6.4 Polar FLights

South Pole

The first exploratory flight over the Antarctic was made on 16 Nov 1928 by Sir Hubert Wilkins and Carl Eielson in a Lockheed Vega airplane, "San Francisco".

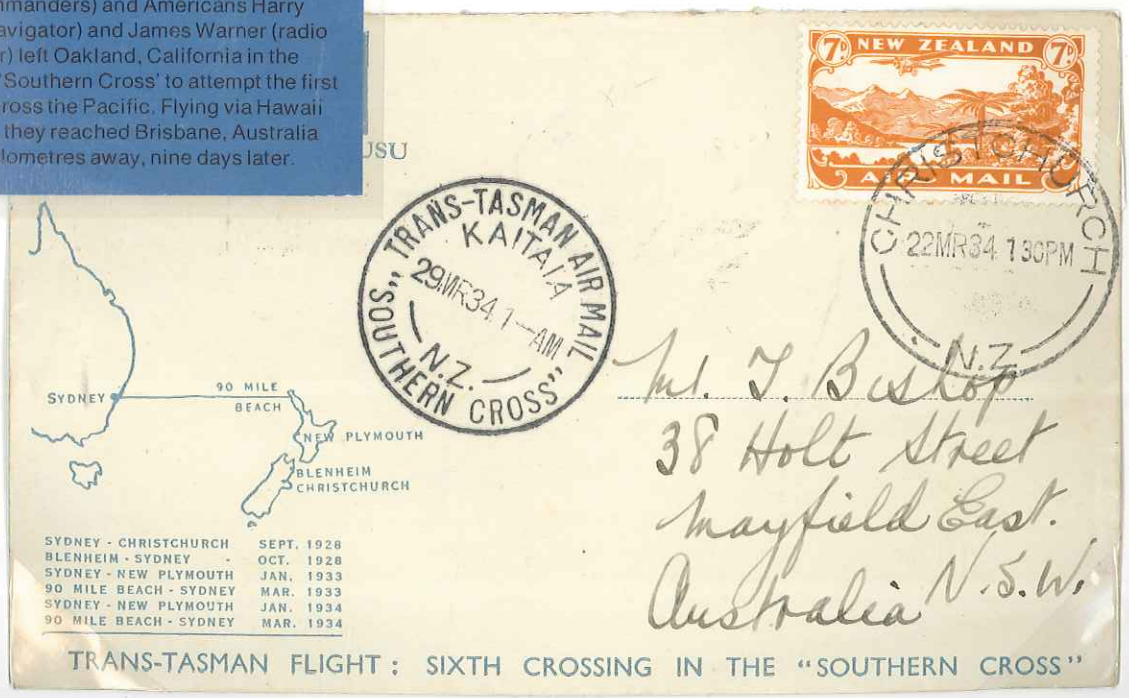
Aerial conquest of the South Pole was again by Richjard Byrd, this time with Bernard Balchen in a Ford-4-AT-B airplane "Floyd Bennett". They flew over the pole on 28 Nov 1929 just under 10 hours after leaving Little America.

6.5 Epic Flights

England-Australia / First Trans-Pacific

In 1919 the Australian Government offered a £10,000 prize for the first flight from England to Australia under 30 days. On 12 Nov Capt. Ross and Keith Smith left England in their Vickers Vimy G-EAOU biplane and after 28 days reached Darwin to win the prize.

Whereas the Atlantic had been crossed in 1919, the first aerial crossing of the Pacific was not accomplished until 1928. Charles Kingsford Smith and Charles Ulm in a Fokker F.7 "Southern Cross" left Oakland on 31 May, and after stops at some Pacific islands reached Brisbane on 10 June. They later made several flights over the Tasman Sea from Australia to New Zealand.



6.5 Epic Flights

Pan-America / First Trans-Pacific Non-Stop

The first New York-Rio de Janeiro flight was made in 1922. Brazilian E. Pinto Martins and American Walter Hinton left New York 16 Aug & after much troubles reached Rio 8 Feb 1923.

Green omitted

Green Shifted

The first non-stop Trans-Pacific aerial crossing was achieved by Americans Hugh Herdon & Clyde Pangborn when on 4 Oct 1931 they left Sabishiro beach, Japan & after 40 hours reached Wenatchee, Washington.

Earlier on, the official attempt was to be by Cecil Allen & Don Moyle, but they were less lucky. Leaving Tokyo on 8 Sept 1931 they met with severe storms and after several delays finally reached Tacoma on 7 Oct.

