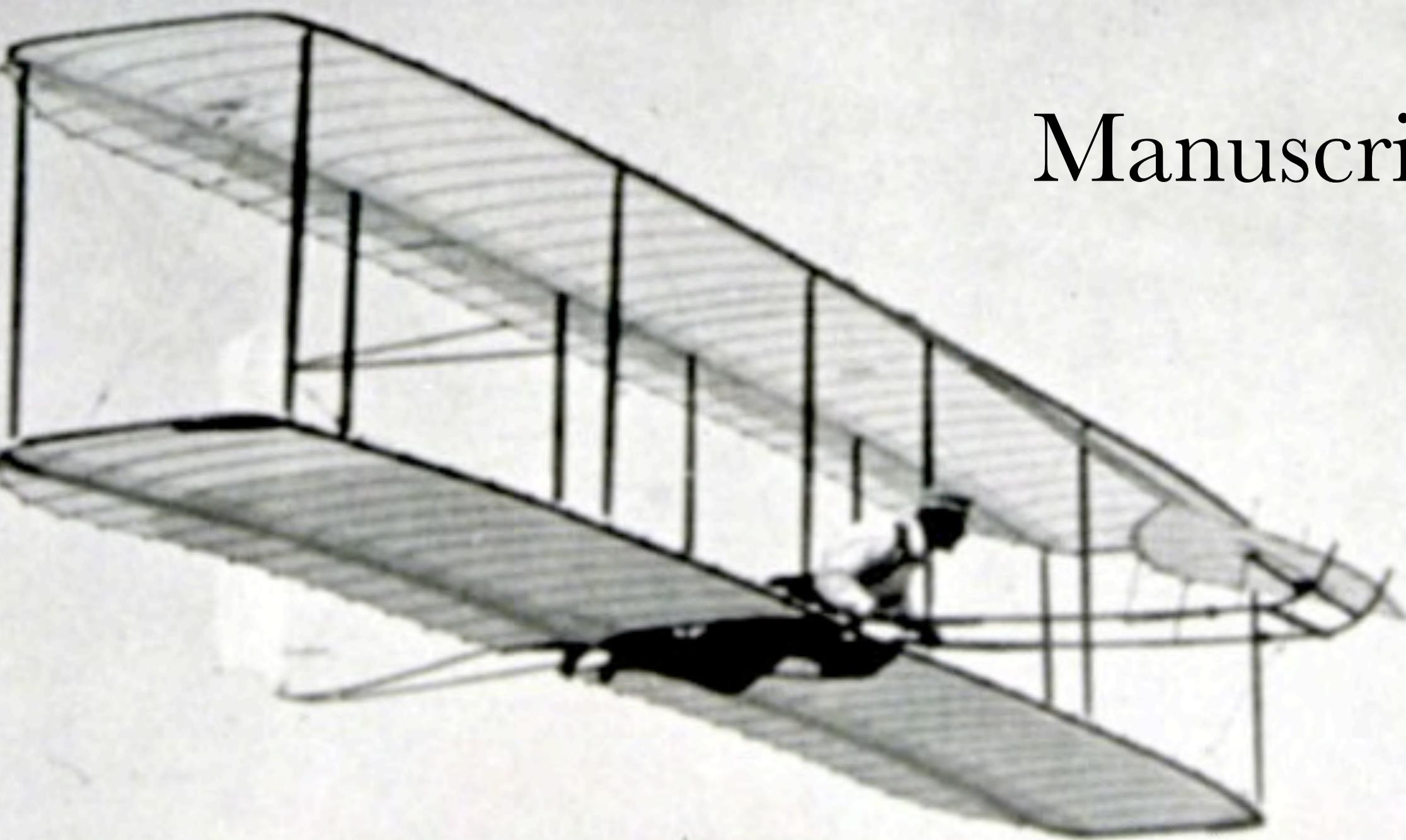


# Manuscripts



## The Genesis of Flight

The Aeronautical History Collection of Colonel Richard Gimbel

At the United States Air Force Academy

# Chapter 3: Manuscripts

Clive Hart

*Introduction*

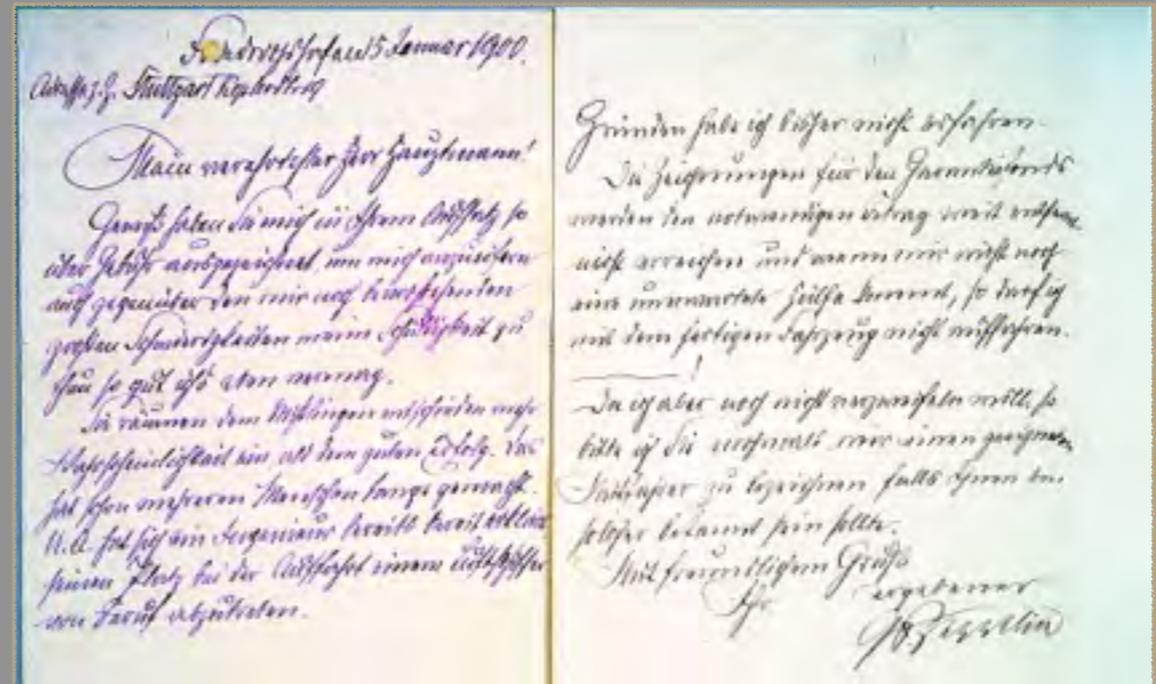
As with the printed books, the strength of the Gimbel collection's 324 manuscripts and typescripts lies in their diversity. Together with letters from many of the most significant figures in the history of aeronautics since the late eighteenth century—the Montgolfiers, Pilâtre de Rozier, Gaston Tissandier, Otto Lilienthal, Octave Chanute, Count von Zeppelin, Alberto Santos-Dumont—it includes material helping to reveal the scientific, social, and personal contexts in which aeronautical experiments were carried out. Letters from the loquacious Faujas de Saint-Fond, who did so much to publicize the early balloon flights, tell us much about his personality. In addition to notes and letters from Wilbur and Orville

Prix  
10 Centimes  
le Numéro.

## DÉPÊCHE - BALLON

Journal des Evénements du Siège.

Parait  
Mardi & Vendredi  
à 5<sup>h</sup> du matin.



To learn more about this manuscript,  
see “Letter 13: Zeppelin.”

Wright, several personal letters from their father, Milton, provide insights into the familial atmosphere in which the brothers lived and worked. Letters from Samuel Pierpont Langley reveal details of his dealings with others. Although most of the manuscripts are private communications, there is a complete, two-volume