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Jeffrey O'Connell

Thomas E. O'Connell

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BOOK REVIEW

WILBUR AND ORVILLE, A BIOGRAPHY OF THE WRIGHT BROTHERS, by Fred Howard, and THE BISHOP'S BOYS, A LIFE OF WILBUR AND ORVILLE WRIGHT, by Tom Crouch

"I've seen him; I've seen them! Yes I have today seen Wilbur Wright and his great white bird . . . there is no doubt! Wilbur and Orville have well and truly flown."¹

The Wright brothers were not only first to fly a powered airplane but also first to invent a system for controlling an airplane once it was aloft. They were forced to defend their claims to both accomplishments against a huge number and variety of rivals, legal and otherwise. They had a good photograph of their first powered flight, and that evidence rather quickly helped them establish their claim to being "first aloft."

The second claim — the control system — was another matter. Indeed, it was only America's entry into World War I in 1917 which forced an end to long, complex and bitter patent litigation over the Wrights' airplane control system. To some, Wilbur and Orville became the 20th century's first international heroes as a result of their proven first-aloft claim. Many others, however, regarded them as greedy villains who obstructed progress in the field of aviation as a result of their stubborn and litigious insistence on the validity of their control-system patent claim.

Fred Howard's *Wilbur and Orville, A Biography of the Wright Brothers*, and Tom Crouch's *The Bishop's Boys, A Life of Wilbur and Orville Wright* both tell the story of the patent wars in fascinating detail. The battles took place in the

¹ *Le Figaro*, August 11, 1908.

courts of France and Germany as well as in the United States. At issue in all three countries was the Wrights' claim that they invented a system of controlling aircraft through "movable rudders working in conjunction with the twisting of the wings,"² which was patented in 1906. Therefore, they were entitled to royalties from all builders or users of airplanes employing this system of controls.

The arguments became very technical, and judges making decisions in specific suits of course had no experience with flying techniques and terminology. As a result, the cases moved very slowly. But Howard and Crouch take us through the issues with clarity and precision. For example, Howard points out that while the simultaneous use of vertical rudders and wingwarping to maintain equilibrium and maneuver a plane would eventually become the key issue in the Wrights' patent, the earliest suits, starting in 1909, addressed a narrower question. Early on, the "principal issue at stake was: did ailerons constitute an infringement of the Wrights' wingwarping claim?"³ Ailerons, which are the movable sections on the trailing edges of an airplane's wings, constitute the final stage of adapting the Wrights' system of warping the wings themselves (or just the tips of the wings, as the Wrights learned to do) to effect a turn.

Court decisions on the question of whether or not ailerons constituted patent infringement went both ways in various courts of several countries. As Howard points out, "[A]djudging the Wright basic patent . . . turned out to be a good deal more complicated than equating wingwarping with the use of ailerons What Wilbur and Orville had discovered in 1902 and patented in 1906 was the basic principle of flight — the only efficient way to control an airplane in the air. . . ." ⁴ Howard then asks

² F. HOWARD, WILBUR AND ORVILLE, A BIOGRAPHY OF THE WRIGHT BROTHERS 252 (1987) (quoting *The Wright Brothers' Aeroplane*, an article written by Orville Wright for CENTURY MAGAZINE (Sept. 1908)).

³ HOWARD, *supra* note 2, at 330.

⁴ *Id.* at 333.

whether such a basic physical principle can be patentable — a nice legal question. He uses a provocative analogy: “If the Wrights had invented the wheel but had patented instead the axle, without which the wheel could not be set in useful motion over the ground, would they have been entitled to collect royalties from every man who used the wheel to his profit during the duration of their patent?”⁵

Such was the dilemma that vexed lawyers, judges and the airplane industry for eight years, in a host of lawsuits, until the United States’ entry into World War I demanded compromises that would permit the building of large numbers of essential military airplanes.