6.6 Goodwill Flights

Pindeo / Mittlelholzer

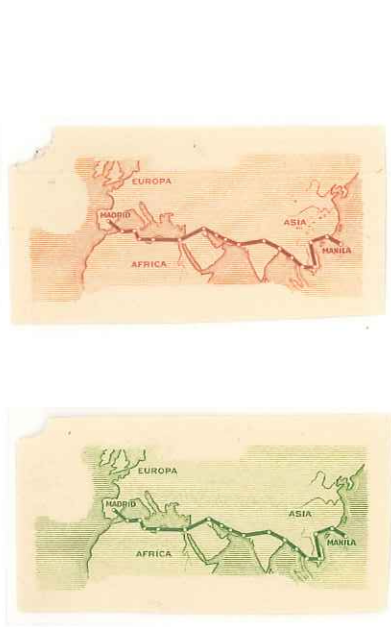
Leaving Rome on 20 Apr 1925, F. de Pinedo with Campanelli in a Savoia S-16 seaplane "Gennariello" embarked on a Rome-Australia-Tokyo-Rome round the world flight. After 201 days and stopping at a total of 80 places they successfully returned Rome 7 Nov.

Walter Mittelholzer on 7 Dec 1926 left Zurich in a Dornier Merkur seaplane. After following the Valley of the Nile reached Capetown 21 Feb 1927.

6.6 Goodwill Flights

The Madrid-Manila Raid

Spanish aviators, Gallarza and Loriga in a Breguet 19A2 airplane made the first successful Spain-Philippines flight. Leaving Madrid 4 Apr 1926 they arrived Manila 13 May after several stops in Africa and Asia.



Colour essays

Specimens

6.6 Goodwill Flights

Etampes-Dakar Raid / Von Gronau

On 13 Feb 1925 Captains Lemaitre and Arrachard started from the Etampes, near Paris on a 4600 km flight to Dakar, then a new world record for distance flight.

Capt. Wolfgand von Gronau with a crew of 3 in a Dornier Do-J Wal flying boat "Gronland Wal" took off from Germany on 21 July 1932 on a round-the-world flight. After many stops at different countries they triumphantly returned to Friedrichshafen on 9 Nov.

6.6 Goodwill Flights

The Balbo Air Squadron

What could then be describe as the greatest aerial road show on earth was in late 1931 provided by Italy. General Italo Balbo commanded the first mass formation flight from Ortebello to Rio de Janeiro with 14 Savoia Marchetti S-55A flying boats leaving Italy on 17 Dec 1930 and arriving to much fanfare at Rio de Janeiro on 22 Jan 1931.

Proof

1st Balbo mass formation flight, Itlay to Brazil, 17 Dec 1930

6.6 Goodwill Flights

The Balbo Air Squadron

In another spectacular display, General Balbo again led the 'flying circus' , now 25 Savoia Marchetti S-55 flying boats form Ortebello on 1 July 1933 to arrive, after several stops at the "Century of Progress Exhibition" in Chicago on 15 July.

The return flight started on 19 July. After making stops at New York, Shediac, Shoal-Harbour, Azores & Lisbon, they arrived Rome on 12 Aug.

5. THE GOLDEN AGE OF AIRSHIPS

5.1 The Zeppelin Saga

The Man

Count Ferdinand von Zeppelin was born on 8 July 1838 in Konstanz. His influential contributions to airship design and development were so considerable that the name Zeppelin became synonymous with airships. He conceived and developed the first rigid airships. Work on the airship LZ-1 began in May 1894 and was built in a floating shed on Lake Constance at Friedrichshafen.

First flight of LZ-1 took place on 2 July 1900. Only two more flights were made with it.

5.1 The Zeppelin Saga

LZ-2 & Hugo Eckener

On 30 Nov 1905 the LZ-2 made its first flight, but less than 2 months later on 17 Jan 1906, it was destroyed after a forced landing in a storm.

Until loss of the LZ-2, Count Zeppelin had worked alone in his adventure. After that Dr. Hugo Eckener was brought into the business, later becoming the greatest of all Zeppelin captains.

5.1 The Zeppelin Saga

Formation of DELAG

Undauntedly Zeppelin went on to built LZ-3 which on its 1st flight on 9 Oct 1906 covered 60 miles and later in 1908 handed over to the German Army as Z-1. On 5 Aug 1908, LZ-4 made a 21-hr, 370-mile endurance flight. LZ-5 on its 1st flight on 26 May 1906 flew 603 miles in 38 hrs. By the time of the 1st ILA exhibition in July 1909, the zeppelin airship was undoubtedly the major attraction of the show.

Impressed by the response and enthusiasm of the masses at the ILA exhibition, Count Ferdinand von Zeppelin with a great deal of foresight on needs of future travel formed on 11 Nov 1909 the world's 1st airline, Deutsche Luftschiffahrts Aktien Gessellschaft (DELAG). By 22 June 1910, the 1st commercial flight was made by LZ-7 "Deutschland".

Built for the German Army the LZ-9, completed in 1911, made 150 flights before being retired from service on 1 Aug 1914.

LZ-9 special flight Dusseldorf to Cologne 20 April 1913.

5.1 The Zeppelin Saga

"Schwaben" & "Viktoria Luise"

LZ-10 "Schwaben" made its trial flight on 26 June 1911 before entering commercial service on 20 July. Between then and 28 June 1912 when it was accidentally destroyed in a hanger fire it made a total of 219 trips.