anonymous novel including a passage on a balloon flight, an Italian manuscript that relates what seems to be an imaginary account of the construction and inflation of balloons, and several manuscript drafts of material that was subsequently printed and published.

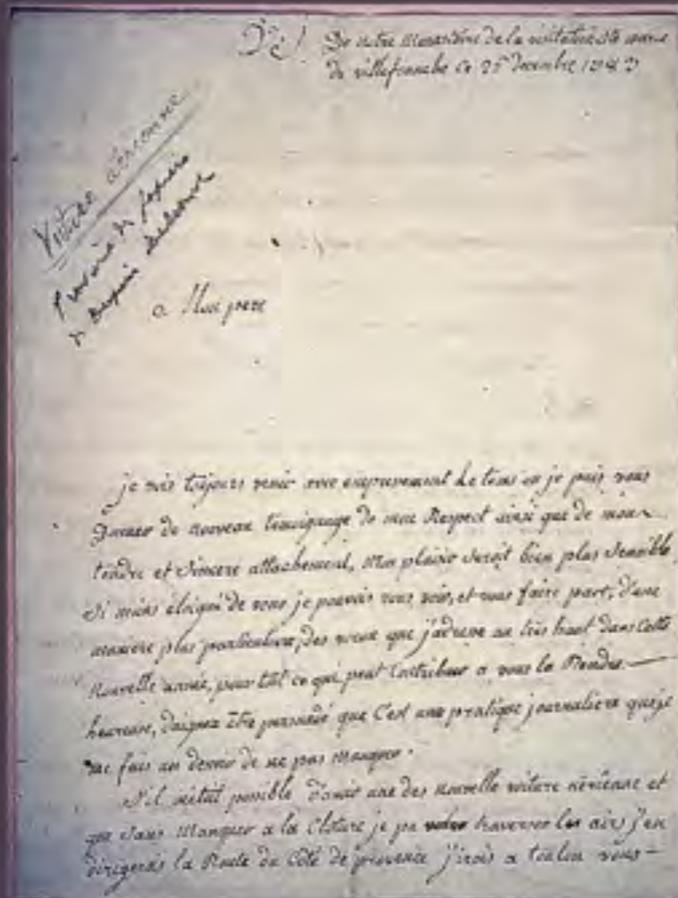
The choice of items to which special attention is given illustrates that diversity. Their authors range from the highly sophisticated to the barely literate, from scientists and technologists to practitioners of the arts, from the foremost aeronautical experimenters to the humblest onlookers. Although most of the letters were written in English (including several charming notes by a Francophone Brazilian) there are examples in French and German.

In addition to the holographs and typescripts, the collection holds a number of photocopies and facsimiles. Although the text of these items is often

of importance, none has been included in the selection. In keeping with the overall cut-off date of this catalogue, manuscripts later than 1914 have been excluded.

\* \* \*

Where available, bibliographical information for the manuscripts is given in the following order: author, type of manuscript (letter, note, etc.), where written, name of recipient, location of recipient, date as given, pagination, size, other relevant information, and the Gimbel collection call number. All manuscripts are pen/paper. (AL-autograph letter; ALS-autograph letter, signed; TL-typescript letter; TLS-typescript letter, signed.)