The dilemma vexed the Wright brothers, too. Howard is persuaded that their motivation was not greed but fair play. They had painstakingly worked their way to gradual solution of the airplane control problem through years of study, travel and expense. They had taken enormous physical risks in performing hazardous experiments with their gliders and airplanes. They felt they deserved a share of the profits that others were beginning to make as a result of their own hard-won success. For years, beginning in 1909, their principal energies were spent pursuing infringers of their patents. Wilbur was the main champion: “He had a knack for presenting difficult aeronautical concepts clearly and concisely in the courtroom at a time when most of the phenomena encountered in flight required defining and redefining at almost every stage of trial.”⁶

Consider Wilbur’s explanation of the difference between soaring and gliding:

When I speak of soaring, I mean not only that the weight of the machine is fully sustained, but also that the direction of the pressure upon the wings is such that the propelling and the retarding forces are exactly in balance; in other words, the resultant of all the pressures is exactly vertical, and therefore without any unbalanced horizontal

⁵ *Id.* at 333-34.

⁶ *Id.* at 377.

component. A kite is soaring when the string stands exactly vertical, thus showing that there is no backward pull. The phenomenon is exhibited only when the kite is flown in a rising current of air. In principle soaring is exactly equivalent to gliding, the practical difference being that in one case the wind moves with an upward trend against a motionless surface, while in the other the surface moves with a downward trend against motionless air.⁷

Orville later felt that Wilbur's health failed as a result of his overwork as a litigant. In a weakened condition, Wilbur contracted typhoid fever in 1912 and died at the age of forty-five. Orville, who himself had nearly succumbed to the same disease sixteen years earlier at the age of twenty-five, lived on to a cantankerous old age and died in 1948.

They were a uniquely close pair of workaholic, bachelor brothers. Crouch documents, even more fully than Howard, the closeness of their collaboration as they labored to make a success of their bicycle shop in Dayton, Ohio, and then to build a successful flying machine. They were both devoted to their father, a Bishop in an obscure Protestant sect, under whose roof they lived all their lives. They also were extremely close to their only sister, Katharine.

Though neither biographer mentions the similarity, the Wright brothers' family was strikingly like that of two American brothers who had earlier attracted international attention, William and Henry James. The makeup of the brothers' generation was similar in each case: two achieving brothers, two other brothers who had more problems than success, and finally a sister, the youngest sibling. The fathers in both cases were quirky, controversial figures who somehow earned extraordinary lifelong devotion from their accomplished sons. While the James brothers were not as close as the Wrights, there was an affection and mutual respect which shone through in spite of their many differences. And the two pairs of brothers,

⁷ *Id.* at 102.

perhaps earlier than any of their countrymen, made Europeans take American men seriously.

Frugal and spartan in their habits, always shunning the limelight, the Wright brothers charmed the world with their straightforward manners and their unadorned speech. Witness Wilbur's response to an after-dinner speech invitation: "I know of only one bird, the parrot, that talks, and it can't fly very high." And recall Orville's famous but perhaps apocryphal question to those who, in his old age, planned an elaborate celebration of the brothers' feats: "[W]ho do I hand the roses to when the roses are handed to me?"⁸

Nevertheless, one is struck with the degree to which, like Woodrow Wilson, the brothers broke with nearly everyone they ever worked with. They scorned their careless predecessors in flight exploration and the self-serving, credit-seeking men who surrounded them after they became famous. Everyone wanted a piece of the action and these down-to-earth midwesterners weren't sharing. Other great American names in pioneer flight, Langley, Montgomery, Chanute, Curtiss, Selfridge (all of whom, like the Wrights, have been memorialized in the names of Air Force Bases) all tangled at one point or another with these independent, no-nonsense brothers. After Wilbur's death, Orville fought an acrimonious, decades-long battle with the Smithsonian Institution — *The Smithsonian!* — and won. The fight was principally about Samuel Langley's role in the history of flight; Orville thought the Smithsonian gave him too much credit. The Wrights also crossed paths — and swords — with two American pioneers usually associated with other inventions, Alexander Graham Bell and Henry Ford. Howard skillfully interweaves the story of the Wrights' patent wars with references to those two other pivotal turn-of-the-century patent fights related to the telephone and the automobile. He concentrates particularly on the auto, but also pro-

⁸ *Id.* at 284; T. CROUCH, *THE BISHOP'S BOYS, A LIFE OF WILBUR AND ORVILLE WRIGHT* at 390 (1989).

vides a series of interesting facts regarding the patent suits over the invention of the telephone. For example, he notes that Bell had endured 18 long years of litigation.⁹ America's fabled litigiousness is by no means a new phenomenon.