LZ-10 Flight to Darmstadt 23 June 1912

The "Viktoria Luise" (LZ-11) made its flight on 14 Feb 1912. When it crashed on 8 Oct 1915 more than a thousand trips had already been made.

LZ-11 Flight 29 May 1913

5.1 The Zeppelin Saga

"Hansa" & "Sachsen"

The "Hansa" (LZ-13) made its debut on 3 Aug 1912. During WW I it was conscripted into the German Army to serve as a war-training airship and scrapped in 1916.

LZ-13 Flight
5 Oct 1913

The "Sachsen" (LZ-17) was the last commercial zeppelin built up to WW I. Among its more important trips was the visit to Haida, Austria in Oct 1913. Passenger flights stopped when the war began, and by then 10,197 people had paid to travel on zeppelin airships.

LZ-17
Haida Flight
20 Oct 1913

In Sept 1915, LZ-15 bombed London causing severe damages. With aerial warfare now a reality, the years 1914-1918 were very busy times for zeppelin construction.

5.1 The Zeppelin Saga

Return to Peace

Count Ferdinand von Zeppelin died in 1917 before WW I was over. Leadership of Zeppelin Works at Friedrichshafen was then handed over to Dr. H. C. Ludwig Hurr.

After the war, passenger flights resumed. The "Bodensee" (LZ-120) first flew on 20 Aug 1919, and later on 3 July 1912 it was delivered to Italy.

Built in Germany as part of war reparations to the U.S.A, the LZ-126 made its trail flight on 27 Aug 1924. It left the Friedrichshafen works on 12 Oct 1924 for Lakehurst, New Jersey, arriving three days later, and on delivery was designated ZR-3 "Los Angeles".

LZ-126 first tranatlantic flight, 12 Oct 1924

5.1 The Zeppelin Saga

"Graf Zeppelin"

Named after its innovator, the "Graf Zeppelin" (LZ-127) was the most famous zeppelin ever. It made its trail flight on 18 Sept 1928 at Friedrichshafen. Powered by five 550 hp engines it had luxury accommodation for 20 passengers. It was the most-travelled zeppelin.

Overprint double

5.1 The Zeppelin Saga

"Graf Zeppelin"

In the 20's and 30's the Graf Zeppelin was the best aerial transport that could carry people in relative safety and comfort over long distance. 100's of such trips were made. In 1929, it made a round-the-world flight, starting from Lakehurst on 8 Aug, then to Friedrichshafen, Tokyo, Los Angeles and back to Lakehurst on 29 Aug.

From Tokyo to Los Angeles on Round-the World flight

LZ-127 Round-the World flight, 1929

From 18 May to 6 June 1930 it made a trip from Germany to South America, then Lakehurst before return to Germany.

LZ-127 Europe-Pan American Round Flight, 18 May to 6 June 1930

5.1 The Zeppelin Saga

"Graf Zeppelin"

The triumphant polar flight of the Graf Zeppelin in 1931 was another demonstration that it was indeed the supreme aerial transport vehicle in the world in the 1930's.

Departing form Friedrichshafen on 24 July for Leningrad, the Graf Zeppelin on 26 July left Leningrad for the start of its polar expedition. The next afternoon it made a remarkable landing on the sea to rendezvous with the Russian icebreaker "Malygin" at Franz Josef Land. The expedition ended when it reached Friedrichshafen again on 31 July

LZ-127 Polar Flight, 1931

5.1 The Zeppelin Saga

"Graf Zeppelin"

Until it was scrapped in March 1940 for its framework metal to build heavier-than-air machines for the German Luftwaffe in WW II, the Graf Zeppelin in its nearly 12 years of service had completed many successful expeditions and commercial flights to many far-off lands. Its was the epitome of the airship in its then Golden Age as the superior air transport vessel, and no airship before or since, ever came near the Graf Zeppelin in renown or honour. It was indeed worthy of its namesake.

Trip to visit "Century of Progress" Exposition at Chicago made via South America in Oct 1933.

LZ-127 9th South America flight, 1935

5.1 The Zeppelin Saga

"Hindenburg"-End of an Era

Work on construction of the "Hindenburg" (LZ-129) commenced at the end of 1934. Germany then was under the grip of Hitler's Nazism and wont of showmanship. The "Hindenburg" was designed as the largest, most luxurious and safest airship that the world had ever seen from the renowned Friedrichshafen works.

The "Hindenbury" made its first trail flight on 4 March 1936. On 6 May it left Germany to make the first North Atlantic crossing towards Lakehurst.