**Michel, Soeur. Letter (ALS) from the Convent of the Visitation of Saint Mary, Villefranche [Alpes-Maritimes?], to Père Michel of the Oratory at Toulon.**

Dated le 26 decembre 1783

4 p. 22 cm.

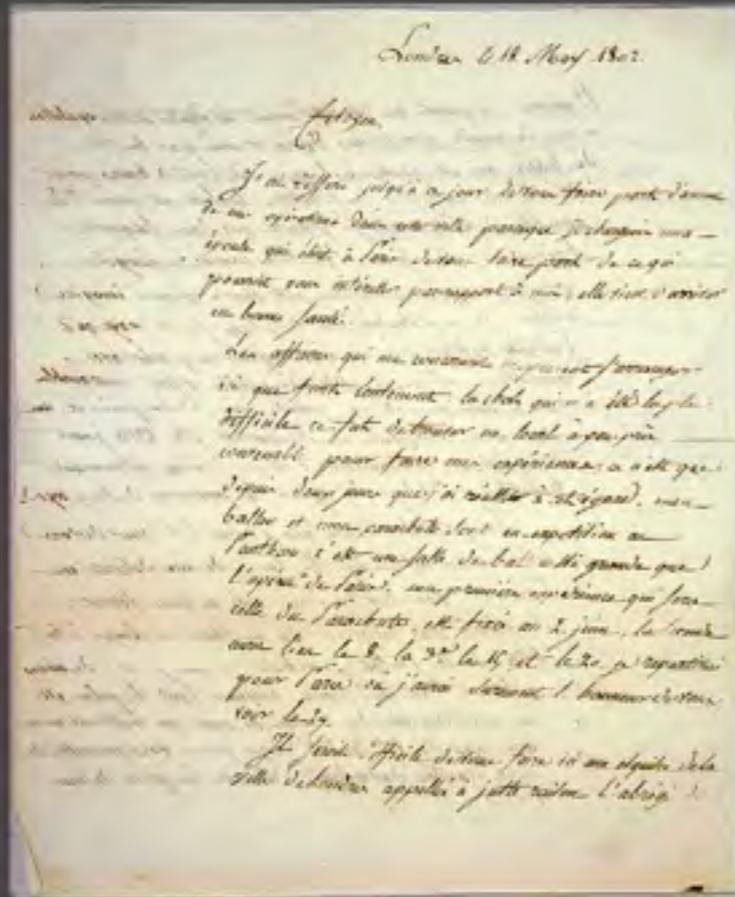
XF-2-1 2394 1783/DEC. 26

Sister Michel writes to her priest to tell him of her religious devotions and to express her strong desire to see him again.

If it were possible to have one of the new aerial carriages, and if, without being missed in the convent, I could travel through the air, I should make my way toward Provence, I should go to Toulon to embrace you, to tell you what my heart would tell me to say and should return from that content to savor the happiness of my solitude.

Immediately after the first free balloon flights, people began speculating about the balloon's potential for travel. Plays, poems, novels, and vaudeville acts explored the possibilities, sometimes seriously, often with irony. Philosophers and others often saw in the idea of manned flight the potential end of civilization. Not everyone would use flying machines for such benign purposes as Sister Michel had in mind and in any case her letter touches on one of the dangers: people in closed religious orders might

escape, break their vows, and bring about the collapse of moral order. Thieves would find their work much easier and lovers could secretly fly through their mistresses' windows. A correction that Sister Michel made as she wrote shows that she was sensitive to this moral question. For *traverser* (travel through) she had first written *voler* (fly) but had immediately corrected herself. *Traverser* is much less sharply focused. In addition, *voler* means both fly and steal. The double sense of the word (not a pun) is the basis of a somewhat tiresome play on words in one of the letters appended to the French translation of Karl Meerwein's *Die Kunst zu fliegen*.



**Garnerin, André Jacques, 1769-1823. Letter (ALS) from 65 Poland Street, London, to M. Amaury Duval, rue de Grenelle, Paris.**

