independently as compared to the simultaneous operation described in the patent. The Wrights were persistent and Curtiss was sued again. Finally, in January 1914, the United States Circuit Court of Appeals ruled in the Wrights’ favor. Ruling that their patent covered both wing warping and the use of ailerons, the courts prohibited Curtiss from manufacturing or selling airplanes with “aileron operating simultaneously to produce differing angles on the wing tips.”13 The court also recognized the Wrights as the “pioneers in the practical art of flying heavier-than-air machines.”14 However, with the subsequent sale of the Wright Company, it was difficult to capitalize on the legal victory. As a result, Curtiss delved back into business and the Curtiss Aeroplane and Motor Company evolved to become largest aircraft manufacturer in the United States in its time. Due to the bitterness brought on by the legal fight and his concerns over their legacy, it is

11 Ibid., 90-97.
12 Crouch, The Bishop’s Boys, 462.
14 Ibid.
doubtful that Orville ever considered merging with Curtiss. It was not until after the United States’ entry into World War I that the patent fight with Curtiss formally ended as the government pooled all aircraft patents and formed the Manufacturers Aircraft Association.

The Wrights pursued legal action against others in the United States as well as in Europe. Facing legal action, many of the defendants ceased their operations after the courts issued a preliminary injunction with only one lawsuit ever going to trial. In addition to consuming an enormous amount of time, the lawsuits cost the Wrights their technological advantage and damaged their relationships with many in their field. As a result of the ongoing legal wrangling in the age of trust busting, the two were often portrayed as selfish, eccentric, and greedy by their rivals and a growing number of critics in the press. With concerns of an aero-trust and resulting monopoly of the aviation industry, several of their closest friends and associates, such as Octave Chanute and Albert F. Zahm, abandoned them while others publicly criticized their “trust-like” behavior.15 The Wrights did publicly respond to the criticism as many Americans came to see the Wright brothers as the ideal example of the American success story and that they earned their right to defend what was theirs. It is this perceived determination over great odds that will eventually shape the nation’s memory of the Wrights and what is currently presented at various historical sites.

The Wrights' earlier decision to continue on with development at the Huffman Prairie Flying Field in 1904 proved to be a prudent business move. By choosing to continue their research and development in Dayton, it allowed them to save much needed money and time. This calculated move helped set the stage for the city to become one of the world's leading aviation centers in the decades to come. While the United States government was still reeling from the Langley debacle and not wishing to invest in any unproven aviation ventures, the Wrights found interest in Europe by late 1906. Due to increasing publicity through constant newspaper and magazine articles, a whirlwind of interest in the Wrights developed by 1907. In just a few short years, this interest would have worldwide ramifications for the Wrights, the aviation business, and Dayton. The Wrights' increasingly public legal battles did directly affect their ability to focus on the engineering and business needs of producing aircraft. However, it would not be until several years later that the Smithsonian controversy would come into play.

As acceptance of their powered flight capabilities grew, the Wrights did not escape the attention of world leaders and industry barons. While the Wrights were initially unsuccessful in making much headway with United States government, they did gain a powerful business ally. With the help of New York businessman Ulysses Eddy, the Wrights entered into a relationship with the investment firm of Charles R.
Flint and Company in 1906. The Wrights were not swayed by Flint’s forceful personality as they declined his acquisition offer for all of their foreign rights to the airplane. Instead, the brothers demonstrated that they were becoming skillful entrepreneurs and negotiated a deal favorable to them. The parties agreed that Flint and Company would represent the Wrights in all countries except the United States for a twenty percent commission fee. This agreement was later amended to give the Wrights control over Great Britain and their colonies. With the help of Flint and Company, the Wrights established themselves in the world market with sales and manufacturing outside of the United States.

The business aspect of the Wrights’ upstart company was gaining momentum. While events were starting to unfold in Europe, Aero Club of America president Courtland Field Bishop helped the brothers to crack the stalemate with the United States government. Bishop’s brother-in-law, New York Congressman Herbert Parsons, brought the Wrights to the attention of President Theodore Roosevelt. Roosevelt, who would later become the first president to ride in an airplane, recognized the plane’s military potential. He expressed his interest and communicated his desire of exploring the Wrights’ proposal further to Secretary of War William Howard Taft. While the Board of Ordnance and Fortification showed little interest a couple of years

17 Kelly, The Wright Brothers, 119.
18 President Theodore Roosevelt was the first president to ride in an airplane. On October 11, 1910 at Kinloch Field, St. Louis, he flew for four minutes in a Wright flyer piloted by Archibald Hoxsey.
before, after positive endorsements from Roosevelt and Taft, the government bureaucracy was set in motion.19 (Figure 13) After honing their negotiation skills in

Europe, the Wrights received their desired contract prospect with the United States government. They successfully met the government requirements at Fort Myer, Virginia in July of 1909. It was becoming apparent that enough time had passed from the Great Aerodrome’s earlier government funding fiasco that it had diminished in

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political importance. With a new world market starting to develop, the need for production capabilities was becoming apparent.

The first European Wright Company was created in France on March 3, 1908. With the help of Flint and Company and led by their European agent Hart O. Berg, a syndicate was created that would have the rights to manufacture, sell, or license Wright airplanes in France. La Compagnie Générale de Navigation Aérienne was initially valued at $700,000 with the Wrights receiving $350,000. Controlling just under fifty percent of the company, they would contribute $100,000 for working capital. Illustrating the planes capabilities, Wilbur finalized the deal by completing a series of public exhibition flights in Les Hunaudieres, France in August 1908.

Establishing the basis for German interest in aircraft, Flugmaschine Wright Gesellschaft, the German Wright Company, was next. Contract talks started in October of 1907 while Wilbur and Orville were finalizing issues with the French. While a tentative contract was signed to lay the foundation of the new company, the Germans also required a demonstration that the Wrights’ claims were valid. Receiving the terms they desired, the Wrights finalized their contract with the Germans in August 1909. They received a ten percent royalty for each plane sold, a cash payment, and shares of stock in the new company. The Kaiser and his family joined a huge crowd to greet

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20 Kelly, *The Wright Brothers*, 130.
21 Ibid.
Orville for his demonstration flights. While in Germany, Orville not only won over the crowd and their investors, he succeeded in breaking several records.24 (Figure 14)

![Figure 14. Photograph of a 1910 Wright Model B Flyer Built by the German Wright Company. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.](image)

After completing the groundwork for Wright Companies in France and Germany, the Wrights concentrated on fulfilling their business ambitions in America. Still operating out of Dayton, they were finding that the legal issues threatening their royalties were quickly becoming more than a nuisance. It was becoming apparent to the Wrights that they needed help in handling the legal and business issues. Wishing to "devote most of [their] time to experimental work," the brothers were confident that turning over daily business operations to a general manager would free them of the

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24 The new records by Orville Wright while in Germany are: 1. For the first German female passenger. Orville took Mrs. Alfred Hildebrandt as the first woman to fly as a passenger in an airplane in Germany. On September 9, 1909, the flight lasted eight minutes and thirty-eight seconds. 2. For flight duration and altitude. On September 17, 1909, he flew fifty-four minutes, thirty-four seconds and reached a height of 565 feet. 3. For flight duration with a passenger. On September 18, 1909, Orville took student pilot Captain Paul Engelhard for a flight of one hour and thirty-five minutes. See Arthur George Renstrom, Wilbur & Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, August 19, 1871 (Washington, D.C.: National Aeronautics and Space Administration, Office of External Relations, NASA History Office, NASA Headquarters, 2003) 24-25.
tedious issues surrounding the patent suits and the logistics in gearing up to manufacture their planes. During their Huffman Prairie days, the Wrights never sought outside investment for their venture, preferring to rely on their bicycle business to keep them afloat. Things changed after the Wrights successfully proved their technology worked. By 1909, the Wrights became a very attractive investment possibility for those on Wall Street. As a result, some of the wealthiest men in America were paying attention to the Wright brothers.

Through the help of former J. P. Morgan and Company employee Clinton R. Peterkin, a list of those interested in investing in the Wrights quickly grew. The final list of investors included Cornelius Vanderbilt, August Belmont Jr., of horse racing fame and the director of the National Park Bank; Howard Gould, a financier; Theodore P. Shonts, president of the New York Interborough Subway; Allan A. Ryan, the son of the director of Bethlehem Steel Corporation; Morton F. Plant, chairman of the Board of Directors of the Southern Express Company and Vice President of the Chicago, Indianapolis, and Louisville Railroad; Andrew Freedman, a sports promoter; Robert J. Collier, publisher of Collier's Weekly; and Russell and Fred Alger, of Packard Motor Car Company. J. P. Morgan and Elbert H. Gary, the co-founders of the United States Steel Corporation, voluntarily withdrew their support when the other investors feared that the two would control the board of directors.

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26 Kelly, The Wright Brothers, 164-165.
The Wright Company was incorporated in New York on November 22, 1909. In exchange for all their United States patents, the Wrights received $100,000 in cash, one-third of the $1 million in shares issued, and a ten percent royalty for each Wright Flyer sold. Perhaps just as important to the brothers, the new company was to assume responsibility in pursuing and prosecuting all legal aspects against patent infringers. Wilbur would act as president while Orville and financier Andrew Freedman were vice-presidents. Belmont, Collier, Alger, and Vanderbilt sat on the board of directors. Alger was recruited as the factory manager.

Dayton lost out to New York as the new corporate headquarters for the Wright Company. However, local leaders understood that in order to be globally competitive, the company required representation in New York’s financial district. The new headquarters was established in the plush Night and Day Bank Building on Fifth Avenue. To the delight of city leaders, Dayton would house the Wright Company factory. Living in Dayton since 1884, the Wright family had well-established roots in the area. Despite the New York headquarters, Dayton was to remain the center of operations for the Wrights. With the brothers remaining in Dayton, the city became a growing center for the new aviation industry. There are no indications that the Wrights had any intentions of leaving their Dayton home to pursue their business ambitions and that city leaders attempted to influence the brothers’ to stay in Dayton.

27 Ibid., 165.
28 Crouch, The Bishop’s Boys, 410.
29 Ibid., 410-411.
30 Kelly, The Wright Brothers, 166.
Realizing that they could not meet the anticipated production needs of their newly formed company in their bicycle shop, the Wright Company initially leased factory space from the Speedwell Motor Car Company. \(^{31}\) Beginning operations in February 1910, five initial employees hand built the planes at the factory while Charles Taylor, the Wright's mechanic, assembled the engines at the Wrights nearby bicycle shop. \(^{32}\) The first planes to come out of the factory were prototypes of their Model B Flyer and a special racing version called the Roadster or Model R. These prototypes featured a much more powerful engine and carriage mounted wheels. Just as the earlier Wright Flyers, the completed planes were transported to the Huffman Prairie Flying Field, for testing. With its complexities, early airplane construction was a labor-intensive undertaking and it did not lend itself to the automotive type assembly lines that Henry Ford was pioneering at his Highland Park, Michigan, Model T plant. It was not be until the higher demand created by World War I that more effective means of producing aircraft would appear.

The Wright Company immediately started with the construction of a permanent plant within a couple of miles of the Wrights' bicycle shop in January 1910. Completed in November, the new factory was large enough for onsite engine manufacturing. Production initially ran at two airplanes a month. As demand increased, a second building, a near duplicate of the first, was added in 1911. With two

\(^{31}\) The original Speedwell Motor Car Company building was eventually demolished and the grounds subsequently evolved into part of the Delco Moraine Division of General Motors.

\(^{32}\) Fred C. Fisk and Marlin W. Todd, *The Wright Brothers - From Bicycle to Biplane: An Illustrated History of the Wright Brothers* (West Milton, Ohio: Miami Graphic Services, Incorporated, 1995), 82.
factories online producing an average of four airplanes a month, the Wright Company was the largest airplane manufacturer in the world at the time. (Figure 15)

Figure 15. Photograph of the Wright Company Factory. The first Wright Company factory was located just 1 1/2 miles from the brothers' bicycle shop in West Dayton. The first building was completed in 1910 and the second building was finished in 1911. Note the corn field remnants around the buildings. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

The Wright Company faced a twofold problem in attracting new business. The first difficulty was that even by the early 1910s, prospective customers often viewed the Wrights as "historic figures" and not "suppliers of up-to-date machines." Though well built and dependable, the Wright planes' appearance still resembled the 1903 flyer whereas the majority of other aircraft being produced by 1910 featured a more modern looking front facing engine and propeller as well as wheels instead of landing skids. The second dilemma is partly due to Smithsonian secretary Samuel Pierpont Langley's Great Aerodrome debacle. Due to Langley's publicly funded 1903 failures and the laissez-faire approach to business that was prevalent in Congress at the turn of the century, the United States government was reluctant to invest in aviation research

33 Crouch, The Bishop's Boys, 446.
through subsidies or aircraft purchases based on unproven results. While the
government did purchase one plane from the Wrights in 1909, they elected to stand on
the sidelines and rely on private commercial ventures such as the Wright Company to
continue development. In direct contrast, European governments assisted aircraft
developers through subsidies and revenue generating acquisitions. It was not until the
United States began to gear up for World War I that the government became actively
involved in funding and creating research teams needed for new technology
innovations or improvements. Prior to the war, the independent American inventor, for
the most part, was left to his own resources.

Despite their best efforts, it was an uphill battle for the Wrights to overcome
the perception that they only belonged in the history books. Americans, it seemed,
were looking for heroes and showmen, not businessmen. The non-Wright European
aircraft were gaining a reputation for speed and innovations, making the Wright Flyers
appear obsolete. To try and counteract developing perceptions, the Wrights realized
they needed to showcase their planes’ “superior development.”34 By demonstrating
their products’ “ability to fly in high winds” and their “strength and safety of
construction,” they were confident they would win customers over.35

To prosper, the Wrights needed to continue to offer groundbreaking advances.
Realizing that their early control system sacrificed stability for control and gave the
pilot a series of simultaneous tasks, they sought to automate the tasks needed to keep

34 Orville Wright to C. DeF. Chandler, December 29, 1911, in Wilbur Wright and Orville Wright, The
Papers of Wilbur and Orville Wright, vol. 2, 1031.
35 Ibid.
the craft stable during flight. The result was the automatic stabilizer. Kitty Hawk was used one final time as a test bed for a Wright brothers' innovation. Somehow finding the time, Orville designed a new glider to act as a test platform for the automatic stabilizer. Still fearful of prying eyes and no longer granted their previously enjoyed anonymity, Orville and his crew were weary of the press's arrival at Kitty Hawk. The press never let Orville out of their sight and as a result, he never had the opportunity to test the new stabilizer system. However, he did manage to make several alterations and improvements to their control system during a series of record-breaking test flights. (Figure 16)

Figure 16. Photograph of the 1911 Wright Glider in Flight. Orville returned to Kitty Hawk, North Carolina in the fall of 1911 to test an automatic stabilizer system. Although deciding not to test the new innovation due to the snooping press, Orville made a series of successful glides. One flight lasted just under ten minutes and established a new world record. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

Despite several initial setbacks, Orville managed a number of successful glides. On October 24, he set a new world's record for unpowered, heavier-than-air

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36 The United States Patent Number is 1,075,533. Filed: February 10, 1908. Issued: October 14, 1913.
flight with nine minutes, forty-five seconds in the air. The record would stand for the next ten years. During the following two days, Orville managed numerous successful flights, further bolstering the legitimacy of his record flight. His flights successfully established that actual soaring was achievable. On December 31, 1913, after the patent was granted, Orville demonstrated the automatic stabilizer on a Wright Model E at Huffman Prairie Flying Field. Witnessed by numerous members of the Aero Club of America, Orville made seven complete circles around the field with his hands off the controls. As a result of his proven achievement, Orville was awarded the 1913 Collier Trophy of the Aero Club of America.

Since the United States government could not be depended upon as a large, consistent customer, the Wrights needed to turn to the general public for revenue. They were also now under pressure to show a profit to their investors. Just prior to the incorporation of the Wright Company, Wilbur made one of his more daring flights at the Hudson-Fulton Celebration in New York City in October 1909. With a red canoe secured to his plane to act as an emergency flotation device, Wilbur took off from Governors Island. Flying past Grant’s Tomb via the Hudson River and returning back to the island, Wilbur covered an unheard of distance of twenty-one miles.

39 The Robert J. Collier Trophy was established "for the greatest achievement in aeronautics or astronautics in America, with respect to improving the performance, efficiency, and safety of air or space vehicles, the value of which has been thoroughly demonstrated by actual use during the preceding year." The National Aeronautic Association currently administers the award. See <http://www.naa.aero/index.cfm> for more information.
estimated one million spectators witnessed some portion of Wilbur's flight.\textsuperscript{41} The positive publicity generated by the resulting widespread press coverage did not escape the Wrights.

In 1910, most Americans had never seen an airplane in flight. The publicity and revenue potential generated by flight exhibitions to satisfy the public's curiosity seemed to be a quick solution to the company's revenue needs. With its high cost and required skills needed to fly, it was unrealistic to expect the general public to purchase very many new planes. With an attractive profit potential for the flight exhibitions and large cash prizes being offered at flight contests, thrilling crowds for pay was a logical option. However, the Wrights were not at all enthusiastic about entering into the showmanship side of the industry as serious and fatal accidents were becoming quite common at the shows.

Early flight exhibitions, the forerunner of today's airshows, were often financial disasters for the promoters. Not familiar with the aviators' needs, organizers often failed to foresee the costs in preparing airfields. The need to clear the area of obstacles for the planes and the building costs of hangers, grandstands, and roads in addition to attracting participants, was a costly undertaking. However, for the aviators, fees and possible cash prizes offered a viable, and sometimes lucrative income. Carrying forth the tradition of the turn of the century Wild West shows and with dreams of wealth and fame, flight exhibition teams featuring various makes of planes

\textsuperscript{41}Kelly, \textit{The Wright Brothers}, 162.
were being organized throughout the country. As crowds grew and the novelty of just seeing an airplane fly faded, thrilling the spectator became the rule. With the stunts becoming more dangerous, crashes became commonplace.

In January 1910, the Wright Company elected to enter into the exhibition business. The brothers hoped to skirt the deadly pitfalls that were becoming an acceptable cost of business for many teams. The new exhibition team began taking shape by March 1910. With the immediate need to train new pilots not possible during the Ohio winter weather, the Wright Company established what was to become the first flight school in the United States at a farm in Montgomery, Alabama.42 The Wright Exhibition Team’s first show was in June 1910 at the Indianapolis Motor Speedway. While the Wright team was well received by the large crowd of paying spectators, their uneventful laps around the racetrack left the disgruntled promoters wanting more.

Receiving an average of $5,000 per plane43 and using five or more planes per exhibition, the Wright Company earned upwards to $100,000 in profits during its first year.44 Despite the risks the Wright team members were making, the pilots were only paid an average of $20 per week and an additional $50 for each day flown.45 (Figure 17) Ever conscious of their image and wishing to build upon the “pure” and “honest” American persona that was cultivated in the press during 1908 and 1909, the Wright

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42 The Wright School of Aviation in Montgomery, Alabama, originally a farm site owned by F. D. Kohn, evolved into the current day Maxwell-Gunter Air Force Base.
43 Kelly, The Wright Brothers, 169.
44 Crouch, The Bishop’s Boys, 429.
45 Ibid.
Figure 17. Photograph of the “Wright Fliers” Exhibition Team. The Wright Fliers prepare to perform in Milwaukee in 1910. *Courtesy of Special Collections and Archives, Wright State University.*

team members were prohibited from gambling and drinking. The policies were not a business ploy or publicity stunt but instead, they were simply rules the Wrights personally lived by. Other exhibition teams, most notably Curtiss’s, paid their members more and had few restrictions on their behavior and risk taking.

In retrospect, 1910 was a great year for the Wrights. It was the high point for them professionally and personally. They were successful in pressuring groups such as the Aero Club of America to sign agreements that they would only hold events approved by the Wright Company. In order to avoid the appearance of holding a monopoly over the emerging aviation business, the Wrights did allow the infringers to participate at the sanctioned events.\textsuperscript{46} Coinciding with the creation of the exhibition team and the training school in Montgomery, Alabama, the Wright Company School of Aviation was established in Dayton. Headquartered at the Huffman Prairie Flying Field, the school was responsible for training 119 early aviators over its five years of

\textsuperscript{46} *Ibid.*, 418.
operation. Students included Henry H. "Hap" Arnold, who eventually rose to become the first Chief of Staff of the United States Air Force, the first Army and Naval pilots, and several private citizens that were capable of paying the $250 fee for the ten days of instruction.\textsuperscript{47} With the United States government only willing to purchase several planes and train a handful of pilots, it was clear to the Wrights that the government's coffers were never going to be a reliable source of income.

For the Wright Company, the exhibition business grew to a climax in 1911. Helping to create the public's "thirst," newspapers were constantly filled with reports of aviators' deaths and accidents. As the crowds grew larger and the competition from more exhibition teams increased, the pilots were more than willing to risk danger and push their planes beyond their limits. To add to the horror, thousands of spectators often witnessed the carnage. By 1911, touting headlines such as "Death and Gravity the Master Aviators," it was apparent there was a need to curb the tragedies.\textsuperscript{48} (Figure 18)

The Wright teams were not immune to the dangers. Seeing the risks their team members were taking and after several major, non-fatal accidents, Wilbur stressed to one team as they readied for one of their shows in the fall of 1910:

\begin{quote}
I am very much in earnest when I say that I want no stunts and spectacular frills put on the flights there. If each of you can make a plain flight of ten to fifteen minutes each day keeping within the inner fence wall away from the grandstand and never
\end{quote}

\begin{footnotesize}
\begin{enumerate}
\item Dale H. Whitford, \textit{Unlocking the Gateway to Flight: The Keys to the Success of the Wright Brothers} (Dayton, Ohio: The Winkler Company, 2004), 89.
\item Homer Davenport, "Death and Gravity the Master Aviators," \textit{The Globe}, 5 January 1911.
\end{enumerate}
\end{footnotesize}
more than three hundred feet high it will be just what we want. Under no circumstances make more than one flight each day apiece.49

Wilbur’s pleas seemed to fall on deaf ears as the team continued to give the crowd the thrills they came to expect. By the end of 1910, Wright pilots Ralph Johnstone50 and Arch Hoxsey51 died as a result of exhibition accidents. (Figure 19) After Hoxsey’s death, Wilbur directed members “to take no chances but to confine their energies to

49 Wilbur Wright to Arch Hoxsey, September 19, 1910, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 2, 998.
50 Wright exhibition pilot Ralph Johnstone was the first professional pilot to be killed in an accident. He plunged “800 feet to instant death” on November 17, 1910 in Denver, Colorado. He was unable to pullout of his trademark “Dive of Death” and crashed in front of thousands of spectators. “Johnstone Plunges 800 Feet to Instant Death,” The Denver Times, 17 November 1910.
51 Arch Hoxsey was killed December 31, 1910 at an exhibition in Los Angeles, California. In front of thousands, Hoxsey could not recover from an altitude record attempt and fell into a dive. He was killed instantly upon crashing. John B. Moisant, a member of the “Flying Circus” exhibition team (a non-Wright team) was killed the same day in New Orleans. “John B. Moisant and Arch Hoxsey Drop to Death; Liberty Statue Flight Winner Dies at New Orleans, Altitude Champion Crashes to Earth at Los Angeles,” The New York Herald, 01 January 1911.
The public crashes were not helping sales. Although many considered the Wright planes the most robust available, the publicity of the mishaps were creating the wrong perception of the craft. In November 1911 the Wright Company withdrew from the exhibition business. (Figure 20)

The disbanding of the Wright Company’s exhibition team did not remove their planes from the public spotlight. Newspaper magnate William Randolph Hearst offered a $50,000 prize for the first aviator to fly the United States coast-to-coast within a thirty-day period. The prize was to act as an incentive to “stimulate a radical advance in the evolution of the aeroplane” with hopes of leaving “an indelible mark on

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the aeroplane for all time."\textsuperscript{53} Orville chimed in, stating "Mr. Hearst’s prize offer of $50,000 for a coast-to-coast flight will mean great advances in long-distance flying in this country."\textsuperscript{54} Hearst placed an October 10, 1911 deadline for the prize and it was not until September 1911 that the first challengers appeared.

Lining up to become the ultimate Wright-Curtiss flying face-off, Wright pilot Robert Fowler, a novice flyer and Wright School of Aviation graduate, took off from San Francisco heading eastwards on September 11. A Curtiss airplane flown by James Ward, a Curtiss team member, left from New York on September 13. Fowler planned to cross the continent within twenty days. Surviving a crash that all but destroyed his plane after the first day and unable to surmount the high peaks over Donner Pass,

\textsuperscript{53} "The Hearst Prize First Great Incentive Toward the Practical Aeroplane," \textit{New York American}, 1 January 1911.
Fowler took a southern route via Los Angeles. He landed in Jacksonville, Florida 112 days later, months after Hearst’s deadline. Ward never came close. After a series of mishaps and serious accidents, Ward was seen “trudging along the country roads west of Addison, N. Y.” one last time. The Curtiss supported flyer dropped out of the challenge after only a couple of weeks.

Although Fowler piloted a Wright plane, the company itself was not sponsoring his trip. With Curtiss throwing his support behind Ward, the Wrights did sense an opportunity to demonstrate the proven durability and superiority of their company’s products by entering the race across the continent. However, recognizing the huge financial burden of such an expedition, the Wright Company was unwilling to underwrite any such endeavor despite the $50,000 prize. Orville felt that “even with $50,000 prize money it is not a good business proposition, and aviation is a business in America now.” Another Wright pilot, Harry Atwood, initially made an attempt at the Hearst prize, however, he quickly realized that the required funding to finish was unattainable. Even a 1,200 mile record flight and national headlines following his journey, failed to attract financial backers for Atwood. However, another civilian Wright graduate, Calbraith “Cal” Perry Rodgers devised a novel way to sponsor an attempt at the Hearst prize.


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Rodgers, flush with winning the prize for flight durability at the 1911 World's Grand Endurance Aviation Contest in Chicago, approached the Armor Meat-Packing Company to sponsor his attempt. Wishing to promote their new grape flavored soft drink Vin Fiz, the company agreed to pay Rodgers five cents for each mile he flew. While Rodgers paid for the daily flight needs and crew, Armor agreed to provide a train to carry the crew, family members, and a large assortment of spare parts as he crossed the country. They also purchased a new plane from the Wright Company. The plane, a Model EX, was a specially modified version of their production Model B and was designed to be lighter and faster. To honor his sponsor, the Model EX was christened the Vin Fiz Flyer.

On September 17, Rodgers, piloting his Vin Fiz Flyer, joined Fowler and Ward in their transcontinental race. He quickly suffered the fate the other flyers nearly destroyed the Vin Fiz on the second day. However, unlike his counterparts, Rodgers, was well prepared for such an event and was able to continue with the help of his support crew and supply of spare parts. By October 8, two days before the prize deadline, Rodgers landed in Chicago. With the majority of the trip still in front of him and with the prize money out of reach, Rogers refused to give up on his California goal. Illustrating his resolve and grit, he declared to his followers that “[p]rize or no prize, that’s where I am bound [California], and if canvas, steel, and wire – together with a little brawn, tendon and brain – stick with me, I mean to get there.”

59 “Rodgers Smashes His Aero, but is Unhurt; Will Go in To-morrow,” New York American, 19 September 1911.
60 Prendergast, The First Aviators, 123.
The last of five serious crashes Rodgers' suffered occurred just twelve miles from the Pacific Ocean. The Vin Fiz's engine failed in mid-flight causing him serious injuries. Fulfilling his hospital bed promise that he was going to “finish that flight, all right,” Rogers, broken bones and all, landed in Long Beach, California on December 10. In addition to the major accidents, Rogers and the Vin Fiz Flyer suffered through numerous engine and mechanical failures, aborted takeoffs, and hard landings. The plane required so many repairs and rebuilds that it was left with only three of its original parts. Rodgers himself was still recovering from his latest injuries and was relegated to walk on crutches due to a broken ankle when he left the pilot's seat for the last time.

The Vin Fiz's coast-to-coast flight not only captured the nation's imagination, it help set in motion the commercial sponsorship of airplane exhibitions and gave rise to the possibility of commercial uses of flight. It also illustrated that air travel was still more for the daring. Rodgers' flight was constantly front-page news throughout the country. As his chances of completing the trek seemed to dim with each accident or mechanical breakdown, public interest in the Vin Fiz grew. The Amour Company as well as the Wright Company benefited from this ongoing national publicity of the Vin Fiz's exploits. Amour successfully promoted their Vin Fiz soft drink through a series of colorful posters detailing Rodgers' adventures and mishaps as he crossed the country. In addition to keeping the Wright name in the headlines, Rodgers' flight

62 Prendergast, The First Aviators, 125.
63 Fred C. Fisk, The Wright Brothers, 86.
earned the Wright Company one more record. Rodgers’ flight was entered into the books for completing the first transcontinental airplane flight in the Wright’s Model EX.

Rogers, on the other hand, only gained a reputation for his toughness he demonstrated throughout his adventure. In addition to his battered body, his eighty-four day trek left him without the Hearst prize. Since Amour’s mileage compensation was consumed by the needs of the long flight, about the only financial gain was generated through the “Rodgers Aerial Post.” With his wife acting as a postmaster, people could have a postcard carried by the Vin Fiz to its next stop for twenty-five cents. Rodgers’ fame was fleeting. Returning for a flight exhibition in Long Beach in April 3, 1912, Rodgers was killed in front of thousands of spectators after diving towards a group of seagulls.64

Even with the creation of the Wright Company, the Wrights were overstretched. Orville focused on supervising the Wright Company while Wilbur concentrated on pursuing those that infringed on their patent. Coupled with the lawsuits, the Wright Company licensed operations in Europe were failing to meet the brothers’ expectations due to a combination of French construction contractual problems, “incompetent” business management in Germany, and pilot difficulties in England.65 As a result, the two were constantly forced to be on the go in order to deal with the growing pains of the new company. In addition to being detrimental to the

64 “C. P. Rogers, the Aviator, Falls to Death in Sea,” New York Herald, 4 April 1912.
65 Orville Wright to Wilbur Wright, November 27, 1910, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 2, 1002.
newly formed Wright Company's ability to compete with the emerging competition, the relentless travel was beginning to take a toll on Wilbur.

The brothers were rarely together as the new decade unfolded as both dealt with the company's needs. Commenting in 1911 that he was "away from home most of the time," Wilbur did most of the extensive, and exhausting, legwork required to bolster their legal battles.66 Spending nearly six months in Europe dealing with the French patent hearings and following up on their licensees during 1911, Wilbur's despair over the situation started to become apparent. During his trip, Wilbur confided to Orville:

If I could get free from business with the money we already have in hand I would rather do it than continue in business at a considerable profit. Only two things lead me to put up with responsibilities and annoyances for a moment. First the obligations to people who put money into our business, and second, the reluctance a man normally feels to allow a lot of scoundrels and thieves to steal his patents, subject him to all kinds of troubles or even cheat him out of his patents entirely.67

The patent legal battles were increasingly consuming the Wrights both professionally and personally. Since Wilbur took the lead in the their court battles, the pressures and burdens would only grow. Illustrating their continuing frustrations, in January 1912, Wilbur wrote:

We had hoped in 1906 to sell out invention to governments for enough money to satisfy our needs and devote our time to science, but the jealousy of certain persons blocked this plan, and compelled us to rely on our patents and commercial exploitation. We wished to be free from business cares so that we could give all our own time to advancing the science and art of aviation, but we have been compelled to spend our time on business matters instead during the past five years. When we think what we might have accomplished if we had been able to devote this time to

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67 Wilbur Wright to Orville Wright, June 30, 1911, in Wilbur Wright and Orville Wright, Miracle at Kitty Hawk: The Letters of Wilbur and Orville Wright, Edited by Fred C. Kelly. (New York: Farrar, Straus, and Young, 1951), 384-385.
experiments, we feel very sad, but it is always easier to deal with things than with men, and no one can direct his life entirely as he would choose.68

While away from Dayton in late April, Wilbur became ill. Initially, speculation was that his sickness was due to consuming contaminated shellfish while he was in Boston.69 Although feeling better, shortly after returning to Dayton on May 2, Wilbur had a noticeable fever. The family doctor, Dr. D. B. Conklin, initially diagnosed Wilbur had a case of malarial fever. Despite still suffering a fever, on May 4, Wilbur traveled to the Wright Company offices at Huffman Prairie to tend to some paperwork. There, he wrote what was to be his last letter. His final correspondence addressed his discontent over the their patent legal issues.70

On May 8th and with the fever only worsening, Dr. Conklin declared that Wilbur seemed to be suffering from some “sort of typhoidal fever.”71 With headlines

69 Crouch, The Bishop’s Boys, 447.
70 Wilbur’s last letter was addressed to Frederick Fish, the Wright Company’s patent attorney. It was in response to his suggestion of postponing the upcoming Herring-Curtiss hearing. His angry letter reads:

Unnecessary delays by stipulation of counsel have already destroyed fully three fourths of the value of our patent. The opportunities of the last two years will never return again. At the present moment almost innumerable competitors are entering the field, and for the first time are producing machines which will really fly. These machines are being put on the market at one half less than the price which we have been selling our own machines for.