LZ-129 first North American flight, 6-14 May 1936

5.1 The Zeppelin Saga

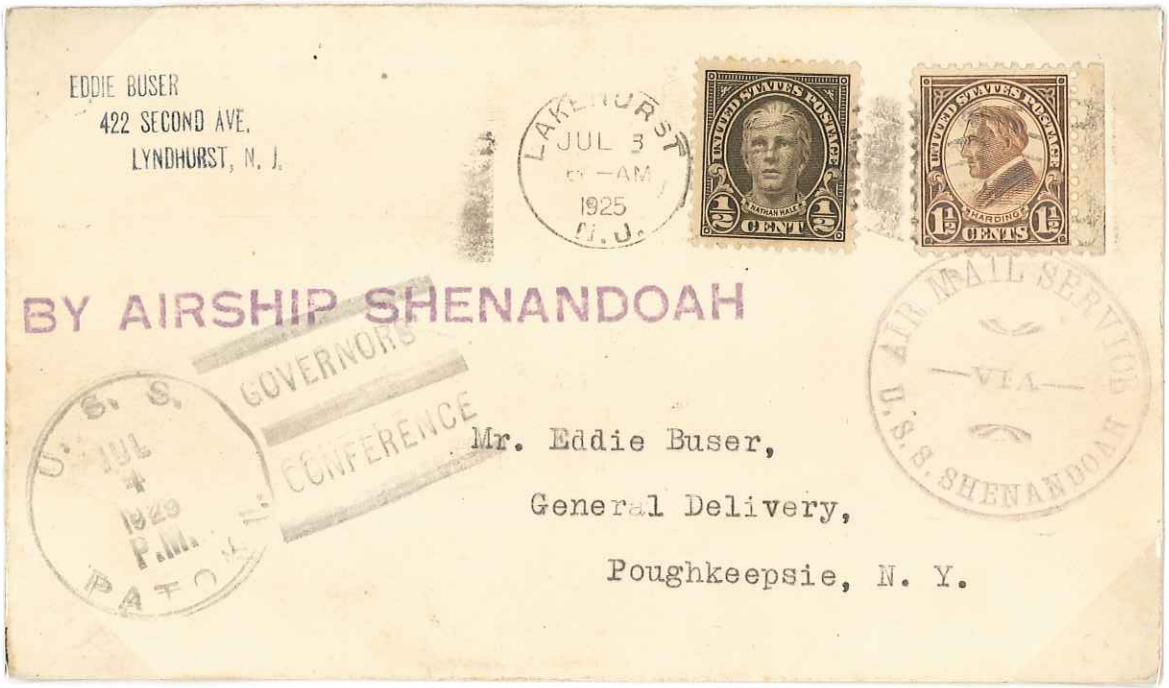
"Hindenburg"-End of an Era

A year later almost to the day, the "Hindenburg" upon arrival at Lakehurst on 6 May 1937 burst into flames with loss of 35 lives. With this accident zeppelin service was discontinued, marking the end of an era. The "Hindenburg" was an aerial "Titanic".

5.2 America Airships

"Shenandoah" & "Los Angeles"

The "Shenandoah", the first airship to use helium gas in the world, made its first flight on 4 Sept 1923. Under the command of Lt. Zachary Landsdowne it made several successful trips until its destruction in a squall on 3 Sept 1925 in Ohio.



Shenandoah Governor's Conference Flight 3 July 1925

Born as a zeppelin LZ-126 but renamed by the Americans as ZR3 "Los Angeles in the U. S. Navy, this airship in April 1925 made a trip from Lakehurst to Bermuda.

5.2 America Airships

"Akron"

Built in the U.S.A. and commissioned into the U.S. Navy, the U.S.S. Akron made its first flight on 23 Sept 1931. It took part in some U.S. Fleet exercises and was in service for only about 18 months. On 4 Apr 1933 while cruising over the Atlantic it was caught in a storm and crashed into the ocean.

Tactical training flight, 1-2 Aug 1932

5.2 America Airships

"Macon"

Built as a sister ship to the ill-fated "Akron", the U.S.S. Macon was commissioned into the U.S. Navy on 23 June 1933. It flew on some naval manoeuvers for 22 months, and on 12 Feb 1935 while returning from a manoeuvre in the Pacific it met with severe turbulence and crashed into the ocean. The shortlived experiences with it and its sister convinced the U.S. Navy to end its rigid airship development programme.

5.3 Russian Airships

Red Airship Programme

In 1930 Russia announced its "Red Airship Programme" to build airships. Based on the Italian, General Umberto Nobile's design, a total of nine semi-rigid airships were constructed and successfully flown by the Russians.

3.2 The Siege Of Paris

Daylight Ballon Monte

The balloon's "finest hour" could possibly be at the Siege of Paris from 19 Sept 1870 to 28 Jan 1871. Although the first military use of a balloon was at the Siege of Mauberg in 1794, it was at the Siege of Paris that balloons gave a heroic role providing succour to a beleaguered city surrounded by the Pussian Army in the disastrous Franco-Prussian War.

