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Sourisseau Academy

Smith-Layton Archive presents:

Quest for Flight:

Santa Clara Valley as an
American Crucible of Aeronautics

by Craig S. Harwood

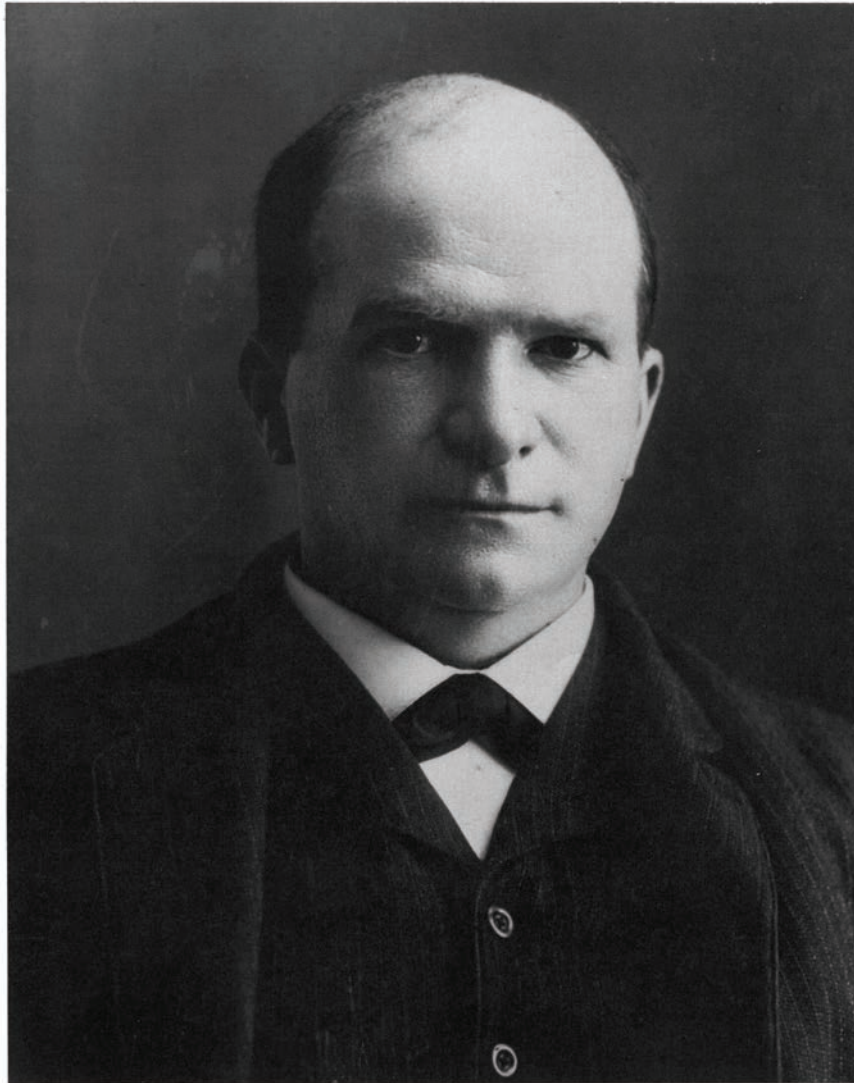
Co-Author with Gary B. Fogel of *Quest for Flight: John J.
Montgomery and the Dawn of Aviation in the West*

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(The Redwood, Santa Clara College, May 1905)

[23] John J. Montgomery (1858-1911) was a prolific inventor in various scientific and technologic areas but became best known for his pioneering work in solving the “problem of flight” at the turn of the 19th – 20th century. A native of the San Francisco Bay Area and member of a prominent Catholic family, Montgomery received his collegiate education under the Jesuits at St. Ignatius College (MS, 1880), and subsequently taught science at the Jesuit run Mount St. Joseph’s College (Humboldt County) and then later (1898-1911) at Santa Clara College. His life’s path in science and invention would stretch the bounds of conventional thought on the matter and impact societal attitudes toward this (then) visionary field.

