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Book Review #1

**Seth Shulman, *Unlocking the sky: Glenn Curtiss & the race to invent the airplane*. New York, NY: HarperCollins Publishers Inc., 2002. 258 pages.**

Seth Shulman takes a step away from the typical Wrights centered viewpoint of the race to invent and promote the airplane in the U.S. and abroad, and steps into the mind of Glenn Hammond Curtiss and his associates as the history of modern aviation unfolded in front of them. The history of aviation was written through the free exchange of information in order to resolve one of the most difficult and long lasting engineering problems of the world. And unlike the Wright Brothers, aviation heroes such as Glenn Curtiss, Alexander Graham Bell, Lt. Thomas Selfridge, “Captain” Thomas Baldwin, Charles Manly, and Samuel Pierpont Langley as well as many others worldwide, openly shared their difficulties and accomplishments in their attempts to get their various flying machines off the ground. *Unlocking the Sky* follows Glenn Curtiss from his motorcycle engine building days to his days at the Aerial Experiment Association (AEA) to his historical flight of the *June Bug* and the patent lawsuits filled by the Wright Brothers against any and every airplane manufacturing company in the world. Seth Shulman also plants the seeds of uncertainty on the *astounding* and *sudden* aspects of the development of the first airplane by the Wright Brothers and raises the possibility that the first controlled heavier than air flight might have taken place years before the Wrights attempted their gliders if only there was public support for such an event to take place. *Unlocking the sky: Glenn Curtiss & the race to invent the airplane* is an exciting and thought provoking story of the life and love of America’s first-ever licensed pilot in the prime of aerial experimentation.

The free exchange of information is a key factor in the development of any new technology and is one of the many topics in which Seth Shulman elaborates on in his book. Wilbur and Orville Wright, from the time of the death of Otto Lilienthal until the successful flights of the Wright Gliders, sought out the help of the Smithsonian Institute and Octave Chanute in their attempts to build and fly an aircraft. The published work of Otto Lilienthal, by Octave Chanute, on the amount of lift and drag generated by

varying wing designs was a major factor in getting the first of the Wright Gliders off the ground. Chanute made freely available to the Wright Brothers all the data and work that they requested. As Chanute noted, “When the Wrights wanted to start, they wrote to me that they had read my book on gliding and asked if I would permit them to use the plans of my biplane” (quoted in Shulman page 172). Chanute agreed to disclose such information and a bond was born between the aerial experts. But such a bond was not meant to last. It took the Wright Brothers six years after receiving a patent on their flying machine before their first public flight and a shroud of secrecy surrounded their accomplishment. In that time, a new organization was formed. With Alexander Graham Bell as chairman, Lieutenant Thomas Selfridge as secretary, Casey Baldwin as chief engineer, Douglas McCurdy as treasurer, and Glenn Curtiss as the director of experiments, the Aerial Experiment Association was officially formed on October 1, 1907. Wilbur and Orville remain confident in the supremacy of their work by stating that “an independent solution to the flying problem is at least five years away” (quoted in Shulman pages 120-121). And as Shulman notes, “the AEA will independently develop a working airplane in just five months” (page 121).

One of the most important tasks given to the Aerial Experiment Association was the reconstruction of Samuel Pierpont Langley’s Aerodrome. Seth Shulman takes a stand in defending the work of Langley and the mishap of the Aerodrome. Unlike Tom D. Crouch, who wrote such books as *The Wright Brothers and the Invention of the Aerial Age* and *Wings*, who has, perhaps indirectly, discredited Langley’s accomplishments, Shulman chooses to actually document the events leading up to the crash of the Aerodrome. Crouch states in *Wings* that “Samuel Langley’s team produced an engine that weighted the same as the Wright power plant but developed 52 horsepower [compared to 12.5 hp of the Wrights]. Never mind. The goal was to fly, not to build the world’s most efficient aeronautical engine. The Wrights flew, and Langley crashed” (Crouch page 67). The addition of the “Never mind” statement in Crouch’s book seems like an unnecessary attack on Langley’s project and the accomplishments his team achieved. Shulman takes a more constructive viewpoint on the matter summarizing the incident by asking the question “Why?” Why did Langley’s Aerodrome crash during its take-off? “Despite a century of speculation, the cause remains a mystery. We know the rear section of

the machine dragged and collapsed before the aerodrome cleared the houseboat catapult” (Shulman pages 17-18). This is where Seth Shulman shines in his work. Throughout the entirety of his book Shulman shows deep admiration for the key figures in the creation of the airplane, not only through the individual work of the members of the AEA, but by placing the Wright Brothers success and arrogance into place and giving credit where credit is due. “When they first solicited Chanute’s help, in a letter dated May 13, 1900, Wilbur Wright had written: ‘I believe no financial profit will accrue to the inventor of the first flying machine, and that only those who are willing to give as well as receive suggestions can hope to link their names with the honor of its discovery. The problem is too great for one man alone and unaided to solve in secret’” (Shulman page 54).

The Wright Brothers lawsuits against anyone and everyone in the aviation industry, including Glenn Curtiss, are another one of the reoccurring themes in *Unlocking the Sky*. In just over one year since the first recorded mile long flight of the *June Bug*, Glenn Curtiss was in Rheims, France looking to participate in the *Grande Semaine d’Aviation* going head to head in his *Rheims Racer* against the best of the best French designs and the first competitive presence of the Wright Brothers (through their airplanes manufactured under contract in the German Wright Company). Shulman quotes Wilbur Wright in the days before the competition begins: “If the suit [against Curtiss] is brought before the races are run at Rheims, the effect will be better than after” (page 159). Hence forth, the Wright Brothers are shown in a new light, not as pioneers of the most important age in human history, but as money hungry tycoons looking to dominate a young industry waiting to break out.

From “Langley’s Folly” to the restoration of the Aerodrome, engines for “Captain” Thomas Baldwin’s dirigibles to the design and accomplishments of the *June Bug*, Seth Shulman outlines the “race” to invent the airplane. From the restoration of one man’s work and the jealousy and lawsuits of two brothers that followed, Glenn Curtiss and his contributions to the history of the airplane will not be forgotten. Of the 500 plus inventions accredited to Glenn Curtiss, many have survived the test the time and are still present in the aircraft of today; including, but not limited to, the aileron and retractable landing gear.

***Reference:***

**Tom D. Crouch, *Wings: A History of Aviation from Kites to the Space Age*. New York, NY: W.W. Norton & Company Inc., 2003. 725 pages.**