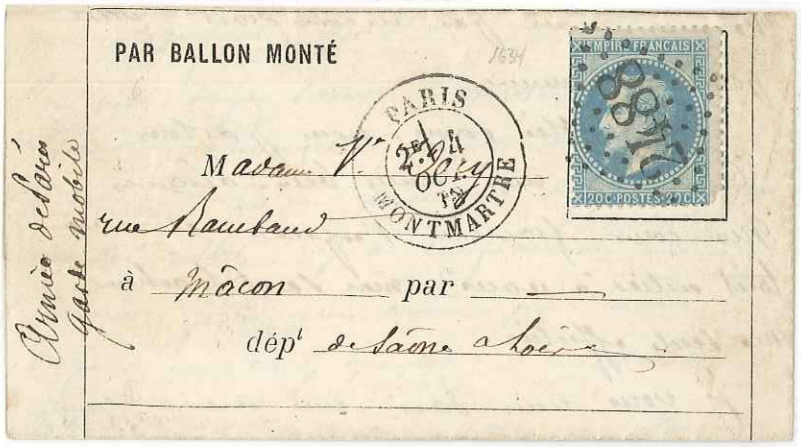
Ballon "L'Armande Barbes"

The best way that the French could devise to cross enemy lines was to use manned balloons. The balloon "Le Neptune" piloted by Jules Durouf was the first to take off on 23 Sept and it landed at Evreux in unoccupied France some 3 hours later.

3.2 The Siege Of Paris

Daylight Ballon Monte

On 7 Oct 1870 the balloon "L'Armande Barbes" piloted by Alexandre Trichot left Paris. On it as one of the passengers was Leon Gambetta, Minister of the Interior, who, as the French Emperor Napoleon III was captured at Sedan on 2 Sept and the empire dissolved, intended to set up a provincial government at Tours, southwest of Paris.



Balloon "L'Armande Bardes"

After a 3hr 45 min flight "L'Armande Barbes" landed safely near the village of Epineuse, about 63 km from Paris.

Balloon "Le Daguerre"

"Le Daguerre" was the last balloon which left Paris during daylight. It came to grief after being riddled by German gunfire and its 3 pilots were made prisoners.

3.2 The Siege Of Paris

Nighttime Ballon Monte

Distressed by the loss of "Le Daguerre" the besieged Parisians ordered all subsequent flights to be made only in the night with the balloon "Le General Uhrich" making the first night ascent on 18 Nov 1870.

Nº 7, Samedi 12 Novembre 1870

PARAIT
les Mercredi et Samedi
à 10 h. du matin.
D. JOUAUST, RÉDACTEUR.

LETTRE-JOURNAL
DE PARIS
Gazette des Absents
Prix : 15 centimes.

EN VENTE A PARIS
Rue Saint-Honoré, 338
et au bureau du Figaro
RUE ROSSINI, 3

MERCREDI, 9 *Novembre* 1870. — RAPPORT MILITAIRE : 8 *Novembre*, 6 *h.* 1/2 *soir*. L'ennemi est inquiété jour et nuit dans ses positions. Dans ce but, Bicêtre, les Hautes-Bruyères, Vanves et le Mont-Valérien, ont, la nuit dernière, lancé dans ses lignes des obus à grande portée. Dans la journée, le Mont-Valérien et le 6e secteur se sont concertés pour empêcher les travaux de l'ennemi à Montretout et atteindre ses réserves jusqu'à Garches et Ville-d'Avray. D'un autre côté, des renseignements certains ayant fait connaître que le feu des forts avait causé à l'ennemi, en un seul jour, dans le village du Bourget, une perte de 36 officiers et de 400 hommes, ordre a été donné de concentrer de nouveau les feux

INFORMATIONS ET FAITS DIVERS. — *Les Préparatifs* S'il est vrai, comme le prétendaient hier encore certains journaux du soir, que les négociations pour l'armistice se poursuivent, on n'en met pas moins d'activité à organiser la défense et à faire tous les préparatifs de la guerre. Rien de plus opportun que ces précautions, qui ne pourront nuire en rien aux pourparlers diplomatiques, et qui, le cas échéant, nous mettront à l'abri d'une surprise. — *L'Armée prussienne.* Nous empruntons au *Figaro* les renseignements suivants sur la situation des forces de l'ennemi : « Le commandement des armées allemandes sous Paris est partagé entre deux chefs : le prince de Saxe et le prince Fritz. Les corps du prince de

PAR BALLON MONTÉ.

Madame Girard
N.° 40 rue St. Roch
à Angoulême

PARIS
7E 16
NOV.
70
R. ST HONORÉ

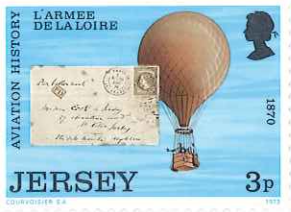
Newspaper-letter "Gazette des Absents"

Balloon "Le General Uhrich"

3.2 The Siege Of Paris

Nighttime Ballon Monte

Not all the flights were of short distance only. One as made by the balloon "Ville d'Orleans", piloted by Paul Rolier and Leonard Bezier, was an overnight flight to Telemark, Norway on 24 Nov. But all flights were valiant and fraught with danger.