THE CONSEQUENCE OF A COLLABORATION

BALDWIN



MONTGOMERY



(Left: *World's Work* magazine 1904; Right: *The Redwood* 1905)

[24] Montgomery's initial conspicuous success in aeronautics came almost unintentionally through collaboration with Thomas S. Baldwin as part of a business arrangement in the period 1903-04. Baldwin, a famous parachutist, balloonist, and dabbler in airship projects, had entered into the aerial field in the 1870s when he collaborated to invent the very popular concept of parachute jumping from ascending balloons. In 1903-04, they entered into an arrangement to build Aeroplanes based on Montgomery inventions and give a series of public exhibitions of controlled flight in front of paying audiences. With the much-anticipated aeronautic competition at the 1904 St. Louis Worlds Fair on the horizon, Montgomery intended to have the Aeroplane exhibited for "scientific and educational purposes" at the aeronautic concourse. As part of this collaboration, Baldwin had the very rare privilege to receive a comprehensive aeronautical education in flying machine technology and in particular propeller theory. Showing perhaps as much talent as an adroit opportunist as he was a balloonist, Baldwin subsequently appropriated and incorporated the technology into his new airship *California Arrow* in the summer of 1904. In this, and with his subsequent adoption of a Curtiss motorcycle engine, Baldwin made a marked advance in the propulsion technology available, which had traditionally relied on bulky engines driving propellers based on marine propeller model. The Montgomery-Baldwin collaboration would have far reaching ramifications for both men, and for California's place in the larger saga to conquer the skies.....



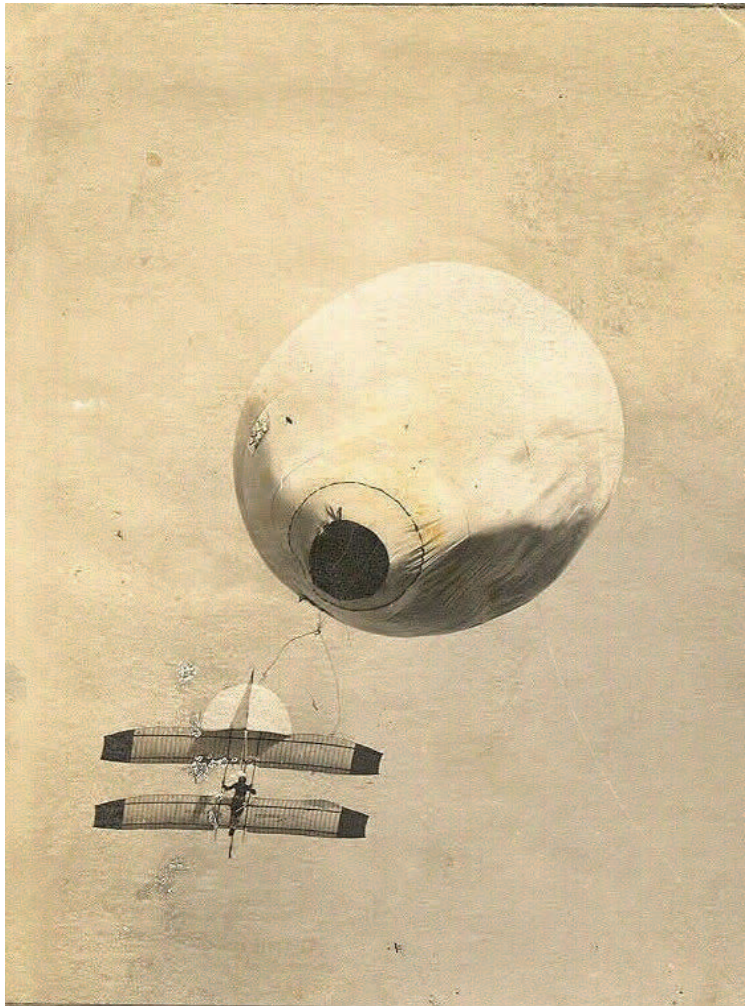
(Location: Aeronautic Concourse, St. Louis World's Fair, October 1904)

[25] Like the marginally successful *California Eagle* airship of August Greth (of which Baldwin was a collaborator), the *California Arrow* was built in San Jose and performed its maiden voyage in front of hundreds of spectators in the bay area. After its initial flight at Oakland (July 31, 1904), the *Arrow* was brought to the St. Louis World's fair where it won the aeronautic competition and quickly thrust Baldwin and his airship onto the national stage to wide acclaim for its "inventor" and another Californian achievement in aeronautics. Baldwin travelled widely and exposed many to the technology behind the *Arrow*. The *California Arrow* served as the template of American Airships for several years and hence spawned the careers of a generation of American airship aeronauts. In 1908, a Baldwin airship would be adopted as the U.S. Military's first aircraft (the SC-1). (Source: Craig S. Harwood, Montgomery Family Collection).