The real season for flying as far as money-making is concerned extends from September to the middle of November. If the case goes over to fall, it will be practically the same thing as delaying a whole year. The bare fact that the case is before the Court during the summer would have great value, even though the decision is not rendered until September.

See Wilbur Wright to Fredrick Fish, May 4, 1912, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 2, 1042.
71 Milton Wright, Diaries 1857–1917 (Dayton: Wright State University, 1999), 748.
such as "Fighting Grim Death to Last, Brave Airman Gently Falls Asleep"\textsuperscript{72} and "Wright Partakes of Nourishment After A Fall in His Temperature,"\textsuperscript{73} Wilbur was once again the focus of the nation. Despite the help of prominent medical care, Wilbur's state, although sometimes seemingly on the upswing, continued to deteriorate during the month. Taking a noticeable turn for the worse, Wilbur died "without a struggle" at 3:15 in the morning on May 30, 1912 at the age of 45.\textsuperscript{74}

As news of Wilbur's death flashed across the world, the Wright family received condolences from world leaders and local citizens alike. The private, close-knit family desired a somber funeral, however, they realized that the world's attention was once again centering on them and Dayton. It appears that Dayton leaders were well aware of this focus, however, there is no evidence that they wished to promote or highlight the city in a fashion similarity seen during the Wright Brothers' Home Days Celebration in 1909. The reason for the lack of any overt or clandestine publicity was mainly out of respect to the Wright family. On June 1, the day of the funeral, businesses and residences alike lowered the American flag to half-mast for the day. Throughout the city, portraits of Wilbur appeared, many draped in black. (Figure 21) Dayton's Chamber of Commerce called for a citywide half-hour closure of all retail establishments at 3:30 P.M. and that all citizens pause in reflection during that time.\textsuperscript{75}

At 3:30 P.M., church bells rang throughout the city for five minutes and streetcar and

\textsuperscript{72} "Fighting Grim Death to Last, Brave Airman Gently Falls Asleep," \textit{Dayton Evening Herald}, 30 May 1912.

\textsuperscript{73} "Wright Partakes of Nourishment After A Fall in His Temperature," \textit{Dayton Journal}, 30 May 1912.

\textsuperscript{74} Milton Wright, \textit{Diaries 1857-1917}, 749.

\textsuperscript{75} "Business and Traffic to Stop During Funeral of World Renowned Air-Man," \textit{The Dayton Journal}, 1 June 1912.
Wilbur Wright

Figure 21. Wilbur Wright Mourning Poster. This poster is an example of Dayton’s public mourning of Wilbur after his death from typhoid. Wilbur’s portrait was seen throughout the city as the citizens shared their respect and sense of loss. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

telephone service also briefly stopped. While the graveside services were private, the viewing and funeral at the downtown First Presbyterian Church was open to the public, allowing thousands of mourners to pay their last respects.

Dayton was growing economically as a result of the Wrights. City leaders also began to realize that the aviation industry was larger than just the Wrights and the Wright Company. While the brothers’ frustration over the legal wrangling over the patents was kept private, news of the suits was public knowledge due to the press’s coverage of the various litigations. Even before Wilbur was buried, the Dayton Daily

76 “Railway Traffic to be Suspended and Bells to Toll During Funeral of Wilbur Wright,” Dayton Daily News, 31 May 1912.
77 “Wilbur Wright is Laid to Rest in Woodland,” The Dayton Journal, 2 June 1912.
News published an article stating that despite his “immeasurable aid,” his death would not affect the ongoing lawsuits.\(^7\)\(^8\) The patent fights were not seen an overt threat to the Wright Company and as a result, news of the ongoing litigations was often overlooked by those in the Dayton business community. Despite the suits, the Wrights were financially secure. Their success was evident in Dayton with the expansion of the Wright Company operations and their purchase of a seventeen-acre building site in the desirable Dayton suburb of Oakwood in early 1912. Essentially, with global condolences on the loss of Wilbur, Dayton’s best avenue of choice was to provide a respectful platform for those in mourning.

With Wilbur’s death from typhoid in 1912, Orville was left with the sole responsibility of directing the patent fights and protecting their legacy. Both Orville and his sister, Katharine, felt that Wilbur was weakened due to the difficult legal battles with Curtiss. They made it no secret that they felt Curtiss was to blame for Wilbur’s death and that the physical fatigue and chronic nervousness created by the lawsuits made him more susceptible to typhoid.\(^7\)\(^9\) To Orville, the death of Wilbur was an “irreparable blow” to the future of the company.\(^8\)\(^0\) About the only certainty Orville expressed about his own future was that he would continue his “work at the factory.”\(^8\)\(^1\) The Wright Company resumed its operations the Monday following Wilbur’s funeral.

\(^7\) “Wright’s Death Not to Affect Lawsuits,” *Dayton Daily News*, 31 May 1912.
\(^1\) Ibid.
While the Wright planes were reliable, safe, and well constructed, there was a perception that they were becoming obsolete, especially when compared to the more modern looking competition. With nothing groundbreaking on the horizon, by 1913, the Wright Company was starting to lose money. There is no evidence to suggest that Orville considered developing a partnership with any other aircraft manufacturer or to revamp the Wright Company’s lineup. Feeling the burden of carrying on alone, losing interest in the research and development needed to stay competitive, and uneasy with the increasing pressures of corporate life, Orville set in motion a plan to sell the Wright Company. Despite the risk and with the company losing money, Orville bought out all but one of the board members and took full control of the company. After renewing the Curtiss patent suit and filing for an updated patent based on engineering developments since 1906, Orville placed the Wright Company up for sale. In October 1915, Wright sold his interests in the Wright Company to a New York syndicate lead by William B. Thompson. Orville was retained as a consulting engineer until he left the company on August 11, 1916.82 Thereafter, Orville dedicated his time to aviation as he served as its elder statesman. He also focused much of the remainder of his life on protecting the Wright brothers’ legacy. During this time, the most serious threat to their place in history came from the ongoing Smithsonian controversy.

The intensification of the Smithsonian controversy was the result of the ongoing patent lawsuit against Curtiss. The United States Circuit Court of Appeals

82 Renstrom, Wilbur & Orville Wright: A Chronology, 37.
1914 decision was based, in part, due to Curtiss’s failure to prove that anybody else had flown a powered aircraft before the Wright brothers on December 17, 1903. However, Curtiss’s legal team felt if they could establish that others were capable of flight prior to December 17, 1903 and that the Wright brothers were not the first to develop the technology covered by their broad patent, Curtiss could possibly have a successful conclusion to his legal difficulties. As a result, Curtiss set out to prove that former Smithsonian secretary Samuel Pierpont Langley’s 1903 Aerodrome crashed only due to the launching apparatus and could in fact, fly. Although it failed its two initial 1903 flight tests, Curtiss, with the help of the Smithsonian, planned to demonstrate that the Aerodrome was actually capable of flight prior to the Wrights’ successful first flight.

Soon into his tenure, Charles D. Walcott set out to immortalize his friend and predecessor. He established the Langley medal, an award presented to those instrumental in the advancement of aviation. He also funded the Langley Aerodynamical Laboratory for aeronautical research at the Smithsonian. Walcott dedicated a memorial tablet to Langley and prominently erected it on the wall of the Smithsonian Castle. To bring attention to Langley’s earlier unmanned Aerodrome success, Walcott instituted May 6, the day his first unmanned craft flew, as “Langley Day” at the Smithsonian.83

In an effort to redeem Langley, the Smithsonian, and himself, Walcott welcomed the chance to prove that the Aerodrome was indeed the first true modern airplane. Representing the Smithsonian, Walcott joined forces with the Curtiss Airplane Company's in their effort to save themselves from their looming financial disaster. In addition to Curtiss and Walcott, Albert F. Zahm was interested in resurrecting the Aerodrome. Once a close friend of the Wrights, Zahm was now an employee of the Smithsonian as the head of the Langley Laboratory. Zahm and the Wrights parted ways after they rebuffed his offer for his services as a paid witness during the Curtiss lawsuit.84 Zahm felt betrayed by the Wrights and saw an opportunity to seek retribution for the Wrights' snub. With revenge as his motive, Zahm went on to use his influential standing to testify for Curtiss during the proceedings. Neglecting to seek the Smithsonian board's approval, Walcott ordered Zahm to provide Curtiss with the now deteriorating remains of the Great Aerodrome.85

Near Curtiss's Hammondsport factory, with Curtiss at the controls, the "restored" Aerodrome made several successful flights on May 28, 1914. In the 1914 Smithsonian Annual Report, Zahm asserted that the May experiments conducted on the Langley Aerodrome proved that "with its original structure and power, it [the Langley Aerodrome] is capable of flying with a pilot and several hundred pounds of useful load. It is the first airplane in history of which this can truthfully be said." The

84 Correspondence between Wilbur Wright and Albert F. Zahm, January 27 to February 7, 1910, in Wilbur Wright and Orville Wright, The Papers of Wilbur and Orville Wright, vol. 2, 1094-95.

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report also claimed that the Langley Aerodrome flew "without modification" and that
it was "restored to its original condition."86

Understandably, Zahm’s claims in the *Annual Report* enraged Orville. Often
assisting Orville was his older brother, Lorin. Trained as a bookkeeper, he previously
helped manage and operate the bicycle shops during Orville and Wilbur’s many trips
to Kitty Hawk. Lorin served as an investigator during the various patent lawsuits and
was thus well versed in the mechanics of flight and knew what to look for. He took on
similar investigative duties in the developing Smithsonian controversy and was
present during the Aerodrome’s testing. Lorin’s investigation found that Curtiss’s tests
involved “not the machine designed and built by Langley nor was it a duplicate of that
machine.”87 Lorin’s major contention, later proved to be correct, was that Curtiss used
a new control system, engineered new structural trussing, reinforced the wings, and
altered the rudder.88 After the Wright Company was sold, Lorin returned to his
bookkeeping career and later became a Dayton City Commissioner.

The Smithsonian *Annual Report* of 1915 repeated the 1914 claims stating that
“[t]he tests thus far made have shown that former Secretary Langley [of the
Smithsonian Institution] had succeeded in building the first aeroplane capable of
sustained free flight with a man.”89 Helping perpetuate the controversy over who
actually designed the first aircraft capable of powered flight was Walcott’s desire for

86 Ibid., 222.
87 Lorin Wright, “Why Langley Failed.” 1915. Series 1, Subseries 2, Box 2, File 7, Special Collections
and Archives, Wright State University, Dayton, Ohio, 11.
88 Ibid., 11-17.
89 *Annual Report of the Smithsonian Institution, 1914* (Washington D. C.: Smithsonian Institute Press,
1915), 122.
vindication even at the expense of the truth. With each having their separate motives and allowed to operate unchecked, Walcott, Zahm, and Curtiss allied themselves in using not only the Smithsonian’s official publications, but willingly used the institute’s sacrosanct reputation to assert that Langley’s Aerodrome was the first man-carrying capable aeroplane.

Although World War I brought the Wright v. Curtiss patent suit to an end, the Smithsonian controversy continued to grow. With no one within the Smithsonian expressing doubt over the institution’s handling of the controversy, Walcott succeeded in perpetuating misconceptions about the now flyable Aerodrome. With the Smithsonian’s seal of approval on the published test results, both the general public and the professional aeronautical trade were easily swayed. It seemed that Orville’s fears were beginning to play out and the Wright legacy was truly in jeopardy.

The Literary Digest proclaimed Langley as the “Discoverer of the Air” and the influential professional trade journal L’Aerophile applauded the Smithsonian for doing “posthumous justice to a great pioneer [Langley].”⁹⁰ In All the World’s Historical Aircraft: From 1902 to 1916, first published in 1917, the Langley Aerodrome is described as failing to fly in 1903 due to “defective handling” and that in “1914 the machine was rescued from the Smithsonian Institute by Mr. Glenn H. Curtiss, and after being fitted with floats and properly tuned up, was flown by Mr. Curtiss.”⁹¹

⁹⁰ Crouch, The Bishop’s Boys, 490.
Hiding the modifications, the rebuilt Aerodrome was returned to its original condition and placed on exhibit at the Smithsonian in 1918. The label read:

Original Langley Flying Machine
1903
The first man-carrying aeroplane in the history of the world capable of sustained free flight. Invented, built, and tested over the Potomac River by Samuel Pierpont Langley in 1903. Successfully flown at Hammondsport, N.Y. June 2 1914.92

For Orville to successfully stop the momentum building against him, a more independent study was required. Orville was assisted by his friend, Griffith Brewer, who gave a lecture focusing on the altered 1914 Langley tests in October 1921 at the Royal Society of the Arts.93 Brewer was among the first aviators in Great Britain and his status as the president of Great Britain’s Royal Aeronautical Society gave credibility to assertions he made against the Smithsonian.94 “Aviation’s Greatest Controversy,” a more detailed article by Brewer that dissected the Langley Aerodrome Curtiss used in his 1914 demonstration flight, was published in the December 1921 Aeronautical Journal.95

Taking a technical approach, Brewer’s article cited numerous contradictions to the Annual Report’s original claim that the Aerodrome was flown without modifications. For example, he explained that the most probable cause of the Aerodrome’s original failure was its wing structure. According to Brewer’s findings,

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93 Crouch, The Bishop’s Boys, 490.
94 Orville and Wilbur Wright, Miracle at Kitty Hawk, 462-463.
Curtiss modified the wings' aerodynamic features and strengthened its supporting system thereby providing the Aerodrome with the fundamentals needed for flight. In addition, his research indicated that Curtiss installed a yoke and wheel control system of his own design and after the initial trials, outfitted the Aerodrome with a modified tail and rudder assembly and installed floats on the craft, thereby allowing it to land safely.

Brewer's step-by-step dissection of the Smithsonian's test helped reverse the aeronautical community's opinion towards the Wright brothers' favor. Articles based on Brewer's findings began appearing after 1921 in the aviation press with titles such as "On a Matter of Fraud" and "The Scandal of the First Man-Carrying Aeroplane."96 Clearly discrediting the Smithsonian's assertions, the Aeronautical Journal claimed that the "Smithsonian Institution had committed a fraud on the public" due to the altered 1914 Curtiss tests and that the currently used label on the Great Aerodrome was "untrue."97 Published in the United Kingdom, the well-respected publication's circulation was limited to those interested in the aeronautical trade and its findings were slow to reach an American audience.

Once the altered Curtiss tests were exposed in more widely read publications, the general public became increasingly aware of the truth. Despite the increased support for Orville, Walcott continued to hide behind the institution's stature and refused to budge. Feeling that he was still in a position of strength, Walcott elected to

96 Crouch, The Bishop's Boys, 491.
weather the controversy, thinking it would pass. However, Orville was not willing to let the Smithsonian dictate their place in history and was willing to take extreme measures to protect their legacy.

Orville, and Wilbur before his death, felt that since they were the ones that took the risks and suffered through the hardships and humiliations, they deserved the right to call the invention of the airplane theirs. After all, it was their faithful decision to essentially risk it all when they elected to move forward with building on their Kitty Hawk success at the Huffman Prairie Flying Field without any government assistance. For all of their years of work, the only chance of any economic reward the Wrights were granted was through the protection of their patent. Even after their successful test flights, the federal government failed to support the Wrights as they refused to further invest in the new technology through more extensive military contracts or subsidies.

A comparative grant of $50,000, similar to the one Langley received from the United States Army’s Board of Ordnance and Fortifications would have probably changed the course of much of the legal wrangling over the private property aspects of the patent issues. Many questioned the Wright brothers’ right to own the technology of the airplane, however, the government’s lack of action in investing in the emerging aviation industry left the Wrights few alternatives if they were to remain profitable. The handful of trained pilots and planes that the military did contract with the Wright Company fell far short of generating enough revenue so the Wrights could have the luxury of broadening their research and development. It was not until after the first
minor government contracts that the Wrights accepted outside investment through the establishment of the Wright Company. In order to produce a profit and to appease shareholders, the brothers were forced to turn to their patent’s protection and generate revenue through exhibiting their airplanes.

Walcott and Zahm’s joining forces with Curtiss at propping up the Langley Aerodrome as the first plane capable of flight and introducing it to the patent battles is directly linked to Orville’s determined drive at protecting the Wrights’ legacy. The few short years that Wilbur and Orville were the focus of the world and their planes were capturing headlines throughout the country was not enough to overcome the damage caused by the Smithsonian controversy. At the same time, Dayton was realizing that the burgeoning aviation industry was larger than the Wrights and sought to continue its economic momentum without relying on the Wright Company. With all of the frenzied activity compressed into just a few years after their historic first flight, the realization was that Wilbur was dead and with the sale of the Wright Company, Orville was out of the business he and his brother created.
Twenty years after their 1903 flight, the Wright brothers’ legacy was in serious jeopardy. The threat creating the most turmoil was coming from a source that under different circumstances would have been celebrating the Wrights’ groundbreaking achievement. The Smithsonian Institution was adamant in supporting onetime Secretary Samuel Pierpont Langley’s Great Aerodrome as the first plane capable of flight. It is likely that if Langley had been a researcher or pioneer in another field and not aviation, the Wrights’ legacy might have been treated differently. Despite the facts, by 1918, the Great Aerodrome was exhibited at the Institution with a label stating that it was the “first man-carrying aeroplane in the history of the world capable of sustained free flight.”

With each having their own motives, the administration of the Smithsonian teamed up with the legal team of pioneer aviator Glenn Hammond Curtiss in their fight against Orville. The result was a series of misleading flight tests of the Great Aerodrome that were presented as factual.

Just as the patent legal battles took a mental and physical toll on Wilbur, the stagnating state of affairs with the Smithsonian was consuming Orville. Despite the increasing public support and acknowledgment for the Wrights as the first to fly,

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Smithsonian secretary Charles D. Walcott was unwilling to revisit the issues surrounding the controversy in an effort to protect his predecessor. Although Langley’s reputation was somewhat tarnished as a result of the Aerodrome’s failure, after his death, he still found considerable support from within the Smithsonian’s circle and it was doubtful that would change under Walcott due to his ties to Langley. However, Orville knew he held the one artifact that could possibly resolve the situation, the 1903 Kitty Hawk Flyer. While the first Wright gliders rotted away in the sands at Kitty Hawk, the brothers saved their 1903 flyer. Damaged after its fourth flight, the plane was shipped back to Dayton and was tucked away in a storage shed behind their bicycle shop, all but forgotten. (Figure 22) During this time, Dayton’s dreams of becoming the new “Air City” were seriously derailed when it suffered a disastrous

Figure 22. Photograph of the Damaged 1903 Kitty Hawk Flyer. The flyer was damaged after its fourth flight on December 17, 1903 when an elevator support broke after a hard landing. Soon after, a strong gust of wind sent the plane tumbling. The plane suffered damage to its wings, motor, and chain drive. Courtesy of Special Collections and Archives, Wright State University.

2 Each of the first three gliders were simply discarded when the Wright brothers left Kitty Hawk. Parts of the 1904 airplane were burned at the Huffman Prairie Flying Field in order to make room for the 1905 Flyer.
flood in 1913. While the Dayton area suffered catastrophic damage as a result of the flood, the 1903 plane somehow survived and was only covered with mud.3

The 1903 Kitty Hawk Flyer was finally unpacked from its shipping crates in 1916. The Massachusetts Institute of Technology (MIT) approached Orville to use the historic flyer in an exhibit celebrating their expansion. With help, Orville painstakingly reassembled and repaired the plane, using as much of the original plane and material possible. In June 1916, the 1903 Wright Flyer was exhibited for the first time at MIT. It did make several more public appearances. It was featured at the February 1917 Pan-American Aeronautical Exhibition in New York and at a Society of Automotive Engineers conference in Dayton in 1918. The airplane was exhibited for what could have possibly been its last time in the United States at the National Air Races in Dayton in 1924.4

Knowing that the historic plane was now available for exhibit, Walcott first approached Orville in 1916 about the possibility of loaning it to the Smithsonian. However, Orville was not about to loan the precious artifact to a group he felt was attempting to conceal the facts about the 1914 Aerodrome tests. He believed that the

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3 The Miami Valley area was prone to flooding. Throughout the 1800s, the area experienced a series of floods. To protect the city, the citizens of Dayton decided to construct earthen levees along the Great Miami River. Although another flood in 1898 set record crest levels, there was no sense of urgency to construct a more effective means of flood control. The existing levees were typically patched up and repaired after the spring rains. In March of 1913, three weather systems converged on the Miami Valley. From March 23 to March 27, eleven inches of rain fell, saturating the Miami Valley. Due to melting snow and ice and the early spring rains, the ground was unable to absorb more moisture. The extra water quickly drained into the area’s creeks and rivers that flowed downstream towards Dayton. An estimated four trillion gallons flowed through the Miami Valley as the flood covered nearly fourteen square miles. In Dayton, 123 people lost their lives. Property damage exceeded $100,000,000 and at least 1,000 homes were destroyed. For more information about the Dayton flood, see Allan W. Eckert, *A Time of Terror: The Great Dayton Flood* (Dayton, OH: Landfall Press, Inc., 1997).

flyer deserved the stature and recognition as the first airplane capable of powered flight and its rightful place was in the Smithsonian. Placing the flyer on permanent exhibit anywhere else in the United States while allowing the Smithsonian to continue exhibiting Langley’s Aerodrome as the first plane capable of powered flight would essentially force him to admit defeat. With the situation with the Smithsonian stalemated, Orville began to feel he was out of options. However, there was interest in the 1903 flyer from abroad.

In the spring of 1925, Orville made a bold and unexpected announcement that he would send the 1903 Kitty Hawk to the Science Museum of London. Orville best explained his motives:

I believe that my course in sending our Kitty Hawk machine to a foreign museum is the only way of correcting the history of the flying machine, which by false and misleading statements has been perverted by the Smithsonian Institution. In its campaign to discredit others in the flying art, the Smithsonian has issued scores of these false and misleading statements. They can be proved false and misleading from documents. But the people of today do not take the trouble to examine the evidence.

With this machine in any American museum the national pride would be satisfied; nothing further would be done and the Smithsonian would continue its propaganda. In a foreign museum this machine will be a constant reminder of the reasons for its being there, and after the people and petty jealousies of this day are done, the historians of the future may examine the evidence impartially and make history accord with it. Your regret that this old machine must leave the country can hardly be so great as my own.5

Walcott quickly responded with a June 9, 1925 press release stating that:

Shortly after Mr. Wright’s announcement of his intention of giving the original Wright airplane of 1903 to a British museum, largely because he felt that the label on the Langley flying machine of 1903 in the National Museum was incorrect, I asked Dr. Joseph S. Ames, Professor of Physics at John Hopkins University, and Dr. David W. Taylor, formerly Chief Constructor of the Navy, both eminent in the science of aeronautics and fellow members with Mr. Wright and myself on the National

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Advisory Committee for Aeronautics, to let me have their suggestions for a more completely descriptive label for the Langley flying machine.\(^6\)

However, to Orville, Walcott was still not addressing the main issues. Orville’s concern focused on the Smithsonian’s insistence that the Langley craft deserved the credit as the first practical motor-driven airplane and the accompanying deceptive publicity surrounding the 1914 Curtiss tests. The conflict with the Smithsonian was not about the first successful flight but more about the Smithsonian’s public stance concerning the first plane capable of flight and their use of supporting erroneous facts.

Orville made one final attempt at resolving the controversy before sending the plane out of the country. He proposed an investigation by an unbiased commission. Finding no interest in his proposal within the Smithsonian hierarchy, he approached Chief Justice William Howard Taft. As the Chancellor of the Smithsonian, Orville felt Taft could possibly remedy the situation. Illustrating his steadfast position and frustration, Orville wrote to Taft on May 14 1925:

You have already heard, no doubt, of the newspaper controversy between Dr. Walcott and myself, precipitated by the leaking out of my intention to send our first aeroplane, which flew on the 17\(^{th}\) of December 1903, to the Science Museum at South Kensington, London.

I shall be very sorry if this controversy, in which the Smithsonian Institution is so intimately involved, should cause you personally any pain or embarrassment....

...As far back as 1910 my brother and I realized that the officials of the Smithsonian could not be impartial in a matter in which a former secretary had been concerned....

...There has been no trouble exposing before a patent court the fraudulent character of the Hammondsport tests; but there has been great trouble in exposing it before the public.... Dr. Langley himself would never have countenanced tests of the character of those made at Hammondsport.

It was not until 1921 that I became convinced that the officials of the Smithsonian, at least Dr. Walcott, were fully acquainted with the character of the tests at Hammondsport. I had thought up to that time that they might have been ignorant of the fundamental changes which had been incorporated in the machine before these tests were made, and that when these changes were pointed out to them they would hasten to correct their erroneous reports. They did not do this, but have continued to repeat their early statements. By these the public has been led to think that flights were made in 1914 with the original Langley machine, with no changes, excepting such as were necessary to attach floats for the new system of launching.

When the proofs on both sides concerning these changes are shown, I do not think it will take you five minutes to make up your mind whether the changes were made and whether they were of importance.

It seems to me possible that you as Chancellor of the Smithsonian Institution may wish me to present personally to you my evidence on these points and to have Dr. Walcott present at the same time to give proofs to the contrary. It may be a way of cutting short a long and bitter controversy.7

Unfortunately for Orville, Taft responded that his position as Chancellor was “nominally held” and that his duties as Chief Justice made it impossible for him “to give any real attention to the questions which have to be settled by the Secretary of the Board.”8 Created by Congress in 1846, the Smithsonian’s Board of Regents was granted the tasks to “govern and administer the organization.” Usually meeting four times a year, the seventeen-member board includes the Chief Justice and the Vice President of the United States, three members of the Senate (appointed by the Pro Tempore of the Senate), three members of the House of Representatives (appointed by the Speaker of the House), and nine citizens nominated by the Board and approved through a joint Congressional Resolution signed by the President of the United States.9

Apologizing about the “slightest controversy” to Orville and stating that he would “be glad to help straighten it out if [he] had the time and opportunity,” Taft essentially

7 Orville Wright to William H. Taft, 14 May 1925 in General Correspondence: Taft, William H., 1909, 1925, Wilbur and Orville Wright Papers.
8 William H. Taft to Orville Wright, 18 May 1925 in General Correspondence: Taft, William H., 1909, 1925, Wilbur and Orville Wright Papers.

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placed the matter back into Walcott’s hands.\textsuperscript{10} With the board members, such as Taft, preoccupied with other responsibilities and failing to investigate the ongoing controversy, the Secretary of the Smithsonian was allowed to operate freely and without the intended checks and balances.

Illustrating his indifference to the growing criticism and lack of Board oversight, in October 1925, Walcott modified the exhibit label on the Langley Aerodrome.\textsuperscript{11} The new label read:

The Original Langley Flying Machine of 1903, Restored

In the opinion of many competent to judge, this was the first heavier than air craft in the history of the world capable of sustained free flight under its own power, carrying a man.

This aircraft slight antedated the machine designed and built by Wilbur and Orville Wright, which on December 17, 1903, was the first in the history of the world to accomplish sustained free flight under its own power, carrying a man.\textsuperscript{12}

The new exhibit information did mention the 1914 Curtiss tests. The labels stated that the tests proved that “the original machine would have flown in 1903 had it been successfully launched.”\textsuperscript{13} However, despite the evidence to the contrary, it claimed that the Aerodrome’s “frame and engine were the same” and that the wings and controls were simply “reconstructed.”\textsuperscript{14} Complete with the photographs of the 1914 Aerodrome flight tests, the exhibit and accompanying labels made it clear that the Smithsonian was standing firm.

\textsuperscript{10} William H. Taft to Orville Wright, 18 May 1925 in General Correspondence: Taft, William H., 1909, 1925, Wilbur and Orville Wright Papers.
\textsuperscript{11} The “restored” Great Aerodrome was placed on exhibit in the Smithsonian Institute in 1918.
\textsuperscript{12} Charles G. Abbot, The Relations Between the Smithsonian Institution and the Wright Brothers (Washington D.C.: Smithsonian Institution, 1928), 24.
\textsuperscript{13} Ibid., 25.
\textsuperscript{14} Ibid.
Despite the inaction of the Smithsonian Board and the misleading Great Aerodrome exhibit, Orville waited several more years before sending the 1903 flyer to London. With no further movement by the Smithsonian foreseeable, Orville finally sent the historic plane to the Science Museum of London in early 1928. (Figure 23)

Figure 23. Photograph of the 1903 Kitty Hawk Flyer Exhibited at the Science Museum of London. This photograph was taken at the 1928 Royal Aeronautical Society’s dinner celebrating the twenty-fifth anniversary of the 1903 flight. Courtesy of Special Collections and Archives, Wright State University.

The museum agreed to exhibit the airplane for “not less than five years and permanently unless ordered back to the United States” by Orville.15 On March 20, 1928, the 1903 Kitty Hawk Flyer was placed on exhibit. England’s King George V and Queen Mary attended the opening ceremonies.16

The plane was gone. However, Orville’s determination and decision to send the plane abroad brought the controversy to the public’s attention. It forced the

15 Kelly, The Wright Brothers, 195.
Smithsonian to recognize that as long as the Kitty Hawk remained in a foreign museum, the controversy would never fade and it was their inaction that resulted in the possible permanent loss of one of the nation’s most important artifacts. The sending of the Kitty Hawk to London was a “radical step,” and that by doing so, Orville “created an avalanche of sentiment in his favor.”\textsuperscript{17} Orville’s willingness to hold out for the full disclosure of the 1914 Langley Aerodrome tests placed the Smithsonian in an awkward position.

A crack in the Smithsonian’s stubborn position finally occurred upon the death of Charles D. Walcott in February 1927. Taking office in 1928, Walcott’s successor, Charles Greeley Abbot, did not possess any prior connections to Langley’s efforts with the Aerodrome. One of his first official actions was to publicly apologize to Orville. In the 1928 Smithsonian publication \textit{The Relations Between the Smithsonian Institution and the Wright Brothers}, on behalf of the Institution, Abbot expressed his regret:

\begin{enumerate}
\item That any loose or inaccurate statements should have been promulgated by it which might be interpreted to Mr. Wright’s disadvantage.
\item That it should have contributed by the quotation on page 23 of the Smithsonian Annual Report of 1910 to the impression that the success of the Wright brothers was due to anything but their own research, genius, sacrifice, and perseverance.
\item That the experiments of 1914 should have been conducted and described in a way to give offense to Mr. Orville Wright and his friends.\textsuperscript{18}
\end{enumerate}

Abbot publicly invited Orville “to deposit for perpetual preservation in the United States National Museum the Kitty Hawk plane with which he and his brother were the first in history to make successful sustained human flight in a power

\textsuperscript{17} Stephen Kirk, \textit{First in Flight: The Wright Brothers in North Carolina} (Winston-Salem, North Carolina: John F. Blair Publisher, 1995), 276.

\textsuperscript{18} Abbot, \textit{The Relations Between the Smithsonian Institution and the Wright Brothers}, 26.
propelled heavier-than-air machine.” Abbot also downgraded the Smithsonian’s exhibit of the Langley Aerodrome, changing the label in September 1928 to simply read: “Langley Aerodrome — The Original Langley Flying Machine of 1903, Restored.” In addition, the Smithsonian Board of Regents passed a resolution declaring “to the Wrights belongs the credit of making the first successful flight with a power-propelled, heavier-than-air machine carrying a man.” However, these actions far from ended the controversy from Orville’s viewpoint. The controversy was not over who made the first flight but instead over the claims that the Great Aerodrome could have flown. Orville essentially wanted the Smithsonian to admit their misdeeds and correct their mistakes by publishing the 1914 changes made to the Langley Aerodrome.

Congress stepped into the fray in February 1928. Representative John McSwain (D-SC), an air power proponent and member and future chairman of the Committee on Military Affairs, introduced House Joint Resolution 224. The bill authorized the President to appoint a “commission of five distinguished citizens of the United States to whom Orville Wright, and all other persons in any way interested, shall be publicly invited to present evidence as to which was the first successful heavier-than-air flying machine.” The problem with the proposed bill is that it was only to address which airplane was the first to “fly by means of its own power and

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19 Ibid., 26-27.
20 Ibid., 27.
21 Kelly, The Wright Brothers, 195-196.
carry a man as pilot to guide it.”^23 It did not address the root of the controversy focusing on the Smithsonian’s claims that the Aerodrome was the first plane capable of flight.

The Committee on Military Affairs recognized the significance of the loss of the 1903 Flyer to England. However, it specifically limited the proposed commission not “to go into the merits of the question as to which was actually the first successful flying machine capable of rising by its own power and carrying a human being.”^24 Instead, it suggested that the Smithsonian’s Board of Regents address the capability of flight issue independently. In a statement made to the Committee on Military Affairs, Abbot concluded that any type of investigation into the matter would be an embarrassment to the Smithsonian. Despite its intentions of “changing the present attitude of Orville Wright,” the proposed bill failed to address the Smithsonian’s crediting Langley’s machine as the first capable machine of flight.^25 Although the bill passed the House on May 16, 1928, it never made it into law.