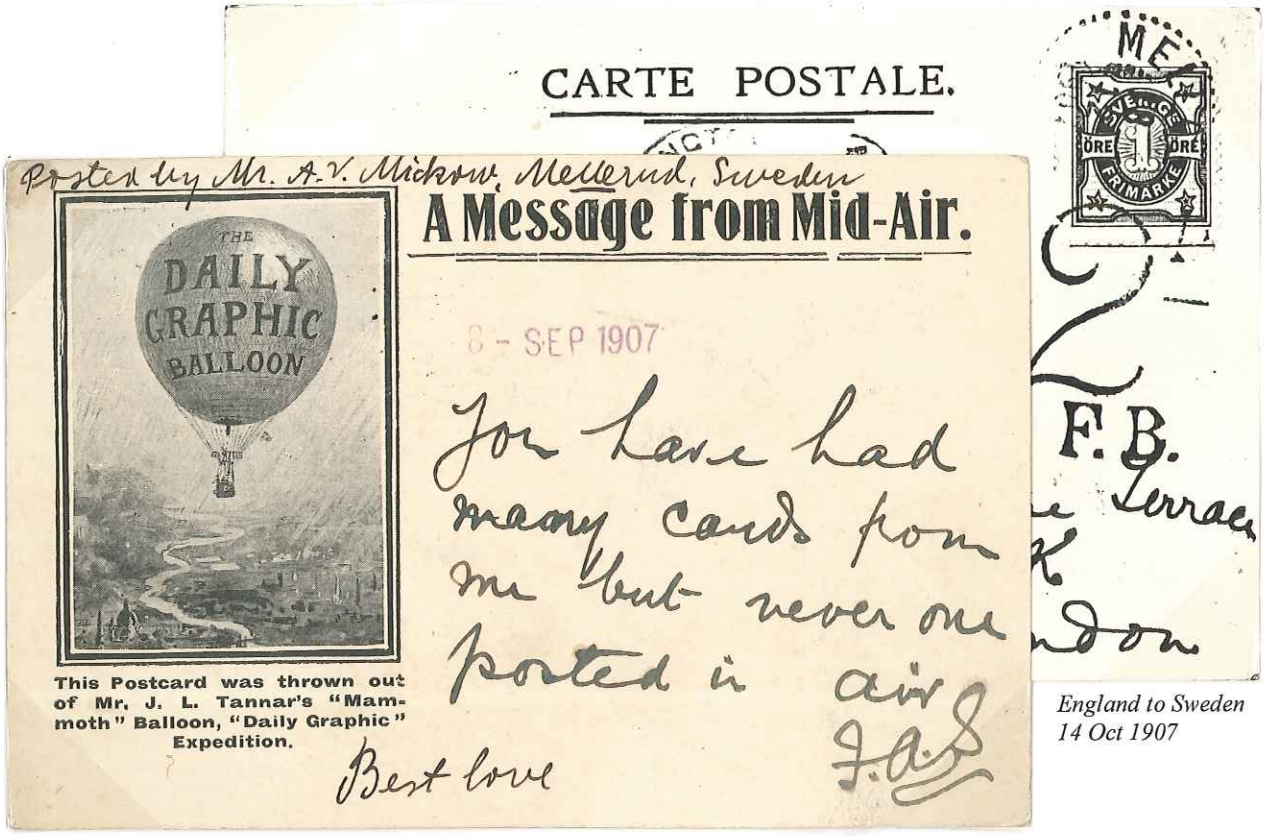
Balloon "Le Franklin"

For the duration of the 131-day siege, all told, 67 flights were made.
Nine tons of mail and 155 human beings were sent out of Paris.

3.3 Glory Days of Balloons

Epic Flights

In 1907 the newspaper "Daily Graphic" organized a flight with intention to break the then existing distance record for free flight manned balloons. Balloonist J.L. Tannar left London on 14 Oct and landed in Sweden.



England to Sweden
14 Oct 1907

On 24 June 1916, Argentinians, Bradley and Zuloaga made the first aerial crossing of the Andes.

3.3 Glory Days of Balloons

Exhibition Showpiece

When Germany organized the first International Aviation Exhibition (ILA) in Frankfurt on the Main from 10 July to 10 Oct 1909, lighter-than-air craft were then the only aerial transport vehicles with any proven record for reliability and distance. Naturally balloons were among the main attractions of the fair.

3.4 The Airship Challenge

Alberto Santos Dumont

Having limited control and much subject to wind conditions were setbacks for balloons to become real practical air transport vehicles. Before airplanes could safely and reliably command the skies, some early aviation pioneers focused attention to development of the airship as the solution.