(Location: Santa Clara College, April 29, 1905. L to R, John H. Leonard, Frank Hamilton, Daniel Maloney, John Montgomery)

[26] While Baldwin traveled the county and exposed a generation of enthusiasts to a proper aeronautical propeller, he made reference to planning an exhibition of a glider-type aircraft. In response to unfolding events, Montgomery was forced to establish his priority in aeronautics by going public. After an initial series of successful flying experiments conducted at a private ranch in Aptos, Montgomery applied for a patent on his machine and then “threw open the field” with a demonstration of his Aeroplane on April 29th at Santa Clara College. In front of hundreds of spectators and representatives of the press, Montgomery and his aeronaut Daniel Maloney gave America the first verifiable demonstrations of fully controlled flight in history. Coming at a time when would-be aviators faced a disbelieving public, the Montgomery flights stunned the public and threw down the gauntlet for his peers. (Source: *Scientific American* 1905)



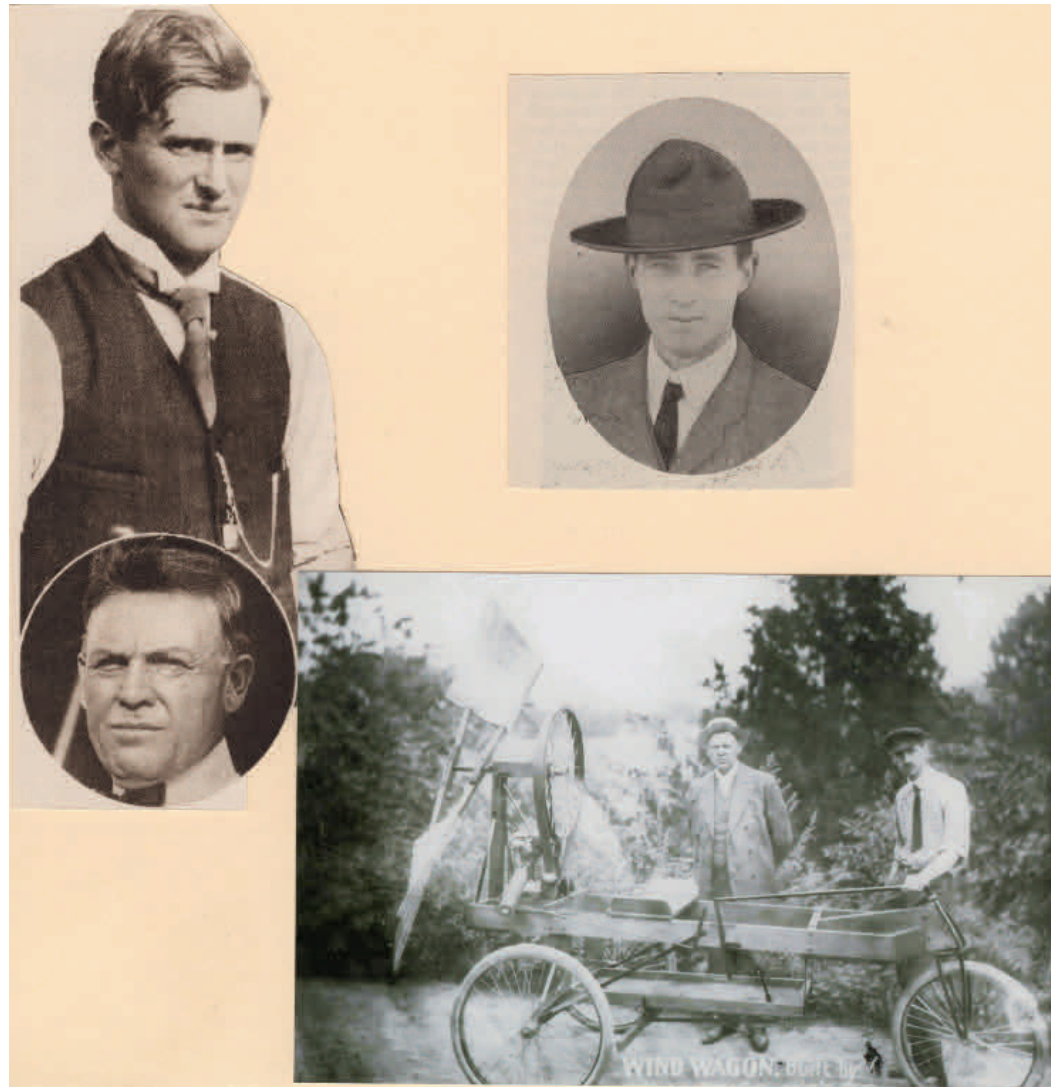
(Location: Agricultural Park, San Jose, May 21, 1905)

