

AVIATION PIONEERS IN PERU AND CHILE

By GARY G. KUHN

The most famous Latin American aeronaut, Alberto Santos-Dumont, was a Brazilian, and the first airplane flights in Latin America took place in Mexico and Argentina. Two other republics deserve recognition for the pioneering accomplishments of their nationals in aviation. Chile was perhaps Latin America's leader in the first decade of aviation. In Peru, development of heavier-than-air flying machines began in the late nineteenth century.

Pedro Ruiz was an able mechanic in Lima who worked for 34 years to produce a flying machine. During one of the many unsuccessful tests he made, Ruiz broke a leg, but nonetheless he persisted. Finally in 1878, he published a booklet, entitled GENERAL STUDIES ON AERIAL NAVIGATION, in which he pleaded for government support to build his device, an ornithopter--a flying machine propelled by beating its wings in imitation of birds.

Of course, the project could not have flown, even though it was more advanced than many contemporary designs. Also, Ruiz' booklet was ill-timed in its plea for official assistance, as the Peruvian government was absorbed in its deteriorating relations with Chile. Soon war had broken out and Peru was invaded by the enemy. Pedro Ruiz, holding the rank of Lieutenant Colonel in the Peruvian Army, turned his inventive abilities to the development of a torpedo with which he hoped to destroy the Chilean fleet. Instead, Ruiz was killed in a test of his advanced weapon.

Nearly three decades later, news had come from Europe of man's successful flight, and another Peruvian was able to acquire the financial support that Ruiz had lacked. Carlos Tenaud constructed an unusual monoplane with large wing and tail surfaces which, from their shape, appeared to be feathered. The notion of flying by imitation of birds continued even into the twentieth century and with the use of a modern gasoline engine.

Tenaud's airplane, illustrated in JANE'S of 1909 and 1910 as an "unknown type," was completed in March of 1909, but in its first tests it was completely destroyed without having flown. Tenaud was later to fly, but to do so he sailed for Europe where one of his countrymen was quickly establishing himself as an outstanding aviator.

Jorge Chavez was born in 1887 in Paris of Peruvian parents, who registered his birth at the Peruvian consulate. Even though he never saw Peru, he like Santos-Dumont, promptly asserted his American nationality to those who assumed he was French. While an engineering student in Paris, Chavez was inspired by the continuous progress in aviation recorded in the years after 1906. In December of 1909 he entered the flying school of the famed Henri Farman. Chavez first soloed in February 1910, and in the following six months, he established himself as one of the foremost aviators of the world.

The year 1910 saw "Those Magnificent Men in their Flying Machines" breaking records throughout the world, and especially at various aeronautical competitions in Europe. The altitude record, which was 1640 feet at the start of the year, was pushed higher and higher by competing aviators, until at year's end it stood at over 10,000 feet.

Chavez' first important competition, after he had been flying only two months, was in April of 1910, and he rose to only a few meters less than the record height attained by the famed Hubert Latham. For this, Chavez won the second prize of 15,000 francs. In the following

months, young Chavez won a prize of 5,000 francs in the competition at Biarritz, won a second prize of 9,000 francs in the aviation week at Tours, broke the altitude mark in August at Blackpool, England, and then reset the record a month later by reaching nearly 9,000 feet. Meanwhile, he had survived a crash into the sea at Nice.

Just as better aircraft performance had enabled Bleriot to cross the English Channel, improved altitude performance now made possible another flight to alter Europe's geography--the aerial crossing of the Alps. An international course was set up for such a flight. Simplon Pass, at over 6,500 feet above sea level amidst higher surroundings, required an altitude approaching the maximum then attainable.

Altitude was, of course, not the only obstacle of the flight from Switzerland to Italy. Scientific American stated that "...aviators must fly above a mountain region filled with jagged peaks, dazzling snowscapes, precipices of all kinds, making a landing utterly impossible..." and that "...the difficulty of managing the apparatus increases immensely with the ascent, for the wind currents are very violent and capricious, rapidly varying in direction and intensity, throughout the whole of the Simplon, thus preventing the maintenance of ordinary stability."

The Italian government, in the person of King Victor Emmanuel III, joined a private organization to sponsor the competition, which was to be a prelude to an important aviation meeting set for Milan. The first prize of 70,000 lire was offered to the aviator who flew to Milan from the small Swiss town of Brigue in the least time within a 24-hour limit. Other than the need for speed, the only great obstacle was the Alps at the first part of the flight.

