few months ago I was sorting through the Ben Rich papers, one of the first collections to arrive in the new aerospace archive at The Huntington. They offer a rare window on Lockheed’s celebrated Skunk Works, known to aerospace cognoscenti as the developers of the U-2 and SR-71 spy planes, both of which Rich had worked on as a young up-and-coming engineer in the 1950s and 1960s.

In 1975 Rich took over as Skunk Works director from the legendary Clarence “Kelly” Johnson, who had founded the outfit during World War II and overseen its emergence as the premier producer of planes that could fly higher and faster than any others. As director, Rich supervised Lockheed’s development of Stealth aircraft, starting with the F-117.

The Rich papers are an invaluable resource for the study of the highly classified Skunk Works, from Rich’s early aerothermodynamics notebooks to his detailed log on Lockheed’s Stealth program. The SR-71, for example, could fly at Mach 3.2 (getting from Los Angeles to Washington, D.C., in about an hour); if targeted by antiaircraft missiles, its evasive strategy was simply to outrun them. At those speeds the aircraft skin reached temperatures up to 800 degrees Fahrenheit, requiring exotic materials such as titanium alloy. The F-117 Stealth fighter had a radar signature as small as a ball bearing; the flat, angular plane was aerodynamically unstable on all three axes, a problem that it countered with a computerized fly-by-wire system.

It was therefore perplexing to encounter, amid these accounts of extremely high-performance aircraft, a century-old photo of bearded gentlemen in a barn, standing around an implausible contraption resembling an airplane. What in the world was this? Who were these bearded gents? And what were they doing in Ben Rich’s papers?

The rest of the folder answered the first two questions. The photo was of Lyman Gilmore Jr., circa 1907, and his brother Charles in their barn in Grass Valley, Calif., in the Sierra foothills. Lyman was the plane’s designer and moving spirit. He had been born in 1874 in Washington state, one of 11 children. He tinkered with bicycles as a kid (the same mechanical background as the Wright brothers), and also loved folding origami-like paper birds and dreaming of flight. He was said
to have ridden through town on his bicycle, flapping large bird-like wings in hopes of leaving the ground. His father dismissed such stunts as “tomfoolery,” but in the 1890s young Lyman moved to California to take up mining and aeronautics, eventually settling in Grass Valley.

Sometime after the move, another story goes, Gilmore built a larger, fixed-wing glider and hooked it by rope to a horse’s harness. The horse took off at a trot and the glider soared off the ground—until the horse chanced to look back and catch a glimpse of the airborne machine. The startled horse promptly bolted, bringing the test flight to a crashing halt. Gilmore meanwhile began working with steam engines in hopes of achieving powered flight. In May 1902 Gilmore claimed to have flown a monoplane with a 32-foot wingspan, powered by a 20-horsepower steam engine, at Knickerbocker Flat outside town. No eyewitnesses, however, could verify the flight.

News of the Wright brothers’ flight in 1903 raised Gilmore’s ambitions. He and his brother began building an eight-passenger plane, the one in the photo, and opened Gilmore Airfield outside Grass Valley, with the hopes of sparking a boom in commercial aviation. By 1907 both the airfield and plane were taking shape. In some respects the plane anticipated the future of airplane design. It had an enclosed cabin within a metal fuselage, instead of open framework; a single wing instead of the common biplane design; and the propeller in front, a “tractor” design instead of the rear-mounted “pusher” type popularized by the Wrights.

Gilmore’s visions outran practical reality. In particular, the big plane lacked an engine powerful enough to get it off the ground. And as the photo suggests, compared to the Wright Flyer, Gilmore’s plane was a fairly flimsy contrivance. Gilmore supposedly attended an engineering school in Washington at one point, and he could turn out detailed mechanical drawings, including a design for retractable landing gear, but he apparently did not pursue research with scale models or wind tunnels. Other photos suggest a less than systematic approach: he apparently built the plane bigger than the barn’s opening; he would have had to dismantle either the plane or barn to test his invention.

This absent-minded streak verged on outright eccentricity; he refused to cut his hair and beard and apparently gave up bathing, a choice that gave him a pungent presence. He was obsessed with secrecy, and his aeronautic applications to the Patent Office were rejected for their rambling imprecision. His writings in general resonated with rapturous visions of an aeronautical future,
and of a general revolution in spiritual harmony among peoples and nature. After several promised exhibitions at which his planes failed to fly, his investors lost confidence. Gilmore continued to tinker with airplanes but he spent more time in gold mining, and in 1935 his airplane hangar—the old barn—burned to the ground with his airplanes inside. He died, penniless and unnoticed, in 1951.

Gilmore remains an enigma. Rumor and myth pervade historical accounts, some of them propagated by Gilmore, who did not always distinguish his vibrant visions from actual events. Few today credit Gilmore with the first powered flight; Knickerbocker Flat will not replace Kitty Hawk in the history books. Even if he did beat the Wright brothers, the historical point is moot: it was the Wrights who led the way to modern aviation.

So what exactly was Ben Rich’s connection to Gilmore? Rich apparently first developed an interest in him in 1968 and continued to chase leads for several years, into his tenure as Skunk Works director, filling a folder with correspondence and old articles. Why did a modern-day aerospace engineer, consumed with building the most cutting-edge aircraft, take time to indulge a fascination with a long-forgotten would-be aviator?