[27] Launched by cutting loose from an ascending balloon, Maloney's flight from 4,000 feet above hundreds of spectators included deep dives and upward curves following the momentum, sweeping turns to right and left, sharp half-rolls, and after roughly thirteen minutes, bringing the craft to a soft landing as he flared the rear portions of the wings. As with the initial private tests in March, this public performance had been carefully scripted in advance and the landing location chosen so as to avoid the numerous power lines and other obstacles in and around the grounds of Santa Clara College. In recalling the event to a colleague, Montgomery said: *The crowd was spellbound and wavered between awful suspense and exultant cheering as the various moves were made. The day and its moments will never be forgotten.* Indeed as one historian noted, *this daring performance amazed the world, and especially the specialists, who knew all along that such a feat [fully controlled flight] was practicable.* [Source: *Aeronautics* (London), June 1910]



(Location: Agricultural Park, San Jose, California, May 21, 1905)

[28] The Montgomery exhibitions of flight received widespread press coverage nationally and even extended into Europe. Many engaged in aeronautical experiments took notice - including the Wright Brothers who began tracking Montgomery's progress as they continued their own work in relative obscurity. After some weeks the Wrights received a warning from an advocate: *It looks as if you have a rival somewhere on the Pacific Coast*. It would take another three years before the Wrights emerged publicly with their flying machine and announced to the world that they were the ones who had unlocked "the secret of flight". It would seem, however, that "their rival on the Pacific Coast" had already found the spare key! By the time of the second public exhibition on May 21, 1905, San Jose's Agricultural Park had a storied history as a hub of aerial activities including aerial acrobats using balloons and parachute jumping (from balloons). The Rose Pavilion had, in fact, served as the construction facility for the first airship in the West, as well as the first successful airship in America (California Eagle, and California Arrow, respectively). (Source: *Vehicles of The Air*, by Victor Lougheed 1909)



[Baldwin (lower left), Lincoln Bechey (upper left), and N. Roy Knabenshue (upper right), and Baldwin and Glenn Curtiss (lower right)].
(Source: Montgomery Family Collection)

[28] As a result of Baldwin's travels and interaction with many younger enthusiasts engaged in mechanical fields (primarily automotive but also motorcycle and bicycles), Baldwin helped launch many a career in successful aeronautics. Future aviation luminaries, including Lincoln Bechey, Glenn Curtiss, Roy Knabenshue and others, would be amongst the first generation of American aviators to benefit from Montgomery's technology and theoretical contributions to lighter than air (airship propeller) and heavier than air (fully controllable Aeroplane) state's of the art.



[29] In 1907, Victor Lougheed (author and automotive engineer) also received an advanced aeronautical education during his visits with Montgomery and was subsequently able to impart this knowledge to his younger half brothers, Allan and Malcolm Lougheed (later changed to Lockheed) who eventually became highly influential aircraft designers. Once exposed to Montgomery protégé's (Thomas Baldwin and Victor Lougheed), many of this generation would nearly spontaneously emerge from obscurity and into successful aviation. (Source: Montgomery Family Collection)



