friezes of telamones in the round, executed in 1896 for the cornice of the Park Building at Fifth and Smithfield, or the classical reliefs of the City-County Building of 1916, or the seated lions of the Allegheny County Courthouse of 1887-1888. There are works of art of undoubted aesthetic merit in the book alongside mediocre pieces that speak just as eloquently concerning the history and character of the city.

The masterpieces, the chefs d'oeuvre, such as they are, are all in the book, well described and well illustrated in these bountiful pages. It is certainly a cliché, but when I first picked up the volume I had difficulty putting it down. It is rather like touring the city and finding an old friend on every corner. It is a book that could become a favorite on your Pittsburgh shelf. I suppose, though, that no anthology is ever quite complete for every reader. Where in this admirable compendium, for instance, is that small, low-relief portrait of William Shakespeare which is said to have come from the first theater building in Pittsburgh? It dates to 1813 and I presume still reposes in the garden court of the Old Post Office Museum, as well as in my memory of the "trivial, fond records" of Pittsburgh.

It would be redundant here to speak of Daniel Chester French, of Giuseppe Moretti, or of John Massey Rhind and their local works. They are all in the book, and it is far more fun looking for yourself — the sections are arranged geographically to make them easier to consult. The book, quite simply, is fat and wonderful, and whatever you pay for it will be worth it.

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High Frontier offers a unique perspective on the development of technology and of an industry. Most histories of technology focus on a specific device or family of devices; most business or economic histories focus on particular entrepreneurs, firms, or industries. In contrast, Trimble examines, as his full title indicates, the development of a family of technologies within a specific geographic area.
Given this geographic criterion, *High Frontier* portrays the major periods in the evolution of aeronautics, each of which in Pennsylvania mirrored global developments. From the eighteenth until the close of the nineteenth century, hot-air ballooning and speculation on heavier-than-air flight dominated the scene. The early preeminence of balloon “exhibitionists” offers insight both into the emergence of mass entertainment in urban centers and burgeoning rural hamlets before the mass media and into the precarious nature of “research and development” in the preindustrial period. Likewise, inquiry into heavier-than-air flight most often resulted in poor theory and worse empiricism: even Samuel P. Langley for all his arrogance or George A. Spratt for all his earnestness were able to make little in the way of lasting contributions. Yet, despite many disappointments, the years immediately prior to the First World War did see, in Pennsylvania as elsewhere, the appearance of a few people who successfully learned to fly and a few firms which could build airworthy aircraft.

The Great War transformed aeronautics from the plaything of the rich or eccentric into a technology of immense military and commercial potential. The war years saw establishment of numerous component manufacturing firms in Pennsylvania as well as the creation of the Naval Aircraft Factory (NAF) in Philadelphia. The NAF is notable not only for its technological developments but also because it is one of the earlier attempts to apply the “yardstick” notion seriously to a government-run high technology installation. The Bureau of Construction and Repair and later the Bureau of Aeronautics maintained that NAF production costs and procedures could be used to prevent profiteering by private aircraft suppliers: similar arguments, of course, were used to justify the much more grandiose Tennessee Valley Authority a generation later with equally disappointing results. Whatever the efficacy of the NAF, the war did create the technological foundation and the broad enthusiasm which fueled the continuous if erratic expansion of private and commercial aviation in the interwar period.

Unlike most more narrowly focused histories of technology, Trimble pays close attention to ancillary developments that were absolutely critical to aeronautical progress. Business and economics are central to his portrayal. More importantly, and more unusually, Trimble recounts vital developments in creating an aeronautical infrastructure (airports and navigation aids), in the evolution of regulatory policy, and in the formulation of airmail subsidy and route allocation policies. What emerges is a particularly complete sense of the
extraordinary complexity and difficulty of creating an aeronautical system, in contrast to pieces of technology.

There are success stories here: Lycoming, Piper, Allegheny Airlines (now USAir), airport development, air safety and traffic control. But there are many, many failures in this book of encyclopedic detail. Trimble's litany of erroneous ideas, failed schemes, and bankrupt entrepreneurs powerfully argues that technological change is anything but the orderly, predictable, manageable process both its critics and its advocates would have us believe.

Indeed Trimble's geographic focus leads away from what Herbert Butterfield called the "Whig tradition" that dominates so much historical writing on any topic: Trimble includes more than just the "climb to greatness" of contemporary successes; he also enumerates the false starts and misbegotten enterprises. This approach offers a way of reconciling the statistical evidence which cites a vast number of business failures, especially among small, service-oriented, or new technology firms, and our cultural celebration of success embodied in the Whig tradition's television world of noble heroes and foul villains, who, of course, die. Clearly technological progress demands not just economic commitment, but also great and determined, even fanatical, personal commitment as well — none of which comes with any guarantee of success.

Perhaps this fanaticism is the one unresolved puzzle left by High Frontier. From the early balloonists to the proponents of heavier-than-air flight to the legislators and enthusiasts who pushed airmail subsidies to the men who were determined to make the autogyro and helicopter work, there was awesome belief in aeronautics. All that is clear is that for some technology can be as compelling as religious faith or political ideology.

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Among the historians of ethnic and working class America, none has championed the use of oral history more vigorously than John