Abbot inherited the controversy mess from Walcott. Orville successfully put the Smithsonian and its prestige to task. Abbot fully realized that if the Institution’s reputation was not repaired, public embarrassment over concealing the truth about the 1914 tests would be the least of his concerns. If the Smithsonian was seen using its power as the national museum to influence the memory of the nation as it saw fit, its

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^24 Ibid., 2.
^25 Ibid.
legitimacy as the controller of the nation’s past would come into question. Despite the potential risks, Abbot just could not take the one final step needed to appease Orville by publishing the 1914 test facts and openly admit that the Smithsonian mislead the public. Instead, it was probably easier for Abbot to hope that Orville would agree to a more favorable compromise if given enough time or that enough outside pressure could be placed on Orville to bring the 1903 flyer home.

Over the years, Orville and Abbot politely corresponded with each other with each taking chances at resolving the situation. At a speech during the Smithsonian’s hosting of the Women’s National Aeronautical Association’s thirtieth anniversary celebration of the Wright’s “epoch-making achievement,” Abbot proposed the formation of an impartial committee to address the impasse between the two.26 The suggested intermediary committee of three was to be headed by Charles Lindbergh. Having the platform to reiterate his position on settling the controversy, Orville quickly responded to Abbot, stating that:

No one in the world deplored so much as I the necessity of sending the Kitty Hawk plane out of our country. It was sent abroad for but one purpose and that purpose was to bring about eventually a correction in the history of flight.

The points involved in the straightening of the record are not on matters of more opinion. They are on matters of fact, which at this time can be easily and definitely established. All that I have demanded in the past has been that there be an impartial investigation of the matters in controversy and that they record then be made to agree with the facts.

The suggestion made by me in 1925, three years before the plane left this country, that a committee be appointed to make an impartial investigation and settle the controversy, received no response. Nevertheless, I shall be happy now to join with you in the selection of such a committee, with the understanding that the committee will fully investigate the matters in controversy and will make a full report of its findings.

26 Charles G. Abbot to Orville Wright, received 18 December 1933, in General Correspondence: Smithsonian Institution, 1929-1933, Wilbur and Orville Wright Papers.
If the committee finds that the charges which I have made against the Smithsonian Institution are unjust and untrue, I shall make every effort to free the Institution of the obloquy which these charges have brought upon it, and to give equal or greater publicity to the corrections than were given to the charges. On the other hand, if the committee finds that the charges are justified and true, then the Smithsonian Institution, on its part, shall make every effort to rectify the offenses committed by it in the past in its own publications. These corrections shall be unequivocal, and shall be given a prominence and circulation equal to that given to the former statements of which they are a correction, so that in the future the matters involved can not be misunderstood.

I heartily approve of your suggestion that Colonel Lindbergh be asked to serve as one of the members of the committee. There being full agreement as to his suitability, the invitation should be extended to him on behalf of both parties. If the committee is to consist of three members then the other two may be chosen between us – one by the Smithsonian Institution and one by myself.

If this plan for arbitration is carried out and the plane is returned to America, your invitation to place the Kitty Hawk plane in the National Museum will be given consideration.27

Perhaps not realizing what a predicament he was stepping into, Charles Lindbergh, at the height of his popularity after his 1929 transatlantic flight, was eager to help broker a settlement between the Smithsonian and Orville. In January 1934, Lindbergh separately met with the two, seeking to lay the foundation on how to best address Orville’s requirement of publishing the differences between Langley’s original 1903 Aerodrome and the altered 1914 version. However, a setback soon developed. Lindbergh informed Abbot that he felt “incompetent” in deciding the technical questions surrounding the 1914 tests and that his prior engagements would prevent him from devoting the “time necessary” needed to address the problems.28 Instead, he suggested that the Secretaries of War, Navy, and Commerce each appoint a “technical

27 Orville Wright to Charles G. Abbot, 23 December 1933, in General Correspondence: Smithsonian Institution, 1929-1933, Wilbur and Orville Wright Papers.
28 Charles G. Abbot to Orville Wright, 27 January 1934, in General Correspondence: Smithsonian Institution, 1934-1936, Wilbur and Orville Wright Papers.
Lindbergh and Abbot proposed to Orville that the committee address five central questions:

1. In what features was the "Langley aerodrome" as used in 1914 essentially similar to what it was in 1903?
2. In what features was it essentially changed in 1914 compared to 1903?
3. What bearing have the experiments of 1914 on the question of the capacity of the "Langley aerodrome" for flight in 1903?
4. What bearing have the flights of Langley's quarter-size model in 1903 and the flights of Langley's steam-driven models in 1896 on the question of the capacity for flight of the "Langley aerodrome" in 1903?
5. What other facts, if any, bear on the capacity of the "Langley aerodrome for flight in 1903"?

Orville was unwilling to make changes to the original committee, especially since each Secretary was officially connected with the Smithsonian in some manner. He also made it clear to Abbot that three of the possible committee questions "had nothing to do with the sending of the Kitty Hawk plane abroad," and that the other two were simply "irrelevant to this investigation." Instead, Orville felt that prior arrangements made with Lindbergh had "more promise." As a result, he proceeded to forward Lindbergh his accumulated research of Langley's Aerodrome as well as Griffith Brewer's 1921 "Aviation's Greatest Controversy" article. Lindbergh responded by the end of 1934. He suggested that a lengthy historical report covering all known facts concerning the Langley Aerodrome should be released. The proposed publication would include:

1. A record of Dr. Langley's work up to 1903.

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29 Ibid.
31 Orville Wright to Charles G. Abbot, 2 February 1934, in General Correspondence: Smithsonian Institution, 1934-1936, Wilbur and Orville Wright Papers.
32 Ibid.
2. A record of the disposal of his machine subsequent to 1903 and up to 1914.
3. Zahm's report of the flights at Hammondsport in 1914.
4. The list submitted by [Orville Wright] of changes made in the machine at Hammondsport.
5. Dr. Zahm's notes of the few modifications he suggested in [Orville Wright's] list.
6. Facts regarding the subsequent exhibition of the Langley pans up to the present.34

Abbot was ready to move forward. By January 1935 he set in motion the process needed to publish Lindbergh's recommended in-depth review of the controversy. However, to Orville, the suggested manuscript was still essentially a cover-up. His stipulated comparison of the 1903 and 1914 Aerodromes was to be buried within a collection of unrelated material. Orville also took issues with the re-publication of Zahm's 1914 article. He felt that its original publication, "with its many false and misleading statements," was responsible for starting the controversy.35 Responding to Abbot, Orville required the Smithsonian to only admit that the 1903 Langley Aerodrome was never capable of flight and that previous published statements relating to the 1914 were false. His proposal to Abbot suggested that:

[The Smithsonian publish a paper presenting a list of specifications in parallel columns of those features of the Langley machine of 1903 and of the Hammondsport machine of 1914, in which there were differences, with an introduction stating that the Smithsonian now finds that it was mislead by the Zahm reports of 1914; that through the Zahm report the Institution was led to believe that the aeroplane tested at Hammondsport was "as nearly as possible in its original condition;" that as a result of this misinformation the Smithsonian had published erroneous statements from time to time alleging that the original Langley machine, without modification, or with only such modifications was necessary for the addition of floats, had been successfully flown at Hammondsport in 1914; that it ask its readers to disregard all of its former statements and expressions of opinion regarding the flights at Hammondsport in 1914, because these were based upon misinformation as the list to follow will show. The list and specifications are to be agreed upon by the Smithsonian, Colonel Lindbergh and myself.36]
Abbot never responded to what was to be Orville's last proposal. Despite Lindbergh's attempts and the growing support for Orville, the Smithsonian still refused to publicly recognize that Curtiss's 1914 Aerodrome tests were altered. Instead, Abbot continued to offer solutions that essentially represented a compromise. However, Orville felt that there was no basis for compromise. The facts illustrated the Smithsonian fabricated the details concerning Curtiss’ tests. Orville was content in his feelings that the Smithsonian would have to make atonement and admit its errors or, as stipulated in his will, he would allow the 1903 plane to remain in London. Despite Lindbergh's prominence at the time of his involvement, it is doubtful that even a more active or earlier involvement would have changed the situation. After failing to strike a settlement, Lindbergh remarked in his *Wartime Diaries* that he was “both fascinated and puzzled” by the Smithsonian controversy. In a diary entry in 1939, he places the blame:

...primarily with the Smithsonian people. But Orville Wright is not an easy man to deal with in the matter. I don't blame him much, though, when I think of the way he was treated for a period of years. He has encountered the narrow-mindedness of science and the dishonesty of commerce.  

Knowing that the Institution's status was suffering, Abbot was clearly frustrated at the situation. He was receiving pressure from all angles to reach a settlement to bring back the Kitty Hawk Flyer. Although Abbot felt that he knew of "no reasonable course which [could] be undertaken by the Smithsonian to bring about result which we all desire," the press was relentless in depicting Orville as the victim.

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of an unscrupulous bureaucracy. Abbot stated his desire not to die before clearing our situation” and hoped that his continuing efforts could remain “a secret from the press.” Supporting Orville, a group of enthusiasts formed “The Association of Men with Wings” for the purpose of pressuring the Smithsonian. As a result of growing public pressure, Congress once again addressed the controversy in 1940. While there were no real political concerns as result of the Kitty Hawk’s possible permanent exile, Representative Harry R. Sheppard (D-CA) introduced a bill that was to help provide for the return of the 1903 plane and place it on permanent exhibit.

There seemed to be no hope in settling the controversy. Abbot still hoped for a compromise while Orville refused to negotiate for anything less than full disclosure and the repudiation of the 1914 Zahm report. However, through the help of aspiring Wright biographer Fred C. Kelly, a glimmer of hope of settling the dispute appeared. Kelly approached Abbot knowing what the Smithsonian needed to do to appease Wright. Acting as a go-between, Kelly relentlessly worked for a solution during most of 1942. Writing Orville in October, Kelly reported that it appeared Abbott

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38 Charles G. Abbot to Philip B. Ricketts, 28 December 1938, in Smithsonian Institution—Dispute—Correspondence, 1934-1939, Wilbur and Orville Wright Papers.

39 Charles G. Abbot to Orville Wright, 18 May 1937, in General Correspondence: Smithsonian Institution, 1937-1940, Wilbur and Orville Wright Papers.

40 The Association of Men with Wings was headquartered at 30 Rockefeller Plaza, New York City. Its officers included: President, Colonel Charles Wayne Kerwood, a World War I pilot; Vice President, Lieutenant Commander Frank Hawks, an air speed record holder who later died in an aviation accident; Treasurer, Clayton Knight, a World War I pilot that was also known for his aviation art career; and Executive Secretary, Hampton W. Howard.

“completely caved in” and that a breakthrough was finally on the horizon.\textsuperscript{42} It was true. Abbot provided Orville what he wanted and spelled out in no uncertain terms that the Smithsonian previously acted in bad faith during the controversy. Responding to Abbot’s proposal, Orville wrote on October 8, 1942:

After considering the matter carefully I have decided that the paper with a few modifications will be acceptable to me. I believe that some of my former suggestions, giving more fully the background of the controversy, would have been helpful to the reader. However, as it is my wish to have the record straightened with as little embarrassment to you as is possible, I accede to your wishes that mention of these be omitted.\textsuperscript{43}

Abbot “rejoiced” over Orville’s acceptance and moved forward with the “speedy publication” of the agreed upon Smithsonian capitulation.\textsuperscript{44}

The controversy finally ended with the Smithsonian’s publishing of “The 1914 Tests of the Langley Aerodrome” in the October 24, 1942 edition of the \textit{Smithsonian Miscellaneous Collections}. As agreed upon, the publication was widely circulated. An initial 2500 copies were provided to libraries and institutions worldwide. Copies were also made available to all that requested an issue. A press release featuring the article was provided to over 350 newspapers and press services. It was also the featured article in the 1942 \textit{Annual Report of the Smithsonian}. 10,000 copies of the 1942 report were printed and distributed throughout the world.\textsuperscript{45} Meeting Orville’s terms, the Smithsonian published the differences between the 1903 Langley Aerodrome and the

\textsuperscript{42} Fred C. Kelly to Orville Wright, 1 October 1942, in General Correspondence: Kelly, Fred C., 1942, Wilbur and Orville Wright Papers.

\textsuperscript{43} Orville Wright to Charles G. Abbot, 8 October 1942, in General Correspondence: Smithsonian Institution, 1942-1947, undated, Wilbur and Orville Wright Papers.

\textsuperscript{44} Charles G. Abbot to Orville Wright, 12 October 1942, in General Correspondence: Smithsonian Institution, 1942-1947, undated, Wilbur and Orville Wright Papers.

\textsuperscript{45} Charles G. Abbot to Orville Wright, 20 October 1942, in General Correspondence: Smithsonian Institution, 1942-1947, undated, Wilbur and Orville Wright Papers.
modified version flown by Curtiss in 1914. Found in the article are extensive lists comparing the Langley Machine of 1903 with that of the machine tested in 1914. A total of thirty-five modifications are listed in the article. These alterations include changes to the aerodynamic features of the craft, including its wings, control surfaces, and control systems.46

Abbot opens the essay stating “[i]t is everywhere acknowledged that the Wright brothers were the first to make sustained flights in a heavier-than-air machine at Kitty Hawk, North Carolina, on December 17, 1903” and quickly starts to address the root of the controversy.47 Placing blame on “former officers of the Smithsonian Institution,” Abbot explains how Secretary Walcott, wishing to protect Langley due to his ties to the Aerodrome and Zahm’s desire for revenge, “contracted” with Glenn Curtiss to resurrect and fly the 1903 Aerodrome.48 Recognizing that the United States Court of Appeals pronounced Curtiss as “an infringer,” Abbot describes how the “Wrights stood to lose in fame and revenue and Curtiss stood to gain” financially if the 1914 tests proved the Aerodrome was capable of sustained powered flight.49 He openly admitted that “[i]t is to be regretted that the Institution [Smithsonian] published statements repeatedly50 to the effect that these experiments of 1914 demonstrated that Langley’s plane of 1903 without essential modification was the first heavier-than-air

47 Ibid., 1.
48 Ibid.
49 Ibid.
50 Published statements by the Smithsonian Institution stating the 1914 Aerodrome tests proved it to be the first machine capable of flight are found in Smithsonian Miscellaneous Collections 1914, 1915, and 1918. Statements are also found in the 1914 Annual Report of the Smithsonian Institution.
machine capable of maintaining sustained human flight."\(^{51}\) Clarifying he inherited the controversy, Abbot attempted "to correct as far as possible acts and assertions of former Smithsonian officials that may have been misleading or are held detrimental to the Wrights" by spelling out the Institution's formal apology:\(^{52}\)

1. I sincerely regret that the Institution employed to make tests of the 1914 an agent who had been an unsuccessful defendant in the patent litigation brought against him by the Wrights.
2. I sincerely regret that statements were repeatedly made by officers of the Institution that the Langley machine was flown in 1914 "with certain changes of the machine necessary to use pontoons," without mentioning the other changes included in Dr. Wright's list.
3. I point out that Assistant Secretary Rathbun was misinformed when he stated that the Langley machine "without modification" made "successful flights."
4. I sincerely regret the public statement by officers of the Institution that "The Tests" (of 1914) showed "that the late Secretary Langley had succeeded in building the first aeroplane capable of sustained free flight with a man."
5. Leaving to experts to formulate the conclusions arising from the 1914 tests as a whole, in view of all the facts, I repeat in substance, but with amendments, what I have already published in Smithsonian Scientific Series, vol. 12, 1932, page 277....
6. If the publication of this paper should clear the way for Dr. Wright to bring back to America the Kitty Hawk machine to which all the world awards first place, it will be a source of profound and enduring gratification to his countrymen everywhere. Should he decide to deposit the plane in the United States National Museum, it would be given the highest place of honor, which is due.\(^{53}\)

After over thirty years, the Smithsonian controversy was over. Orville successfully held out and received full vindication from Abbot for the disgraceful actions perpetrated by the Institution. With Walcott's motive of protecting his own legacy and Zahm's vengefulness, the actions of a few acting on behalf of the Smithsonian risked the nation's memory of the Wrights and more importantly, the sanctity of the nation's museum. Embattled, Abbot may have finally bowed to the pressure and risked the embarrassment of the full disclosure of the underhandedness of

\(^{52}\) Ibid., 4.
\(^{53}\) Ibid., 4-5.
the previous administration due to the increasing patriotism brought on by the United States’ entry into World War II. Always unwilling to take the final step to concisely clear up the issues surrounding the motives and details of the 1914 tests, Abbot may have been holding out for the opportunity to bury the root issues of the controversy in the previously proposed thousands of pages of contradictory statements and details. With the United States still in its first year of war and with the outcome certainly in question, Abbot’s statement “source of profound and enduring gratification to his countrymen everywhere”\(^\text{54}\) reflects the growing state of nationalism seen during wartime.\(^\text{55}\) To Abbot’s credit, he not only made amends with Orville, he successfully led the Smithsonian through the tumultuous times of the Great Depression and through most of World War II. He retired as Secretary in 1944. Albert F. Zahm left the Smithsonian in 1929 and finished his career as the head of the aeronautics division at the Library of Congress. Illustrated in his subsequent version of aviation history, *Early Powerplane Fathers: Henson, Goupil, Ader*, Zahm was one of the most vocal opponents to the Wrights and their legacy until his death in 1954.\(^\text{56}\) Zahm never recanted his early support of Langley or explained his participation in the Smithsonian

\(^{54}\) Ibid., 5.


controversy. His actions surrounding the controversy never seemed to harm him or his career despite his continual attacks on the Wrights’ contribution to aviation.

Perhaps the result of the years spent struggling with the Smithsonian, Curtiss, and the legacy of Langley, Orville never responded publicly to the 1942 Smithsonian publication. He originally planned to announce the return of the Kitty Hawk airplane after the release of Abbot’s statement. However, after President Roosevelt suggested to Orville that he announce its return at the 1943 Collier Trophy dinner celebrating the fortieth anniversary of the first flight, he elected to withhold his announcement until then. Prior to the anniversary celebration, Orville wrote the director of the Science Museum of London, Colonel E. E. B. Mackintosh, and informed him he would like to have the 1903 Kitty Hawk Flyer returned to the United States. President Roosevelt was unable to attend the anniversary dinner. While a statement was made on behalf of the President at the dinner that the 1903 Flyer would return to the United States, Orville elected to keep the future plans for the plane to himself. While Orville’s silence left room for speculation as to the plane’s future, one certainty is that the Smithsonian’s decades long stance caused a “serious…personal [and] painful blow” to Orville. While the path was now open for the 1903 Kitty Hawk Flyer to return, one last obstacle still stood before its exhibition in the United States — World War II.

57 Franklin D. Roosevelt to Orville Wright, 11 November 1943, in General Correspondence: Roosevelt, Franklin D., 1933-1936, 1943, Wilbur and Orville Wright Papers.
58 Orville Wright to Franklin D. Roosevelt, 16 November 1943, in General Correspondence: Roosevelt, Franklin D., 1933-1936, 1943, Wilbur and Orville Wright Papers.
59 Renstrom, Wilbur & Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, 58.
60 Kirk, First in Flight, 273.
The Smithsonian controversy was by far the most public assault on the Wright legacy, but it was not the only challenge Orville faced. Gustave Whitehead’s alleged powered, heavier-than-air 1901 flight in Bridgeport, Connecticut regained momentum while the Smithsonian controversy languished in the late 1930s. Despite repeated attempts at making his mark in aviation history, Whitehead died in obscurity in 1927. However, shortly thereafter, Stella Randolph in her volume *Lost Flights of Gustave Whitehead*, tried to revive Whitehead’s claim. A virtually unknown but aspiring writer, Randolph was described as "unqualified" by aviation experts. The Smithsonian and the American Institute of Aeronautics described her aviation publications as "unreliable."\(^\text{61}\) Harvey Phillips who can best be described as an "aero history buff," aided Randolph.\(^\text{62}\) Their first efforts at challenging the Wrights based on the claims of Whitehead first appeared in a 1935 issue of *Popular Aviation*. Subsequently, in *Lost Flights*, Randolph contends that:

Two years, four months and three days before the successful flights of the Wright brothers at Kitty Hawk, a birdlike monoplane took to the air at early dawn on August 14, 1901, near Bridgeport, Connecticut, carrying its inventor and builder, Gustav Whitehead, a distance of approximately a half mile....

...Evidence further shows that on January 17, 1902 – one year and eleven months before Kitty Hawk – Whitehead made two flights in a monoplane powered with a kerosene burning engine.\(^\text{63}\)

There was no existing physical evidence supporting Whitehead’s claims. For confirmation, Randolph located and acquired affidavits from people who professed to


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have witnessed those early flights and individuals who had aided Whitehead in
developing his flying machine. Each affidavit is a firsthand account attesting to what
the witness alleged to have seen or participated in. These affidavits are signed and
dated by the witnesses and to perhaps lend more of an authoritative nature, the
signatures are notarized and witnessed. Randolph relied on several published
secondary sources in her narrative of Whitehead’s life. She also provides copies of the
majority of the articles and newspaper stories quoted in her monograph. However,
upon closer inspection of the provided source material, the articles are the same ones
that prompted the Smithsonian to inquire about Whitehead’s flying machine and
subsequently dismiss the inventor’s claims.

Intrigued by the publication of *The Lost Flights* and since it had local
connections to the New England area, the Harvard University Committee on Research
in the Social Sciences sponsored Harvard economics professor John Crane to conduct
research into the Whitehead story. His results were published in the article “Did
Whitehead Actually Fly?”64 The 1936 *National Aeronautic Association Magazine*
article found that the majority of the sworn witnesses Randolph used, including
Whitehead’s own family, denied having actually seen Whitehead fly. Crane also found
that Whitehead’s financial supporters doubted the inventor’s claims. Stanley Beach,
one of the largest underwriters of Whitehead’s experiments, disagreed with the
inventor’s assertions, stating that:

64 John Crane, “Did Whitehead Actually Fly?” *National Aeronautic Association Magazine* (December
1936).
I do not believe that any of his machines ever left the ground in spite of the assertions of many people who think they saw them fly. I think I was in a better position during the nine years that I was giving Whitehead money to develop his ideas, to know what his machines could do, than persons who were employed by him for a short period of time, or those who have remained silent for thirty-five years about what would have been an historic achievement in aviation.\(^65\)

In addition, Crane established that Whitehead stopped his powered flight experiments in 1902 probably due to a lack of success and that he reverted back to flying gliders similar in design of those flown in the 1890s. Crane’s research was used as late as 1985 when the General Assembly of North Carolina quoted his findings in their bill supporting the Wrights’ first flight claim and “repudiating” Whitehead’s.\(^66\)

Becoming irritated over the growing clamor over Whitehead, in 1937, Orville criticized Randolph and her credentials on the grounds that “she worked in a doctors office in Washington and had no particular interest in aviation” and that Whitehead’s claims at being the first to fly are “frivolous.”\(^67\) Orville suspected that his nemesis Alfred F. Zahm could have some link to the resurgence of additional first flight claims. After investigating, he did find that Zahm requested information about Whitehead’s claims from Curtiss’s legal team. Forever searching to discredit the Wrights and perhaps taking advantage of his position as the head of the aeronautics division at the Library of Congress, Zahm offered a reward for information leading to further proof of the Whitehead story. Despite the incentive, Zahm never received any takers.\(^68\)

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\(^{67}\) Kirk, *First in Flight*, 272.

\(^{68}\) Crouch, *The Bishop’s Boys*, 500.
is no evidence that Zahm actually collaborated with Randolph. In fact, Randolph viewed Zahm as an adversary and felt that he was willing to work through her to further his anti-Wright agenda.69

In Zahm’s version of the history of the development of aviation, Early Powerplane Fathers, he claimed that had Whitehead saved his plane, “he might truly be rated as one of the Powerplane fathers.”70 Zahm’s technical analysis concluded that it was “technically possible, humanly very credible, that in 1902 Whitehead flew with petrol power.”71 Commenting on Randolph’s “notable research,” Zahm surmised that Whitehead “must either be credited with a real flight or denounced as a charlatan. The latter course would be ungracious, indeed repugnant to the code of honor prevailing among reputable men. Hence it seems fairer to accept this story....”72 While Zahm did not initiate the interest into Whitehead, he did successfully use his stature to propel its continuation. His recognition of Whitehead’s claims was to be the only one to come from the professional aviation community.

The Whitehead story continued to simmer. In 1940 the radio show Famous Firsts, “the son of Gustave Whitehead, the first man to fly in a heavier-than-air

69 Louis Chmiel and Nick Engler comment in the August 2001 issue of WW I Aero Magazine that “Randolph often remarked that she did not get along with Zahm and felt he was trying to use her, even steal her research. His rabid anti-Wright attitude put her off and she did everything she could to distance herself from him.” Article is reprinted at: <http://www.first-to-fly.com/History/History%20of%20Airplane/Whitehead.htm> (23 September 2007).
71 Ibid., 10.
72 Ibid.
machine,” Charles Whitehead, was a guest on the show. A 1945 Liberty magazine article on the Famous Firsts broadcaster included Whitehead’s son’s story. The story reached a much larger audience when it was condensed for the July 1945 issue of Reader’s Digest. With the exception of the fringe element supporting Whitehead, his claims are addressed merely as a side note as he never made any significant contributions to the advancement of aviation.

Initially, Orville felt that “[t]he Gustave Whitehead story is too incredible and ridiculous to require serious refutation.” He felt that Crane’s earlier article provided enough “evidence” and that “the evidence of common sense, would prevail” in substantiating that Whitehead never flew. Essentially, he surmised that “[t]he evidence that Whitehead made genuine, sustained, horizontal flights at any time is inconclusive” and that the “evidence that Whitehead made short momentum flights prior to 1904 is inconclusive.” Upset that despite the evidence the Whitehead story continued to linger, Orville publicly responded in the August 1945 issue of U.S. Air Services:

The myth of Gustave Whitehead having made a power flight in 1901 was founded upon the story which appeared in the Bridgeport Herald of August 18, 1901....

...In May, 1901, Stanley Y. Beach visited Whitehead at Bridgeport and wrote an illustrated article about Whitehead’s machine, which was published in the Scientific American of June 8, 1901. Later he induced his father to advance money to continue Whitehead’s experiments. Although Beach saw Whitehead frequently in the years from 1901 to 1910, Whitehead never told him that he had flown. Beach has said that

74 Crouch, The Bishop’s Boys, 500.
75 Orville and Wilbur Wright, Miracle at Kitty Hawk: The Letters of Wilbur and Orville Wright, edited by Fred C. Kelly (New York: Farrar, Straus, and Young, 1951), 458.
76 Ibid.

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he does not believe that any of Whitehead's machines ever left the ground under their own power, in spite of assertions of persons thirty-five years later who thought they remembered seeing them. Beach's nine years association with Whitehead placed him in a better position to know what Whitehead had done than that of other persons who were associated with Whitehead but a short time, or those who had so little technical training, or so little interest that they remained silent for thirty-five years about an event which, if true, would have been the greatest historic achievement in aviation up to that time. If Whitehead really had flown, certainly Beach, who had spent nearly ten thousand dollars on the experiments, would have been the last to deny it.77

Orville’s input on Whitehead’s claims did little to quell the Whitehead supporters’ enthusiasm. After the Smithsonian controversy and now the lingering Whitehead claims, Orville was forced to recognize the fact that despite all the factual evidence, he would never be able to fully put to rest other first to fly claims.

Gustav Whitehead, nearly forgotten after the 1930s, started to gather worldwide attention as 2003 approached. Wright biographer Tom D. Crouch, notes that “Whitehead supporters are still with us – livelier than ever” and steadfastly refutes their claims, stating that “[t]he tale [of Whitehead’s flights] was not true then and it is not true today. The voices have simply grown louder and more strident.”78 Currently, the modern, mainstream aeronaautical press fails to recognize Whitehead as an aviation pioneer as leading reference books dismiss his claims. For example, in perhaps the most widely read aviation yearbook Jane’s All the World’s Airships and its modern counterpart, Jane’s All the World’s Aircraft, no mention of Whitehead exists. Turning to All the World’s Historical Aircraft: From 1902 to 1916, where aviation history is chronologically represented, Whitehead fails to gain mention, even as a footnote.

78 Crouch, The Bishop’s Boys, 500-501.
Elsewhere, in the more modern *Airplanes of the World: 1490 to 1969*, Whitehead again fails to gain mention.

The resurgent Whitehead controversy perhaps says more about American culture’s need for a controversy than actual concerns over the history of flight. While the Smithsonian Institution currently refuses to consider the Whitehead story and a photograph they exhibit of Whitehead features a label stating that he “never flew,” other non-traditional means of supporting Whitehead’s claims have appeared. With the help of Stella Randolph’s *Lost Flights*, and despite the documented supportive evidence against her “research,” believers in Whitehead refuse to accept that the Wrights were the first to fly. Long out of publication, *Lost Flights* has been reissued at various times with the latest printing showing up in Germany in 1978 as *History by Contract*. Co-authored by William J. O’Dwyer and Stella Randolph, *History by Contract* includes O’Dwyer’s research as the head of the Connecticut Aeronautical Historical Association (CAHA). It builds upon Randolph’s research by offering more affidavits that members of the CAHA solicited after literal door-to-door searches in the Bridgeport area in an effort to locate Whitehead’s former neighbors or associates. However, Frank J. Delear in “Gustave Whitehead and the First-Flight Controversy,” argues that the “net result” of the allegations made by O’Dwyer and Randolph “made Whitehead a virtual nonentity in aviation annals.”

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H. Gibbs-Smith notes that the claims of Whitehead’s “whole story”, despite the numerous eyewitness affidavits, “is pure moonshine.”

Taking advantage of the growing interest in the recently celebrated one-hundredth anniversary of the Wrights’ first flight, one of the more active Whitehead groups, the Historical Flight Research Committee of Gustav Weisskopf (HFRC-GW), distributed a press release stating:

On the occasion of the upcoming celebrations for the 100th anniversary of the Wright Bros. first powered flight the ‘Historical Flight Research Committee of Gustav Weisskopf, Leutershausen’ conveys its Best Wishes. However the first successful motorized flight in History of Aviation, as has been proved, was achieved by the Aviation Pioneer Gustave A. Whitehead on 14 August 1901 in the USA. That is 2 years, 4 months and 3 days prior to the flight of the Wrights.

The HFRC-GW and other vocal supporters were successful in placing the spotlight on Whitehead during the recent surge of interest in the Wrights. For example, adding to the growing number of Whitehead related articles addressing his claims published or viewed in the mainstream press was the nationally televised program, the History Channel’s History's Mysteries: The Wright Brothers Controversy.

Along the lines of Curtiss’s revamping of Langley’s Aerodrome to defame the Wrights, several replicas of his NO. 21B, the plane that was reportedly first to fly, have been created. Since Whitehead left no detailed plans of any of his planes, HFRC-GW and a Connecticut high school science teacher, Andrew Kosch, created flying replicas based on photographs and drawings of the original craft. While there is no doubt these replicas flew, they were created with modern structural materials,

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82 More information about the group and the replica is located at http://www.weisskopf.de/research.htm.
84 History’s Mysteries: The Wright Brothers Controversy (Studio: A & E Home Video, 6 May 2002).
propellers, and engines. Essentially, due to the fact modern materials were used and that no original Whitehead plans exist, it can be argued that these replicas only prove the fact the replicas can fly, not that the original Whitehead craft could fly. However, these issues seem to be overlooked by the Whitehead proponents. It is interesting to note that Kosch’s replica was involved in an accident after several flight attempts and has since been grounded due to legal problems surrounding its airworthiness.85

Those currently asserting that Whitehead was the first to fly usually have three characteristics in common. First, as found at the website “Gustave Whitehead’s Flying Machine,” is that Randolph’s *Lost Flights* is taken at face value and is, for the most part, the sole source of evidence that is used.86 Second, is that many times, those claiming that Whitehead was the first to fly have a regional connection to Whitehead. For example, several museums and exhibits, such as the “Gustave Whitehead Museum in Leutershausen, Germany,87 and “The Captain’s Cove” in Bridgeport, Connecticut,88 are located where Whitehead either lived or was alleged to have flown and are featured prominently in tourism literature. Bridgeport and Whitehead’s claim were even a featured segment on the CBS news show *60 Minutes* in the 1980s.

85 National Transportation Safety Board Report Brief, NTSB ID: NYC87DNE01, December 29, 1986.
87 Founded by the authors of *History by Contract*, William J. O’Dwyer and Stella Randolph, the museum is located in Whitehead’s birthplace, Leutershausen.
The Bruce Museum in Greenwich, Connecticut recently held an exhibit entitled *Gustave Whitehead: First in Flight*?89 The exhibit featured the previously published accounts of Whitehead’s flights as well as contrasting accounts of the established flights of the Wright brothers and Langley’s failed Aerodrome. Perhaps one of the more convincing displays found in the exhibit was a video illustrating a reproduction of Whitehead’s NO. 21B, constructed and flown by the HFRC-GW, successfully flying. The exhibit allowed the visitor to conclude whether or not Whitehead was the first to fly.