Dated le 18. May [sic] 1802

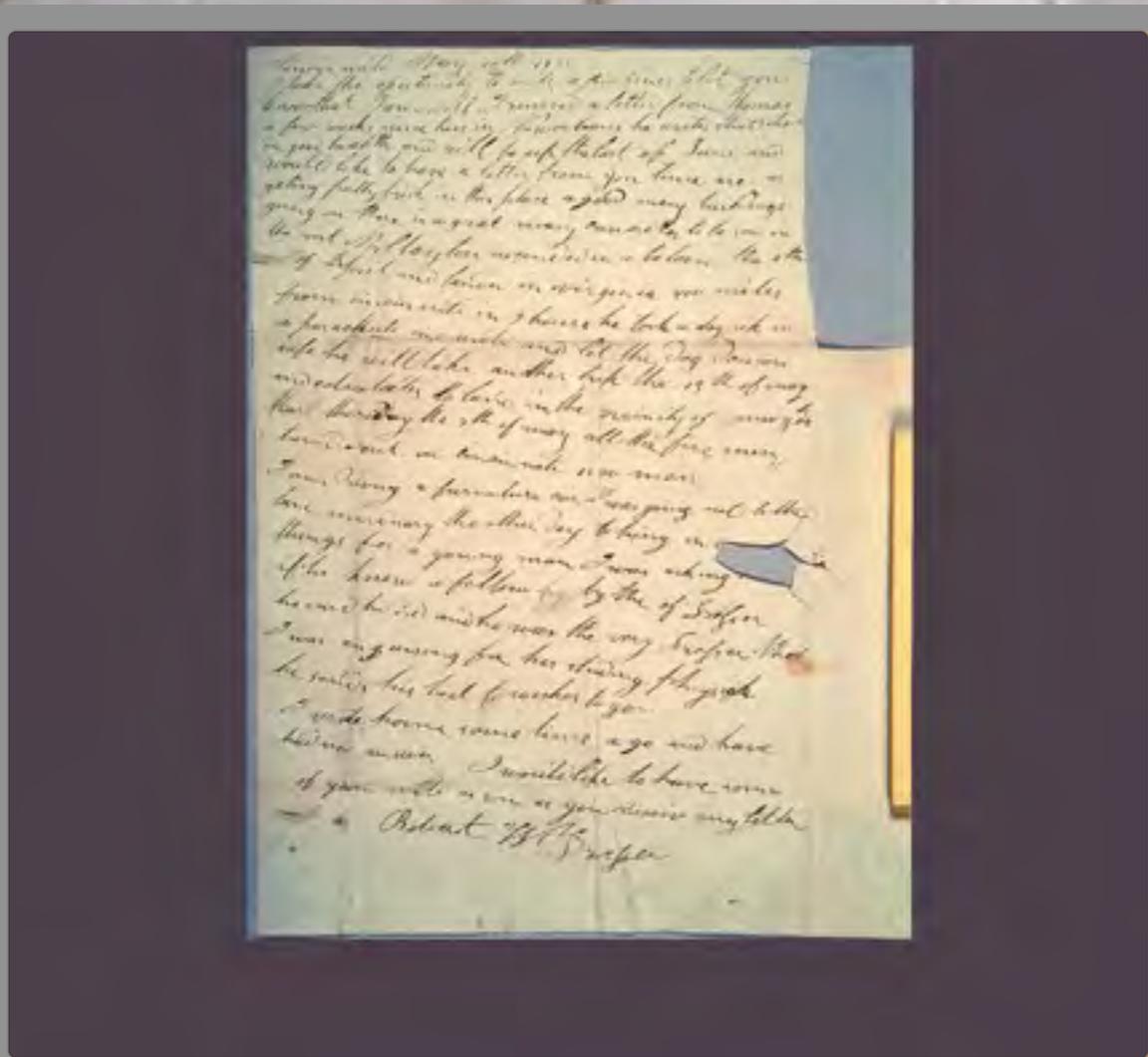
4 p. 23 cm. Address on p. 4

XF-2-1 2404 1802/MAY 18

On October 22, 1797, Garnerin made the first significant parachute descent. His umbrella-shaped canopy, about 30 feet in diameter with a small basket beneath, was folded and attached to a hydrogen balloon, which he flew to a height of 3,000 feet. He then cut the line to the balloon and allowed the basket to fall free. Although the parachute was unstable, causing the basket to oscillate violently, Garnerin landed safely. Subsequently he made many more descents. Exactly two years later Jeanne-Geneviève Labrousse, who shortly afterward became his wife, was the first woman to make a parachute descent. His niece also gave professional demonstrations.

During a visit to England Garnerin began experimenting with parachute descents at night, when the air was more stable. Before hostilities resumed in the Napoleonic wars, he returned to France and continued night descents. In this letter Garnerin writes in a business-like manner, mentioning his forthcoming schedule and his fee, asking to be employed for the July 14 celebrations, and advertising the fact that his balloon and

parachute are on display in the Panthéon. (See also Appendix, Printed Books: 1489-1850, *Air Balloon*, TLB273.A29 [1802].)



**Dresser, Robert W. Letter (ALS) from Cincinnati, [Ohio,] to Comfort C. Dresser, Chester, Vt.**

Dated May 10<sup>th</sup> 1835

1 p. 30.7 cm.

XF-2-1 2421 1835/MAY 10

In a letter commenting on familial matters and describing the circumstances in which he finds himself while in Cincinnati, Robert Dresser mentions a recent notable event: a flight by Richard Clayton from Cincinnati to Virginia. Dresser's prose is unpunctuated and idiosyncratically spelled:

there is a grat many curiosites to be seen in the west Mr Clayton ascended in a beloon the 8th of April and landed in virginia 400 miles from cincinnati in 9 hours he took a dog up in a parachute one mile and let the dog down safe he will take another trip the 13th of may and calculates to land in the vicinity of new york...

An English immigrant born in 1811, Claton had settled in Cincinnati in 1831, where he set up as a watchmaker. Captivated by the flights of Thomas Kirkby in late 1834 and 1835, he announced that he would himself undertake a long balloon voyage. He accordingly constructed the *Star of the West*, which, when inflated, was nearly 50 feet high. On April 8,

1835, he took off from Cincinnati and after remaining airborne all night landed in Monroe County, Virginia, 350 miles away, creating a world record for distance.

Clayton attracted additional attention when he released a dog by parachute at the start of his journey. As revealed in several of the books described above (see Printed Books, 1489-1850), early balloonists often took animals with them, sometimes for serious scientific purposes, sometimes, as in this case, for showmanship.

Still hoping to be favored with an early  
by you at Highgate & hoping to recommend  
to all friends at Norwich not excepting  
the Recorder & Mr Marshall with  
whome I shd like to start from your  
Market place with the Nassau for  
the Continent -

Remain  
in dear love  
Yours truly & obly.  
Chas Green

P. N. Scott Esq

**Green, Charles, 1785-1870. Letter (ALS) from Highgate to Page Nicol Scott (surgeon), [Norwich].**

Dated 26 May [18]41

2 p. 22.8 cm.