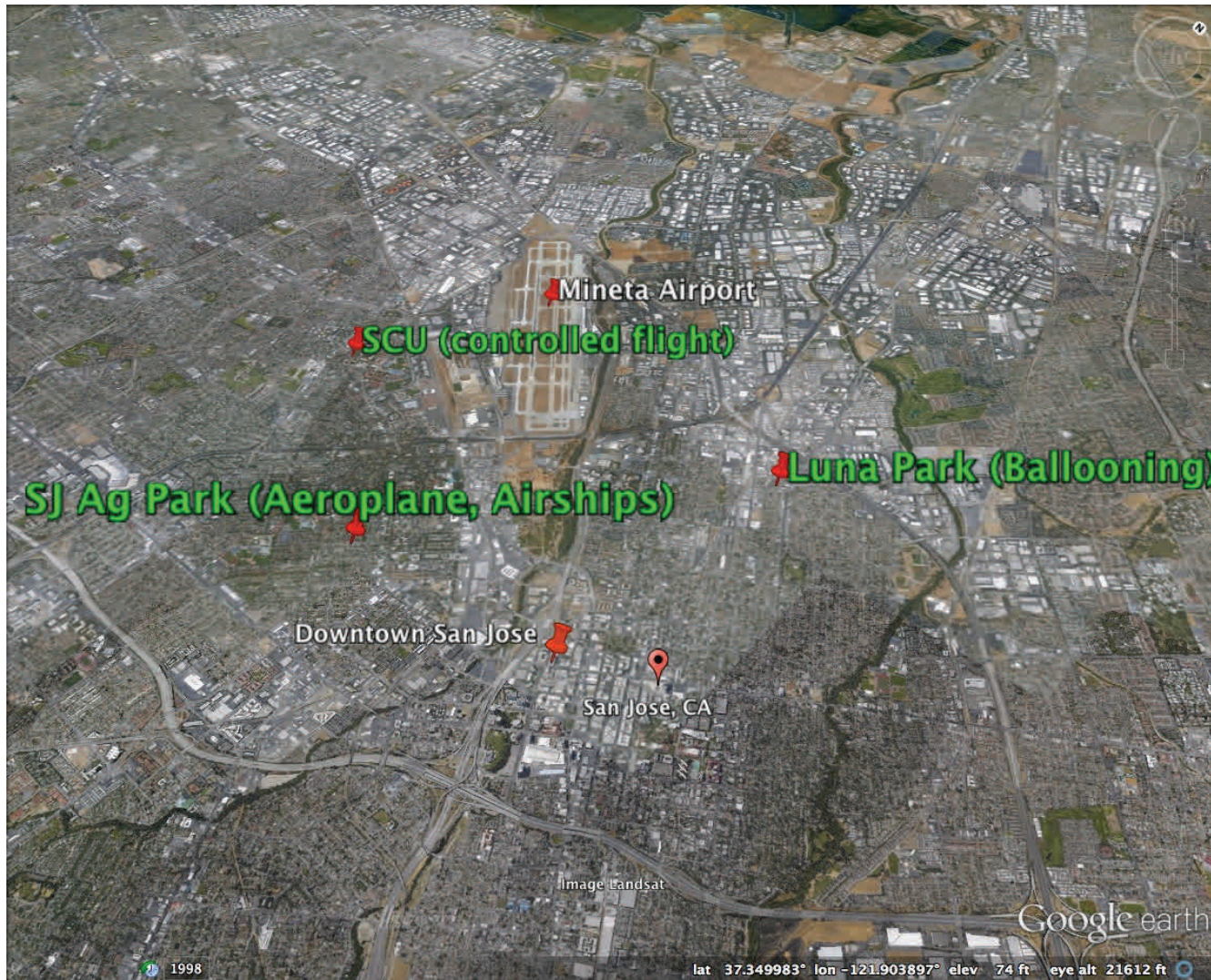
(Los Angeles, January 1910)

[30] In 1910, California hosted the first international aviation meet in America's history. For many historians California's inauguration into the field of aviation and aviation history came with this spectacular display of both Heavier than Air and Lighter than Air flight. And yet, the Bay Area had served as a crucible and/or a proving ground for much of the technology displayed. Montgomery attended a similar exhibition at San Francisco in 1910 and had the privilege of seeing some of his contributions on a broad scale. Twenty Montgomery attended a similar exhibition two weeks later (1910) at San Francisco where he had the privilege of seeing some of his contributions exhibited through the emerging field of powered flight. (Source: Montgomery Family Collection)



(Promotional Lobby Card, Columbia Pictures 1946)

[31] Posthumously, Montgomery's legacy was acknowledged with a number of memorials, monuments, awards and public facilities named in his honor. Perhaps the thing that piqued the public interest more than any was the 1946 Columbia Motion Picture biography of Montgomery *Gallant Journey*, starring Glenn Ford as Montgomery and Janet Blair as his wife Regina. An interesting sidebar comes out of the actual production of the movie leading up to its release. When Fred C. Kelly (a Wright Brothers' biographer/advocate) informed Orville Wright of the movie's production, Kelly (with support and frequent input from Orville) launched into a vigorous letter writing campaign to Columbia management in an attempt to quash the production through use of Orville's assertions. Orville (through the mouthpiece of Kelly) asserted Montgomery "contributed nothing to the field of aeronautics", and his legacy in the literature was due to a "falsification of history." A "falsification of history" indeed! Kelly was summarily ignored and the movie was completed and released in September 1946. (Source: Montgomery Family Collection).



(San Jose Mineta Airport transports the public through historic airspace daily that extends back to a time when Californians were principal pathfinders in Quest for Flight)

[32] The “conquest of the skies” was a complex process involving a great many people engaged in invention, refinement and demonstration, all against a backdrop of negative societal attitudes and fierce competition. This saga was waged on two fronts: lighter-than-air and heavier than air. San Jose and adjoining locations in Santa Clara County served as a principal hub in America in solving the “Impossible Art of Aerial Navigation.” (Source: Google Earth®, 2015)