The Internet is the third common factor found with current Whitehead supporters. Examining articles and websites published on the Internet such as “Gustave Whitehead’s Flying Machine” and “The First Powered Flight...?”90 find that Whitehead promoters voice their opinions boldly but are quiet on their qualifications. The majority of the time, those currently asserting that Whitehead was the first to fly skirt the issues of documentation and peer review. Many have become the proponents of their version of the “truth” with claims of being a historian in name only. Using the freedom of the Internet and away from any peer criticism, resistance to the current contention that the Wright brothers were the first to invent and the first to fly a powered aircraft is evident.

However one may feel about Whitehead’s flight claims, history does irrefutably support the fact that his efforts never had any impact in the advancement of

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aeronautical technical knowledge. Even despite this and perhaps aware of the tourism benefits of promoting itself as Whitehead’s home state, Connecticut State Senator Gunther sponsored a bill attempting to have the Smithsonian to hold hearings on the authenticity of the Whitehead flight.\footnote{State Senator George L. Gunther, <http://www.senaterepublicans.ct.gov/senainfo/Gunther.htm> (14 March 2007).} Whitehead died nearly penniless in 1927 at the age of 54 with only a bronze numbered marker marking his grave.\footnote{Randolph, \textit{Lost Flights of Gustave Whitehead}, 133.} However, in 1964, members of the Connecticut Aeronautical Historical Association placed a granite headstone at his gravesite bearing the inscription:

\begin{center}
Gustave Whitehead  
January 1, 1874 - October 10, 1927  
Father of Connecticut Aviation
\end{center}

The day of the dedication ceremony, Connecticut Governor John Dempsey declared August 15 as “Gustave Whitehead Day.”\footnote{Delear, “Gustave Whitehead and the First-Flight Controversy,” 15.} It is clear that the Whitehead legacy will continue to fuel the dispute over the first airplane capable of controlled powered flight.

The life-long fight over the first flight legacy was more personal than economic for Orville. It is questionable if the other first flight claims would have been much of an issue with Orville was it not for the Smithsonian controversy. If the Smithsonian would have recognized the Wrights’ achievement without the lengthy and bitter fight, it is possible that the other aviators’ claims would not have garnered as much credence as they have. However, while a seemingly endless stream of challengers to the Wright legacy appear over time, no one has made a dent in the

\footnote{Ibid.}
irrefutable evidence meticulously provided by the Wright brothers. While supporters of Whitehead and other first flight claimants would eventually benefit economically through heritage tourism catering to their followers, Dayton was more focused on its economic growth linkages with the aviation industry.

Dayton leaders were understandably worried when Orville elected to sell the Wright Company in 1915. However, with the new demands placed on the infant industry as a result of World War I, they realized that the aviation industry was larger than just the Wright brothers.\textsuperscript{95} The newly reorganized Wright Company floundered due in part to the United States Army's ban on training on the Wright Company's older "pusher planes." With the Curtiss lawsuit still dragging on and the company losing money due to the lack of more modern plane designs, they merged with the Glenn L. Martin Company and the Simplex Automotive Company in 1916 and focused on producing aircraft engines. The Wright-Martin Company relocated their operations and headquarters to the Simplex manufacturing plant in New Brunswick, New Jersey. The new company quickly procured a large wartime contract with the French government to manufacture aircraft engines. Although profitable as a power plant manufacturer, Glenn L. Martin left Wright-Martin in 1917, establishing the Glenn L. Martin Company to pursue airframe construction. The Wright-Martin Company was restructured as the Wright Aeronautical Company in 1919. It quickly rallied to become one of the most successful and technologically advanced aeronautical engine

\textsuperscript{95} To prepare for possible entry into World War I, Congress appropriated $640 million for use in manufacturing over 20,000 military airplanes.
companies during the post-World War I era. In 1929 the Curtiss Aeroplane and Motor Company merged with Wright Aeronautical and formed the Curtiss-Wright Company. With Glenn Curtiss leaving the airplane business in 1920 to become a land developer and Orville leaving the Wright Company in 1916, the spin-offs of the two pioneer aviation rivals developed into the second-largest manufacturer of aeronautical engines and aircraft in the nation prior to World War II.

To fill the vacuum left by the merger and subsequent relocation of the Wright-Martin Company, several of Dayton’s leading business leaders joined forces. Edward A. Deeds and Charles F. Kettering, the co-founders of Dayton Engineering Laboratories Company (later known as Delco), along with local building contractors Harold Talbotts Sr. and Jr., founded the Dayton Airplane Company in 1917. Its initial mission was to draw upon Dayton’s pool of skilled aviation workers in an effort to support Orville’s desire to continue in aviation research. After establishing the company, Orville joined the board and the company was reorganized as the Dayton-Wright Airplane Company in April 1917.

The United States’ entry into World War I quickly changed the mission of the Dayton-Wright Company from one of research to one of joining the war effort. Deeds was commissioned a colonel in the United States Army and joined the Aircraft Production Board, assuming command of aircraft procurement. While he divested himself of any financial interest in the Dayton-Wright Company, he did award the

96 Charles F. Kettering is credited with inventing the automotive “self-starter” in Edward A. Deeds barn. 97 Crouch, The Bishop’s Boys, 468-469.
company two contracts for 400 J-1 training planes and 5,000 De Havilland 4 (DH-4) combat planes. Orville was commissioned as a major in the United States Army, serving in the Aviation Sector of the Signal Officers Reserve Corps. Orville was ordered to continue his work in Dayton and to assist the engineers at the Dayton-Wright Company.98

In order to quickly ramp up production, the United States elected to manufacture combat proven designs over designing and testing new models. The DH-4s awarded to the Dayton-Wright Company was a British designed plane built for observation, artillery spotting, and daylight bombing. However, building the plane required a basic redesign in order to accommodate the American “Liberty” engine. The DH-4 was the only United States built plane to enter combat during the war. The Dayton-Wright Company supplied the vast majority of the 3,400 planes delivered to the American Expeditionary Forces. However, the Dayton-built DH-4s received the unfortunate label of the “flaming coffin.” It received its dubious nickname due to its alleged ease of bursting into flames after being shot down. Statistically however, the Dayton built DH-4s caught on fire at about the same rate as other planes used by United States forces.99

Since the former Wright Company factory buildings were initially leased to another firm when the Wright-Martin Company relocated, the Dayton-Wright

Company a series of buildings were purchased just south of the city. As production needs increased, the former Wright factory buildings were purchased creating a total of four factory sites geared towards wartime production. The first DH-4 rolled off the assembly lines on October 29, 1917. The first lot of Dayton built DH-4s reached the Allied Expeditionary Forces in April 1918. 2,703 DH-4s and 400 J-1 training planes had been produced when the war ended in November 1918. A total of 3,100 DH-4s rolled off the production lines by February 1919. 100

Orville remained active with the Dayton-Wright Company throughout the war, supplying much needed engineering assistance. Helping to provide a home front morale boost as well as some company publicity, he piloted an airplane for the last time on May 13, 1918. Flying one of his earlier 1911 biplanes, he flew in formation with a group of Dayton produced DH-4s. Pleasing the spectators and press, he later joined the formation of De Havillands as a passenger. 101 With research still his main interest, Orville spent much of his time helping to develop the “Kettering Bug,” an unmanned flying bomb. The “Bug” was a small aerial torpedo that was being developed for the Untied States Army Signal Corps under the direction of Kettering. Orville designed the propeller and assisted with the airframe development. While tests were promising and the Army ordered one hundred prototypes, the war ended before

100 Ibid, 3-4.
the Kettering Bug saw any combat. The project was abandoned after the end of World War I.102

While gearing up for the war, many of the smaller established aircraft manufacturers, such as the Aeromarine Plane and Motor Company, Thomas Brothers, and the Sturevant Aircraft Company, placed bids on the lucrative government contracts.103 When the bids were awarded to larger, less experienced companies such as the Dayton-Wright Company, questions were raised. A wartime Senate subcommittee investigated the allegations and found that Deeds, acting on behalf of the Aircraft Production Board, did grant the Dayton-Wright Company preferential treatment in granting its contract. President Wilson appointed Charles Evans Hughes, the former Governor of New York and presidential candidate, to chair a commission to investigate the wartime aircraft procurement program. The Hughes Commission did find that Deeds showed ineptitude and favoritism. However, it did not charge Deeds and only recommended that the Army court-marshal him for his mismanagement. The Army never followed through with any action against Deeds.104 During the investigation, Orville was called upon to testify. Since he acted more as an engineer

104 Crouch, The Bishop's Boys, 471.
and technical advisor as compared to a manager or stockholder within the Dayton-Wright Company, Orville was never directly linked to the scandal and retained his image as an honest and patriotic citizen.\textsuperscript{105}

With the end of the war and the cancellation of military production contracts, the aviation industry encountered a drastic downturn due to a virtually non-existent civilian market. By 1919, nearly ninety percent of the wartime aircraft manufacturing plants had shut their doors.\textsuperscript{106} Surviving the Deeds scandal, the Dayton-Wright Company was one of the few companies that successfully made the transition to commercial airplane manufacturing. Shortly after the war, they launched a product line featuring three civilian aircraft. Hailing back to the days of the Wright Company’s School of Aviation, a new flying school was established near their factories. To entice potential customers, free flying lessons were offered with each airplane purchase.

The General Motors Corporation purchased the Dayton-Wright Company in 1919. Orville remained active with his aviation research, acting as a consulting engineer for General Motors. One of his last significant engineering contributions to aviation was the “split-flap.” The split-flap was designed to give the pilot control of his airplane while in a steep dive. Patented in 1924, the split-flap was initially dismissed by the military, however, years later, it proved to be a valuable asset for dive-bombers.\textsuperscript{107} In 1923, General Motors ceased their aircraft manufacturing

\textsuperscript{105} Renstrom, Wilbur & Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, 39.
\textsuperscript{107} Patent Number 1,504,633. Renstrom, Wilbur & Orville Wright: A Chronology Commemorating the Hundredth Anniversary of the Birth of Orville Wright, 43.
operations and shifted their focus in Dayton to automotive production. Creating the Consolidated Aircraft Corporation, the Dayton-Wright Company merged with the Gaulladet Aircraft Company and left Dayton. After the merger, Orville retired from his active involvement in the aviation industry and focused his energy towards their legacy and tinkering in his Dayton laboratory. Although unsuccessful in their efforts at keeping the Dayton-Wright Company, the city’s economic outlook was still bright due to the expansion of General Motors.

Although Dayton lost its prime civilian aviation employer, the city was still pivotal in the development of commercial aviation. The city was home to several small, fixed-base operators such as the Johnson Flying Service, that helped lay the foundation for the public acceptance of commercial air transportation and its uses.108 Not affected by or probably not even really concerned with the Smithsonian controversy, it was these aviation pioneers that created the new demand needed for commercial aviation to survive. By the mid-1920s the use of air mail and “aerial taxi services” were becoming more commonplace. As business grew, the small, privately operated flying fields evolved into airports. As the need for facilities grew, new job opportunities followed. Wishing to build upon its aviation heritage and despite the loss

108 Following World War I, Edward Albert (“E.A.” or “Al”) Johnson began working for the United States Post Office, laying out one of the first air mail routes between New York and Chicago in 1919. He was responsible for planning the route and choosing emergency landing fields that were located from 50 to 100 miles apart. In 1920, Johnson organized and lead the Johnson Airplane and Supply Company and the Johnson Flying Service in Dayton, Ohio. Johnson is credited with the inception of the current Dayton International Airport. In 1928, he relocated his flying service operation in Vandalia, Ohio. At the time of its inception, the Dayton Airport was one of the largest airports operating in the country while his supply company was located in downtown Dayton. Johnson is credited with manufacturing the first aircraft brakes, his patent being sold to the Bendix Corporation in 1929. He is also credited with placing the first tail wheel on an aircraft (for easier ground maneuvering), and designing the Johnson air speed indicator and the Avigo compass.
of the Dayton-Wright Company, the city set out to become “Air City.” In 1925, Walter B. Moore, the manager of the Dayton Chamber of Commerce, spelled out the city’s aspirations:

To build a Boulevard leading from the business center of the City to the New McCook Field Site and Wright Memorial Plot.

To erect upon the twenty acre promontory overlooking the New McCook Field site and adjacent “Huffman Prairie” where the first successful airplane was housed and tested, a beautiful Memorial Building in Commemoration and honor of the Wright Brothers.

To provide a suitable municipal airdome with privileges and accommodations especially for commercial pilots and planes. For use also as an Air Mail Field upon the proposed extension route through Dayton to Cincinnati and other southern and western points. To encourage commercial aircraft manufacturing concerns to locate in Dayton by offering gratis factory sites at favorable points.

To become a center of the flying school industry in which phase of aviation it can particularly excel with the presence in Dayton, of hundreds of apt instructors, mechanics, and government aeronautical stations where direct access to important developments can be gained by the student, and studied first hand.

To maintain its historical and traditional advantages by educating its citizens, and particularly its youth in the vital phases of the aeronautical industry that her citizens may be identified as closely associated with aeronautical activities.

To become “The Center of Aviation” in fact as well as in spirit and sentiment. 109

With the help of the preconditions established by the Wrights and the Wright Company in the early 1910s, by World War II, Dayton developed into the multifaceted “Center of Aviation” Moore and the city leaders strived to form.

While the military drastically reduced its spending during the post war years, Dayton did benefit from what funds were available for aviation. Despite the sale of the original Wright Company and its move from the Huffman Prairie, the field and its surrounding area never ceased being an aviation hub. Colonel Deeds realized the

potential benefit of attracting an army base to the Dayton economy at the onset of America’s involvement in World War I. Using funds authorized by Congress, he arranged the leasing of over 2,000 acres from the Miami Conservancy District. The area leased to the United States Army in 1917 included the original Huffman Prairie Flying Field. Used for training pilots for the Signal Corps, the airfield became known as Wilbur Wright Field.\textsuperscript{10} Wilbur Wright Field developed into one of the largest United States military aviation schools and averaged 160 students enrolled per month during the war. While the pilot training program was relocated after the war, military operations at the field continued.\textsuperscript{11}

During the war, the Dayton area attracted two additional military aviation facilities. The Fairfield Aviation General Supply Depot was built on forty acres leased from the Miami Conservancy District. Operating by January 1918, its mission was to provide supply support for the eastern Signal Corps aviation schools. McCook Field was established in September 1917. Deeds, with the assistance of Kettering and Orville, selected a 200-acre site just north of the downtown Dayton area. By the war’s end, McCook Field had expanded to over 250 acres and featured nearly seventy buildings, including a wind tunnel and hospital. Named after the previous property owner General Alexander McCook of the “Fighting McCooks” of Civil War fame, the field became the first military aeronautical experimental facility in the United States.

States. Its mission was to research, develop, test, and evaluate military aircraft and their components. After the war, McCook Field continued its research mission, successfully contributing in aircraft design, high altitude flying, modern parachute design, and aerial photography. Although Deeds would play a major role in preserving the Wright legacy later on, during this time, he was more concerned with the war and the economic base of Dayton instead of the Wrights’ problems with the Smithsonian and their legacy.

Since McCook Field was initially chartered for temporary war use, Dayton city leaders formed the politically powerful Dayton Air Services Committee in November 1922 in an effort to retain the military presence in the area. Initially led by John H. Patterson, the founder of the National Cash Register Company (NCR) and later chaired by his son, Frederick B. Patterson upon his father’s death, the committee led a local campaign to collect enough money to purchase land in the Dayton area for a new research station. The Dayton Air Service and Wright Memorial Fund successfully raised money for commercial development and included funds to be set aside for a local memorial dedicated to the Wright brothers.

In 1924, the Dayton Air Service Committee used $425,000 of donated funds to purchase over 4,520 acres of land. The area included the Huffman Prairie Flying Field and Wilbur Wright Field. This land was sold to the United States government for two dollars based on an agreement stipulating that a permanent engineering facility would

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112 The McCook family of Ohio sent seventeen men to fight for the North during the Civil War.
113 *Birthplace, Home and Future of Aerospace*, 21-29.
be built on the site.\textsuperscript{115} As a result of the grant, Wright Field, named in honor of both Orville and Wilbur Wright, was established. Orville attended the October 12, 1927 dedication ceremony, hoisting the first flag to fly over the facility. As a modest man and one who never really shared his emotions, Orville appeared genuinely appreciative of the outpouring of respect and gratitude he received. This seemed especially true as the Smithsonian controversy dragged on. However, while mindful of the importance of the Wrights' legacy as seen in their desire to construct a memorial, the Dayton Air Service Committee's rationale in donating the land was to assure a permanent government investment in the Dayton area. It would not be until the era of budget cuts and base closures that the Wrights' connection to the airfield would come into play.

As the military mission in Dayton evolved and grew, Patterson Field was created out of a section of Wright Field and included the original Huffman Prairie Flying Field and the Fairfield Aviation General Supply Depot. The new field was named in honor Lieutenant Frank Stuart Patterson who was killed in an aircraft accident while testing an experimental machine gun synchronizer at Wilbur Wright Field in 1918. Patterson was a son and nephew of the founders of NCR. Wright Field retained its engineering mission while the logistics mission of the former Fairfield Depot was housed at Patterson Field. The two fields continued to expand through the 1930s, often with the help of Works Progress Administration programs.\textsuperscript{116}

\textsuperscript{116} \textit{Birthplace, Home and Future of Aerospace}, 32.
After the end of World War II and the establishment of the United States Air Force in 1947, Wright Field merged with Patterson Field to create Wright-Patterson Air Force Base. Covering over 8,100 acres, the base is one of the largest Air Force bases in the United States. Wright-Patterson currently houses research, logistics, and acquisition operations. In addition to the Huffman Prairie Flying Field, the National Museum of the United States Air Force is located at Wright-Patterson Air Force Base.

Starting with the 1909 Wright Brothers Home Days Celebration, Dayton city leaders were quick to recognize the economic benefit of attracting and retaining aviation commerce. Nearly a century later, Dayton has successfully used their association with the Wright brothers and benefited economically from both federal and private spending. However, they were slow to commemorate the Wrights to the point of losing its links to the past. While the Smithsonian controversy may have influenced the city’s leaders to the point of wanting to see how the nation’s museum would recognize the Wrights, there is no evidence they ever actually questioned the Wrights’ place in history. It seems that the city leaders were confident that history would ultimately acknowledge the Wrights and they were content to leave the situation run its course. Nevertheless, it was Orville’s concern over their legacy and his actions as a result of the long fight with the Smithsonian that indirectly links the controversy to the demise of Dayton’s aviation heritage. The fault does not rest with Orville, as it was Dayton’s leaders that failed to have the foresight to recognize its irreplaceable roots to the city’s past until it was too late.
Newspaper accounts told of early efforts to honor the Wrights but the plans never seemed to materialize. One of the first efforts was in 1910 when members of the Dayton International Aeroplane Club discussed purchasing a bronze tablet featuring a bust of the brothers. The plans called for the tablet to be placed in Dayton’s Memorial Hall during an upcoming commemoration of the 1903 flight. However, no final decision was ever made and the plans were shelved.\textsuperscript{117} It was not until the death of Wilbur in 1912 that a public discourse commenced over how the city could honor their hometown heroes.

Upon Wilbur’s death, a flurry of suggested memorials and monuments materialized. With its strong economic ties to the area, the National Cash Register’s \textit{N.C.R. Weekly} called for the citizens of Dayton to erect a shaft in memory of Wilbur. The memorial was to be built on an ancient mound builder site overlooking the part of the Miami Valley where Wilbur “lived, where he worked, and where he died.”\textsuperscript{118} A more complex memorial featuring “two mammoth Corinthian columns” modeled after the ruins of the temple of Zeus and a memorial arch to commemorate the “triumphs of peace and the accomplishment of science” was also proposed.\textsuperscript{119} As plans evolved, the informal committees speculating about an appropriate memorial joined forces and incorporated the Wright Memorial Commission in February 1913. The mission of the commission was focused on:

\textsuperscript{117} “Plan Wright Memorial,” \textit{Dayton Daily News}, 17 February 1910.  
\textsuperscript{118} A Suggestion to the Citizens of Dayton,” \textit{N.C. R. Weekly}, 1 June 1912.  
\textsuperscript{119} “Memorial for Wilbur Wright Is Now Urged,” \textit{Dayton Journal}, 3 June 1912.
The commemorating the achievements of Wilbur and Orville Wright in the science of aviation, by the construction and maintenance of a memorial park to contain an appropriate sculptural figure in bronze, placed on the spot where man conquered the air by the first flight in a complete circle in a heavier than air machine, made September 1904, by the Wright Brothers.120

The commission proceeded quickly and contracted with Connecticut sculptor and Aero Club member Gutzon Borglum, later of Mount Rushmore fame, to “build one heroic statue symbolizing ‘The First Flight of Man.’”121 (Figure 24) Later dubbed

![Figure 24. March 1913 Dayton Journal “Birdman” Photographs. This newspaper clipping illustrates sculptor Gutzon Borglum’s prototype memorial to Wilbur Wright. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.](image)

the “Bird-Man,” the prototype memorial featured a man with winged arms and was described as daring, “original and strong” and was to symbolize man conquering the

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120 “Record of the Proceedings of the Incorporators, Members, and Trustees of the Wright Memorial Commission,” 27 February 1913, Box 1, MS-134: Wright Memorial Commission. Special Collections and Archives, Wright State University, Dayton, Ohio.
121 “Agreement between Wright Memorial Commission and Gutzon Borglum,” Box 1, 27 February 1913, MS-134, Wright State University.

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However, the sculpture was "too daring" for many Daytonians' taste. For the memorial, the commission obtained one acre at the Huffman Prairie Flying Field. For landscaping, the commission approached the Olmstead Brothers, a landscaping firm known for designs such as New York's Central Park. The interurban station that the Wrights depended on for transportation during their experimental days at the Huffman Prairie Flying Field was renamed Wright's Station in their honor.

Just as plans for the Wright Memorial were coming together, the Dayton flood of 1913 devastated the area. (Figure 25) Many of the city leaders that were serving on the Wright Memorial Commission directed their attention to serving their fellow citizens following the aftermath of the flood. As a result, all work on the memorial was suspended indefinitely. Due to the subsequent dam system, the original site planned for the memorial was no longer a possibility. With no further work done on the memorial, the Wright Memorial Commission officially dissolved in May of

122 "Borglum Will Make the Wright Memorial to Adorn Dayton," *Dayton Journal*, 16 March 1913.
1920. With interests diverted to issues surrounding the flood, luxuries such as a memorial to the Wright brothers seemed trivial at the time.

In 1922, the Dayton Air Services Committee that was originally formed to raise funds for Wright Field was granted the additional mission to raise funds to erect a memorial of the Wrights in Dayton. Despite the success in raising ample funds, plans for memorializing the Wrights in Dayton languished. Dayton seemed to have a one-track mind following the flood and focused solely on rebuilding and strengthening its economic base. The city failed to recognize how much their economic and social interests could be served by its aviation heritage and as a result, the Wright brothers' historic landscape was allowed to deteriorate. It failed to recognize the potential that Wright brothers and aviation related tourism could aid the struggling area. Despite all of the prior good intentions and efforts, Wright commemoration efforts in Dayton hit a new low in 1936 when Henry Ford purchased the Wright brothers' home and bicycle shop for relocation to his museum in Dearborn, Michigan. The move was so complete that Ford's movers also removed the dirt surrounding the two sites. (Figure 26)

The far reaching implications of the Smithsonian controversy was now linked to Dayton's ability to commemorate the Wrights. It was Orville's standoff with the Smithsonian and his realization that the 1903 Flyer may never return to the United States that sparked Orville's interest in preserving the Wright bicycle shop and related

123 "Certificate of Dissolution of a Domestic Corporation," 17 May 1920, Box 1, MS-134 Wright State University.
124 Fisk, The Wright Brothers, 51.
artifacts. Shortly after Orville’s visit to Ford’s burgeoning Greenfield Village in June 1936, the Wrights’ former landlord Charles Webbert, with Orville’s blessing, sold the historic Wright brothers’ bicycle shop to the museum for $13,000. Despite Ford’s earlier influence in Curtiss’s push with his patent fight with the Wrights in 1912, later in life, Ford and Orville had become friends. At the 1929 dedication of The Edison Institute at Greenfield Village, Orville was an honored guest as was John D. Rockefeller, Jr., Walter P. Chrysler, Madame Curie, Will Rogers, and President

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125 Crouch, The Bishop’s Boys, 509.
Herbert Hoover. During their 1936 visit to Dayton to make plans for the shop’s removal, Henry and Edsel Ford purchased the Wright family’s original Hawthorn street home for $4,100 and quickly set about negotiating the necessary deals to send the desired buildings and artifacts to Michigan. By early 1937 the buildings were gone and already reassembled in their new, permanent, Greenfield Museum location. (Figure 27)

The removal of the two buildings left Dayton without one of its key reference points that could be used to commemorate the Wright brothers. It represents Dayton’s lack of interest in preserving its aviation heritage and its shortsightedness in its quest to capitalize on the emerging aviation industry at the expense of the future generation’s need to celebrate the past. There is no evidence to suggest that Orville meant to hinder Dayton’s commemorative efforts. Instead, he was merely acting in

Figure 27. Photograph of the Renovated Wright Hawthorn Street Home and Bicycle Shop at Henry Ford’s Greenfield Village. Courtesy of Special Collections and Archives, Wright State University.

128 Crouch, The Bishop’s Bays, 509.
the interest of preserving his and his brother’s legacy in the United States due to his feelings that in all likelihood, the Smithsonian controversy would never be resolved. However, if the controversy had been resolved or never existed, it is likely that the bicycle shop and home would have never been removed and the community probably would not have tolerated the buildings removal.

The loss of the Wright buildings was the wake-up call the city needed and a call to action was soon spread. Many Daytonians, familiar with the dilapidated state the former bicycle shop was allowed to lapse into, were pleased that its preservation was assured. However, the majority of citizens felt that it was an “outrage” that the Kitty Hawk Flyer was exhibited in England and Henry Ford was allowed to take the original workshop and Wright home.129 Illustrated by the flurry of editorials and letters to the editor published in the local papers, Daytonians were finally having an open discussion concerning its aviation heritage.130 However, the dilemma now facing the city would take an immense effort to remedy. With the Great Depression still gripping the nation, it was understandable that those involved took the offer to sell their Wright-related artifacts, especially after Orville’s gentle persuasion. While the city successfully recovered from the flood by the 1930s, the economic realities of the Depression was such that Dayton was going to need help in their attempts to rebuild their aviation heritage. As a result, the thoughts of developing any Wright

130 Ibid.
brothers or aviation related tourism as a catalyst for the city’s development would require an outside economic boost.

Orville virtually single-handedly confronted the nation’s museum, took them to task, and created a national discussion on the Smithsonian’s power to control the nation’s history. With the exception of several fringe elements, by the end of the 1930s, the Wrights were universally accepted and presented as the true inventors of powered flight. Although never purposely cultivated, the brothers’ image as American heroes along the lines of Benjamin Franklin, Eli Whitney, and Thomas Edison survived the attacks despite the Smithsonian controversy, lengthy patent battles, the realities of the business world, and the resurgence of first flight claimants such as Gustave Whitehead. Orville’s actions virtually assured that the brothers’ legacy would survive despite the fact that the Smithsonian controversy sat unresolved. Involvement from Congress, the aviation community, and private individuals such as Charles Lindbergh failed to crack the stalemate between the Smithsonian and Orville. By the 1930s, there appeared to be no end in sight as the Smithsonian controversy continued to cloud the Wright brothers’ accomplishment.

Orville’s sending the 1903 Kitty Hawk to England was a necessity that proved to be a brilliant, masterful move. It eventually led to a working dialogue in hopes of resolving the current situation. The repercussions of Orville’s actions resulted in Dayton losing its last major links between the Wrights and the birth of aviation.
However, it was Dayton's lost path in recognizing its heritage and not Orville's drive to assure the brothers' legacy that left the emptiness felt throughout the city by 1936.
CHAPTER V

THE FEDERAL GOVERNMENT STEPS IN: TOURISM, REVITALIZATION, AND ENSHRINEMENT

In Mystic Cords of Memory, Michael Kammen contended that since the 1920s American heritage "has been increasingly intertwined with entrepreneurial opportunities in general and tourism in particular."¹ By the end of the twentieth century, tourism evolved to become one of the world’s largest industries.² Heritage and cultural tourism, which can be defined as an "immersion in the natural history, human heritage, the arts and philosophy, and the institutions of another region or country," has continued to grow more popular in the United States.³ Many places soon tapped into the formula of shaping their specific image and linking it to a local hero or location with the hopes of increasing business opportunities and real estate values.

Today the commemoration of aviation is part of the billion-dollar heritage tourism industry in the United States. The development of the tourism trade began with the creation of a set of myths pertaining to the War of Independence and the founding of the United States. Colonial Williamsburg was one of the first public history venues to realize how financially beneficial promoting their assets could be. Similar to the growing debate between Dayton and Kitty Hawk, North Carolina over the “Birthplace of Aviation,” Colonial Williamsburg’s economic success rested on its

² Kathleen Brown, “Tourism Trends for the ‘90s” in History News 48, no. 3 (May/June 1993), 4-5.
³ Ibid., 4-5.
ability to create and sustain a public image of Virginia as more central to the creation of the United States than Massachusetts or Pennsylvania in the competition for the designation as the "Cradle of Liberty."

Colonial Williamsburg was originally planned as an architecturally oriented project and after a noticeable increase from curious visitors, tourism was incorporated into the restoration plans. They were also one of the first heritage sites to charge admission fees and to market site related commodities items such as reproductions.4 Fueled by the vision of local citizen Reverend Dr. W.A.R. Goodwin and the philanthropy of John D. Rockefeller Jr., Williamsburg city leaders set into motion plans to insure their citizens would benefit from the "great economic advantage of Williamsburg."5 Colonial Williamsburg’s tourism planning was a lesson available for other cities wishing to capitalize on their area’s heritage. While Dayton lacked the historic architectural appeal found in Colonial Williamsburg, it was the hometown of two quintessential American heroes. If the city had followed Colonial Williamsburg’s heritage tourism lessons and would have built upon its original commemorative plans developed following Wilbur’s death, people would probably instantly connect Dayton with the Wright brothers instead of Kitty Hawk, North Carolina. As a result of this inaction, even to this day, Dayton is often overlooked as the birthplace of aviation.

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Still reeling from the devastating 1913 flood and more focused on the rebuilding that followed, Dayton city leaders squandered their opportunity to integrate their aviation heritage into the city's economic infrastructure throughout the 1920s and 30s. With their eyes focused on developing its connections to the emerging Army Air Force and commercial aviation trade, Dayton seemed to forget about its connections to the Wrights as if it was deemed no longer necessary to make the link or remind the world of it. While their lack of action would plague the city for decades to come, it is difficult to fault the leaders for their decisions made immediately following the flood. With its large manufacturing infrastructure, Dayton was geared towards becoming a manufacturing and commercial center and did not see the benefits of the emerging tourist trade. Combined with the dissolution of the Wright Memorial Commission in 1920 and the dilapidated state the city left the historic Wright structures succumb to as the rest of the Miami Valley slowly rebuilt and recovered from the flood, there seemed to be a near reckless disregard to its connections to the Wrights. While Dayton let its aviation heritage slip away, the citizens of the Kitty Hawk, North Carolina area had the foresight to build upon the Wrights' brief but historic stay in the desolate Outer Banks.

Highlighting the local newspaper editors' role in boosterism, W. O. Saunders, the editor of the local Elizabeth City Independent, led a drive to commemorate the Wrights' Kill Devil Hills area in the 1920s. Among one of the earliest group of outsiders to claim a portion of the Wright brothers' story, local investors and North
Carolina government officials and politicians joined Saunders in a plan to develop the Outer Banks area. These North Carolina boosters established a formula of local, state, and federal officials that Dayton would finally follow many years later. The cornerstone of the proposed project that the group focused on was a memorial dedicated to the Wright brothers. Lacking commercial development similar to the Colonial Williamsburg area prior to its heritage tourism focused development, the Outer Banks area was “economically stagnant” prior to the construction of the Wright memorial. Representative Lindsay Warren (D-NC) introduced a House bill for the construction of a Wright memorial at the Kill Devil Hill site on December 17, 1926. In his passionate speech presenting the bill to the House, Warren informed his fellow representatives of Orville’s support for the memorial and also relayed the local community’s enthusiastic backing for the plans was evident in their willingness to donate the historic site’s land. Senator Hiram Bingham (R-CT) introduced a comparable bill in the Senate on the same day, the twenty-third anniversary of the Wrights’ first flight. With Orville’s blessing and Ohio’s approval, the Wright Brothers Memorial Act passed into law and was signed by President Coolidge on March 2, 1927.