The competition was set for September 18-24, and it attracted a total of 13 aviators. Of these, only five were found qualified to attempt the flight. These were Chavez, who was the current holder of the altitude record, Charles Weymann, Wincziers, Bartolome Cattaneo and Marcel Paillette. Cattaneo and Paillette soon were to be prominent in the introduction of the airplane into southern South America. Such was the prestige of Chavez that the Italian newspaper Il Dovero made him its choice to win the prize.

Chavez' aeroplane was a Bleriot, similar to those used by most of the others, except for the red and white Peruvian flag painted on its wings. It was a fragile machine, weighing only 800 pounds, and its 50 hp engine was barely capable of giving a speed of 40 miles per hour under the most favorable of conditions. In the thinner air at the summit of the pass, the engine could deliver only 35 horsepower with which to buck the buffeting winds.

On the first day of the competition, beautiful flying weather prevailed, but the aviators were prevented from making an attempt because the date was a Swiss national holiday. Chavez, who was both fully prepared and highly-eager, was displeased. On the next day, Chavez was forced to postpone his attempt due to violent winds, and the withdrawal of three contestants left only he and Weymann in competition. Stormy weather prevented any attempt during the next three days.

Finally, on September 23, 1910, Jorge Chavez crossed the Alps. He took off at half past one in the afternoon, and 42 minutes later was approaching the Italian town of Domodossola. He had flown at an altitude of 8,200 feet in maneuvering his Bleriot through the Simplon Pass

amidst dangerous winds. As he was about to land, a last gust of wind crumpled the wings of his frail machine, and it fell to earth. Jorge Chavez lay mortally injured with both legs broken, and he died four days later.

He was instantly a martyred hero on both sides of the Atlantic. The King of Italy ordered a monument to be built at Domodossola, and another structure in honor of Jorge Chavez was constructed at the airfield in Switzerland. In Peru, an elaborate funeral was held 12 days after his death. Not, however, until 1957 were the remains of Chavez brought to Lima to lie in his monument, built by public subscription in 1911. The wreckage of his airplane was sent to Peru immediately, and the aircraft has been rebuilt for display in the Peruvian Military Historical Museum. The 23rd of September is aviation day in Peru, and Jorge Chavez' last words of "Upward, Forever Upward" are the motto of the Peruvian Air Force.

There were already other Peruvians registered in European flying schools. Presumably each considered himself to be the natural heir to Chavez' career. Indeed, within three years another Peruvian was to fly over the Alps on the same route that Chavez had taken. Most prominent among the Peruvian aviators in Europe in 1910-11 were Carlos Tenaud, Romulo Burga and Juan Bielovucic.

Tenaud, after his unsuccessful test flight of 1909 in Lima, entered a flying school in France in November of 1910. Within a month he had graduated. Lieutenant Burga of the Peruvian Navy received his training in England, where he designed a novel monoplane. It featured two large vertical rudders, one above and one below the fuselage, located just in advance of the pilot's cockpit. The curvature of the wings could be changed "according to the speed at which it is desired the machine should fly." There were still other Peruvians flying in Europe. At one flying meet in Italy, the Ecuadorian flier, Cosme Renella, found six Peruvians among the contestants.

The most outstanding Peruvian flier in Europe was the man who was to complete the conquest of the Alps and who, before this, had introduced the airplane into Peru. Juan Bielovucic had received his instruction in France at about the same time as his heroic friend and had made an impressive record in flying meets. By January of 1913, when he challenged the Alps, he was already a widely-known aviator in both Europe and Peru.

Since the death of Chavez, aviators quite naturally hesitated to cross high mountains, and it was to eradicate this fear, as well as for the memory of Chavez, that Bielovucic planned his flight. He arrived at Brigue, Chavez' starting point, in mid-winter--not the season for high altitude flying, many declared. Bielovucic, however, had calculated on the absence of the turbulent air that had hindered and finally destroyed his countryman. The strong wind across the Alps from Italy does not blow in the winter, and the lack of summer heat eliminated "those terrible eddies which all aviators dread."

Logically enough, Bielovucic considered a good airplane and careful planning as necessary for a successful flight. His airplane, a Hanriot, was able to reach a higher altitude than was the earlier aircraft used by Chavez, thus facilitating the crossing. On January 25, 1913, Bielovucic flew from Brigue to Domodossola in 26 minutes.