Prix DÉPÊCHE - BALLON Parait

XF-2-1 2424 1841/MAY 26

Charles Green was one of the most remarkable balloonists of all time. On November 7, 1836, together with Robert Holland, M.P., and Thomas Monck Mason, he ascended from Vauxhall Gardens, London, in a huge 85,000-cubic-foot hydrogen balloon, which he had constructed and later owned. After a flight of some eighteen hours, the balloon landed near Weilburg, in the duchy of Nassau, having covered a distance of about 380 nautical miles. The balloon was thereafter known as the *Nassau*. Green had already flown many times and went on to make ascents well into his old age. In all he flew over 520 times. In 1828 he had flown from the Eagle Tavern, London, seated on his favorite pony, a feat later copied by others, including George Gale (see letter from Thackeray, XF-2-1 2441 [1858?] below).

In this letter Green expresses his thanks to Scott for having helped Mr. Nelson to secure a position. In his concluding lines he asks to be remembered "to all friends at Norwich not excepting the Recorder & Mr Marshal with whome I shd like to start from your Market place with the Nassau for the Continent."

To J. Chapman, Esq.  
 167 1/2 Drury Lane,  
 18 May, 1843

Sir, I have been favoured by the receipt of your letter of the 10th inst. on the subject of the aerial navigation. I thank you for your examination of my rough draft, & your expressions as to my courage encourage me. The best field for discovery, I have conceived, and open to my ambition, for I have the best of Banks's success with Kings, of Scarcus, and the falls in the Alps: it has been to me an excitement of pleasure, that on the 25th of May, from the date of my flight, was doubtless to parallel success has enthusiastically set about the enterprise. A set of similar interest with the happy thing of Columbus, and the circumnavigation of the Atlantic, people of the north and passages. I shall add to my history the inquiries in scientific investigation: in the case there is the great problem to solve, how to rise in an air in opposition to fluctuating currents, either directly, or in a circle, unaided the old and the improved science of navigation. To go down the wind has been perfectly done by balloons. The sea is but a good thing, strong sailing has roundly left high the paper kite, he himself was in an upright position, if it be seen and drops it floating in the air, because the kite is assumed to an angle of 75 degrees, approximating to the vertical line. If he mounts his course 4 miles after his kite, also falls down, and to the ground. The principle is here explained of overcoming atmospheric resistance into an ascending. Attach a kite of 10 feet (raising it as usual, but with a stout line) to a steam engine on a straight line of railroad, having a steady head wind all the way, however extended. The kite will sail gallantly in the wind's path above its miles on the ground. I have, in proof, provided the first that a man has flown with balloons. I will under an intrepid young man with an invulnerable wings or my fan-shaped wings, the materials whereof I invented for such purpose by first applying such combinations to the construction of wings. I am forwarding an explanatory argument for the rational deduction in an interesting manner with this paper. I have been

**Hamilton, Charles Claude. Letter (ALS) from 167 1/2 Drury Lane, London, to J. Chapman, 6A Lisson Grove, London.**

Dated 18 May 1843

4 p. 26 cm.