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7 Congress, House, H.J.R. 15348. The bill included an authorization for $50,000 to erect a memorial in honor of the Wright brothers (17 December 1926).
8 Congress, House, Representative Lindsay Warren of North Carolina speaking for Wright Brothers Memorial Act, 70th Cong., 2nd sess., *Congressional Record* (08 February 1927), 3282.
9 S.J.R. 4876 (17 December 1926).
The Wright Brothers Memorial Act included provisions for the Secretaries of Navy, War, and Commerce to appoint those responsible for the selection of the site and the planning, construction, and the dedication of the memorial. For oversight and tasked with finalizing the memorial plans was the Joint Committee on the Library and the Commission of Fine Arts.\textsuperscript{11} In August 1927, in an effort to help create a partnership with the federal government and to combine local and national interests in developing the site, Saunders formed the Kill Devil Hills Memorial Association.\textsuperscript{12} Joining the local city leaders, national figures such as Herbert Hoover, Cecil B. DeMille, Commander Richard E. Byrd, Charles Lindbergh, and General John Pershing played a pivotal role in pushing the memorial plans forward. With the incentive of developing the Outer Banks economically through tourism, local investors built a new series of roads and bridges leading to the Wright memorial site.\textsuperscript{13}

The first commemorative effort at Kill Devil Hills was a granite marker provided by the nation’s first aviation organization, the National Aeronautics Association.\textsuperscript{14} The marker was dedicated on December 17, 1928 at the approximate site of the historic first liftoff. (Figure 28) The bronze tablet on the large boulder bore the inscription:

\textsuperscript{11} The Joint Committee on the Library’s duties includes the oversight of the Library of Congress.
\textsuperscript{12} The Kill Devil Hills Memorial Association was incorporated as the First Flight Society in 1966. The group is still active today.
\textsuperscript{13} Chapman, \textit{Wright Brothers National Memorial}, 43.
\textsuperscript{14} The non-profit National Aeronautic Association is the oldest national aviation organization in the United States. The group is dedicated to the “advancement of the art, sport, and science of aviation in the United States,” and features members from all spectrums of the aviation field.
The first successful flight of an airplane was made from this spot by Orville Wright December 17, 1903 in a machine designed and built by Wilbur and Orville Wright.\textsuperscript{15}

Attended by over 3,000 spectators including Orville and Wright family members, the ceremony also included the laying of the cornerstone of the yet-to-be built official Wright Memorial.\textsuperscript{16} About four miles north of the granite marker, a little-known

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{granite_marker.jpg}
\caption{Photograph of Granite First Flight Marker. This marker was dedicated at the site of the first flight on December 17, 1928. The wreath pictured was laid during the marker's dedication. \textit{Courtesy of Special Collections and Archives, Wright State University.}}
\end{figure}

\textsuperscript{15} Chapman, \textit{Wright Brothers National Memorial}, 44.
\textsuperscript{16} Since the sand dunes along the Outer Banks were constantly changing, during the dedication ceremonies, Captain William Tate explained how he and three others determined the proper location of the marker: "We located the four corners of the building in which the machine was housed.... We took into consideration what Mr. Orville Wright said about it in his article \textit{How We Made Our First Flight}. We had a compass with us and we were sure of our compass course. After considering all these things and talking it over these other three men proceeded by themselves to come out here on this point and select the spot on which this magnificent boulder stands and said that this was the spot where the Wright airplane started its first successful flight.... After agreeing upon this exact spot we signed a paper to that effect." See U.S. House, 70th Congress, 2d Session, House Document 520, 1929, 23.
second marker was placed at the location where the Wrights assembled their first glider.\textsuperscript{17}

To avoid any controversy over the monument design selection, a jury was appointed to select from thirty-six submitted memorial designs. The architectural firm of Rodgers and Poor was granted the contract to construct the memorial in February 1930. Breaking away from the tradition of classical federal memorials and monuments to date, the Wright Memorial featured a sixty-foot tall shaft with Art Deco influences. In an effort to gain Senator Bingham’s and the Committee on the Library’s approval and to appease Representative Warren, the architects were granted permission to emphasize design over function and were allowed to construct the memorial with North Carolina granite. Through a series of Congressional allocations of just under $300,000, construction on the monument began in October 1931.\textsuperscript{18} With the majority of the monument completed and despite poor weather conditions that hampered the planned ceremonies and attendance, the site was dedicated on November 19, 1932.\textsuperscript{19} (Figure 29) The completed monument features the names of Wilbur and Orville on the shaft and an inscription along the base reads:

\begin{quote}
IN COMMEMORATION OF THE CONQUEST OF THE AIR
BY THE BROTHERS WILBUR AND ORVILLE WRIGHT CONCEIVED BY GENIUS
ACHIEVED BY DAUNTLESS RESOLUTION AND UNCONQUERABLE FAITH\textsuperscript{20}
\end{quote}

\textsuperscript{17} Ibid., 43-44.  
\textsuperscript{18} Ibid., 47-52.  
\textsuperscript{19} Renstrom, \textit{Wilbur & Orville Wright: A Chronology}, 51.  
\textsuperscript{20} Chapman, \textit{Wright Brothers National Memorial}, 55.
The National Park Service assumed jurisdiction over the Wright Brothers National Memorial on August 10, 1933.\textsuperscript{21} The newly dedicated memorial quickly became the object of President Roosevelt’s New Deal spending. The Kill Devil Hills Memorial Association was realizing its dream for developing the area’s tourism as federal dollars poured in. While not specifically following the Williamsburg template and benefiting from public rather than private funds, the Kill Devil Hills area leaders did have the foresight to direct the Public Works Administration money into developing the site and its surrounding area with the emerging heritage tourism trade in mind. Depression-era projects included access roads and bridges to the once

\textsuperscript{21} Ibid.
inaccessible site. Trails, visitor comfort centers, electrical service, landscape improvements, and support structures were also constructed. As tourist interest increased, the construction of a commercial airstrip was proposed. However, as with many other New Deal-era projects, the United States’ entry into World War II placed a new focus on federal spending and further development of the site was placed on hold.22

Dayton area leaders, as well as Ohio Congressional members, offered little resistance to the creation of the National Memorial in the Outer Banks area. Dayton’s lack of central vision, combined with Orville’s concerns with their legacy, jeopardized any hopes that the city would recognize the importance of its aviation heritage. However, Dayton’s loss was the focus of local discussion as some were not oblivious to the destruction of the Wright brothers’ aviation history landscape. After the signing of the Wright Brothers Memorial Act, Fred Marshall, the editor of the locally produced magazine, Slipstream, questioned the logic behind the memorial plans:

We wonder if those who voted for the measure knew that Kill Devil Hills were inaccessible to the motoring public? We wonder if they knew it would require a huge subscription of funds to build roads and a great bridge in order that those few who happen to travel in this out of the way tract could get to the memorial? Furthermore, we wonder if they knew that citizens of Dayton, Ohio, the hometown of the Wright brothers had already bought and set aside a tract of ground on the very spot where the Wrights first assembled their flying machine.... Certainly it is in Dayton that a Wright Memorial should be located.23

While many residents concurred with Marshall’s opinion, there was little they could do. The article fails to mention the city’s failure to build upon their plans initially conceived well over a decade before the National Memorial was even envisioned.

22 Ibid., 55-61.
However, Marshall realized the opportunity to benefit from the Wrights’ legacy was waning and the threat of Dayton losing its claim of the “birthplace of aviation” was real.

The Wright Brothers National Memorial successfully combined the nostalgia of an American success story with the modernism of air travel and the accelerated tourism trend seen in the 1930s. As a result of the National Memorial, Orville earned the distinction as the only man in United States history to have a United States National Monument dedicated in his honor while still alive. It also represents the United States government’s initial foray into commemorating American aviation. In an attempt to further foster enthusiasm about aviation nationwide, the government created National Aviation Day. The motivations behind aviation’s promotion, especially to those of high school and college age, were economic and national defense.

National Aviation Day was used by the federal government and the aviation industry to build a link between the United States economic and political interests with air power. Essentially, by the early 1930s, both government officials and private pundits were becoming fearful that other nations were gaining a competitive edge in commercial and military aviation capabilities. As international tensions began to rise in the 1930s, aviation boosterism took upon a more patriotic stance in an effort to justify the expenditure of public funds for aviation related development.

The first nationally celebrated “Aviation Day” was during the George Washington Bicentennial celebration of 1932. Orville Wright’s birthday, August 19,
was used to pay tribute to the Wrights in an effort to elevate the Wrights to the stature of Washington and the other innovative and technological founding fathers. Aviation Day also helped link the Wright brothers with modern aviation developments. In an unconvincing effort to link the Wrights to Washington, organizers claimed that it was Washington who held “a prophetic vision of modern aviation” by foreseeing that “[s]ome day we will receive goods from England by balloon.” Reinforcing the notion of patriotism through airpower at a time when many were claiming to be pacifists, the Washington D.C. commemoration featured an aviation exhibit highlighting the Army Air Corps and Naval Aviation as well as an air demonstration of military aircraft.

Soon thereafter, Congress enacted two laws establishing a “National Aviation Day.” Representative James Andrew Shanley (D-CT) introduced House Joint Resolution 348 in the House of Representatives on April 29, 1937. The short, one line resolution stipulated that “May 28, 1937, be set aside as National Aviation Day, to further and stimulate interest in aviation in the United States.” The resolution required no particular or further action by the President, the Congress, or the people of the United States. Shanley’s stated purpose was to build interest in the aviation industry. It is but perhaps no coincidence that the newly formed Pratt and Whitney aircraft engine manufacturer was headquartered in Connecticut, his home state.

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On May 12, 1937, the House Committee on the Judiciary amended the resolution to authorize the President “to designate May 28, 1937 as National Aviation Day.” Furthermore, the President was authorized to issue a proclamation that called for all government buildings to display the United States flag on that day and invited Americans to observe the day so as to stimulate interest in aviation. The committee explained that the formality of officially displaying the flag would help to make the nation more “airminded” and would elevate Aviation Day to the same level enjoyed by then popular National Maritime Day. May 28 was selected since the committee felt that flight conditions would be most favorable in the largest number of places throughout the nation. The resolution passed by the House on May 17, 1937 without opposition and as a result, the 7th Congress set aside May 28, 1937 as the first formally sanctioned “National Aviation Day.” The Joint Resolution reads:

That the President of the United States is authorized to designate May 28, 1937 as National Aviation Day, and to issue a proclamation calling upon officials of the Government to display the flag of the United States on all Government buildings on the day, and inviting the people of the United States to observe the day with appropriate exercises to further stimulate interest in aviation in the United States.

President Roosevelt issued a proclamation on May 25, 1937, calling for the nation to recognize the importance of aviation and declaring that “the people of the United States may justly claim to have taken a leading part in the development of the science of aeronautics and to enjoy today an outstanding position among the nations of the world in the use of air transport.” It is interesting to note that Congress passed the

27 Ibid.
Aviation Day legislation, a thinly veiled commercial and military air power celebration, shortly after their passage of the Neutrality Act of 1937.

On the first National Aviation Day, Shanley addressed the House, pointing out the historical significance of aviation and comparing the benefits of flight to those associated with improved methods of sea travel. He believed that National Aviation Day could provoke the American competitive spirit and hopefully launch the country into the lead in the arena of international commercial aviation. Shanley argued that the accomplishments of Charles Lindbergh would shrink the world just as Christopher Columbus helped to overcome the vast expanses of the oceans. With the Depression still raging and realizing the need for economic growth, Shanley believed that it was imperative the United States aggressively enter the developing era of commercial aviation.30 The economic potential of aviation’s heritage was yet to be discovered by Congress. Staking out the United States’ cultural and economic claim to aviation, the original National Aviation Day was designed to celebrate the leading role that the United States played in the development of the science of aeronautics and to promote its economic potential. This was planned to be a one-time observation and was not designed to solely commemorate the Wright brothers despite its historical references.

Aviation Day made it possible for some members of Congress to see it as an advantage to use the Wrights and link them with other aviation accomplishments, such as Lindbergh’s transatlantic flight, in an effort to justify air power politics. In 1939,

realizing the need to build excitement for the science of aeronautics in America’s youth with World War II looming, more emphasis was placed on American aviation through a second Congressional resolution. On February 28, 1939 Representative Jennings Randolph (D-WV) started the process with the help of retired army officer, Colonel J. E. Myers. Myers argued the importance of a national aviation day by noting that the United States lagged in promoting aviation while other nations, such as Italy and Russia, regularly stress the importance of aviation and attempt to build enthusiasm for aeronautical study among their school-aged children. Differing from the New Deal’s National Youth Administration’s employment projects in use at the time, National Aviation Day was designed only to create interest in aviation in order to help build the aeronautical educational foundation that would help foster America’s war preparedness. Myers suggested that August 19 would be an appropriate date for an annual National Aviation Day. August 19 was Orville Wright’s birthday and the date did not conflict with other national holidays as did Wilber Wright’s April 16 birthday (Easter). Also, keeping in mind aviation was still in its rather primitives stages in the 1930s, the weather on August 19 was preferable flying weather as compared to observing National Aviation Day on the December 17 anniversary of the first flight.31

As a result of Randolph and Myer’s actions, in 1939, two Senate and seventeen House resolutions were introduced to designate August 19 of each year as National Aviation Day. Several resolutions, such as House Joint Resolution 134, called for an

elaborate national celebration. The proposed resolution, perhaps in an effort to flex America's military might as war loomed, required naval and military units throughout the United States to assist civic organizations with Aviation Day celebrations and called on the state governors to issue Aviation Day proclamations.\(^{32}\)

Senate Joint Resolution 111, which was introduced by Senator Claude Pepper (D-FL) on April 3, 1939, became law. On April 19, 1939 the Senate Committee on Commerce approved the resolution. The Senate's version called for a simpler ceremony, more in line with other national observances. Initially some senators objected to the resolution since the proposal included the use of the Army and Navy and it would stress the Depression-era budget. As a result, the directive for the involvement of the armed forces was removed. Although there was opposition to the resolution with concerns that the Senate would be deluged with requests for similar national celebrations, the resolution passed the Senate on May 4.\(^{33}\) By law, National Aviation Day is not a legal holiday and it does not require any expenditure by the federal government. President Roosevelt signed the resolution into law on May 11, 1939. Still recognized today, the law established August 19 of every year, Orville Wright's birthday, as "National Aviation Day." The law reads:

> Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is authorized to designate August 19 of each year as National Aviation Day, and to issue a proclamation calling upon officials of the Government to display the flag of the United States on all Government buildings on that day, and inviting the people of the


\(^{33}\) Congress, Senate, Senator Pepper of Florida speaking for the Resolution Designating August 19 of Each Year As National Aviation Day. S.J.R. 111. 76th Cong., 1st sess., Congressional Record (04 May 1939): 5103-5104.
United States to observe the day, and inviting the people of the United States to observe the day with appropriate exercises to further and stimulate interest in aviation in the United States.\textsuperscript{34}

Noting that the development of aeronautics "has come to exert a profound influence on the course of events throughout the world" and that it was important that the aviation industry be "encouraged" to contribute to helping the United States "retain its outstanding position in the field of aeronautics," President Roosevelt officially designated August 19, 1939 and August 19 of each succeeding years as National Aviation Day on July 25, 1939.\textsuperscript{35} With World War II's outbreak just weeks away, Roosevelt's statement emphasizes his understanding for the country's war preparedness in an era of neutrality politics.

The poor attendance and mixed reaction to the original 1937 Aviation Day was an indication that not all realized how boosting the Wright brothers' image and historic flight could help justify allocating more funds for defense preparations. To help with the earlier promotional problems, national aeronautical publications were quick to announce the new August 19 celebration of National Aviation Day and were successful in spreading enthusiasm about the event. For example, an article in the June 1939 issue of \textit{U.S. Air Services} comments how National Aviation Day should be seen as a "tribute to Orville Wright" and how this day is an important reminder of "aviation's ever-growing place in world affairs."\textsuperscript{36}

\textsuperscript{34} Congress, Senate, \textit{Designating August 19 of Each Year As National Aviation Day}, 76th Cong., 1st sess., S.J.R. 111. (03 April 1939).
\textsuperscript{36} "National Aviation Day," \textit{U.S. Air Services}, June 1939, 22.
Wishing to push forward with the success of the 1939 National Aviation Day, Representative Dow Harter (D-OH) introduced legislation in 1940 authorizing government employees to participate in National Aviation Day and permit the loaning of government equipment to local communities for the celebration. This bill was part of the original request for National Aviation Day but was not included in the earlier resolution enacted into law due to the objections over cost and manpower concerns. Perhaps signaling just how poorly the United States was prepared for war, Secretary of War Harry Woodring fought the new proposals due to fears that the widespread popularity of National Aviation Day events would stress the resources of the military and its budgets. The United States involvement in World War II ended the expansion of the commemoration of National Aviation Day. No funds are attached to the law and it remains untouched today. However, the National Aviation Day tributes to the Wright brothers and United States airpower have become more intertwined over the years.

The national discussion over the importance of aviation and how it should be commemorated may have helped Daytonians reflect on their own links to its roots. In 1936 the city finally began to dust-off their pre-flood plans to honor their hometown heroes. In reality, the combined loss of the Wrights’ Dayton home and bicycle shop and the national commemorative spotlight shifting to North Carolina as a result of the Wright Brothers National Memorial left city leaders little choice. Established years earlier as a way to build a link between the aviation industry and the city, the Dayton

Chamber of Commerce Aviation Committee’s new mission included investigating the economic viability of developing the city’s aviation heritage. The first proposal the committee considered was the construction of a Wright and aviation oriented Science Museum that was first considered after the death of Wilbur in 1912. Proposals included building the museum on the now empty bicycle shop lot and placing a bronze plaque marking the site of the former bicycle shop on the sidewalk.38

In 1936, the Aviation Committee reexamined the Dayton Air Service Incorporated Committee’s earlier plans for a memorial at the Huffman Prairie Flying Field. In addition to the approximately half-acre of land at the flying field, the Dayton Air Service Incorporated Committee held the deed for over twenty acres of land that featured a bluff overlooking the historic site.39 Since site improvement funding was an issue during the Depression, in an effort to take advantage of possible federal government assistance via the Civilian Conservation Corps (CCC), the Dayton Air Service Incorporated Committee elected to transfer the land adjacent to the Huffman Prairie Flying Field back into local government control via the Miami Conservancy District in June 1938.40

Formed by influential political and business leaders from the Dayton area, the Wilbur and Orville Wright Memorial Commission was created to build upon the Dayton Air Service Incorporated Committee’s prior work in developing a memorial on

40 Ibid., Sec. 8, page 2.
the property. Working in cooperation with the Miami Conservancy District, the newly formed commission chaired by Colonel Edward A. Deeds, agreed to provide $25,000 raised from earlier donations to assist in building and maintaining the new memorial.41 Deeds first approached the Olmstead Brothers landscaping architecture firm in 1912 about assisting in designing Wright Memorial plans. Acting on behalf of the committee, he proceeded to offer the firm the opportunity to draft plans for what would become known as Wright Brothers Hill in 1938.42 The commission agreed to provide the skilled labor, however since a portion of the funding was provided through the federal government via the CCC forces, the National Park Service was required to approve the overall proposal.

Described as Art Moderne, the approved plan put forth by the Olmstead Brothers with input from the Wright Memorial Commission featured a seventeen-foot tall pink North Carolina granite shaft as the focal point. (Figure 30) The Wright Brothers Memorial’s bronze plaque reads:

IN COMMEMORATION
OF THE COURAGE, PERSEVERANCE
AND ACHIEVEMENTS OF
WILBUR AND ORVILLE WRIGHT

THROUGH ORIGINAL RESEARCH
THE WRIGHT BROTHERS ACQUIRED
SCIENTIFIC KNOWLEDGE
AND DEVELOPED THEORIES
OF AERODYNAMICS
WHICH WITH THEIR INVENTION
OF AILERON CONTROL
ENABLED THEM IN 1903

41 “Wright Brothers’ Memorial Park Approved by Grant from Miami Conservancy District,” Dayton Herald, 22 September 1938.
42 The nationally recognized Olmstead Brothers designs includes New York’s Central Park, the White House and Capital grounds, Atlanta’s Piedmont Park, Chicago’s Marquette Park, as well as many other projects throughout the country.
TO BUILD AND FLY AT KITTY HAWK
THE FIRST POWER-DRIVEN
MAN-CARRYING AEROPLANE
CAPABLE OF FLIGHT.

THEIR FURTHER DEVELOPMENT
OF THE AEROPLANE
GAVE IT A CAPACITY FOR SERVICE
WHICH ESTABLISHED AVIATION
AS ONE OF THE GREAT FORWARD STEPS IN HUMAN PROGRESS.

AS SCIENTISTS
WILBUR AND ORVILLE WRIGHT
DISCOVERED THE SECRET OF FLIGHT.
AS INVENTORS, BUILDERS AND FLYERS
THEY BROUGHT AVIATION
TO THE WORLD.

Figure 30. Photograph of Dayton's Wright Memorial. Featuring pink North Carolina granite, the Art Moderne styled memorial is located on Wright Hill. Photograph by author.

The surrounding memorial wall includes four bronze plaques that highlight the significant accomplishments of the Wright brothers at the nearby Huffman Prairie Flying Field, a list of pioneer flyers that trained at Wright Brothers Field, recognition of the importance of the surrounding Wright-Patterson Air Force Base (the plaque recognizes its earlier inception, Wright Field), and acknowledgment of the Native
American Adena burial mounds unearthed at the site. (Figure 31) Taking advantage of local CCC forces to grade and prepare the hillside landscape, Wright Brothers Hill featured the Olmstead characteristic “liberal use of plantings as a fundamental component of landscape design” to highlight the open space surrounding the memorial.43

![Figure 31. Photograph of One of Four Markers Surrounding the Wright Memorial. This marker discusses the Huffman Prairie Flying Field. Note the arrow on top of the marker pointing to the location of the flying field. Photograph by author.](image)

When it was decided upon that the Wright Memorial was to be the focal point of the accomplishments of the Wright brothers in Dayton, it was deemed important that the Huffman Prairie Flying Field was recognized and viewable from the memorial. (Figure 32) Under the supervision of the Wright Memorial Commission, a concrete pylon was constructed in 1939 where the original 1904 hangar was believed

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43 Colburn, "Wright Brothers Hill," Sec. 7, page 4.
Figure 32. Photographs of Wright Hills Views. The photo on the left represents how the pylon (arrow) was viewed from the Wright Memorial on Wright Hill. The photo on the right illustrates how Wright Hill (arrow) was viewed from the pylon. The distance represented is approximately 1 1/2 miles. Photograph by author.

to have been located on the Huffman Prairie Flying Field. The pylon, removed during 2002 renovations, was fabricated of concrete and featured a slab mounted at a thirty-degree angle. The slab's location was significant due to its visibility from Wright Brothers Hill. The concrete pylon was rusticated to resemble wood siding, most likely a representation of the siding used on the original hangar. (Figure 33) Sponsored by

Figure 33. Photograph of the First Monument Constructed at the Huffman Prairie Flying Field. The white concrete pylon was built in 1939 and removed during the 2002 renovations. The National Register of Historic Places marker can be seen in the foreground. Photograph by author.
the Wright Memorial Commission, a brass plaque was once located directly above the hatch. It bore the inscription:

This is the site of the original hangar used by the Wright brothers. The immediate area was their first flying field. Wright Brothers Hill, one and one half miles west, commemorates their achievements in many of which this field was an important factor.

Finally, after nearly thirty-seven years from the Wright brothers' historic first flight and nearly seven years after the opening of the Wright Brothers National Memorial, Dayton dedicated Wright Brothers Hill on August 19, 1940, Orville's sixty-ninth birthday. Although lacking the pomp of the National Memorial's dedication ceremony, the event was well attended by local dignitaries, Governor James Cox of Ohio, military officials, and Wright family members. (Figure 34)

During the ceremony, Edward P. Warner of the National Advisory Committee for Aeronautics presented Orville with *Pilot Permit Number One*. Linking the Wright

![Figure 34. Photograph of Colonel Edward A. Deeds Addressing the Attendees of Dayton's Wright Brothers Memorial on August 19, 1940. Seated behind Deeds are (left to right) Navy Captain Kenneth Whiting, Orville Wright, and Air Force General Henry "Hap" Arnold." Courtesy of Special Collections and Archives, Wright State University.](image_url)
brothers to the country’s founding fathers, Major General H. “Hap” Arnold, Chief of the United States Army Air Corps and former Wright School of Aviation student, proclaimed that the Wright Memorial would “stand as a shrine to aviation as the Plymouth Rock is to America.” The deed to Wright Brothers Hill remained with the Miami Conservancy District until 1978. Marking the seventy-fifth anniversary of the 1903 flight, the property was transferred over to the United States Air Force.

At seventy-six, Orville’s health began to fail. Suffering his first of two heart attacks on October 10, 1947, Orville was warned to slow down. Just over three months later, he suffered his second heart attack while at his laboratory on January 27, 1948. While initially surviving, his condition worsened due to congested lungs. In the morning of January 30, Orville passed away.

Similar to the outpouring of respect shown after the death of Wilbur, Dayton was the focus of international attention as it once again hosted a ceremony designed to recognize the contributions of the Wrights. Colonel Deeds, who had a lifelong friendship with Orville, oversaw the funeral arrangements. An estimated 1,500 people paid their respects to Orville prior to his funeral. The Dayton area, as well as the nation, mourned as flags were lowered to half-mast and many schools either released their students early or held their own memorial services. Reinforcing the image that the Wright brothers condoned air power, a group of the Air Force’s newest P-80 jet

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45 Colburn, "Wright Brothers Hill," Sec. 8, page 2.
fighters flew overhead in the “Missing Man” formation while the funeral procession progressed towards the Wright family plot in Dayton’s Woodland Cemetery.\textsuperscript{47} The graveside service was restricted to friends and family members as Orville was buried along side Wilbur, his mother and father, and his sister Katharine.\textsuperscript{48} Orville never married or fathered any children and his nephews were named as executors of his estate. Estimated at just over $1 million, the bulk of his assets bequeathed to surviving family members, friends, and former business associates.

Orville’s vast collection of aviation archival material and the 1903 Kitty Hawk Flyer were among the most valuable of his assets. As long as Orville’s nemesis, Albert F. Zahm, was in charge of the aeronautics division at the Library of Congress, Orville insisted that the Wright archival material remain elsewhere. After Zahm’s retirement in 1945, Orville was open to the idea of depositing the material in the Library of Congress as long as the papers would be published. In 1949, the Library of Congress accepted the bulk of Orville’s material relating to the history of aviation as well as numerous photographs and negatives. Orville’s life work was edited by Marvin W. McFarland and was published by McGraw-Hill in 1953 as \textit{The Papers of Wilbur and Orville Wright}. The Wright heirs wished to keep the remaining Wright family material, such as journals, books, and photographs, in the Dayton area. After expressing interest in the collection, Wright State University in Dayton was named the permanent repository of the remaining Wright family material in 1975.

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{47}] The “Missing Man” formation is a four-airplane formation fly-over in which one pilot pulls up and out of the formation, leaving a symbolic empty slot in honor of the “missing man.”
\item[\textsuperscript{48}] “1,500 Mourners in Final Tribute to Orville Wright,” \textit{The Dayton Journal}, 2 February 1948.
\end{itemize}
\end{footnotesize}
Perhaps one of the saddest aspects of recognizing the Wrights' achievements is that first Wilbur and now Orville would not live to see the 1903 Kitty Hawk Flyer exhibited at the Smithsonian Institution. Understandably, after Orville's death the status of the historic plane came into question. Although the Smithsonian controversy was finally put to rest in 1942, Orville kept his plans for the 1903 Flyer to himself. As a result, the disposition of the plane was in question. He never officially changed his will stipulating the return of the Kitty Hawk "[u]nless before my decease I personally in writing have asked its withdrawal from that Museum [Science Museum of London]."49 However, upon orders from the Montgomery County Probate Court, an investigation found that Orville did privately inform the Science Museum of London he would be asking for the 1903 Flyer to be returned following World War II. Orville's secretary, Mabel Beck, provided Orville's letter to the Science Museum stating his wishes for the 1903 flyer's "return when transportation was less hazardous."50 Based on the letter, the executors concluded that Orville was satisfied by the Smithsonian's 1942 published contrition. As a result, the return of the 1903 Flyer to the United States was assured. Knowing the importance of orchestrating the historic event, Colonel Deeds made arrangements for the public disclosure of Orville's executors' decision on the very day Beck produced the letter.

An agreement between the Wright estate and the Smithsonian Institution included a provision for the sale of the Kitty Hawk to the museum for one dollar and

50 Miller, *Wright Reminiscences*, 42.
specifications to prevent further disputes between the Wright heirs and the Smithsonian. However, perhaps highlighting the family’s mistrust of the Smithsonian, the agreement allowed the heirs to remove the flyer from the institution if they were to claim or assert that another pioneer aviator was first to fly. While the agreement’s terms are understandable based on the damage the Smithsonian controversy did to the Wright family, it has fueled many debates for the conspiracists and supporters of other early aviators.

“Operation Homecoming,” the November 1948 transfer of the Kitty Hawk from the Science Museum of London to the Smithsonian Institution, turned into quite a public and elaborate undertaking. The United States Navy became involved in the transcontinental transfer when the crates holding the plane were stuck at a Nova Scotia port due to a longshoremen’s strike. The Smithsonian’s Paul E. Garber, a former lieutenant commander in the Navy, requested help from Admiral Melville Pride. Within several days, the Navy dispatched the aircraft carrier USS Palau to transport the flyer to American soil. The flyer arrived at the New York Naval Shipyard and was greeted by a navy honor guard. The plane’s final trip to the Smithsonian featured a motorcade of official government vehicles as well as a Navy semi-tractor with very visible signs reading:

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51 Crouch, The Bishop’s Boys, 520.
53 Admiral Alfred Melville Pride, a pioneer naval aviator, served as an aircraft carrier commander during World War II. He later commanded the U.S. Seventh Fleet and retired a full Admiral.
54 Young, Twelve Seconds to the Moon, 181.
Reporting more on the event and not its background, the convoy was followed by the press as it was welcomed by curious groups of people along its route towards Washington D.C.

The Kitty Hawk Flyer was presented to the Smithsonian during a well-attended ceremony on December 17, 1948, forty-five years after the historic first flight. The official Smithsonian label reads:

"The Original Wright Brothers Aeroplane
The World's First Power-Driven
Heavier-Than-Air Machine in Which Man Made Free, Controlled, and Sustained Flight
Invented and Built by Wilbur and Orville Wright
Flown By Them at Kitty Hawk, North Carolina December 17, 1903
By Original Scientific Research the Wright Brothers Discovered the Principles of Human Flight
As Inventors, Builders, and Flyers They Further Developed the Aeroplane,
Taught Man to Fly, and Opened The Era of Aviation"

Interestingly, the Smithsonian rarely criticized itself on how the previous members of the Institution's hierarchy misused their power as the nation's museum to slant the national memory of aviation in order to meet their needs. With the exception of Tom D. Crouch's writings, Smithsonian publications often fail to mention the controversy, placing full credit for the first flying machine with the Wright brothers. For example, in Crouch's "Engineers and the Airplane: Aeronautics in the Pre-Wright

55 Crouch, "Capable of Flight, 109."
Era,” an article published in 1978 by the Smithsonian Institution’s National Air and Space Museum, the Langley Aerodrome was described as “structurally weak, virtually uncontrollable, and burdened with a launch system that imposed disastrous loads.”56 The article gave the Wrights “full credit for the final brilliant breakthroughs that led to the triumph at Kitty Hawk.”57 While the lack of mention was more likely due to the authors’ focused attention on the facts surrounding early flight, its omission, as well as the Air and Space Museum’s non-interpretation of the controversy, helps lead to public amnesia of Orville’s decades long struggle.

Paul E. Garber, at the time of his writing of “Recollections and Reflections,” was Historian Emeritus and Ramsey Fellow at the National Air and Space Museum. Garber, who described the events leading to the Kitty Hawk Flyer’s arrival at the Smithsonian, made no mention of the long quarrel of previous years. Garber notes only that it was his “privilege to help bring back the 1903 Flyer from England, where it had been on exhibit at the Science Museum since 1928.”58 He fails to mention why it was there in the first place.

Charles H. Gibbs-Smith, a historian for the Science Museum of London where the Wright flyer was held during the conflict, noted the Smithsonian controversy. In The Wright Brothers: A Brief Account of their Work 1899-1911, Gibbs-Smith wrote that the plane was loaned to the Science Museum “following a most regrettable attack

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57 Ibid., 19.
on the Wrights,” although he failed to identify the Smithsonian as the attacker. In Airplanes of the World: 1490 to 1969, Alexis Dawydoff briefly writes that the Langley Aerodrome was the “subject of bitter controversy on the subject of who actually flew first” but that it is the Wright brothers that were “recognized as the first to make a successful powered flight.”

The Smithsonian’s recent Centennial of Flight celebration published on the Internet, mentions the controversy and acknowledges the strains it placed on the Wright brothers over the years. Surprisingly, Glenn Curtiss, who benefited from partnering with the Smithsonian’s Secretary Walcott and Albert Zahm, was presented as a victim of the controversy. The Smithsonian identified Curtiss as the Wrights’ “principal target in the American patent infringement suits” and that he was harmed professionally, perhaps even more so than the Wrights. Undoubtedly “frustrated by the Wrights’ litigiousness,” Curtiss was portrayed as the one overcoming adversity as he “succeeded in becoming the leading aircraft manufacturer in the United States before World War I.” The unintended projection of Curtiss’s victimization was probably merely a consequence of the Smithsonian’s Internet Centennial of Flight’s focus on commemorating and celebrating the pioneer aviators rather than raising

63 Ibid.
questions or interpreting the controversy. However, its online exhibit highlights the fact that the Air and Space Museum still does not make it crystal clear to its virtual or real visitors of its complicity in the controversy.