The death of Chavez, two years earlier, had stimulated Peruvians in Lima as well as those in Europe. A number of experiments with gliders were carried out near the city. An organization to promote aviation was formed, and this group brought Bielovucic and Tenaud to Peru in the first days of 1911. Within a month, "Bielo" had made his first Peruvian flights, to the great enthusiasm of all who witnessed his aircraft circling over Lima. Tenaud crashed on his first flight. He was not so fortunate as he had been with his own design in 1909, for he died a few months later.

Bielovucic continued his almost daily flights for three months. Then he left Peru to return to Europe and eventually, as we have seen, to fly over the Alps. Others came to continue the exhibitions of "Bielo". Ramon Montero made many flights in Lima in 1913. In this same year a number of Chilean pilots returned to their country.

Chilean aviation had likewise been transplanted from Europe. In December of 1908 two young Chileans enrolled in the French aviation school of Charles and Gabriel Voisin. Within a few months, Jose Luis Sanchez Besa and Emilio Edwardo Bello were among the touring aviators of the continent. The latter suffered several accidents in his exhibitions in Germany and was persuaded by his family to give up flying and return to Chile. Sanchez Besa became a significant constructor of aircraft.

The young Chilean's first designs were largely copies of the standard Voisin type. Sanchez Besa was for a time the leading pilot of the Voisins, rather than a designer in his own right. By 1912, his main energies were directed to aerial competitions which, for the first time, were turning their attention to seaplanes. This was in response to increasing military interest in a weapon that seemed to have greater utility in naval warfare than over land.

The first international competition for seaplanes took place in Monaco. Sanchez Besa finished sixth among ten competitors here, but a few months later, his design took first place in the competition at Barcelona. In later meets, it took a second prize in France and a first prize in Belgium. These successes resulted in an interest by France, Russia and other countries in Sanchez Besa aircraft. Therefore, the Chilean designer moved into new and larger manufacturing facilities.

The main type constructed was not a seaplane, although its design showed such derivation as well as a Voisin heritage. The Sanchez Besa biplane was predominantly of steel construction, with a pusher engine of 70 or 80 hp, mounted behind the pilot. It was able to fly at a maximum speed of 65 miles per hour. An innovation was the use of wheel brakes; the pilot could turn the propeller himself to start the engine, while the brakes held the airplane. This feature, eliminating the need for supporting airfield personnel, made the Sanchez Besa biplane ideal for cross-country flying and for use in the designer's homeland.

Aviation was brought to Chile in 1910 in the form of a Voisin biplane purchased in Europe by two young Chileans. An able and eager pilot, Cesar Copetta, had been found in Santiago and shipped to France for training. On his return he made the first flight in Chile, on August 21, 1910. Although the aircraft was damaged, Copetta resumed flying a few months later, and remained one of Chile's leading aviators until his death in 1940 during a test of an aircraft of his own design.

Shortly after Copetta's first flight, Bartolome Cataneo who had decided in September not to compete in the attempt to cross the Alps, arrived in Santiago. He gave a number of exhibitions from a racetrack used as a landing field. These were successful both artistically and financially, and they helped to instill in the spectators a confidence that the airplane was practical. Accordingly, a Chilean Aviation Society was formed in 1911 to stimulate its development.

A number of aspiring aviators went to Europe, including two army lieutenants. The Chilean government took early note of the military possibilities of the airplane, and in 1910 a report was drafted, based on a study of aviation in France. It recommended prompt action both in the training of fliers and in the acquisition of aircraft. While the First World War was to prevent full implementation of the recommendations, an impressive start was nonetheless made. Chile's military aviation was the most advanced in South American in the period from 1912 to 1918.

The first crossing of the high Andes by an airplane

was made by an aviator of the Chilean Army, Lieutenant Dagoberto Godoy, on December 12, 1918. Ever since the balloon had been introduced into Argentina and Chile, over a half century earlier, men had thought of crossing the mountains not only "because they were there" but because of the obvious political and economic implications of such a flight. A proposed flight of 1864 was never attempted, but it was in a balloon that the Andes were first crossed aerially, by two Argentines in 1916. Even by this date, attempts had been made to cross the mountains in the primitive aircraft available. Bleriot aircraft, such as used by Chavez in crossing the Alps in 1910, were existent in both Chile and Argentina, but they were inadequate for the much higher Andes separating Santiago, the capitol of Chile and Mendoza, an important city in western Argentina. This was the agreed obstacle, the highest portion of the mountain chain, separating the populated regions of the two nations.

