Roach, Edward J. *The Wright Company: from Invention to Industry*. Athens, OH: Ohio University Press, 2014. 218 Pp.

As a historian in the field, this reviewer is well aware that much aviation history has tended toward hagiographies of men, machines, and exploits. In the pantheon of aviators, perhaps none have been more twodimensionally iconic than the Wright brothers. They entered popular lore as the "first to fly," yet their story did not end with a flight in 1903—far from it. They would go on to found a company to capitalize on their invention, a move which led to an adventure of a different sort for them. While a number of works about the brothers have addressed this enterprise in passing, Edward Roach's study promises to fill a gap in the historical record by focusing more fully on the Wright Company from its founding to its sale by Orville Wright in 1915. Specifically, the book addresses the company's operations, struggles, local context, and place in aviation. Roach argues that the company had a definite influence on aviation, primarily because it held key patents and operated some profitable ventures. Yet on the whole the company struggled. The brothers proved unable to transition from bicycle shop owners to corporate heads. They rejected expert advice from investors, business professionals, and military officials about how to run a corporation and improve their aircraft. They fixated on guarding their patents at the expense of other vital company concerns. The brothers would capitalize on their exploit and garner a modest fortune, but at the time Orville sold it, the Wright Company did not hold a preeminent place in airplane manufacturing, thus belying its name.

Roach begins the story with a background study of the Wright brothers and their hometown of Dayton, Ohio. In the wake of their 1903 flight, the brothers began considering how to capitalize on their invention. They wanted to make as much money as possible, but did not want to bear the burden of overseeing a corporate venture which might outstrip their experience as small-scale entrepreneurs. By establishing a company, the brothers could attract others with suitable capital and experience for such a venture, freeing themselves to pursue their interests

while reaping financial benefits. Their operations were based in Dayton, a city bustling with a number of significant industrial enterprises. Yet when the brothers formed the Wright Company, they partnered with investors and board members based almost exclusively in New York. While this seemed a more promising arrangement in terms of capital and corporate expertise, it resulted in an immediate structural disconnect within the company, as its operations remained in Dayton. Furthermore, while the Wrights were at their peak of influence in aviation in 1909, they were not alone; competitors were emerging in both the United States and Europe. The company would prove sluggish in meeting this challenge. For example, when the Wrights built a dedicated airplane factory in Dayton, it reflected the limits of their thinking, as they designed it to facilitate "craft" production, as opposed to mass production. Likewise, their marketing efforts were rather staid; they expected their designs to sell themselves. The one area in which they were aggressive was patent enforcement, which claimed both financial resources and much attention. The company was generating revenue in some areas, most notably in its "exhibition" department. This provided not only income in various forms (e.g. royalties), but also advertising for the product. Yet the Wrights were not enamored with this venture, and shut it down after a short run. In the meantime, their designs began to lag badly behind the competition. The brothers were slow to adapt to technological changes, which led to an increasingly poor reputation for performance and safety. Efforts to update their airplanes and enhance their marketing were limited and ultimately unsuccessful; by 1914, the company was selling only a handful of airplanes, even as other aircraft manufacturers were experiencing a boom in orders.

At the heart of the company's problems was a flawed corporate culture. Contrary to an oft-stated interest in allowing others to handle the company's management, the Wright brothers proved unable to truly relinquish control. They routinely clashed with and undermined the managerial staff, leading to turnover and inaction. The brothers also proved unable to effectively manage the company themselves, and it languished as a result. By 1914, the board and investors were ready to withdraw from the enterprise, and Orville Wright effectively assumed sole control over it. Yet he had no real interest of staying in the business,

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and sold the company a year later. While its production numbers were quite low, its name and patent rights were sufficiently valuable to yield him a handsome sum. With a comfortable stake, he could return to inventing, while the company would persist in various iterations into the 21st century.

This work has its merits. For one, the author studiously avoids hagiographic tendencies. He does address the brothers, their machines, and their flying when necessary (e.g. Wilbur's 1908 sales tour in Europe), but he does not lose sight of his stated purpose, which is to focus on the company. He also provides some useful information about the company, such as data about its aircraft production, minimal as it was, during this time. Finally, he also offers some keen insights into the company. Most notably, he situates it in relation to the personalities (e.g. the Wright brothers) and the communities (Dayton and New York) involved. He shows how these factors intermingled to create a challenging corporate environment.

That said, the work could be improved upon in a number of ways. In terms of organization, the chronology of events could be made significantly clearer with some restructuring of the narrative. Also, a number of key points appear in odd places where they do not seem to fit; they could be better situated in the account. Furthermore, in a number of instances the author touches on key figures or developments, but does not sufficiently elaborate on them. In short, while the work provides some useful insights and information, it leaves a number of questions unanswered, and thus leaves the reader with an understanding of the company that is less comprehensive than might be expected.

In the author's defense, some of these issues are inherent to the subject. As he points out, company records are disorganized and deficient in information; this reflected a corporate culture that did not encourage thorough record keeping. Given such realities, a complete account of the Wright Company is a daunting undertaking, as is any historical study of the iconic Wright brothers.

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