With the exception of Wright specific monographs, the Smithsonian controversy has escaped attention in the modern mainstream aeronautical press. The most prevalent discussions are found in Wright biographer Crouch’s historical literature that is aimed at scholarly audiences. Several other Wright authors have referenced the controversy, including James Tobin’s *To Conquer the Air: The Wright Brothers and the Great Race for Flight*, Fred Howard’s *Wilbur and Orville: A Biography of the Wright Brothers*, Dayton Aviation Heritage National Historical Park’s historian Ann Honious’s *What Dreams We Have*, and Fred Kelly’s *The Wright Brothers: The Classic Biography Authorized by Orville Wright*.

The mounting uproar over the loss of the Kitty Hawk to the Science Museum of London was perhaps tempered by the outbreak of World War II. With Abbot’s publishing of “The 1914 Tests of the Langley Aerodrome” during the difficult early days of America’s involvement in the war, the Smithsonian controversy basically just disappeared. Instead of the Smithsonian’s public contrition that was the culmination of Orville’s decades long fight to protect the brothers’ legacy, the 1948 return and

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64 Tom D. Crouch articles mentioning the Smithsonian controversy include “Capable of Flight: the Saga of the 1903 Wright Airplane,” “The Feud Between the Wright Brothers and the Smithsonian,” and his Wright biography, *The Bishop’s Boy*.

enshrinement of the 1903 flyer played out more as a heroic triumph for the country, as well as for the Smithsonian. It seems that with Orville's death and the enshrinement of the Kitty Hawk, the Smithsonian controversy would remain buried in the past.

While the nation’s attention was focused on Washington and the Kitty Hawk Flyer’s return, a vital asset of the nation’s aviation heritage still sat nearly abandoned in Dayton. Under the control of the federal government as part of Wright-Patterson Air Force Base, the memory of Huffman Prairie Flying Field seemed to fade in the minds of local leaders after the dedication of the nearby Wright Memorial Hill. The terrain of the Huffman Prairie Flying Field has changed little since the Wright brothers left. The prairie remains undisturbed and no original buildings dating to the Wright brothers’ use of the flying field are left. For decades, Wright-Patterson Air Force Base maintained a small photographic exhibit of the Huffman Prairie Flying Field at the Wright Memorial. Built by the Huffman Prairie League, the simple and inexpensive exhibit was designed to highlight the Wrights’ activities at the flying field. 

The first attempts at commemorating, restoring, and recreating the original flying field were instigated and sponsored by the United States Air Force. In the 1980s, the Air Force became interested in preserving the Huffman Prairie Flying Field in an effort to share its heritage with the public and to perhaps reshape its harsh Vietnam War and Cold War image. The Cultural Resources and Historic Preservation

66 No longer in existence, the Huffman Prairie League was a volunteer organization whose mission was to aid in the preservation of the historic resources at Wright-Patterson Air Force Base.
Program at Wright-Patterson Air Force Base oversaw the initial research and improvements. To designate the original layout of the Huffman Prairie Flying Field, seven limestone and granite boundary markers were constructed. These markers form the irregular pattern Orville Wright originally sketched in designing the flying field. The seven flying field boundary markers feature a metal flagpole and are approximately forty feet in height. Located on each boundary marker base is a metal plaque noting the individual marker’s location on a map of the Huffman Prairie Flying Field. Each marker’s plaque inscription reads:

**HUFFMAN PRAIRIE FLYING FIELD**

Seven stone corner markers delineate the boundaries of Huffman Prairie Flying Field. The Wright brothers used the 84.42 acre tract of farmland, owned by Torrence Huffman, to perfect their flying skills in 1904-1905 and as the site of the Wright Company School of Aviation from 1910-1916.
The markers are clearly visible from a distance and allow for easy identification of
the border of the flying field for visitors. In addition, the markers allow the visitor to
understand the scale of the flying field in relationship to modern airfields.

In an effort to create a focal point for anticipated visitors, under direction of
the Office of Environmental Management, the United States Army Construction
Engineering Research Laboratory, Wright-Patterson Air Force Base personnel, and
volunteer members of the Huffman Prairie League and the Dayton community built a
reproduction hangar in 1990. The facsimile of the 1905 hangar, which is similar in
size to a modern one-car garage, is a wooden structure that resembles a shed. A
concrete marker bearing a metal plaque identifies the reproduction hangar. The
plaque’s inscription reads:

Wright Brothers
1905 Hangar Replica

It was here on Huffman Prairie in 1904 and 1905 that the Wright brothers successfully
mastered the mechanics of controlled, powered, heavier-than-air flight. The location
of their 1904 hangar is not precisely known. The Wrights made fifty flights while
operating out of their 1905 hangar, which this replica represents, logging about three
hours and forty minutes of total flying time.

According to Jan Ferguson, the former Cultural Resources and Historic
Preservation Program Manager for Wright-Patterson Air Force Base, the replica
hangar was built according to the available historical data and is believed to be

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67 Dr. Jan Ferguson was the Cultural Resources and Historic Preservation Program Manager for Wright-
Patterson Air Force Base. She currently works in the 88th Air Base Wing Office of Environmental
Management. Formed in 1987, the office is responsible for all environmental issues affecting Wright-
Patterson Air Force Base. Dr. Ferguson graduated from Ohio University with a bachelor’s degree in
Anthropology in 1975. She received a master’s degree in Anthropology from Case Western Reserve
University in 1977 and a Ph.D. degree in Anthropology (Archaeology) from Columbia University in
1986.
approximately eighty percent accurate in representing the original hangar. Like the original 1904 and 1905 hangars, the reproduction hangar door can be swung outward, allowing it to be propped open. However, the hanger would not be used for exhibit purposes until National Park Service involvement years later. (Figure 36)

Figure 36. Photograph of the Reproduction 1905 Hanger at the Huffman Prairie Flying Field. Note one of the seven boundary markers to the right of the hanger. Photograph by author.

In an attempt to locate the original site of the Wright brothers’ 1910 hangar, the Huffman Prairie Flying Field underwent an archaeological survey in 1990 and 1994. Stating that the site held “great importance to the early history of aviation,” the Cultural Resources Research Center at the United States Army Construction Engineering Research Laboratories conducted an multidisciplinary excavation in an effort to “manage the Huffman Prairie Flying Field Site and to develop it as a

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68 Jan Ferguson, Cultural Resources and Historic Preservation Program Manager for Wright-Patterson Air Force Base, interview by author, 21 February 2000, Dayton, Ohio, electronic mail.
69 At the time of the study, Dr. Jan Ferguson was the WPAFB Historic Preservation Officer and David P. Duell was the Chief of the Resource Protection Branch of the Office of Environmental Management.
resource for public information and education." Upon locating the possible site of
the hangar, an excavation of the suspected area proceeded in 1994. The result of the
dig revealed that "artifacts are relatively abundant at the 1910 Hangar locus and...
are very informative about the nature of activities conducted at the site."71

Since the Huffman Prairie Flying Field is also part of a broader, maintained
prairie landscape, efforts began to be made to maintain the wildlife. Along the
northern boarder of the flying field, adjacent to the entrance, is a row of birdhouses.
The birdhouses, mounted in pairs and running the length of the field, are simple
wooden structures mounted on metal poles. To allow maintenance and access, the
prairie grass around the birdhouses is maintained.

During their early experimental flights, the Wright brothers used a forty-foot
honey locust tree as a referencing pylon when making their elliptical flights. Besides
acting as a referencing point for their early experiential flights, the thorny tree played
a somewhat significant role in the final development of a controllable aircraft. In
short, on September 28, 1905, Orville Wright avoided crashing into the tree by
making a quick, controlled maneuver. The new method of maneuvering the controls
helped them to realize that they finally developed a totally controllable aircraft. As a
result, the Wright brothers began drafting plans to market their invention. The
original honey locust tree no longer exists, however, due to the tree’s significance, its

70 David W. Babson, Michael L. Hargrave, Thomas L. Sever, John S. Isaacson, and James A. Zeidler,
Archaeological, Geophysical, and Remote Sensing Investigations of the 1910 Wright Brothers’ Hangar,
Wright-Patterson Air Force Base, Ohio (Champaign, Illinois: Construction Engineering Research Lab,
1998), 1.

71 Ibid., 68.
descendants were identified and maintained on the flying field in the original tree’s location. The existing honey locust trees are maintained to the extent that other trees are not allowed to grow within the flying field. The remaining honey locust trees vary in dimensions and maturity, ranging from several fully developed mature trees to numerous smaller saplings.

By 1989, interest in further preserving the Huffman Prairie Flying Field by the United States Air Force brought them into a partnership with a local group of aviation enthusiasts led by Gerald Sharkey. The group, Aviation Trail Incorporated, was formed following a regional economic development conference in 1980. To further Dayton’s economic development, it was suggested that the city should capitalize on its aviation history by establishing “two trails” in an effort to attract tourists and businesses. In 1981, Aviation Trail, a non-profit venture, was established with the stated mission to:

1. To identify and preserve the Dayton and Miami Valley aviation heritage.
2. To engage in promotional and educational activities to create an awareness of the area’s identification with aviation and of its place in aviation history.
3. To stimulate the area’s economic development through aviation-related capital projects.

With major funding provided by the Dayton Advertising Club, in 1981, an “Aviation Trail” was created when the group published a brochure featuring ten of the most “historically significant” sites in the Dayton area that they felt that would garner the most interest from the public. A successful tour followed and as a result, the group

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72 Jan Ferguson, The Huffman Prairie Flying Field (Dayton, Ohio: Office of Environmental Management, Wright Patterson Air Force Base, 1999), 8.
74 Ibid.
elected to incorporate as the non-profit Aviation Trail Incorporated. The group routinely holds fundraising events and has received grants from the Dayton Foundation, Huffy, Standard Register, and the State of Ohio.

Aviation Trail Incorporated was instrumental in providing the research in locating the many long-lost historically significant aviation sites in the Dayton area. In 1986 it published *A Field Guide to Flight: On the Aviation Trail in Dayton, Ohio* calling attention to the wide range of Wright brothers and flight related cultural resources in the city. Their research was presented as a guidebook that was coordinated with a series of site identification markers. The sites listed included Wright Hill, the National Museum of the United States Air Force, the two Wright home sites, and the Huffman Prairie Flying Field. (Figure 37)

![Figure 37. Photograph of an Aviation Trail Marker. This marker denotes the site of the Wright brothers' third bicycle shop at 1034 West Third Street. Long demolished, the Wrights used this location from 1893 to 1894. Photograph by author.](image)

75 Ibid.
76 Mary Ann Johnson, *A Field Guide to Flight: On the Aviation Trail in Dayton, Ohio* (Dayton, Ohio: Landfall Press, 1986). The book has since been revised and addition sites were added to the trail.
The guidebook noted the site of the well known, but now removed, 1903 Wright bicycle shop, and significantly, it also revealed the site of five other Wright bicycle shop locations. (Figure 37) While most of the sites were demolished, destroyed, or altered beyond recognition, it was disclosed that two buildings that had a significant relationship to the Wright brothers still remained in their original locations. The buildings were the Hoover Block building that housed the Wrights' second print shop and 22 Williams Street, the location of the Wrights' forth bicycle shop. With the help of a loan from City-Wide Development Corporation and grants from Montgomery County and the City of Dayton, Aviation Trail Incorporated purchased the two buildings. The purchase of the Williams Street bicycle shop saved it from a planned forthcoming demolition.

Using a $25,000 grant from the city of Dayton and an additional $66,500 from the state of Ohio, as well as many hours of volunteer assistance, the 22 Williams Street bicycle shop underwent restoration. Prior to its opening, the building was renamed the Wright Cycle Company Building. While the construction was not completed until 1993, enough work was finished to open the bicycle shop to the public on June 25, 1988. (Figure 38) Many city, county, state, and federal government

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77 The Wright brothers operated Wright and Wright Job Printers from 1890 to 1895 on the second floor of the Hoover building. During this time, the brothers published two newspapers: the daily Evening Item and the weekly West Side News. The brothers also entered into a partnership with Dayton poet Paul Laurence Dunbar to publish the weekly Dayton Tattler.
78 The City-Wide Development Corporation is a partnership between the city of Dayton, local business leaders, and neighborhood associations that was created in 1972 to attract and create jobs as well as improving the local neighborhoods.
79 "The First Ten Years," 3.
80 Ibid.
representatives joined the surviving members of the Wright family at the dedication ceremonies.\footnote{The surviving Wright member family members at the time of the bicycle shop dedication included Ivonette Wright Miller, niece, Susan Wright, widow of the Wrights nephew Horace Wright, and Wilkinson Wright, the grand-nephew of the Wright brothers.} Aviation Trail opened the first floor of the shop as a museum. Prepared with the help of nearby Wright State University, initial exhibits in the bicycle shop included a photographic exhibit of the Wrights and general early aviation, a history of the bicycle, and two bicycles representative of the time period the brothers were in the bicycle business. Eventually the museum replicated the Wrights' bicycle shop with a more complete interpretation of the brothers' endeavors.\footnote{Fisk, The Wright Brothers, 63-64.} Plans were also
being made for the development of the nearby Hoover Block building. Preliminary plans for the building included more Wright brothers’ exhibits and additional information about their print shop endeavors, a parachute museum, and office space. However, the Hoover Block building’s renovation would be years away due to budget concerns.83 (Figure 39)

Figure 39. Photograph of the Hoover Block Building. This building was also purchased by Aviation Trail Incorporated. Saved from eventual demolition, the site was stabilized and renovated years later. Photograph by author.

The two Wright buildings purchased by Aviation Trail Incorporated, as well as the site of the original Wright home, were located in what is now known as the Wright-Dunbar Historic District in west Dayton.84 African Americans began to migrate into what was then known as the “West Side” during the early 1900s. The pace greatly accelerated during the Great Migration and did not slow until after World War II. During this time, Dayton became ethnically divided with the Great Miami

84 The Wright-Dunbar Historic District was placed on the National Register of Historic Places in 1980.
River separating the races. As African Americans gradually began to integrate into the rest of the city during the mid-1960s, the city’s West Side became a flash point for conflict over class racial imitations on jobs, housing, education, and other social services for those that remained. The racial unrest and violence that took place in 1966-67 damaged the neighborhood and the surrounding business community and further contributed to the area’s disinvestment. For the next two decades, dilapidated buildings, vacant lots, and abandoned or poorly maintained residences marred the West Side. In an attempt to improve the area in the 1980s, Dayton enacted an aggressive urban renewal plan and set out to demolish the many vacant or abandoned buildings.

To build upon the historical significance of the Wright-Dunbar neighborhood, Aviation Trail Incorporated drafted their “Development Plan for the Wright Brothers Inner West Enterprise Zone” in 1982. Included in the plan were proposals to place markers at the Wright-related sites in the neighborhoods and to further develop the Wright Cycle Company Building and Hoover Block buildings. In addition to the Wrights, the neighborhood was also the home of Paul Laurence Dunbar, an African-American poet whose work gained national prominence in the early 1900s. He was a classmate and partnered with Orville in publishing the Dayton Tattler, a short-lived weekly neighborhood newspaper. Dunbar’s home was recognized by the State of

85 Loyacano, Marjorie, History of Race Relations in the Miami Valley (Dayton, Ohio: Carillon Historical Park, 2000), 14-26.
Ohio with a historical marker in 1936, the first of such relating to African-American history. With growing concerns over the decline of the area and interest in preserving Dayton's African-American heritage, a growing grass-roots awareness for the safeguarding of the Wright-Dunbar neighborhood arose during the 1980s. (Figure 40)

![Figure 40. Photograph of the High School Class of 1890 at Central High School in Dayton. Included in the photograph are Paul Laurence Dunbar (upper left) and Orville Wright (upper center, next to the two girls). Courtesy of Special Collections and Archives, Wright State University.](image)

In 1989, the president of Aviation Trail Incorporated, Gerald Sharkey, the publisher of the *Dayton Daily News*, J. Bradford Tillson, and local Federal Judge Walter H. Rice created the 2003 Committee. Named after the upcoming centennial anniversary of the Wrights' 1903 flight, the mission of the non-profit 2003 Committee was to help Dayton make preparations for the one-hundredth anniversary of flight, "preserve and promote Dayton's aviation heritage, and encourage economic development."87 A powerful lobby was created when the 2003 Committee and the United States Air Force, with their interests in developing the Huffman Prairie Flying

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87 Honious, *What Dreams We Have*, 233.
Field, joined forces in approaching the federal government for help in recognizing and preserving Dayton’s aviation and African American history.

Dayton’s Congressional Representative Tony Hall (D-OH) instigated an inquiry to examine how best the federal government could aid Dayton in protecting and developing its historical landscape. Through Hall’s request, the National Park Service launched a series of studies focusing on the Wright-Dunbar neighborhood and its Wright and Paul Dunbar assets, the Huffman Prairie Flying Field, the Wrights’ later Hawthorn Hill residence, and the 1905 Wright Flyer III housed at Dayton’s Carillon Park.\textsuperscript{88} There is no evidence to suggest that Lowell National Historical Park in Lowell, Massachusetts was expressly used as a template in addressing the urban plight in the Wright-Dunbar neighborhood. However, Lowell, the financially stressed former textile capital, was presented in the national press as a successful example of how a National Park Service project could function as an economic revitalization tool.\textsuperscript{89} With the national significance of the sites and the need to address the area’s decade’s long downturn, the 2003 Committee as well as Dayton’s city leaders, believed the area’s historical interests could be best preserved and presented through the establishment of a national park.

\textsuperscript{88} Ibid., 234.

\textsuperscript{89} Martha Norkunas’s Monuments and Memory: History and Representation in Lowell, Massachusetts offers insight into the partnerships between communities and national parks and specifically “about the connections between gender, ethnicity, power, space and narrative, and about the relationship between the living and the memory of the dead, and about the uncertain intersection between memory and history.” See: Martha Norkunas, Monuments and Memory: History and Representation in Lowell, Massachusetts (Washington, D.C.: Smithsonian Institution Press, 2002), 3.
On May 14, 1991, Hall, along with eighteen Ohio's Congressional Representatives, introduced House Resolution 2321 to establish the Dayton Aviation Heritage National Historical Park and was subsequently passed by a 278-133 vote. President George H. Bush signed the Dayton Aviation Heritage Preservation Act of 1992 on October 16, 1992. The stated purposes of the Act are:

1. To establish a unit of the National Park System in Dayton, Ohio, consisting of certain lands and structures associated with Wilbur and Orville Wright and the early development of aviation.

2. To create partnerships among Federal, State, and local governments and the private sector to preserve, enhance, and interpret for present and future generations the historic and cultural structures, districts, and artifacts in Dayton and the Miami Valley in the State of Ohio, which are associated with the Wright brothers, the invention and development of aviation, or the life and works of Paul Laurence Dunbar, and which, as a whole, represent a nationally significant resource.

The new National Park includes:

1. A core parcel in Dayton, Ohio, which shall consist of the Wright Cycle Company Building, Hoover Block, and lands between.
2. Huffman Prairie Flying Field, Wright-Patterson Air Force Base, Ohio.
3. The Wright 1905 Flyer and Wright Hall, Dayton, Ohio.
4. The Paul Laurence Dunbar Home, Dayton, Ohio.

The newly formed Dayton Aviation Heritage National Historical Park successfully addressed the needs of the residents and business owners in fighting off the growing blight in the Wright-Dunbar neighborhood, protected the historical structures from further deterioration or demolition, placed the aviation heritage of Dayton and the poetry of Paul Laurence Dunbar in the national spotlight, and set the

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92 Ibid.
stage for promoting the upcoming centennial flight celebration. In addition to the National Park Service's investment and with the support of the local community, over $75 million of private and public funds has been spent in the Wright-Dunbar neighborhood since 1992. Highlighting their success, Wright-Dunbar, Incorporated, a group established to aid in the revitalization of the area, reports that the majority of this money has funded over fifty new homes and the renovation of over seventy-five homes. Many of the newly renovated or built homes are currently on the market for over $200,000. Over $18 million has been invested in the area's business infrastructure resulting in the renovation of the Wright-Dunbar's historic business buildings. These once dilapidated structures now house eighteen new businesses that helped create seventy-two new jobs. As a result of the National Park Service's commitment to the area and its partnerships with local government and business leaders, Dayton was finally able to build upon its aviation heritage economically through tourism, something the citizens of Colonial Williamsburg and the Outer Banks had benefited from some sixty years earlier.

Dayton Aviation Heritage National Historical Park housed its new base of operations at the Wright Cycle Company Building. The small building’s restoration was already nearly complete when Aviation Trail Incorporated turned it over to the National Park Service. With the headquarters already operating as a part-time

94 Ibid.
96 Ibid.

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museum, the new park opened with little fanfare. The Paul Laurence Dunbar Home was already a well-established, state controlled site and the 1905 Flyer was already housed and exhibited in the city owned Carillon Park. On the other hand, the Huffman Prairie Flying Field lacked any type of interpretive plan and was basically a long-forgotten and neglected piece of the Wright brothers’ story in Dayton still under the control of the new park’s partner, the United States Air Force. Until the partner sites could be brought under National Park Service control and improvements could be made, the interpretation and sense of historical accuracy at the Huffman Prairie Flying Field was questionable.

The weakest point of the new park was the Huffman Prairie Flying Field. Overall, the site lacked any interpretive plan, leaving the visitor to wander the site in search of the small and unobtrusive site markers in an effort to gather information about the flying field. This flaw led to the failure of linking the site to any of the historical significant activities of the Wright brothers. Aware of the problems but supplied with limited funds and recognizing the former West Side’s need for economic development, the National Park Service’s attention focused on building the foundation of the park from the Wright-Dunbar neighborhood out. As a result, improvements to the Huffman Prairie Flying Field were given a lower priority than the Williams Street headquarters site. Help would come, however, it would not be until major renovations in preparation of the 2003 celebrations that critical interpretative failures at the flying field would be addressed.
The explanation as to why the Huffman Prairie Flying Field failed to fully commemorate the Wright brothers from 1939 to 2002 is twofold. Even though the field was long identified as the historic Wright brothers' site, for many years, the Huffman Prairie Flying Field served as a safety zone beyond the officers' skeet range and was simply maintained by mowing once a year. (Figure 41) Since it was often viewed only as an empty field for decades, proposals to turn the flying field into a bomb dump or an emergency pull-off ramp had been considered. Wright-Patterson Air Force Base’s neglect of the site throughout most of its existence can explain why there was an unorganized process in the development of the site until 1992. Neither the Air Force nor Dayton saw it in their interest to emphasize the historical significance of the

Figure 41. Photograph of the Huffman Prairie Flying Field Firing Range Sign. For years, the Huffman Prairie Flying Field sat abandoned and was mainly used as a safety zone behind the Wright-Patterson Air Force Base’s officers’ skeet range. Photograph by author.
Huffman Prairie Flying Field. The National Park Service simply inherited a neglected flying field. However, the central cause of the failures at the Huffman Prairie Flying Field probably rests with several previous generations of leaders of Dayton. For the most part, it was the city of Dayton that lacked the foresight in recognizing the importance of the accomplishments and heritage of the Wright brothers. Just as seen in Ford's removal of the historic Wright structures, the Huffman Prairie Flying Field is simply a symbolic example of the results of Dayton's apathy.

Initiated locally but with the aid of the federal government, Dayton was finally on track. Through the assistance and foresight of local citizens such as Colonel Deeds, Gerald Sharkey, and J. Bradford Tillson, the city was able to reconnect its economic and social fortunes to its aviation heritage. The catalyst was not the necessity of economic development through heritage tourism as seen in Colonial Williamsburg and the Kill Devil Hills, North Carolina region, but instead, a true sense of loss resulting from the removal of the Wrights' bicycle shop and home in 1936. However, if the government had recognized or perhaps funded the Wrights during their Huffman Prairie Flying Field days or if the Smithsonian controversy would have never been a factor, it is likely Dayton's stature as the "birthplace of aviation" would have never been questioned, the Wrights' legacy would have been more deeply ingrained in the community, and Dayton's aviation history landscape left more intact.

The combination of rebuilding after the 1913 flood and the Great Depression left Dayton facing a series of difficult priorities. In an era of self-reliance, the city
assured its survival through strengthening its relationship with the aviation industry and the military. The need for Dayton to focus on its rebuilding and improving flood prevention helps explain their derailed Wright brothers commemoration plans that were originally set in motion after Wilbur's death in 1912. While Dayton finally dedicated their Wright Memorial on Wright Hill in 1940, it is unlikely that the memorial would have been completed without federal assistance. This nearly thirty-year long period of neglect existed despite aviation's continuous and growing economic influence, both commercial and military, throughout the Miami Valley.

The Wrights' legacy was brought to the nation's attention once again when the threat of war was on the horizon. Feeling the need to prepare for war, the nation's leaders recognized aviation's vital contribution to national defense. National Aviation Day was created in an effort to stir interest in aeronautics in order to compete with other nations. With the legislation, Orville's birthday was used to link the Wright brothers to the country's needs. Using Orville's birthday, as well as the anniversary of the first flight, December 17, became a common practice by the late 1930s. Perhaps one of the most important anniversary celebrations was held in 1948 when the decades long Smithsonian controversy finally ended with the induction of the 1903 Kitty Hawk Flyer into the Smithsonian Institution. However, the sad irony of the historic event was that neither Wilbur nor Orville lived to witness the plane's enshrinement.

With cultural resources, such as Dayton's West Side neighborhood and the Huffman Prairie Flying Field still available, the federal government's involvement in
Dayton's aviation heritage expanded. Cultivated through a series of partnerships between the city, state of Ohio, aviation enthusiasts, and the federal government, the Dayton Aviation Heritage National Historical Park represents a substantial level of public investment in the area's history. The National Park Service's mission to "preserve, enhance, and interpret for present and future generations the historic and cultural structures, districts, and artifacts" related to the Wright brothers, will assure that Dayton's links to its aviation heritage will be protected.97

Prior to World War II, Dayton's record on supporting the Wrights brothers' legacy was rather poor. Dayton failed to tend to its role in the Wrights' story. It neglected to assist in the process of molding the image of early flight so that it would reflect the city's key place in the birth of aviation. The city also failed to get involved or support the Wrights throughout the difficulties they faced during the Smithsonian controversy. Fueling Orville's fears over how their legacy would be protected, local leaders became so indifferent to the cultural resources related to the Wrights that key artifacts were allowed to decay or were removed. Dayton's negligence in preserving the important aspects of the Wrights' legacy left a significant void in the area's ability to build upon its historical roots as the birthplace of aviation. After Dayton began to struggle both economically and socially in the 1960s and 1970s, the city's leaders started to turn to heritage tourism and looked to strengthen the Wrights' links to Dayton. Fortunately for the city's aviation heritage landscape, the federal government was able to provide the financial assistance needed to construct Dayton's Wright Memorial. This action allowed the city to begin its path in rebuilding its links to the past. It is important to recognize the federal government's involvement in the city's quest to honor the Wrights as it seems without it, the city would have likely continued blundering forward and it is unlikely that the Dayton Aviation Heritage National
Historical Park would have come to fruition. However, through individual and collective efforts, Dayton would rebound from its indifference to become an agent of commemoration and host the Centennial of Flight celebrations in 2003.

After World War II, the importance of air power and aviation became universally known. However, aviation’s birthplace was still lacking any significant original links to its history. Recognizing the deficit, Colonel Deeds once again stepped in to help create vital linkages to Dayton’s aviation heritage. Following World War II, Deeds proposed and personally provided funding for the building of a museum park. Carillon Historical Park was designed to celebrate the Dayton area’s role in the development of modern transportation.\(^1\) The achievements of the Wrights were to be the focal point of the park as it helped fill in the key technological gap in transportation history. With the 1903 Flyer still at the Science Museum in London, Deeds hoped that with Orville’s help, a replica of the historic plane could be constructed. However, Orville suggested that the original 1905 Wright Flyer III, with its linkages to the Huffman Prairie Flying Field, would be a more appropriate artifact for the historical park. The problem in obtaining the 1905 flyer was that by 1947, parts

\(^1\) The Carillon Historical Park was named after an Art Moderne-styled carillon tower that was built on the site in 1942. Built to commemorate the Deeds family, the carillon’s construction was funded by Edward Deeds’s wife, Edith Walton and is Ohio’s tallest carillon. Designed by architects Reinhard and Hofmeister of Rockefeller Center fame, the carillon’s construction took two years. Located close to the National Cash Register Company and along the Great Miami River, the park’s landscaping was provided by the Olmstead Brothers. In addition to the Wright brothers and the invention of the airplane, examples of the area’s transportation history includes: Dayton served as a focal point of the Miami and Erie Canal, the Dayton and Western Railroad Company was later merged with the Baltimore and Ohio Railroad Company, Charles Kettering is credited with inventing the automobile self-starter and with Edward Deeds, established the forerunner of today’s Delco products, the National Road was constructed just north of the city, and the first electric trolley bus line in Ohio was established in Dayton.
of the plane were strewn throughout the country. As a result, its restoration would prove to be difficult.

Similar to their earlier planes and gliders, the 1905 flyer was simply left to rot in the sands of Kitty Hawk’s dunes. Stored in Dayton after their successful and historic flights at the Huffman Prairie Flying Field during 1905, the plane was taken to Kitty Hawk in 1908. The plane was modified in an effort to test a new control system and its passenger capabilities in preparation of their demonstration flights later that year. After a crash, the damaged plane, minus its engine and propellers, was left at Kitty Hawk. When the brothers returned in 1911 to test their new automatic stabilizer, they found that many remnants of the 1905 plane had fallen victim to souvenir hunters. As a result, the brothers elected to just leave the rest of the remaining pieces of the plane, as well as their 1911 glider, at the unprotected camp.

No further plans were made for the Wright Flyer III remnants or the 1911 glider until Zenas Crane, the founder of the Berkshire Museum in Massachusetts and the grandson of the founder of Crane Paper Company, approached the Wrights for one of their earlier crafts for his museum in late 1911. Although there were no planes available, Orville suggested that Crane could possibly scavenge enough parts from the dunes of Kitty Hawk to salvage the 1905 plane and could have the freshly built 1911 glider. Crane received the historic plane, as well as the disassembled 1911 glider after a diligent effort by the Kill Devil Hills lifesaving crew. Familiar with the Wright

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2 The Crane Paper Company is the supplier of rag-based paper to the Federal Reserve for the purpose of printing American currency.
brothers’ camp, the crew dug through the sand to retrieve every little remaining piece of the 1905 flyer they could find. Over time, many other pieces of the plane that were scavenged from the area were returned to Orville. Orville subsequently rewarded those that aided in the return of the plane’s parts with plaques containing small pieces of the original 1903 flyer and a letter signed by Orville. Crane was given the historic planes with the understanding that the precious artifacts would be carefully reassembled.3

With Wilbur’s ill health and subsequent death in 1912, it is understandable how Orville was unable to follow through with Crane once he took possession of the planes.

Unfortunately, a crew unfamiliar with Wright airplanes attempted to reassemble the 1911 glider. Working only with a collection of photographs, the men, under the direction of Crane’s father in-law, Samuel G. Colt, assembled the parts into an unrecognizable creation.4 After viewing photographs of the “restored” glider forwarded from Colt in 1915, Orville was at a loss as to what he was viewing. In a letter to Colt, Orville expressed his grief:

...I am at a loss to understand what parts of the original machine secured at Kitty Hawk could have been used in this reproduction because none of the parts of any machine we ever had at Kitty Hawk could exactly fit into this machine if the dimensions given are correct. We never had any glider of the design shown in the photograph.

I should dislike very much to have this machine exhibited in the museum as an historical reproduction of one of our machines, because it is neither an original machine nor a correct reproduction of one.5

4 At the time of the 1911 glider restoration attempt, Samuel G. Colt was the president and treasure of the Richmond Iron Works in Massachusetts.
5 Orville Wright to Samuel G. Colt, 08 May 1915 in General Correspondence: Colt, Samuel G., 1914-1917, 1925, Wilbur and Orville Wright Papers.
In their attempt in rebuilding the Wright glider, Colt’s employees’ inadvertently destroyed the historic plane beyond repair. (Figure 42)

Figure 42. Photograph of the Rebuilt 1911 Glider. The result of the Berkshire Museum’s restoration effort was this unrecognizable attempt at rebuilding the 1911 glider (see Figure 16). Never exhibited, the original parts of the glider were lost forever. Courtesy of Wilbur and Orville Wright Papers, Manuscript Division, Library of Congress, Washington, D.C.

Despite their careless restoration attempt with the 1911 glider, the Berkshire Museum, Crane, and Colt spent decades pursuing Orville for help in restoring the 1905 flyer. Orville still held the plane’s engine and other vital parts and was not about to let Crane and his crew take another shot at destroying such a valuable piece of history. With Deeds’s plans for Carillon Historical Park, Orville was given the opportunity to oversee the Wright Flyer III’s restoration in a manner that well suited his attention to detail. As Chairman of the Board of the National Cash Register Company, one of Dayton’s leading employers and manufacturers, Deeds was able to provide the resources Orville needed to assure an accurate and authentic restoration.
With Crane's death and the Berkshire Museum's collection interests evolving more towards American art and natural science, the return of the 1905 flyer's remnants to Dayton was not a problem. Carl Beust, the head of the Patent Department at the National Cash Register Company, successfully managed to round up what other parts of the plane could be found.