Argentine aviators made many unsuccessful efforts and suffered several fatalities. The only success was a flight achieved over the lower Andes to the south in April of 1918. Later in that year, with the war over in Europe, the British supplied Chile with a number of surplus aircraft. These included six Bristol monoplanes with powerful 100 hp engines. As soon as the aircraft began to arrive, Lieutenant Dagoberto Godoy inquired as to whether they could fly over the Andes, which were clearly visible from the airfield at Santiago. On being informed that they could, Godoy was quickly trained to fly the Bristol, and the flight was made within a month. Its success was the occasion for great celebration, and the aviator became a national hero.

Meanwhile, civil aviators had been increasingly active in Chile. After being trained in Europe a number of aviators made flights throughout the republic, and they soon made pioneering flights in the other nations of the Pacific Coast of South America. Clodomir Figueroa and the Italian brothers, Napoleon and Miguel Rapini, were the most prominent of these touring aviators. Figueroa attempted to cross the Andes late in 1913, but his flight was balked by high winds. Thereafter, Figueroa joined another Chilean in recording aviation firsts in neighboring lands.

The extreme elevation of the Bolivian altiplano is even today a challenge to aviation, but the great need for transportation and communication had led to considerable use of the airplane in this area. In July of 1915, the Chilean aviator, Luis Page, made the first airplane flight in Bolivia. The historic aircraft was the Bathiat-Sanchez monoplane. This machine had been especially built in the shops of Sanchez Besa in France, in collaboration with the aviator, Bathiat, who flew it in European competition. It had won an award for its

endurance in the air but was particularly designed for aerial acrobatics. The monoplane was sold in Chile and was shipped by rail to the Bolivian city of Oruro. After making his first Bolivian flight from this city, Page also flew in La Paz, the capitol, at well over 11,000 feet elevation, and Cochabamba.

Meanwhile, Figueroa had performed in Antofagasta and Arica in northern Chile before traveling to La Paz, Bolivia. Here his demonstration flights were prohibited by the government, and the flier left for Arequipa in southern Peru. He continued to Mollendo and Lima, duplicating his successful flights of two years earlier in the latter city. Then, in the late summer of 1915, he made his first flight in Ecuador, at Guayaquil, where another Chilean had made the first flight in this country during the last weeks of 1912. Thus, Chile's early progress in aviation helped to promote flying in Bolivia, Peru and Ecuador.

In the period 1910-1917, aviation took root in Chile and Peru. Both countries produced notable pioneers, and the crossing of the Alps by Peruvians in 1910 and 1913 led naturally to the first crossing of the Andes in an airplane, by a Chilean in 1918. This latter flight was a demonstration to all that the airplane was to revolutionize transportation within Latin America.

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ABOUT THE AUTHOR: Gary Kuhn is an Assistant Professor of History at Wisconsin State University, La Crosse, Wisconsin. For the last ten years he has specialized in the study of aviation in Latin America, and a book on this subject, "The History of Aeronautics in Latin America", is now in preparation. The article here is a condensation of two chapters from the book. In August of this year, Dr. Kuhn will present a paper at an historical meeting in Oregon, entitled "Writing Latin American Aeronautical History."

LOOKING UP

This is the thirteenth JOURNAL that I have had the pleasure of editing, and it seems an appropriate time to express my deep gratitude to each and everyone who has made the last three years of the JOURNAL possible. The JOURNAL is, and I hope always will be, the result of many men and women working together—to record the important phases of aviation history and to share their research with all those who are interested.

It seems a tragedy sometimes that the reader cannot share in the deepest part of the excitement of many of the articles appearing on these pages. However, there is no way to bring him into the thrill of the hunt (for those all but lost pieces of material that, when all put together, tell a story as never before) or the deep sense of gratification, that comes from the completion

of months or years of research. The reader also misses one of the editor's most satisfying experiences, working with the many fine Members in bringing an article to its natural conclusion in print. This has often meant working closely together, in a myriad of ways, to achieve the final result; and the true spirit, imparted to the Society and the JOURNAL at its inception by Bill Larkins, of "one for all and all for one" is never more in evidence than at times such as these.

To each and every one who has helped make the JOURNAL what it is, I would like to say for all, "Our heartiest thanks." And I'd like to add my sincere thanks to Mrs. Betty Williams who types the JOURNAL for her never-ending and invaluable dedication and understanding.

Kenn C. Rust