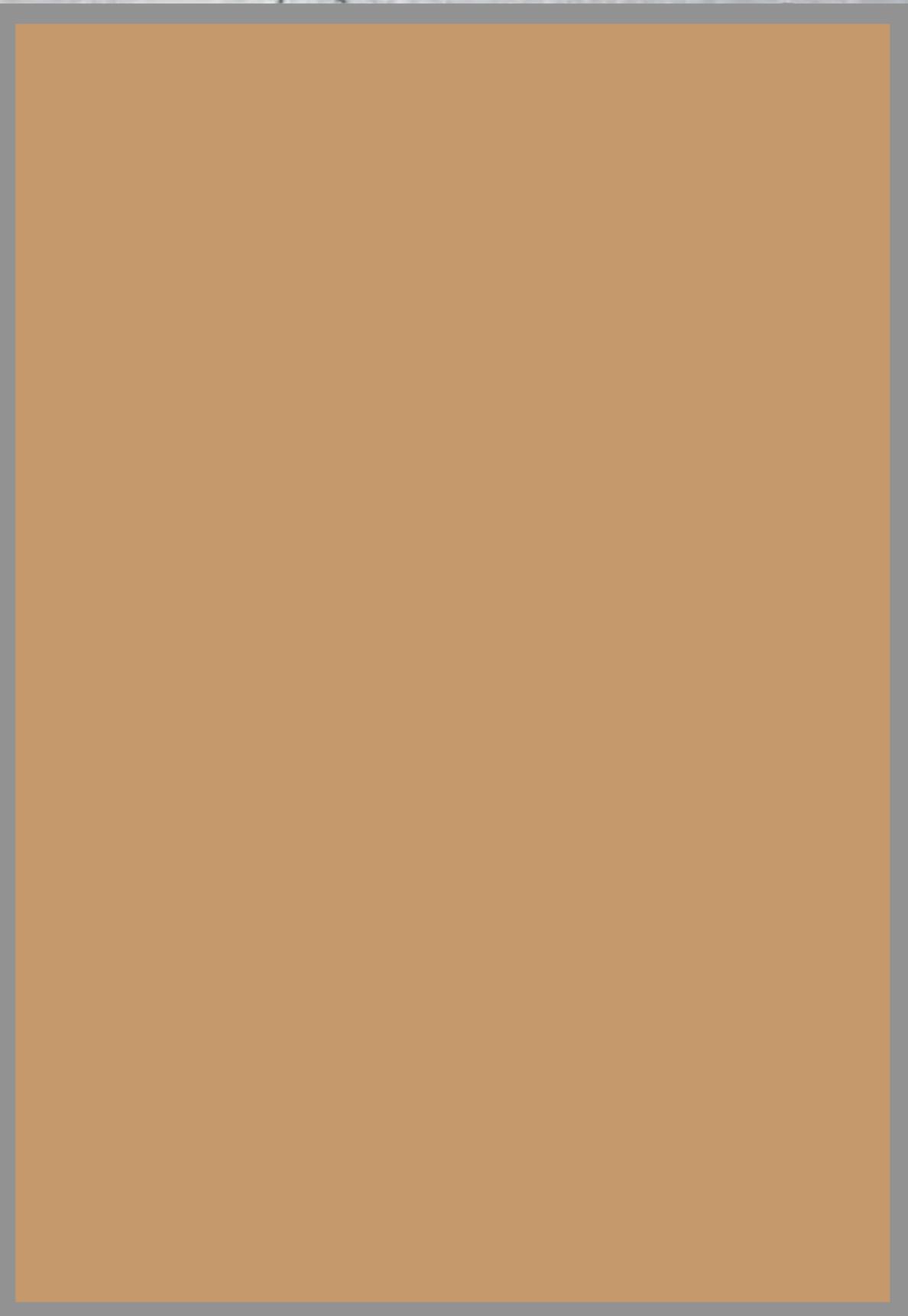
Prix DÉPÊCHE - BALLON Parait

XF-2-1 2426 1843/MAY 18

Hamilton was typical of the many loquacious enthusiasts who, believing that they saw clearly what was needed for success in the air, based their ideas on mistaken physical theories. He writes with great energy of "an *aërial royal road*" that he wishes to see "firmly paved with great principles." His own "great principle" is the harnessing of wind power. He describes the lifting of a kite by running into the wind with the line but wholly misunderstands how the forces are applied. He does not say that he himself will fly but makes an offer: "I will endow an intrepid young man with my membranaceous wings or my fan-shaped wings, the materials whereof I invented for such purpose by first applying such combinations to the construction of wings." The youth will fly into wind with a large kite tethered above him, which will help sustain him aloft. Hamilton then sketches in a progressive development toward increasingly sophisticated flying machines, all based on his false principles. Very insistent, with many words underlined, his prose is almost an unconscious parody of the scientific speculators who are made to look so ridiculous in *Gulliver's Travels* and *Le philosophe sans prétention*. Entirely confident that he knows the route

to success, he exaggerates: "I have, in print, reported the *fact* that a man has flown with Wings." Earlier in his letter he had nevertheless claimed to know only of Dante (i.e., Giovanni Battista Danti, ca. 1477-1517, who is said to have crashed onto the roof of a church in Perugia), Icarus, and the abortive flight of the mechanic in *Rasselas*. Two years earlier Hamilton had published his *Essay on the Art of Flying, with an Indication of the Materials Best Adapted for Wings* (dated by the author 1839), Finchley, 1841. A second edition appeared in London in 1842.

The letter from Chapman that Hamilton here answers is listed in the Appendix (XF-2-1 2425 1843/ MAY 15)



et complaisance, les plus, le premier, le plus de l'Etat, mesur-  
 sime par l'assentiment du general Breche, par  
 son, par le force, de l'Etat.  
 de son mouvement, avec, par, sans doute, en l'air, l'assentiment

Very faithfully yours  
Wm Thackeray

**Thackeray, W[illiam] M[akepeace],  
1811-1863. Letter (ALS) from Onslow Square,  
Brompton, to [the actor] Charles Kean, Stage  
Door, Royal Princess's Theatre, Oxford  
Street, W[est] [London].**

Dated "Wednesday" [1858?]

2 p. 16 cm.

3d p. blank; address on p. 4. Above address "Please  
send answer by Bearer"

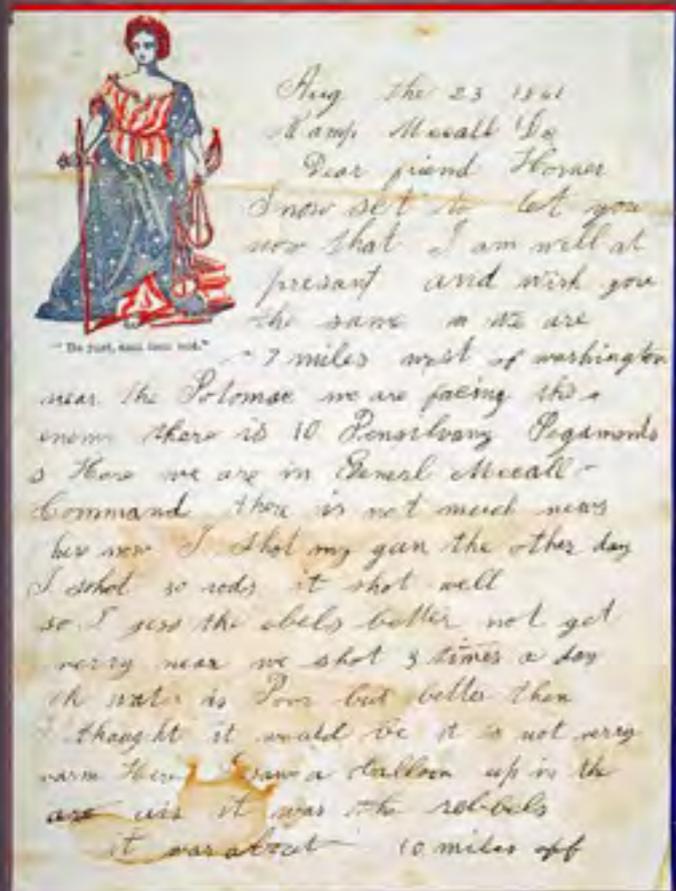
XF-2-1 2441 [1858?]