With approximately sixty to eighty-five percent of the original parts gathered, restoration work on the Wright Flyer III began in Dayton in 1947.⁶ Deeds was able to obtain the volunteer services of Harvey Geyer, a former Wright Company mechanic, to oversee the plane's renovation. With great zeal, Orville provided the much-needed technical material and actively supervised the project until he suffered his first heart attack in 1947. Unfortunately, just as in the enshrining of the 1903 flyer at the Smithsonian Institution in 1948, Orville did not live to see the completion of the Wright Flyer III's renovation and its subsequent exhibition.

The Wright Flyer III was dedicated at Carillon Historical Park in June 1950. The restored 1905 flyer is housed in Wright Hall, one of eight buildings funded by the trust established by Deeds.⁷ The unique brick building houses the plane in a manner that visitors can view the plane from eye level and see the intricate details of the craft.

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⁷ Carillon Park opened to the general public on June 3, 1950. The park was funded by Deeds's trust and initially owned by the Miami Conservancy District and later administered by Educational and Musical Arts, Incorporated, a subsidiary of the Dayton Foundation. Created out of swampland located along the Great Miami River, the park was developed through partnerships with the City of Dayton, The National Cash Register Company, the Works Progress Administration, and the Civilian Conservation Corps. The initial exhibits at the park included: Wright Hall and the Wright Flyer III, a replica of Deeds Barn, a Miami and Erie Canal Lock, a Corliss Engine Building (a steam engine), a wagon shed housing a 1843 Conestoga Wagon and 1870 Concord Stagecoach, a replica grist mill and working waterwheel, and a covered bridge.
In addition to the first practical plane in the world, Wright Hall houses a number of other important artifacts related to the Wrights’ endeavors in Dayton. Many of the exhibited artifacts include the bicycle the Wrights’ used in their early aerodynamics testing, an early Wright designed and built airplane engine, the camera and tripod used to take the historic first flight at Kitty Hawk (Figure 3), the canoe that Wilbur Wright used as an emergency flotation device during the 1910 Hudson Fulton celebration, the sewing machine used to stitch much of the early planes’ coverings, as well as many smaller memorabilia items and a replica of the first wind tunnel designed and built by the Wrights. Through the vision and tutelage of Colonel Deeds, by 1950, Dayton finally had it linkages to its aviation heritage. In 1990, the flyer was designated a National Historic Landmark. Through a partnership created between Carillon Historical Park and the National Park Service, the Wright Flyer III and Wright Hall was incorporated into the Dayton Aviation Heritage National Historical Park in 1992. With the assistance of a grant from the Institute of Museum and Library Services, the Wright Flyer III underwent an extensive renovation starting in 1999. The $365,000 restoration project was completed in 2001.

As Carillon Historical Park continued to expand its Dayton history exhibits, the idea of retrieving the Wrights 1903 bicycle shop and home from Greenfield Village gathered steam. However, despite a hard-pressed fight led by Dayton’s mayor in the late 1960s, it was obvious that the historic structures were to stay in Michigan. In an

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effort to help spur the area’s tourist economy, Dayton’s Chamber of Commerce
proposed that the city build an authentic reproduction of the Wright Cycle Company
building removed by Ford in 1936. First proposed in 1965, construction began on the
replica building in 1970 at Carillon Historical Park. The project was funded with
interest earned from Deeds’s original trust. Built next to Wright Hall, the replica
building’s interpretive emphasis focuses on the Wrights’ printing, bicycle, and aviation
activities. The May 1972 Wright Brothers Dedication Festival celebrated the “return”
of the Wright bicycle shop to Dayton. Highlighting the Wrights’ bicycle days, a group
known as “The Wheelmen,” a national group of bicycle heritage enthusiasts, held their
national meet at the dedication. Along with local dignitaries, surviving Wright family
members Ivonette Wright Miller and Horace Wright, attended the ceremony. During
later renovations in the preparation of the 2003 Centennial, the bicycle shop was
connected to Wright Hall.

In similar fashion following the death of Wilbur in 1912, after Orville’s death
in 1948, Daytonians felt the need to honor their hometown heroes and to strengthen
their identity with the Wrights. Starting with the dedication of the Wright Skyway at
the Dayton Municipal Airport in April 1948, the branding of the Wright name in the
Dayton area became commonplace in the 1950s. The trend would continue as

10 Funded in part by John W. Berry Sr. of “Yellow Book” fame, the John W. Berry Sr. Wright Brothers
Aviation Center included Wright Hall, the replica Wright Cycle Company building, and new Wilbur and
Orville Wright Wings. The building was dedicated on June 22, 2002.
11 The Wright Skyway was a 40-mile wide strip of markings visible from the air pointing to Dayton.
General James H. Doolittle was the keynote speaker at the dedication. See Fred C. Fisk and Marlin W.
Todd, The Wright Brothers - From Bicycle to Biplane: An Illustrated History of the Wright Brothers
(West Milton, Ohio: Miami Graphic Services, Incorporated, 1995), 111.
Wright-Patterson Air Force Base’s influence in the local economy grew. Following the example set with the dedication of Wilbur Wright Elementary School in 1926, Orville Wright Elementary School was dedicated in 1955. Wright State University was established in 1961 after state and local officials used the Wright image in combination with a grass roots fund raising drive. Wright State’s Special Collections and Archives currently houses the Wright Brothers Collection and features the family’s personal papers and artifacts. Today, the Wright name is seen everywhere, from a small local airport, streets, and housing developments to liquor stores and dry cleaners. The 1903 flyer has become a favorite business image seen throughout the area. Both Wright-Patterson Air Force Base and Wright State University have incorporated a silhouette of the plane in their official logos. Various graphical incarnations of Wright flyers are abundant in about every aspect of the local business community.

After Orville’s death, one of the more immediate concerns was Hawthorn Hill, the Wrights’ stately mansion in the nearby Dayton suburb of Oakwood. The Wright heirs could not afford to maintain the home and efforts were initially made to convert it into another national memorial and museum for the Wrights. However, Congress was unwilling to fund the project. The Oakwood City Council rejected a proposal to fund a museum due to the need to approach taxpayers with a bond issue. The home was placed on the market and with Deeds’s help, the National Cash Register Company

12 The Dayton School Board is considering renovating or demolishing Wilbur Wright School. In response to the possible demolition, a group called the East Enders Concerned about Their Neighborhood organized an information campaign in the spring of 2007.
purchased the property for use as a corporate guesthouse for $75,000.\textsuperscript{14} For years the home was operated as a private guesthouse and was not open to the public.

On August 19, 2006, National Aviation Day, the National Cash Register Company transferred ownership of Hawthorn Hill back to the Wright family via the Wright Family Foundation.\textsuperscript{15} The nonprofit fund established by the surviving Wright family members plans to allow Dayton History, Montgomery County’s historical society, to conduct public tours of the mansion starting in the fall of 2007. Since the mansion has been in private hands and closed to the public since its construction, interest in touring the home is quickly developing. Future plans include incorporating Hawthorn Hill into the Dayton Aviation Heritage National Historical Park.\textsuperscript{16}

The Kettering-Moraine Museum holds several pieces of Wright furniture from Hawthorn Hill as well as other Wright family mementos. The executors of Orville’s will wished to keep many of his items in the Dayton area. As a result, the Dayton Metro Library holds many of the books from the Wright’s extensive aviation library as well as various memorabilia in their Wright Brothers Collection. Woodland Cemetery, the burial site of the Wright family, as well as Colonel Deeds, Charles Kettering,

\textsuperscript{14} Fred C. Fisk and Marlin W. Todd, \textit{The Wright Brothers - From Bicycle to Biplane: An Illustrated History of the Wright Brothers} (West Milton, Ohio: Miami Graphic Services, Incorporated, 1995), 92.


Governor Cox, Paul Laurence Dunbar, and Lieutenant Frank Patterson, was recognized as a National Aviation Heritage Area in 2004.\textsuperscript{17}

The National Museum of the United States Air Force, located at Wright-Patterson Air Force Base, is the oldest and largest military aviation museum in the world. It is also one of the top tourist attractions in the Dayton area. It currently houses more than 42,000 objects and features 440,000 square feet of exhibit space.\textsuperscript{18} The museum holds several important artifacts relating to the Wright brothers as well as a reproduction of the Wright 1909 Military Flyer. The roots of the museum are found when the Engineering Division Museum of the Army Air Service opened in 1923. The mission of the museum focused on technology as engineers used it to study existing technology for the purpose of future development. At its height, it housed sixty-two planes. However, when McCook Field closed and the museum relocated, many of the planes were simply destroyed since they were considered obsolete and no longer filled the need of the museum.\textsuperscript{19}

When the Army Aeronautical Museum reopened at Wright Field in 1932, only one plane remained from McCook Field. However, the new museum's mission now

\textsuperscript{17} The National Aviation Heritage Area designation is the result of Congressional action in November 2004 denoting the area's contribution to America's aviation heritage. Dayton's National Aviation Heritage Area consists of ten sites: the Dayton Aviation Heritage National Historical Park, the National Museum of the United States Air Force, the National Aviation Hall of Fame, the Wright B Flyer, Grimes Flying Lab Foundation, Armstrong Air & Space Museum, WACO Museum & Airfield, Aviation Trail, Incorporated, and the Wright Brothers Aeroplane Company.


included a focus on both technical and historical aviation related items. Hosting an average of over 12,000 visitors a year, the museum quickly outgrew its space.\textsuperscript{20} Taking advantage of over $230,000 in Work Projects Administration (WPA) funds, a larger museum opened to the public in 1935. Further WPA grants helped fund an expanded staff and provided the financial backing needed to build reproduction aircraft and more complete exhibits. Before the museum closed due to World War II, it was averaging nearly 30,000 yearly visitors.\textsuperscript{21}

After World War II, Wright-Patterson Air Force Base was the benefactor of captured enemy aircraft and technology and the newly opened Air Force Technical Museum's inventory grew. During the time of Cold War tensions, the museum's collection helped link patriotism to America's air power dominance needs by exhibiting the war trophies. The museum reopened to the public in 1955 and the museum's attendance ballooned to nearly 600,000 visitors a year.\textsuperscript{22} By 1960 it was necessary to plan for a larger facility. With the help of the Air Force Museum Foundation, the new United States Air Force Museum was dedicated on September 3, 1968.


1971. President Richard Nixon was the featured speaker. The recently renamed National Museum of the United States Air Force continues to grow with expanded facilities housing a Presidential Plane Gallery, a Missile and Space Gallery, and an IMAX theater.

With over seventy-five years of museum experience, it is difficult to understand how the United States Air Force allowed one of its most important historical assets, the Huffman Prairie Flying Field, to sit abandoned only to then suffer through a series of questionable interpretation attempts. (Figure 43) Today, the Huffman Prairie Flying Field is located within the designated Huffman Prairie area

Figure 43. Photograph of the Huffman Prairie. The prairie is a maintained and active landscape and features a variety of plant and animal life. Note the deer in this photograph. Photograph by author.

23 The Air Force Museum Foundation was chartered as a non-profit organization in 1960. Its mission is to assist the National Museum of the United States Air Force “as a medium of informing and educating the public on the important role of the USAF in our nation’s defense.” The Air Force Museum Foundation consists of a 28 member voluntary Board of Managers that has included local business and education leaders, retired Air Force General officers, and Congressional representatives. See: <http://www.afmuseum.com> for more information.
and consists of 84.42 acres of land and resides within the perimeter of Wright-Patterson Air Force Base. Since the inauguration of the Dayton Aviation Heritage National Historical Park on October 16, 1992, Huffman Prairie Flying Field management is provided through a cooperative effort between Wright-Patterson Air Force Base and the National Park Service. Additionally, the Huffman Prairie Flying Field was placed on the National Register of Historic Places in 1990, receiving recognition for making "a significant contribution to America's history of aviation."

Due to increased federal security mandates following the September 11, 2001 terrorist attacks, the flying field was temporarily closed to the public. In addition to meeting increased security measures, the closing allowed time for the Dayton Aviation Heritage National Historical Park to prepare the site for the First Flight Centennial in 2003. Major improvements made to the site include new and upgraded access, parking capabilities, and the total revamping of the interpretation of the field. The most notable addition is the Huffman Prairie Flying Field Interpretive Center located at nearby Wright Memorial Hill. Operated and permanently staffed by the National Park Service, the newly built Interpretive Center explores the history of the flying field and the evolution of Wright-Patterson Air Force Base. The Huffman Prairie Flying Field and the Huffman Prairie Flying Field Interpretive Center reopened to the public on December 17, 2002.

24 The United States Air Force owns and manages the flying field while the National Park Service provides technical support and staffing. United States Department of the Interior, National Park Service, Dayton Aviation Heritage National Historical Park Brochure. Dayton Aviation Heritage National Park.
The northern side of the prairie was once bordered by the Dayton-Springfield-Urbana electric interurban rail system. Due to the expansion of Wright-Patterson Air Force Base, the interurban tracks have long since vanished from the site. However, in an effort to facilitate public access to the field after the increased federal security mandates and in conjunction in preparing the overall Dayton Aviation Heritage National Historical Park for the hundredth flight celebration in 2003, a new dedicated entrance was constructed. The public access route incorporates the former interurban route and Old Yellow Springs Road that once bordered the flying field. The new entrance allows non-base personal to visit the site without a security check and there is no longer the need to obtain individual visitor passes. (Figure 44) A reproduction of

Figure 44. Photograph of the New Huffman Prairie Flying Field Entrance. The entrance to the park uses a section of the original interurban used by the Wright brothers. Photograph by author.

26 The "Huffman Prairie Flying Field Pedestrian and Multimodal Gateway Entrance" was constructed at a cost of over $650,000 in 2002.
the Simms Station platform is located along the old interurban route, near the pedestrian entrance of the flying field, and includes an interpretative marker explaining the importance of the station.

One of the more important additions to the Huffman Prairie Flying Field made during the 2002 renovation is a reproduction catapult launching system. (Figure 45)

![Figure 45. Photograph of the New Replica Launching System at the Huffman Prairie Flying Field. Built during the 2002 renovations, this system was a drastic improvement over the the pervious replica (see Figure 46). Photograph by author.](image)

Other than a concrete weight representing about 1600 pounds of grindstones, the reproduction derrick and ramp is an accurate copy of the important piece of equipment that helped solve the Wrights' wind problem in late 1904 and helped foster their success with the Wright Flyer III in 1905. A marker explains the importance of the catapult system in the Wrights' progression in achieving reliable flight
capabilities. The new launching system replaced a replica catapult launch device built in 1993 by a Boy Scout as his Eagle Scout project. (Figure 46)

![Figure 46. Photograph of the 1993 Reproduction Launching Catapult System. This replica illustrates the weak point of the early interpretation attempts at the Huffman Prairie Flying Field. Note the poor condition of the replica. Photograph by author.](image)

Although roughly based on historical documentation, the previous catapult system was built approximately at one-third scale. (Figure 46) According to Jan Ferguson, the former Cultural Resources and Historic Preservation Program Manager for Wright-Patterson Air Force Base, the 1993 reproduction catapult system was considered to be less than fifty percent accurate in depicting the original launching system.\(^{27}\) First approved by the Air Force and later left without any markers or interpretative material by the National Park Service, the inaccurate reproduction

\(^{27}\) Jan Ferguson, interview.
launching system was left on the field for nearly ten years. Symbolizing the lack of concern with accuracy and quality of interpretation, the launching system appeared to be left to rot and was subsequently severely damaged by a windstorm. The launching ramp, represented by several two-inch by six-inch pieces of lumber connected in a lengthwise pattern and set in front of the derrick, was considerably warped. To represent the massive derrick and weight system, a simple, inoperable rope and pulley system was attached to a fifty-five gallon drum. The rusty metal drum was partially filled with concrete and was designed to represent 1600 pounds of weight.

Today, the Huffman Prairie Flying Field is often used to symbolize the “birthplace of aviation.” For example, Wright-Patterson Air Force Base’s motto is “The Birthplace, Home and Future of Aerospace,” citing that “[i]t was here [Wright-Patterson Air Force Base] in 1904 and 1905 on Huffman Prairie where the Wright brothers (in their own words) ‘really learned to fly.’” Wright-Patterson Air Force Base uses the heritage of the Wright brothers as the foundation of its mission. The base portrays its history as “a legendary past that spurs aerospace researchers, developers, and logisticians to build ‘em faster, higher, further and safer than man has ever flown – a legacy that Wright-Patterson is proud of.” Illustrating Wright-Patterson Air Force Base’s use of the Wright brothers’ accomplishments at the Huffman Prairie Flying

28 Ohio State Senator Charles Horn sponsored the bill to change Ohio’s license plate slogan from “Ohio the Heart of it All” to “The Birthplace of Aviation.” The bill was promoted to establish “Ohio as the birthplace of modern aviation” and to help “enhance economic development and tourism opportunities in the state.” In addition to the State of Ohio’s license plate, a bill is in front of the Ohio General Assembly that would add “a representation of the first piloted airplane, flown by the Wright brothers” to the official “Great Seal of the State of Ohio.” See Ohio Senate Bill Number 213.
30 Ibid.
Field, a representation of a Wright brothers’ Kitty Hawk Flyer is incorporated into the majority of the logos representing the air base. Although Wright-Patterson Air Force Base includes a multitude of individual groups and units with their own logos and insignia, the majority of the official base literature includes a reference to the Wright brothers and the Huffman Prairie Flying Field.

Until the recent National Park Service involvement, the attempts at commemorating the Wright brothers’ activities at the Huffman Prairie Flying Field have been sporadic, unorganized, and to an extent, unrepresentative of the national memory that the history of the Wright brothers encompasses. However, these actions are representative of the mentality exhibited by those that have controlled the Huffman Prairie Flying Field. In discussing the flying field prior to its 2002 renovations, Marla McEnaney, a National Park Service historic landscape architect, writes that the accumulated “additions [to the Huffman Prairie Flying Field] are commemorative in nature,” however, with the exception of the pylon and 1905 replica hangar, “[t]he remaining additions...are intrusive in nature.”31 The City of Dayton, Wright-Patterson Air Force Base, and the National Park Service controlled the prior interpretive attempts at the Huffman Prairie Flying Field and can be viewed as the “regulators” of the national memory of the Wright brothers. These regulators left the commemoration of the Wright brothers to the poorly produced “visual representations” and as a result,

they are responsible for the national memory of the Wright brothers failing to fully materialize at the flying field prior to 2002.

By using predisposed understandings of the Wright brothers and early aviation, historical linkages are made with the material culture at the Huffman Prairie Flying Field. The provided linkage between the Wright brothers' activities at the flying field and the historical significance of their accomplishments prior to the renovations were incomplete due to the poorly executed commemoration attempts. This broken linkage is why the national memory of the Wrights' achievements at the flying field and their subsequent contributions to the advancement of aviation failed to develop. While the National Park Service inherited the neglected site in 1992, it was not until the 2002 renovation that noticeable changes were made. However, the December 17, 2002 reopening revealed a dramatic improvement in all aspects relating to the Huffman Prairie Flying Field.

The 1993 reproduction launching system symbolizes what was wrong with the Huffman Prairie Flying Field. While the Air Force's intentions behind approving the building of the replica catapult are commendable, a teenager's Eagle Scout project, the fact remains that an imitation that is considered less than fifty percent accurate was left to represent one of the first Wright brothers' accomplishments. This raises the question if any serious consideration was given to how the launching system would be linked to the commemoration of the Wright brothers. This weakness is seen by the fact that the reproduction launching system was allowed to stand for over nine years.
without any label, disclaimer, marker, or informative material that suggested that the catapult system did not accurately portray the actual launching apparatus employed by the Wright brothers.

Ignoring the fact that the catapult system was deteriorating to the point of falling apart, the historical inaccuracies of the launching system did damage to the memory of the Wrights' activities at the site. For example, due to the unmentioned scaled representation of the catapult, the difficulties associated in launching the first airplane in an environment unsupported by sustained winds was missed. The actual catapult was essentially a tower that dwarfed the men under it, whereas the replica was unimposing and left the message that it did not take much of an effort for the Wrights to launch an airplane in 1904 or 1905.

The reproduction weight, far from being an accurate replica of the weights the Wright brothers used, was simply a metal fifty-five gallon drum partially filled with concrete. Recent scholarship agrees that the Wright brothers probably used discarded grinding stones from local farms as a weight and the stones weighed upwards to 1600 pounds. Using a concrete-filled steel drum to symbolize the difficult effort it must have required for the Wrights to load 1600 pounds of stones onto the catapult illustrates the site's failure in linking the difficult struggles, technical and physical, the Wrights overcame at the Huffman Prairie Flying Field. The new 2002 replica launching system addresses all aspects of the failures of the first reproduction and includes an informative marker.
Other significant historical aspects of the Huffman Prairie Flying Field were overlooked in the pre-2002 commemoration of the site and are now important features of the site. Two landscape features previously escaped recognition in their significance to the Wright brothers’ activities at the flying field. The interurban rail line the Wrights used for transportation and the thorn tree used as a navigation point while flying at the field were previously represented at the site. However, there was a failure to link these items to the Wrights in any manner and as a result, the historical significance of these features were lost. In short, while maintained, these features were left unmarked, leaving knowledge of their importance to those only familiar with the history of the Wright brothers.

The descendants of the original thorny locust tree the Wrights used in navigating circles around the field in 1904 and 1905 have long been maintained on the flying field due to their historical significance in relationship to their achievements. However, their presence was left unknown to the visitor due to the lack of any interpretative material relating to the significance of the trees. Prior to 2002, recognition of the maintained trees was difficult to find, with reference to their importance only found in publications outside of the park. For example, Marla McEnaney mentions in “From Pasture to Runway” that “significant features such as a tree row and remnants of a locust tree can still be found at the site. The locust tree is
significant..." After the 2002 improvements, an informative marker now denotes the presence of the locust trees and their historical importance.

The former interurban rail line is now the main site entrance. Prior to 2002, it was a maintained bicycle pathway, the Huffman Prairie Overlook Trail. Due to security needs, the base section of the pathway is no longer open to the public, however, the new Wright Brothers’ Bikeway does run adjacent to the base and includes nearby Wright Hill. Prior to the 2002 reopening, no mention was made as to the path’s relationship to the Wright brothers, let alone its significance as the original interurban route that they relied on for transportation to and from their West Dayton home and business. Now, the “Huffman Prairie Flying Field Pedestrian and Multimodal Gateway Entrance” integrates the interurban route and features informative markers as well as a reproduction station platform.

Prior to the 2002 reopening, partial linkages to the historical significance of the Huffman Prairie Flying Field could be made through the existing interpretive material at the site. Through the brief inscriptions on the plaques adorning the various markers placed throughout the flying field, a curious visitor that was more-or-less unaware of the historical background could have probably piece together what the Wright brothers accomplished at the field. However, it is difficult to argue that the uninformed visitor would have left with a full understanding as to what the Huffman Prairie Flying Field represents to the memory of the Wright brothers and early aviation. The military’s

dominance over the site, while keeping out the commercial sideshows that is so often seen at historical sites, helped create the interpretation problems.

On October 5, 2005, the one-hundredth anniversary of the first practical airplane flight made by the Wright Flyer III was celebrated at the Huffman Prairie Flying Field. Funded by Wright-Patterson Air Force Base, the National Park Service, and the non-profit Aviation Heritage Foundation, the five-day event was highlighted by two successful flights by a historically accurate reproduction of the Wright Flyer III. A working replica catapult was used to launch the aircraft. The anniversary also included conferences on practical flight at two local universities and a mini-airshow at the flying field. Drawing visitors from around the world, the anniversary emphasized how the Huffman Prairie Flying Field had evolved. To build upon its success, in 2005 Congress granted an additional $1.1 million in funding to the National Park Service in 2005 for capital improvements to the park. The funding includes $650,000 to construct a permanent hanger at the Huffman Prairie Flying Field for a flying replica of the Wright B Flyer.

Prior to 2002, the poorly interpreted, unstaffed site not only failed to fully commemorate the historical accomplishments of the Wright brothers, the economic

33 The Aviation Heritage Foundation is a non-profit corporation that mission is to “make Dayton and the surrounding region, the global center of aviation heritage activities based on the historical, cultural and scientific resources associated with Ohio, as the Birthplace of Aviation and to promote the invention and development of powered flight by Orville and Wilbur Wright, along with the literary and cultural contributions of Paul Laurence Dunbar.” See: <http://www.visitnaha.com> for more information.
34 The Wright Flyer III and catapult replica were built and flown by Mark Dusenberry of Dover, Ohio. On October 5, 2007, the 102nd anniversary of the Wrights’ 1905 flight, Mark Dusenberry attempted to fly his replica once again. However, the plane crashed causing damage to the tail section but left Dusenberry uninjured.
impact of the Huffman Prairie Flying Field to the surrounding community was minimal. Today, the flying field is a well-planned and executed site that has the capabilities of drawing international attention. The flying field depicts sixty-five years of commemoration attempts at preserving the national memory of the Wright brothers. The succession of interpretive attempts at the flying field show how commemorative efforts can be wrongly perceived or even overlooked by its viewers or those who plan them. Once the National Park Service undertook interpretive strategies that linked personal, predisposed conceptions of historical icons or events such as early powered flight to visual representations, the importance of the cultural resources at the Huffman Prairie Flying Field became apparent.

The Huffman Prairie Flying Field represents both private and governmental efforts at commemoration. Based on the prior stance of earlier generations of Dayton’s leaders and Wright-Patterson Air Force Base, it can perhaps be viewed as fortunate that the flying field is not littered with unexploded bombs or is now a paved, active runway. The National Park Service simply inherited the results of a patchwork of commemoration attempts and realized that there were serious shortcomings at the field. The Huffman Prairie Flying Field signifies a small contribution in the overall commemoration of the birth of aviation. Despite its past pitfalls, the sociotechnic function of the flying field remains at the heart of the field’s importance. The reinterpreted Huffman Prairie Flying Field symbolizes the historical accomplishments of the Wright brothers and helps contribute to the individual memory of the Wrights
through its maintained prairie, commemorative structures, and group events staged at the field. The Huffman Prairie Flying Field sits at the end of an active flight line at Wright-Patterson Air Force Base. Wright brothers’ biographer Tom Crouch perhaps puts it best in that “[i]n the end, Huffman Prairie is the most appropriate of all monuments to the memory of Wilbur and Orville Wright: the spot where they first flew, persevered inviolate and surrounded by a giant research complex [Wright-Patterson Air Force Base] dedicated to the advancement of flight technology.”37

(Figure 47)

Figure 47. Photograph of a Wright-Patterson Air Force Base Flight Line. A fitting tribute to the memory of the Wright brothers is that the Huffman Prairie Flying Field sits next to an active Air Force runway. Photograph by author.

Preparations for the First Flight Centennial were the major impetus for change at the Huffman Prairie Flying Field. While reinterpreting the site played a minor role in the planning in the overall scope of the centennial celebration, the Wright brothers’ activities at the flying field were not lost in the shuffle for consideration in funding

37 Crouch, The Bishop’s Boys, 511.

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and promotion. The Centennial of Flight, celebrated in 2003, was a significant event economically, politically, and even socially, for virtually all aviation heritage sites in the United States. The process of planning the Centennial began informally with groups such as Aviation Trail and was able to move forward once more funding was available.

Preparation for the centennial helped bring together the region’s aviation heritage assets. With both private and public funding invested in the commemoration and related tourism, the United States Centennial of Flight Commission was created and funded by Congress in 1999. Commission members included General John R. Dailey of the Smithsonian National Air and Space Museum as the Commission Chair, Marion Blakey of the Federal Aviation Administration, Sean O’Keefe, of the National Aeronautics and Space Administration, Richard T. Howard of North Carolina’s First Flight Centennial Foundation, Tom Poberezny of the EAA Aviation Foundation, and J. Bradford Tillson, publisher of the Dayton Daily News and chair of Inventing Flight: Dayton 2003. The Commission’s stated mission was:

1. To harmonize and enhance all efforts to celebrate and commemorate the centennial of powered flight.
2. To increase public understanding of the Wright brothers’ achievements as a


39 United States Centennial of Flight Commission Board members numbered nineteen. The members included the Secretary of the Interior, Librarian of Congress, Secretary of the Air Force, Secretary of the Navy, Secretary of Transportation, six citizens of the United States appointed by the President, four citizens of the United States appointed by the majority leader of the Senate in consultation with the minority leader of the Senate, and four citizens of the United States, appointed by the Speaker of the House of Representatives in consultation with the minority leader of the House of Representatives with one selected from among individuals recommended by the representative whose district encompasses the Wright Brothers National Memorial and one selected from among individuals recommended by the representatives whose districts encompass any part of the Dayton Aviation Heritage National Historical Park.
triumph of American ingenuity, inventiveness and diligence in developing new technologies that help define the American century.

3. To engage the interest of the American public and the world in the 100 year history of flight.\(^{40}\)

The government and private organizations that contributed in commemorating the Wrights’ 1903 Kitty Hawk flight included the National Air and Space Museum, National Museum of the United States Air Force, Library of Congress, NASA, Experimental Aircraft Association, American Institute of Aeronautics and Astronautics, Aviation Week, United States Air Force, National Aviation Hall of Fame, and the National Park Service. Due to the interest in the centennial, a series of publicly and privately funded partnerships were especially created for the anniversary without much difficulty. Participating groups included the Centennial of Flight Commission, Inventing Flight: Dayton 2003, First Flight Centennial Commission, and The Wright Experience. Local and state governments were also vested in the celebration with Dayton and the Kitty Hawk region vying for attention during the anniversary.

Dayton’s Inventing Flight: Dayton 2003, a non-profit corporation governed by a Board of Trustees, evolved from Tillson’s 2003 Committee created ten years earlier.\(^{41}\) It was fundamental in creating the enthusiasm needed to successfully carry out Dayton’s anniversary celebration. The group is responsible for developing local partnerships and includes the region’s four universities, National Museum of the


\(^{41}\) Inventing Flight: Dayton 2003’s Board of Trustees consisted of thirty-three members and included local community and business leaders as well as representatives from North Carolina.
United States Air Force, the Dayton Aviation Heritage National, Historical Park, Carillon Historical Park, the Dayton Air Show, the National Aviation Hall of Fame, and enthusiast groups. As publisher of the *Dayton Daily News*, Tillson frequently used his platform to drum up local interest in the Centennial.

Out of the nearly $350 million spent nationwide on capital improvements in preparation for the Centennial, about $30 million was used in Dayton. Of the sum allocated to Dayton, the Dayton Aviation Heritage National Historical Park spent $20 million to construct new interpretive centers for the Huffman Prairie Flying Field and Wright-Dunbar sites, expand the existing facilities at Carillon Historical Park’s John W. Berry, Sr. Wright Brothers Aviation Center, and undertake major renovations, including a dedicated entrance, at the flying field. 42 (Figure 48) In the years

![Figure 48. Photograph of the New Huffman Prairie Flying Field Interpretive Center. The exhibits at the center includes a history of the Huffman Prairie Flying Field and Wright-Patterson Air Force Base. Photograph by author.](image)

surrounding the Centennial, the park’s annual budget tripled from $476,000 in 2000 to $1,644,000 in 2004. In addition to the capital improvements, in 2003, the Dayton Aviation Heritage National Historical Park spent approximately $600,000 preparing for the event.

With the fight for the Centennial tourism dollar the main priority of City of Dayton and State of Ohio organizers, nearly $37 million was used for Centennial programs and events in the Dayton area. Opening over the Independence Day weekend, the largest of the celebrations was Inventing Flight: Dayton 2003, The Centennial Celebration. The National Museum of the United States Air Force, Dayton International Airport, National Aviation Hall of Fame, Dayton Aviation Heritage National Historical Park, Wright State University, as well as several smaller venues, hosted the event. The seventeen-day celebration included numerous programs such as flight demonstrations, turn of the twentieth century living history re-creations, a National Hall of Fame reunion, a flight symposium, and a reunion of the Tuskegee Airmen. Overall, the Dayton area’s combined public and private effort to draw the Centennial tourism dollar resulted in a $68.5 million investment. The participants essentially broke even. Spending nearly $2 million on advertising, they succeeded in drawing an estimated 716,000 visitors to the area events while the event’s corresponding website recorded close to 300,000 unique visitors during July 2003.