Colour Proofs

Born 20 July 1873 on a farm in Brazil, Alberto Santos Dumont even as a young boy had absolute conviction that Man would one day master the art of flying and to that end devoted his whole life. His contributions to airship development were considerable.

However, his first public ascent up into the sky was in a spherical balloon named "The Brasil" on 4 July 1898 in Paris.

"My first balloon
The smallest
The most beautiful
The only one which I gave a name:
"THE BRASIL"

3.4 The Airship Challenge

Alberto Santos Dumont

In his lifetime Santos Dumont built several airships. On 13 Nov 1899, his airship "Ballon No. 3" reached a speed of 15.½ m.p.h. in a public demonstration in Paris. In 1901, the "Deutsch de la Merthe" prize was on offer to the first airship that can successfully circle the Eiffel Tower as a test of navigability. He vied for it on 13 July in his "Ballon No. 5" but failed.

Paperfold

Proof

Perforation shifted

Perforation irregular

Taking off from St. Cloud on 19 Oct 1901 in "Ballon No. 6" he successfully completed the circle round Eiffel Tower returning to the starting point in 29 min 30 sec and won the prize.

4. THE HEAVIER-THAN-AIR RACE

4.1 Failed Forerunners

Henson / Mozhaiski / Ader

William S. Henson in Apr 1843 published design of his "Aerial Steam Carriage". Patented and built in 1847, it however could not fly.

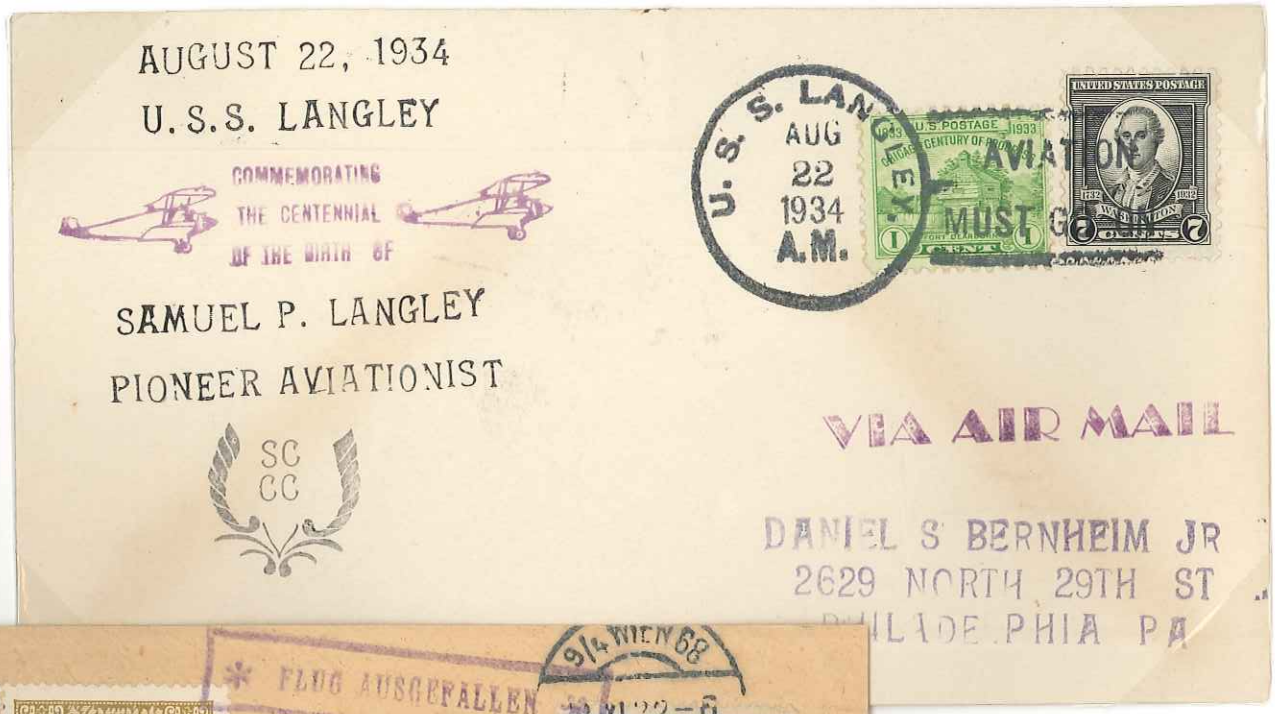
In 1884, Russian engineer Alexander Mozhaiski made a 20 to 30 yard "hop" in his steam-powered monoplane launched from a sloping ramp at St. Petersburg. Flight was regarded as not successful.

On 9 Oct 1890, French engineer Clement Ader in his steam-engined monoplane "Eole-Ader" made the first powered takeoff but did not achieve any sustained flight. Between 12-14 Oct 1897, tests of his two-engined mono-plane "Avion III" were again unsuccessful.