Evidently in response to a request from the actor Charles Kean, Thackeray agrees to relate "all I know about poor Gale." Born in May 1794, in Fulham, London, George Burcher Gale (1794-1850) began his career as an actor playing small parts on the London stage. In 1831 he visited America, where, after acting in New York, he traveled west and joined a tribe of Indians; on his return to London, he brought back six of the Indians and their chief. After a further burst of work on the stage and a spell as a coast blockade inspector in Ireland, he became a professional balloonist, making his first ascent in 1848. As balloons quickly disappeared from the sight of the watching crowd, something eye-catching and dangerous was frequently arranged for the first minutes of the flight. Mme. Blanchard died as a consequence of her aerial fireworks displays, and Gale's overambitious decision to fly while seated on the back of a pony suspended below his *Royal*

*Cremorne* balloon indirectly caused his death near Bordeaux on September 8, 1850. Thackeray gives a plain account of the events:

When the animal had been released from his slings, the peasants, who held the ropes of the balloon, misunderstanding the directions, let go, and the balloon having still sufficient gas in it to give an ascensional force after losing the weight of the beast, rose suddenly. Mr. Gale, however, clung to the ropes, and pulled the string to cause the gas to escape. The ascent of the balloon was checked, and it was thought that Mr. Gale had been enabled to get into the car. This was not the case, as on the morning of the next day the balloon was discovered on the ground some miles from the spot where the pony was liberated: the dead body of Mr. Gale was found in a wood with his limbs all broken.

The ascent had been Gale's one hundred fourteenth. After his death, his widow, emulating Mme. Blanchard, took over from Gale and continued to earn a living from ballooning.



**Chapman, C. D. Letter (ALS) from Camp  
McCall, D.C., to Homer Card.**

Dated Aug. the 23 1861

2 p. 17.5 cm.

Prix DÉPÊCHE - BALLON Parait

XF-2-1 2445 1861/AUG. 23

During the first two years of the Civil War hydrogen balloons were often used for reconnoitering. The Union forces had a regular balloon staff under the command of General McClellan. Although the balloons proved valuable for gathering information around the area of Richmond, in particular, a variety of problems, disagreements, and misunderstandings in the later stages of the war led to the corps' being disbanded by August 1863.

C.D. Chapman, a Union soldier, wrote to his friends appealingly, if with shaky spelling. At night he had seen an observation balloon flown by the confederates:

Dear friend Homer. I now set to let your now that I am well at present and wish you the same we are 7 miles west of washington near the Potomac we are facing the enemy there is 10 Pensilvany Regaments Here we are in Generl Mccall Command there is not much news here now I shot my gun the other day I shot 30 rods it shot well so I gess the [r]ebels better not get verry near we shot 3

times a day the water is Poor but better then I thought it would be it is not verry warm Here I saw a balloon up in the air it was the rebbels it was about 10 miles off I saw it in the night I saw it by the light we went out on Picket gard 5 miles west we got 2 ducks 2 hens some green Corn some Potatoes we got them on the farms of the rebels they left there homes and joined the sothern army we are digging a trenchments here now we have to work 1 day in a week we dont drill but a little we expect an attact every day Homer I rote 3 letters to you since I got any sow I will have to stop writing any more letters.

The use of balloons during the Civil War is described in Frederick Stansbury Haydon, *Aeronautics in the Union and Confederate Armies* (Baltimore: Johns Hopkins Press, 1941). See also Joseph Jenkins Cornish III, *The Air Arm of the Confederacy* (Richmond: Richmond Civil War Centennial Committee, 1963).



**Bukaty, A. Letter (ALS) from 54 rue Mazarine, Paris, to Comfort C. Dresser, Chester, Vt.**

Dated le 21. 9bre 1870

3 p. 26.5 cm.

XF-2-1 2447 1870/SEP. 21

Styling himself *ingénieur civil*, Bukaty writes to Dresser in formal style, heading his letter *Appareil volant* (Flying Machine) as if he were writing a short article. Beginning by focusing on the problem of controlled movement through the air, considered for centuries to be virtually impossible, he then proposes an ingenious and highly original (if entirely impractical) method of propulsion dependent on action and reaction. Below an aerostat a transverse rotating rod is mounted; at the two ends arms are fixed at right angles. Two small balloons are attached to the extremities of the arms. There is also provision for two independent wing-like surfaces that can be extended horizontally or turned at an angle. With the wings held at a positive angle of attack, the transverse rod is rotated so that the two small balloons are lowered, the reaction thus causing the main balloon to climb and move forward. The angle of attack of the wings is then reduced to zero while the rotation brings the small balloons back up to top dead center, the horizontal position of the wings inhibiting the machine's descent before the cycle is repeated. The ingenuity of Bukaty's idea is compromised by his

having failed (among other things) to take full account of the horizontal components of the reactive effects.