44 Ibid.
Nationwide, close to 1,000 separate events marked the Centennial of Flight. From December 2002 to December 2003, over 350 articles and over 100 television stories appeared throughout the nation that addressed the Wright brothers and their contributions to powered flight. The Smithsonian's National Air and Space Museum's attendance increased nearly 31 percent during the anniversary year.\footnote{Ibid., 73.} The Dayton Aviation Heritage National Historical Park experienced a surge in visitations during 2003. However, it is interesting to note that the park's attendance rates decreased by 49.7 percent the following year. Their sister site, the Wright Brothers National Memorial, also saw a drastic drop in visitations with a 41 percent decline in 2004.\footnote{United States Department of the Interior, National Park Service, \textit{Statistical Abstract 2004}, (Denver: National Park Service Social Science Program, 2005), 34-35.} While there are no specific visitor numbers for the Huffman Prairie Flying Field itself, the Huffman Prairie Flying Field Interpretive Center recorded over 30,000 visitors from 2002 to 2004.\footnote{United States Department of the Interior, National Park Service, “Huffman Prairie Flying Field and Interpretive Center,” 09 June 2004, <http://www.nps.gov/partnerships/huffman_flying_field.htm> (14 March 2007).}

The interest and focus on the Wrights is still growing after the 2003 celebrations. Seen in the conveyance of the Wrights' Hawthorn Hill mansion back to the Wrights in 2006, National Aviation Day is still used to garner enthusiasm about aviation. Compared to its original purpose of enticing the youth of America to consider pursuing a career in aeronautics, the day is used more for commemorating American aviation and the people and events that shaped its history. With Orville Wright's birthday as the anniversary date, it is only natural that Wright brothers
enthusiasts are the most active in celebrating the day with events normally occurring annually at Wright featured sites such as the Wright Brothers National Memorial in North Carolina and the Dayton Aviation Heritage National Historical Park.

Throughout the country, the day is used for more than Wright brothers’ remembrances. The day is celebrated at a wide variety of aviation related history sites as well by military, commercial, and aviation enthusiast organizations. For example, the Aerospace Industries Association (AIA) President and CEO John W. Douglass recently used the day to provide a pep-talk to its members stating that “as we commemorate National Aviation Day...the U.S. aerospace industry faces many challenges, but an equally exciting vision for the future lies ahead... and we [AIA] are determined that the remarkable industry started by Orville and Wilbur Wright will reach new heights in the years ahead.” With help from yearly Congressional press releases from Dayton area representatives, National Aviation Day is a yearly reminder of the Wrights’ linkage to the “Birthplace of Aviation.”

The United States government is also still active in promoting aviation through its various military flight exhibition teams. In airshows throughout the country, elite military units, such as the Air Force’s Thunderbirds and the Navy’s Blue Angels, are used to promote and highlight the respective services and to spur recruitment. In Dayton, groups outside of the National Park Service partnership, such as the Wright Brothers Aeroplane Company, are still active and viable. Formed as a non-profit

education foundation in anticipation of the centennial celebrations, the group has constructed an impressive array of full-sized, flying replica Wright gliders and early planes and have been featured in various documentaries. With its education mission, the Wright Brothers Aeroplane Company visits schools and venues with a Wright glider in an effort to give its audience a hands-on history lesson. They also offer various educational outreach programs. Ending with the 2006 Dayton Air Show, the group operated a 20,000 square-foot “Birth of Aviation” pavilion that highlighted the lives of the Wrights as well as their technological achievements.51 (Figure 49) Other groups, such as the Wright B Flyer Organization, a non-profit corporation that exhibits a flying replica of the United States Army Signal Corps Wright B Flyer at various events and air shows, remain popular attractions for flight enthusiasts. In July 2007, the group celebrated its twenty-fifth anniversary with its 2,307th flight.52

In addition to the tourism income generated by the National Museum of the United States Air Force, Wright-Patterson Air Force Base remains a pivotal economic force in the region as the area’s largest employer.\(^5\) The trend of military base consolidations has actually benefited the area as several mission and flight units have been transferred to Wright-Patterson. The local economy has experienced a surge of technology related investment due to the Pentagon’s tendency to use civilian contractors for many of its engineering and systems development needs. At the same time however, Dayton’s non-defense corporations have continue to suffer through periods of downswings. General Motors established its roots in Dayton when it transformed a series of former Wright Company buildings into automotive production in 1923 and when combined with its subsidiaries, it is currently the area’s second largest employer.\(^4\)

Dayton’s economy has suffered in recent years as a result of the nation’s automotive manufacturing downsizing. The current difficulties the industry is facing are unlikely to improve anytime soon. In addition, as with most other American cities, Dayton’s downtown has seen its share of industrial decentralization. Large employers such as Dayton Newspapers, Mead, and Reynolds and Reynolds relocated or moved out of the downtown area.\(^5\) Dayton has also been experiencing a loss of population.


\(^5\) Reynolds and Reynolds is an information technology company.
Dayton's problems are really not all that unique when compared to similar sized towns across the country. City and state leaders have established a series of economic incentive, job training, and development projects throughout the region. Seen in the planned commercial property development and interest in retrofitting the older industrial buildings for residential living space, portions of the downtown area seem to be rebounding. However, it is not due to the city’s aviation heritage, but instead of the draw created by a new arts center and minor league baseball team.

Despite its economic and industrial diversification, downtown Dayton is still rich with remembrances to the Wrights and its aviation history. A walking tour of the city reveals several public sculptures created by artist David Evans Black dedicated on July 4, 1996. Built as a memorial to the Wrights and commissioned by the City of Dayton Public Arts Commission, *Flyover* features a 150-foot long design to celebrate the Wrights’ first flight. While *Flyover*’s abstract impression of the Wrights’ first flight may not please traditionalists, Black’s *Wright Brothers’ Bench* simplicity is a fitting memorial to the Wrights. The bench features two Wright styled bowler hats and is located in front of Dayton’s Engineers Club. Funded by the Montgomery County Regional Arts and Cultural District, the bench is one of a series of bronze benches

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57 The Benjamin and Marian Schuster Performing Arts Center opened in 2003 and the Dayton Dragons, a Class A minor league baseball team affiliated with the Cincinnati Reds, was established in 2000.
placed throughout the city. Other benches are located at the National Museum of the United States Air Force, Carillon Historical Park, Wright State University, across from the *Flyover* sculpture in Dave Hall Plaza, Dayton International Airport, Woodland Cemetery, and Wright Brothers Airport. (Figure 50)

![Figure 50. Photographs of Two of David Evan's Dayton Area Wright Sculptures. On the left is the *Flyover* sculpture. Dedicated on July 4, 1996, critics state that the work more resembles a rollercoaster than the Wrights' first flight. On the right is one of several Wright Brothers' Benches placed throughout the city. Photograph by author.](image)

Another example of public art focusing on the Wrights is found in the Field of Dreams project instigated by Wright-Patterson Air Force Base's Aeronautical Systems Engineering Directorate in 1999. Stating that "something was missing in capturing our aviation heritage" as the "Birthplace, Home and Future of Aerospace," plans were drafted to create a full-scale replica of a 1909 Wright Military Flyer, bronze statues of Orville and Wilbur, and a memorial plaza at the base's Acquisition Management Complex entrance. Working with the Wright Memorial Chapter of the Air Force Association, over $200,000 was raised to commission sculptor Larry Godwin. Funds

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58 "Join Us In Capturing...the Dream," Wright Memorial Chapter, Air Force Association Bulletin, ND.
59 Larry Godwin's other work includes Wright Flyers located at the Air Force's Air University in Montgomery and the Embry-Riddle Aeronautical University in Daytona Beach, Florida as well as work for Disney World and the Hard Rock Café.
were raised through an engraved brick sale and patron plaque purchases that are displayed at the completed sculpture’s base. The *Wright Flyer Monument* was dedicated on August 2, 2003, ninety-four years after the United States Army accepted its first airplane.\(^6\) (Figure 51)

![Figure 51. Photograph of the *Wright Flyer Monument*. To celebrate Wright-Patterson Air Force Base as the “Birthplace, Home and Future of Aerospace,” the Wright Flyer Monument was dedicated on August 2, 2003. Funding for the sculpture was provided through an engraved brick sale and patron plaque purchases. *Photograph by author.*](image-url)

The National Museum of the United States Air Force, located at Wright-Patterson Air Force Base, has evolved into the largest military aviation museum in the world. The museum is responsible for a large portion of Dayton’s current aviation tourism. With the museum’s long tradition of preservation, it is difficult to fathom that it allowed the Air Force to neglect the very place powered flight became a reality. Between Dayton’s preoccupation with rebuilding after the 1913 flood and its attention more focused on its bottom line and the military’s failure to look after its roots, the

Huffman Prairie Flying Field is lucky to have survived. It took the National Park Service and the Centennial of Flight for the true significance of the flying field to be recognized and linked to both Dayton’s heritage and the Wrights’ legacy.

Expanding upon the partnerships created during Aviation Trail’s formation, the various entities with connections to aviation in the Dayton area have created a network of communication and cooperation. This collaboration joined together with the unified purpose of commemorating the Wrights through the 2003 Centennial of Flight celebrations. Although essentially breaking even financially, Dayton’s Inventing Flight: Dayton 2003 and its partners successfully reclaimed Dayton’s heritage as the birthplace of aviation. This success was the result of increasing the public’s knowledge of the Wrights achievements through events, educational programs, and interpretive exhibits. Dayton has continued to build upon its aviation roots after the 2003 celebrations as area’s aviation heritage sites have continued to grow and prosper. Although it has taken nearly one hundred years, it seems that Dayton has learned its lesson.
CHAPTER VII

CONCLUSION

Today, if one mentions Kitty Hawk, North Carolina, the Wright brothers would almost invariably come to mind. If one is to mention Dayton, Ohio, it is questionable that the Wrights would be linked to the area. There is no doubt that Kitty Hawk played an important role in the invention of the airplane. The Wrights selected the area due to its possessing the needed sustained winds and its desolation allowed the two to experiment in private. However, Kitty Hawk is basically a series of sand dunes and the time the Wrights spent there can be measured in months. In Dayton, on the other hand, the brothers spent years toiling away in the back of their bicycle shops creating the technology behind powered flight. Sacrificing their own resources, they spent several more years perfecting their theories at the Huffman Prairie Flying Field. However, due to Dayton’s early failures and the foresight of the Kill Devil Hills boosters, Kitty Hawk is the location of the Wright Brothers National Memorial.

Dayton all but forgot about the Wrights’ activities at their bicycle shops as well as at the Huffman Prairie Flying Field. Their Dayton bicycle shops mostly sat decaying or were destroyed. Sitting nearly abandoned for decades and then suffering through a series of incomplete or inaccurate amateur attempts at interpretation, the flying field illustrates how those that had the authority to control the memory of the Wrights’ in the city helped set the stage for Dayton’s neglect of their aviation heritage.
Fixed on what they perceived as a more secure investment, city leaders invested their economic and cultural capital in non-aviation or Wright related areas. The damage in Dayton was not fully addressed until the preparations for the 2003 Centennial of Flight celebration.

Orville's life-long mission of securing a truthful rendition of the historical events surrounding the invention of powered flight culminated in the enshrining of the brothers' 1903 Kitty Hawk Flyer in the Smithsonian Institution. Although it took decades, Dayton finally succeeded in recognizing the importance of their heritage and is now a showcase for aviation history. Due to the Wrights' legacy concerns and the city of Dayton's negligence, the path taken to achieve this success was long and difficult. The Smithsonian controversy nearly consumed Orville as he grew older. If he was not so preoccupied in securing the 1903 flyer's place in history, it is probable that with Orville's assistance, the city of Dayton's neglect of its aviation heritage landscape would have been addressed earlier. The lost opportunities and artifacts surrounding the development of powered flight as result of this intertwined path is immeasurable as is the emotional impact upon the realization that the two people responsible for one of the most significant inventions in modern times, never lived to see full recognition of their feat.

Even as the Wright brothers were routinely flying at the Huffman Prairie Flying Field by 1905, Dayton was slow to realize aviation's potential impact. However by 1909, after the Wrights had achieved worldwide fame and success, Dayton was
scrambling to claim the brothers as their own and sought to capitalize on the brothers’ notoriety. The resulting Dayton Wright Brothers’ Home Days Celebration of 1909 represents important precedents where linkages between the city’s political, social, and economic motives with the Wrights and aviation were made.

While Dayton was thanking its good fortune and set out to establish itself as the nation’s “Air City,” the Wright brothers faced an extraordinary challenge to their legacy from the Smithsonian Institution. The resulting Smithsonian controversy emphasizes how the unchecked power of a few can literally alter history. It also demonstrates how the Smithsonian Institution was not above economic or political influence from within its own walls. Had it not been for Orville’s decades long quest to challenge the Smithsonian over who should be credited with inventing the first plane capable of power flight, it is doubtful that the most valuable aviation artifact in the world, the 1903 Kitty Hawk Flyer, would be exhibited in an American museum today.

Illustrating the devious nature that the Smithsonian controversy rose to is the fact that Smithsonian Secretary Walcott and chief aviation expert, Albert F. Zahm, knowingly conspired with aviator Glenn Curtiss to misrepresent and exhibit as fact, a series of altered tests of former Secretary Langley’s Aerodrome. Compared to the less serious but more recent Enola Gay controversy, there seems to have been less political and economic fallout. While the Smithsonian’s Congressional funding temporarily suffered as a result of Congress’s involvement in the Enola Gay exhibit, there is no
record of any Congressional funding curtailments as a result of the Smithsonian controversy.

Seeing the world’s praise lavished on the Wrights, it is not surprising that other pioneer aviators came into the spotlight as possibly flying prior to the 1903 Flyer’s December flight. In addition to Langley’s Aerodrome, other questionable first flight claims plagued the Wrights throughout their lives. Various proponents and museums have advanced several of these claims over time. The three individuals that troubled the Wrights the most were aviation pioneers Clément Ader of France and Alberto Santos-Dumont of Brazil, and German-born inventor Gustave Whitehead. While both Ader and Santos-Dumont made contributions to the advancement of aviation, Whitehead turned out to be more of a curiosity.

Nationalism probably played a significant part for the continuation of Ader and Santos-Dumont’s claims as they are honored as aviation legends in their respective countries even to this day. Whitehead has been propelled to near folk-hero status in the United States as a result of a long string of zealous followers relying on questionable research, conspiracies, and more recently, anonymous Internet authors. Wilbur and Orville never really felt threatened by these first flight claims. However, illustrating their concerns on how these claims may affect their legacy, Wilbur published his refutation of Ader in 1912 and Orville published several criticisms of Whitehead and his supporters’ illogical claims.
Placed in the era of independent inventors along with Alexander Graham Bell and Thomas Edison and possessing similar traits such as mechanical aptitude and social characteristics, the Wrights were untethered in their pursuit of solving the mysteries of powered flight. Their bicycle business provided a source of income that allowed them to develop their theories of flight without the pressures associated with government or corporate sponsored technical research and development seen after World War I. The brothers' true methodical and scientific technical problem solving was often hidden as a result of the folklore created by the early press accounts of the Wrights as tinkering bicycle mechanics. As they were unaware of the need to control or shape their image, this early public perception of the Wrights probably hindered their efforts in convincing the American government and public that they were actually the first to create a controllable powered airplane.

The Wrights found that in the commercial American society they could not simply pursue their genius or gift unless they were willing to let others share their accomplishments. They needed to actively manage their image and craft a narrative that would place them center stage. The story would then need to be repeated over and over in order to fashion a “factual” image. The Wright brothers seemed to have resisted this reality but were then hugely resentful when other individuals and institutions including powerful, unchecked ones like the Smithsonian Institution, offered a different narrative or attempted to refashion or mold their image to their ends.
It is easy to think that the person who cracked the mysteries of flight would instantly become one of the wealthiest individuals in the world. During the hectic times after the successful public test flights in 1908, it seemed that everyone wanted a piece of the Wrights and cash in on their success. The Wrights found that people were willing to overlook legal restrictions, lie, and misrepresent themselves not only because money was at stake but honor, glory, fame, and patriotism. While they did receive comfortable financial rewards, Wilbur and Orville were far from exceedingly rich. Their decision to build upon the success of their 1903 Kitty Hawk flight and invest more time and money with further experimentation at the Huffman Prairie Flying Field was based on the financial rewards of success. The Wrights felt they deserved to profit from their invention since they were the ones that took the financial risks and continually faced skepticism and ridicule prior to their public flight tests. As a result, the Wrights took a good number of precautions to protect their invention. However, the steps ranging from secluded experimentation to a broad patent did not protect them from a lack of monetary support from their own government or from those that were willing to skirt the patent restrictions.

Similar to their fellow turn of the century inventors, the Wrights wanted to be recognized as the inventor of powered flight but wanted to profit from it too. They sought the government’s protection through a patent and military contracts. However, some argued, such as Henry Ford, that the broad patent protection granted to the Wrights was detrimental to the further development of more sophisticated aviation
technology and hurt the greater good of society. Seeking the royalties guaranteed by their patent, the Wrights were embroiled in a series of legal battles with Curtiss and other aviators. As a result of the time consuming legal issues, the Wrights’ engineering talents were squandered. However, the Wrights felt there was really no other alternative and considered it a necessary financial tactic to pursue their expected royalties. Tainted from the earlier public failure of Langley’s Aerodrome, Congress placed the financial burden of powered flight development on the inventors. With public funding, the Wrights most likely would have continued building upon their aeronautical engineering success instead of chasing down patent infringers.

With their clean living, hard work ethic, and ability to overcome great odds, the Wrights seemed to fit the mold of the perceived American hero. The brothers were, for the most part, typical Americans for the period and were raised in a traditional family led by their father, a Bishop in the Church of the United Brethren in Christ. Their family’s socio-economic level was slightly more affluent than the average Dayton resident and the brothers began their careers in the skilled trades and never attended college. With no connection to a corporation or government, the brothers treated their powered flight endeavor as a business for personal gain and not as a patriotic act. Due to the government’s laissez-faire approach regarding technological developments, the Wrights, as did many other technocrats of their time, were forced to rely on their own assets in order to survive and succeed in the business world. The Wrights never really focused on their public image. With the brothers’ virtuous living
not an act, their public persona was not an issue. However, with the negative press they received during their early patent battles, they probably would have benefited from guidance on publicity management.

In a remarkably short period of time, from the public unveiling in 1908 to the start of World War I in 1914, powered flight captured the attention and imagination of the world. The Wrights were instant celebrities after their successful public test flights in Virginia and France. America became fascinated with the Wrights and the brothers became more aware of the need to cultivate their image. By the early 1910s, flight exhibitions, the forerunner of today's airshows, continually drew larger crowds. During this time, it seemed that new records and adventurous exploits were appearing in the nation's newspapers on a daily basis. Flying his Vin Fiz Wright airplane, Calbraith “Cal” Perry Rodgers created a national sensation as he trekked across the country in 1911. Followed closely by the nation as if it was a serial novel, Rodger's three-month transcontinental flight not only created an exciting story but it also illustrated the commercial possibilities of aviation as he was able to simply fly over difficult terrain. However, his numerous accidents and delays demonstrated that profitable commercial air travel was years away.

The death of Wilbur in 1912 left Orville distracted in the business aspects of the newly formed Wright Company. The company was beginning to lag behind its competition as the planes were lacking the refinement seen in other models. Orville sold the Wright Company in 1915 and just about as quickly as he rose to fame, Orville
retired from the industry he created. Incensed over the Smithsonian’s 1914 assertion that Langley’s Aerodrome was actually capable of flight as a result of Curtiss’ flight tests on the “restored” plane, Orville renewed the legal battle against Glenn Curtiss prior to selling the Wright Company. Stating that the Aerodrome was unmodified, the Smithsonian not only exhibited the craft as the first plane capable of flight, but published its results in the widely distributed 1915 Smithsonian Annual Report. The Smithsonian’s falsified tests placed the Wrights’ legacy in question. Secretary Walcott and Albert Zahm’s association with Curtiss’s patent legal battles and the publicized Aerodrome tests is directly responsible for creating the seemingly irresolvable stalemate.

It is likely the Smithsonian controversy would have never been brought to a satisfactory end for Orville had he not sent the 1903 Kitty Hawk Flyer to the Science Museum of London in 1928. It was obvious that after years of Orville’s exhaustive attempts at reaching a solution, Walcott and the Smithsonian were not going to retract their position on the Aerodrome or admit they misled the public through the altered test flights. The loss of such an important American icon placed a spotlight on the Smithsonian and their actions. However, as long as Walcott remained as Secretary, the Smithsonian was not going to change its position. With no personal connections to Langley’s Aerodrome, Walcott’s successor, Charles Greeley Abbot offered hope for a solution. However, while Abbot did take steps to remedy the historical inaccuracies concerning the Aerodrome, Orville was unwilling to bring the 1903 Flyer home until
Abbot published the facts about the 1914 altered Aerodrome tests. The stalemate continued to languish even after Congressional inquiries and high-profile attempts at resolving the controversy failed.

The controversy finally ended in 1942 when Wright biographer Fred C. Kelly mediated a solution. Abbot finally agreed to Orville’s demands and published a full disclosure of the Smithsonian's actions regarding the Langley Aerodrome. With America’s recent entry into World War II and the need to boost the country’s nationalistic spirit, Abbot may have felt the needs of the country outweighed potential embarrassment of the facts surrounding the controversy. However, due to conditions created by World War II, it was not until after Orville’s death in 1948 that the 1903 Kitty Hawk Flyer was returned to the United States.

The Smithsonian controversy set a dangerous precedent of the Institution using its power as the national museum to advance a version of history many disagreed with. This power was later challenged by both the public and Congress during the planning of the Enola Gay exhibit. The fact that the Smithsonian was essentially allowed to operate unimpeded and with no checks and balances through Walcott’s tenure illustrates the power just a few individuals had in controlling the nation’s heritage. The Smithsonian Institution is looked upon as the arbitrator of American culture, however, in the Wrights’ case, the museum’s credibility was tainted. In a David versus Goliath like struggle, Orville was willing to confront the Smithsonian and refused to compromise their rightful place in history. The Smithsonian controversy had
implications beyond Washington D.C. as it may have affected the willingness of Dayton to acknowledged the Wrights and treat the landscape accordingly. The repercussions are seen in Dayton as Orville took the steps he felt were needed to assure the brothers’ legacy in the United States.

Upon Wilbur’s death, Dayton did set out to honor its fallen hero. However, plans for an elaborate memorial honoring the Wrights were all but forgotten when a destructive flood ravaged the Dayton area in 1913. The flood caused considerable damage to Dayton’s economy and infrastructure and required a massive rebuilding effort. In the days before federal disaster relief, city and business leaders, as well as local citizens, pooled their resources to rebuild and established a series of permanent dams to protect the region. The flood helps explain how Dayton lost its focus while business and political leaders in Kill Devil Hills, North Carolina forged ahead and successfully became the host of the Wright Brothers National Memorial by 1928. Following the flood, Dayton fashioned itself as an industrial and military city that did not need its aviation heritage to promote it. As a result, one has to question Dayton’s true resolve in honoring the Wrights since it took decades for the city to resurrect their pre-flood plans.

Revenue generated by heritage tourism was at the heart of the Kill Devil Hills Memorial Association’s plans of developing the memorial site. Lacking any real infrastructure, industry, or major commercial investment, the region successfully combined aviation tourism and federal spending to create an economically viable
region. Dayton had lost its momentum in recognizing its aviation roots. Despite muted protests from Dayton, the fact remained that Orville blessed the project. The public's perception that Kitty Hawk represented the birthplace of aviation would proved to be difficult to change.

Just as Dayton focused on the promising industrial boom and government spending created by aviation's growth, Congressional leaders also realized its economic and military potential. National Aviation Day was created as a way to link the government's desire to create enthusiasm in supporting commercial and military aviation expansion to the country's leading role as the world's innovator in aviation. For purposes of preparedness and with stresses on creating a pool of aeronautical engineers and aviators for national defense, a yearly celebration was created with Orville's birthday designated as the commemoration date in 1939. Today, the date is still recognized through Presidential proclamations and is often used to pay tributes to the Wright brothers as well as the industry they spawned.

Despite the National Memorial and Congressional recognition for the Wright brothers, the Smithsonian controversy languished. The far-reaching implications of the lengthy dispute are seen when Orville, resigned to the fact that the plane was never going to return to the United States, helped foster the removal of the brothers' home and decaying bicycle shop from Dayton for exhibit at Henry Ford's Greenfield Museum. The loss of the Wright buildings illustrates the direct link between Dayton's failures to recognize and value its part in the development of aviation to Orville's
quest to assure the Wrights’ legacy. By 1936, the city was left without any real focal point to commemorate the Wrights and the city’s role in the development of powered flight. However, in addition to the assured restoration and protection of the historic structures by Ford, the positive aspect of the buildings removal is that it forced Daytonians to look within themselves to commit to changing the city’s tradition of neglect.

There are several Dayton citizens that were pivotal in helping the city rebuild its aviation heritage. Created by John H. Patterson, the founder of the National Cash Register Company, the Dayton Air Services Committee was instrumental in helping the city to raise the funds to purchase land that was provided to the federal government. The city donated the land based on the stipulation that the military would create a permanent research and engineering center in Dayton in 1924. The new facility would eventually evolve into today’s Wright-Patterson Air Force Base. Additional funds were raised by the Dayton Air Services Committee for the purpose of a Wright Memorial and were later used by the Wilbur and Orville Wright Memorial Commission. Led by Colonel Edward A. Deeds, the commission was responsible for helping Dayton to realize its long desired Wright Memorial plans. With Orville in attendance, Dayton’s Wright Memorial, located on Wright Hill, was dedicated on Orville’s birthday in 1940. Appropriately overlooking the Huffman Prairie Flying Field, the Wright Memorial signifies Dayton’s first step in rebuilding its aviation heritage links.
Colonel Deeds was probably the most prolific aviation advocate in Dayton. Starting with the co-founding of the Dayton Airplane Company in 1917, Deeds had a profound influence on the area’s aviation industrialization and its commemorative links to the Wright brothers. Commanding the Aircraft Production Board during World War I, Deeds’s questionable contract awards to the Dayton-Wright Company helped develop Dayton’s modern industrial infrastructure. Through a series of acquisitions, the company’s buildings eventually were incorporated into today’s General Motors’ Dayton production facilities.

However, in the Dayton area, Colonel Deeds was probably best known for his Wright brothers’ related philanthropic projects. In addition to Dayton’s Wright Memorial, Deeds led the effort to restore Dayton’s most important link to its aviation history. The 1905 Wright Flyer III became the centerpiece of Carillon Historical Park, Deed’s homage to Dayton’s transportation history. As a long-time friend of Orville’s, Deeds had a personal connection to the Wrights. He oversaw Orville’s funeral arrangements in 1948 and had a hand in announcing Orville’s wishes concerning the 1903 Kitty Hawk Flyer that paved the way for the plane’s return.

First employed by the National Cash Register Company (NCR) in 1899, Deeds left in 1915 to form the Dayton Engineering Laboratories Company (Delco). Deeds returned to NCR as President in 1931 in an effort to secure shareholder confidence during the Depression and served as honorary chairman from 1940 to 1957. Using his position as chairman of NCR, Deeds guaranteed the preservation of the Wrights’
Hawthorn Hill mansion through its purchase as a corporate guesthouse. During 2006’s National Aviation Day, NCR transferred ownership of the pristine home back to the Wright family. Plans are in the works to open the historic structure to the public during the fall of 2007. Starting with the Dayton Air Service and Wright Memorial Fund in 1922, NCR, through its leaders, has had a connection with aviation in Dayton. While John H. Patterson, the founder of NCR and his son, Frederick B. Patterson, first brought to attention the need for Dayton to recognize the Wrights, it was Deeds’s sincere and lifelong efforts that most aided Dayton in eventually recapturing its links to its aviation heritage.

Gerald Sharkey, the founder of Aviation Trail, and J. Bradford Tillson, the former publisher of Dayton Newspapers, are two Daytonians that helped carry Deeds’s progress forward. Created out of a group of aviation enthusiasts, Aviation Trail Incorporated is credited with instigating much of the original research on the forgotten aviation sites in the Dayton area. Aviation Trail rescued and facilitated the restoration of the last remaining Wright Cycle Company building. The group’s *A Field Guide to Flight: On the Aviation Trail in Dayton, Ohio* generated considerable interest in the Wrights’ activities in Dayton and a corresponding tour highlighted Wright-related tourism possibilities. Sharkey joined forces with Tillson and local judge Walter H. Rice to create the 2003 Committee. The committee is responsible for establishing the foundation for the city’s planning of the one-hundredth anniversary of powered flight.
The 2003 Committee, the United States Air Force, and Dayton's Congressional Representative Tony Hall (D-OH) saw their common interests in developing and preserving the area's aviation heritage resources as well as Dayton's rich African-American history come to fruition through the establishment of the Dayton Aviation Heritage National Historical Park in 1992. The new park's mission of preserving and developing the area's cultural resources resulted in the creation of a series of new partnerships between local, state, and the federal government as well as private organizations. Headquartered in an economically depressed area of Dayton, the new park assisted the city in using its aviation history to develop its heritage tourism. Illustrated by the increased residential property values and commercial growth in the Wright-Dunbar neighborhood, the city was able to successfully connect its economic and social fortunes to its aviation heritage with the assistance of the National Park Service.

Celebrated in 2003, the Centennial of Flight was a major event for practically every aviation heritage site in the United States. As a result, Congress authorized the United States Centennial of Flight Commission to bring together private and public organizations in 1999 while Dayton was selected as one of two cities to host the nation's celebration. Dayton's Inventing Flight: Dayton 2003 was responsible for developing local partnerships in preparation for the centennial. During 2003, nearly 1,000 separate events marked the anniversary nationwide. In Dayton, with $68.5 million in public and private funds invested, the centennial celebration succeeded in
drawing an estimated 740,000 visitors to the area’s events. Dayton’s Inventing Flight celebration can be viewed as the ultimate acknowledgment that it made an error in not advocating and promoting a central role for itself in the Wright brothers’ story early on and failing to preserve the Wrights’ historic landscape.

Through the cooperation and planning by the wide scope of involved parties, the Centennial of Flight succeeded in increasing the publics’ knowledge of the Wrights and their contributions in the development of powered flight. The celebration focused attention on Dayton’s aviation cultural resources and provided the opportunity to strengthen its pre-existing commemoration infrastructure. Obtaining this level of public investment in the area’s aviation heritage resources was a considerable feat for a city that was once so indifferent to its links to the Wright brothers and early aviation. Today, Dayton has illustrated its commitment to preserving its aviation heritage with events such as the Wright Flyer III centennial celebration held at the Huffman Prairie Flying Field and recent proposals to expand the Dayton Aviation Heritage National Historical Park.

With the one-hundredth anniversary of the Wright brothers’ first flight, historians re-examined the events surrounding the invention of flight. The anniversary has presented the opportunity for many to explore the history surrounding the development of modern aviation. Research into the Wright brothers and powered flight covers a vast array of possibilities for the historian. The history of flight encompasses a cross-section of political, economic, social, and cultural issues. While
the facts surrounding the first flight as well as the engineering aspects of the Wrights’
gliders and planes have been well studied, research into how and why people celebrate
flight and its historical links can provide interesting possibilities.

There are unanswered questions relating to the pioneering days of aviation
concerning the economic drive to compete for civil and governmental aircraft
contracts and their linkages to the creation of the lasting impressions of the airplane,
their inventors, and aviators. During the inner-war years, aviation feats, pilots, and
airplanes pushed the mechanical and physical barriers of powered flight to their limits.
As a result, they were accepted into American popular culture and left a lasting impact
on Americana. These legendary heroes, such as Charles Lindbergh and Amelia
Earhart, were often commemorated through various forms of celebrations. Research is
needed to judge their lasting impact through the material culture produced through the
period. During this time, aviation started to become representative of the United
States’ innovativeness, wealth, and courage. An examination is needed on how
American aviation became symbolic of the modernism and individuality of the period
and how once the Depression gripped America, aviation celebrations began to follow
the collective efforts of the WPA in attempting to unite America.

The custodianship and commemoration of American aviation history following
World War II came under increasing government control. During this time, the
commemoration of American aviation moved from the veneration of specific heroes
and legends to encompassing the full scope of America’s worldwide air dominance.
American air power was viewed as a patriotic symbol of pride and strength and is illustrated through the celebrations and commemorations of the period. Research is needed to find how public history institutions and organizations helped American aviation to become increasingly tied to national interests and how the Cold War era marks a further acceleration of the celebratory mode in commemorating flight as compared to any type of widespread interpretive efforts. It appears that during the post-Cold War era, the movement is towards more scholarly interpretation rather than celebratory commemorations. However the emphasis on the “first, bigger, better, and fastest” in military, and technology oriented exhibits remains consistent.

Brought to light in Thomas P. Hughes’s *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970*, the integrating of the history of technology into mainstream history seems only logical due to the impact that technology’s evolution has had on history. However, many of the popular histories of the “Great Inventors” seem to single out the inventor or their inventions in an effort to focus on a hero. The many general histories of the Wright brothers often follow this trend and fail to connect the social impact the invention of the airplane has had on society or how society has impacted the evolution of the airplane. The airplane has had a far-reaching impact on world history during peacetime as well as during times of war. This interaction between society and the airplane and its impact needs to be explored.
The Wright brothers’ influence stretches throughout the entire twentieth century. Powered flight has had a prominent role in world history. The connections between the Wrights, their legacy, and Dayton represent just one small element of the broader scope of aviation’s impact. However, the ramifications of the events over the past one hundred years surrounding the Wrights’ relationship with Dayton provide an important insight in the overall study of aviation history as well as aviation’s political, social, cultural, and economic influences.
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