Crouch believes that it was the Bishop's influence which made the brothers so defensive, contentious and litigious. The old man had a long history of wars with fellow leaders of his sect, The Church of the United Brethren in Christ — wars which ended up in court. These battles had their effect on "the Bishop's boys":

There is no escaping the fact that the Wrights were a litigious family. The children had grown up in the midst of an extended debate over the central meaning of the frame of church government. Their father was a superb parliamentarian who enjoyed nothing more than a good argument. From 1889 to 1900 the conduct of a series of intricate church-related lawsuits became a part of their daily lives. Wilbur, in particular, was heavily involved in the preparation of real legal briefs

The Wrights were firm believers in the rule of law. The courts existed to protect the rights of the innocent. Small wonder that Wilbur later received high marks as an effective witness during the airplane patent suits of 1910-1912; he was drawing on a lifelong familiarity with the law.¹⁰

Indeed the Wright brothers' story highlights how important coping with litigation often is — and long has been — for entrepreneurial success in the United States. Professor John Langbein, a leading American comparative lawyer, has written at length of "the greater lawyerization of American life" compared to Europe — and even to our maternal jurisdiction, England. Langbein writes of the role "that cultural differences in the conduct of commercial affairs play [in America, compared to Europe]"

Business in the United States has not been the province of the gentle elite. Commercial dealings in Europe may have

⁹ HOWARD, *supra* note 2, at 309.

¹⁰ CROUCH, *supra* note 8, at 103.

been conducted within a smaller and more socially homogeneous group and hence may have had more . . . considerate overtones [than in America]. . . .¹¹

Professor James Q. Wilson has also written of the cultural factors that prompt Americans' litigiousness. We have always been contentious people characterized by internal rivalries based on ethnic, geographic, religious, and political differences. America was founded, after all, by people who were preoccupied with asserting their rights — and their independence. And after the country's founding, there followed more than a century of massive immigration by men and women who were deeply distrustful of government and suspicious of power. They were people who endured appalling isolation and hardships to claim their rights and to seek advancement. Writes Wilson, "We do not accept the decisions of government, or corporations or associations deferentially: We contest them vigorously. . . . We have little confidence in 'experts' who might try . . . [to] resolve our differences" ¹² The result is that we tend to fight our own battles, and those battles often take place in court.

These two books tell the story of two quintessentially successful Americans. They were self-reliant and scrappy, in addition to being inventive and courageous. Like their father, they played the litigation game long and hard, and they played it well.

It is rare to have two such outstanding biographies of the same figures appearing so close together. Both are readable, though long and careful, because both are full of fascinating facts about their intriguing subjects. Crouch's book is slightly longer and provides more background on the family. For example, we learn more from him about the Bishop himself and about sister Katharine, who was in many respects the third member of the sibling team. For lawyers, perhaps the choice would be Howard's

¹¹ Langbein, *Comparative Civil Procedures and the Style of Complex Contracts*, 35 J. COMP. L. 381, 394 (1987).

¹² Wilson, *Don't Blame the Adversary System*, FORTUNE, July 31, 1978, at 132.

book simply because he seems more interested in the patent suits. He is intrigued, for example, with the circumstances leading to the end of the suits as a result of the United States' entry into World War I. Still, the choice is a close one, for, as suggested earlier, Crouch gives us a much more detailed account of the Bishop's own legal battles and his boys' (especially Wilbur's) involvement in them.

Our guess is that lawyers who read either one of these books will be intrigued enough to have a look at the other one as well. They're both that good.

*Jeffrey O'Connell**

*Thomas E. O'Connell***

* John Allan Love Professor of Law, University of Virginia; B.A., Dartmouth College, 1951; J.D., Harvard, 1954.

** Faculty Member, Bellevue Community College, Bellevue, Washington; B.A., Dartmouth College, 1950; M.P.A., Syracuse University, 1952; L.L.D., Williams College, 1970; Ed.D., University of Massachusetts, 1975.