Acquaintances recalled Gilmore, for all his eccentricities, as an enjoyable companion, a friendly storyteller who liked to joke around. Rich too loved a good story and was well known as an inveterate joker, as uninhibited with generals and senators as he was with close colleagues. In a talk about Gilmore, Rich noted with evident relish that “Mr. Gilmore was quite a promoter. He sold stock, way back in 1911, in his various aircraft ventures. In fact, the records show that he sold as much as 600 percent in some ventures.”

Rich was likely drawn to Gilmore as a colorful addition to his extensive collection of anecdotes. But he may also have recognized a connection. Granted,
there is no path from Lyman Gilmore’s barn to Skunk Works, no technological lineage from his steam-powered plane to Stealth aircraft. And Gilmore’s haphazard methods bore little relation to the advanced scientific theory and engineering techniques deployed by Rich and his colleagues. There is, however, a shared context and history (besides the secretive bent of both Gilmore and the Skunk Works). Gilmore is interesting to historians, as he was to Ben Rich, because he tells us something about aviation, and about California.

California historian Kevin Starr has long described the state as a land of dreamers. It is perhaps no coincidence that Gilmore was a gold miner living in the heart of the Mother Lode, or that some of his early investors came from the nearby town of You Bet. Like the original Gold Rush, early aviation attracted a romantic, entrepreneurial spirit, one willing to risk failure in pursuit of uncertain rewards. The visionary spirit behind Gilmore’s belief that his unwieldy contraptions could defeat gravity similarly inspired the Skunk Works designers’ faith that their flat, faceted Stealth plane would in fact fly.

When Kelly Johnson glimpsed an early Stealth model, he bluntly told Rich, “That goddamn thing will never get off the ground.” Gilmore no doubt often heard the same message, yet, like Rich, he persisted in pursuing his blue-sky dreams.

From early aviation enthusiasts drawn to the imaginative possibilities of flight to aerospace engineers decades later designing planes and spacecraft to go ever farther and faster, California attracted and nurtured such a sensibility, which helped it become the epicenter of the aerospace industry. That’s why The Huntington’s aerospace archive has a place for people as seemingly disparate as Lyman Gilmore and Ben Rich; and that’s why it includes not just the engineering drawings and technical proposals that document the industry’s technological development, but also files on obscure gold miners that suggest deeper cultural connections. The scope of Rich’s papers, from Gilmore to Stealth, echoes the breadth of aerospace’s role in California’s history.

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In January 1910 a quarter million people descended on Dominguez Hills in Los Angeles to watch the first aviation meet in the United States, including a Los Angeles Times reporter who declared it “one of the greatest public events in the history of the West.” The judgment is fair in retrospect. A century later, the aircraft and aerospace industries have transformed Southern California from a collection of agricultural groves to a sprawling high-tech nexus on the Pacific Rim.

Southern California as we know it would not exist without aerospace. Many Californians, however, fail to appreciate its fundamental historical influence. One primary reason for such neglect is a lack of organized and accessible sources. Archival material remains scattered among individuals and institutions, if it has survived at all. And with each passing year, more of this history is forever lost.

The Huntington Library, through the Huntington-USC Institute on California and the West, has started a major initiative to document the history of Southern California aerospace. The Aerospace History Project combines The Huntington’s strengths in California and the West, history of science and technology, and business history. The National Science Foundation has recognized the project’s importance through a substantial grant.

The project is trying to obtain personal papers and historical corporate files for The Huntington’s archival collections. Initial acquisitions include the papers of Ben Rich, longtime head of Lockheed’s Skunk Works; Willis Hawkins, Lockheed designer for 50 years and first president of Lockheed Missiles and Space; Harvey Christen, one of Lockheed’s first employees; Albert Hibbs, an architect of the early space program at the Jet Propulsion Laboratory and a polymathic science popularizer; and Jack Real, longtime Lockheed designer and close confidant of Howard Hughes. The papers of Tex Thornton, founder of Litton Industries, are also committed to the archive. The Hawkins and Christen collections include several thousand unpublished photos spanning six decades of American aviation.

The aerospace archive also includes oral histories, which capture memories and perspectives missing from the documentary record. Project historians have already completed 25 oral-history interviews of aerospace corporate leaders, design engineers, and manufacturing engineers, providing views on the industry from corporate boardrooms to engineering bullpens to the shop floor, and from old-school large aircraft firms to alternative-space upstarts, and have many more in the works.

The project aims to answer two basic historical questions. Why did Southern California become a focal point for aerospace? And what were the consequences for the region, and for aerospace? Answers to the first question, for example, include the role of civic boosters, newspaper publishers, and real-estate developers; local universities as suppliers of research, testing facilities, and technical labor; open-shop rules in the labor market; the local military presence; favorable climate; and a culture of expansive imagination and entrepreneurialism. The archive’s collecting strategy reflects this inclusive perspective: It embraces topics not just in aerospace history and the history of science and technology, but also labor and business history; the environment; gender and ethnicity; and popular culture. As Huntington curators acquire and process aerospace collections, they keep this broad range of interests in mind, since materials that appear mundane or irrelevant on first glance may be of great interest to future historians.