4.1 Failed Forerunners

Langley / Kress

On 6 May 1896, American aviationist Samuel Pierpont Langley successfully tested his steam-powered model "Aerodrome No. 5" from his houseboat on the Potomac River. However, on 7 Oct 1903 when he tested the full-size "Aerodrome A", it was a failure.



In 1901, Austrian engineer Wilheim Kress constructed and tested in Austria the world's first powered marine aircraft, but it failed to fly.

Imperf.

4.2 Learning from the Gliders

Otto Lilienthal

After Leonardo da Vinci, German inventor Otto Lilienthal was the first man to make in-depth study of the form and anatomy of birds' wings, and from data learned, its application to aerial flight. His experiments, although confined to human-powered flights only, were among the most important in aeronautical history. He designed and built many gliders. By allowing his hips and legs to dangle below the glider, his body can swing in any desired direction to achieve stability and control.

4.2 Learning from the Gliders

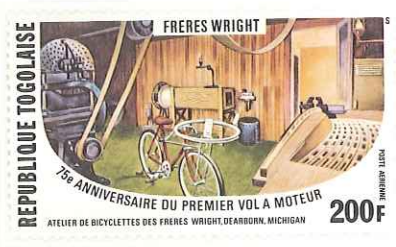
Otto Lilienthal

In total, Otto Lilienthal constructed 5 types of monoplane gliders and 2 biplane types. His first successful flight was made in his "Glider No. 3" in 1891. His first biplane glider was successfully tested in 1895. On 9 Ang 1896 in his "Glider No. 11" he met with a fatal crash thus giving his life, and in his dying breath, his very last words were, "Sacrifices must be made."

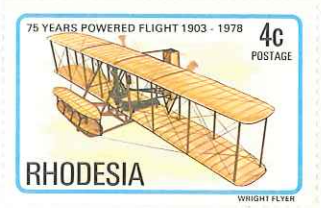
4.3 First Sustained Flight

Wright Brothers

In their bicycle workshop, Orville and Wilbur Wright initially built gliders for experiment. Their unmanned Glider No. I was in Sept 1900 tested at the Kill Devil Hills, North Carolina. This was followed by a manned test of Glider No. II on 27 July 1901 and test of Glider No. III on 20 Sept 1902. Form that they went onwards to powered craft.



Flyer I was the first powered machine built by the Wright brothers. On 17 Dec 1903 at Kitty Hawk, Orville Wright made the first manned, controlled, sustained powered flight in a heavier-than-air machine Flyer I covering 120 feet in 12 seconds. Wilbur Wright made a 59 sec flight later the same day. Although tests were not official there were sufficient witnesses present to credit them as having made mankind's very first airplane flight.



4.3 First Sustained Flight

Wright Brothers

The Wright brothers' experiments did not stop with Flyer I. Several more airplanes, notably Flyer III, Type A and Type B were built. But until the Type B in 1910, these machines like the famous Flyer I before, did not have wheels. They had to depend on a weight and derrick launch system to catapult them on take-off. When the brothers made their first public demonstration in Europe in 1908, it could be said that nobody saw the airplane took off by itself. The inconvenient catapult was still being used.

On 17 Sept 1908, Orville Wright and Lieutenant Thomas Selfridge crashed in a Wright Type A machine. Selfridge was killed and became the first aircraft fatality. Ironically, in mankind's history, the Wright brothers' airplanes have double distinction of being first in air and first in causing death.

4.4 Post- Wright Contenders

Biplane 14 Bis

Proof

Having built several successful airships Santos Dumont began to experiment with airplanes. His first effort tested in July 1906 was a 50hp petrol-engined box-kite biplane suspended from his airship Ballon No. 14, hence the name 14 Bis for the biplane.

First flight of 14 Bis was made on 13 Sept 1906 covering 7 metres landing heavily and damaged. On 23 Oct 1906 at Bagatelle Field, Paris, Santos Dumont in the 14 Bis made the first officially-observed sustained, controlled, powered flight in the world, covering 60 metres in 7 secs. A later flight on 12 Nov covered 220 metres. Little wonder, to the Brazilians, first flight belonged to Santos Dumont and not the Wright brothers.

Joined paper

4.4 Post- Wright Contenders

Demoiselle & Ellehammer II

On 6 Mar 1909, the world's first commercially produced light airplane, Santos Dumont's monoplane No. 20 Deoiselle made its first flight. No matter the contention who was first, Santos Dumont's contributions were considerable, the recognition of which was engraved at St. Cloud Icarus monument with words, "This monument was erected by the Aero Club of France to honour the experiments of Santos Dumont, aerial locomotion pioneer. 19 Oct 1901 and 23 Oct 1906."

Denmark J.C.H. Ellehammer's officially-observed 138 feet flight in the heavier-than-air man-carrying Ellehammer II monoplane on 12 Sept 1906 at Lindholm, preceding Santos Dumont's by 41 days, could likewise be claimed as airplane's first flight, except it was tethered.