Bukaty continues with some specious calculations of the speed of which his machine will be capable and ends by commenting on its value as a weapon of war during the Siege of Paris. Bombs could be dropped on the enemy while "the importance of the solution of such a problem would be sufficient to make them highly respectful."



**[The Siege of Paris; a collection of contemporary journals and manuscripts. 1870-1871]**

1 v. (album) 37 cm.

DC311.A2

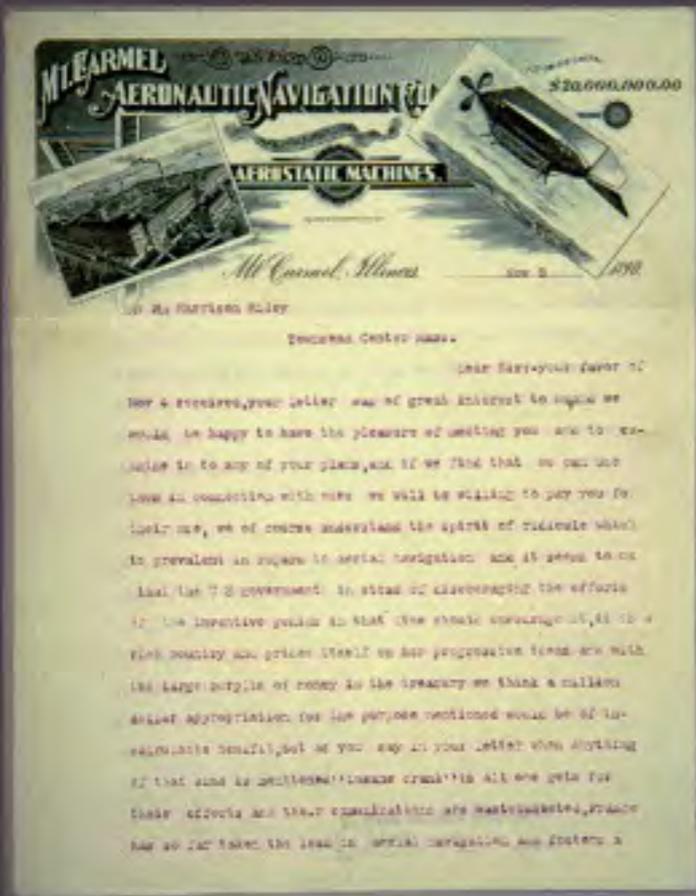
Includes 16 issues of *Lettre-Journal de Paris*; 4 issues of *Dépêche-Balloon*; 2 issues of *La Cloche*; 1 issue of *Journal-Poste*; 1 issue of *L'Indépendant*; 3 ALS "par ballon monté"; 2 original [?] microprints

1. Paris (France)Siege, 1870-1871Sources.

During the Franco-Prussian War of 1870-1871, Paris was twice besieged. At the start of the first siege (September 19, 1870), Chancellor Bismarck believed the city to be completely cut off from the rest of the world and therefore sure to capitulate quickly. Using their ingenuity, the French, who had a small number of balloons at their disposal, rapidly overcame their isolation. Instead of setting up captive observation platforms, as they had at first intended to do, they allowed the balloon *Neptune*, piloted by Jules Duruof, to rise in free flight on September 23. Three hours later it landed at Évreux, some 60 miles away to the west. The 275 pounds of military dispatches and mail that Duruof had carried with him were then forwarded from Évreux by conventional surface transportation. Mass production of balloons at the Gare d'Orléans and the training of more pilots enabled the world's first regular airmail service to continue for more than four months. By January 28,

1871, when the last sortie was made, more than 60 balloons had flown out of the city.

Messages were sent back to Paris by carrier pigeons that had been taken with the pilots; the number of letters that a single bird could carry was greatly increased by photo reduction of the texts. The enterprise was very successful; more than 2 million letters reached destinations outside of Paris—some of them outside France altogether—and more than 50,000 messages were carried back by the pigeons. Small journals were published in Paris with the specific intention of conveying information about the siege to the outside world. As can be seen, individuals often added private messages to copies that they sent to friends and relatives.



**Butler, R. H. Letter (TLS) from Mt. Carmel, Ill., to Wm Harrison Riley, Townsend Center, Mass.**

Dated Nov 8, 1890

2 leaves. 28 cm.

Prix DÉPÊCHE - BALLON Parait

On the letterhead of Mt. Carmel Aeronautic Navigation Co., Manufacturers of Aerostatic Machines

XF-2-1 2457 1890/NOV. 8

Prompted by a letter from his correspondent, Butler, secretary of his company, writes in a spirit of outrage at the lack of support given by the U.S. government to the inventors of flying machines. As his anger increases, his spelling and punctuation grow ever worse. Butler was by no means alone. Complaints were frequently made about lack of official support from the governments of many countries at a time when experiments with flying machines were flourishing in France. Creating the impression of someone who lives in a dream world, Butler alleges that his company has already "developed a speed of 200 miles an hour on our ship" doubtless referring to the fantastic airship on the letterhead. By 1890 small rigid airships had been successfully flown in America and there were many plans for larger machines. Although U.S. officials had occasionally shown some interest, there was little enthusiasm in Congress. A few years later the Wright brothers fought a protracted and unsuccessful struggle to win practical support from central authorities.



**Lilienthal, Otto, 1848-1896. Letter (ALS) from 110 Köpnickerstrasse, Berlin, to "Herr Hauptmann" [a name? or merely "Captain"?]**

Dated 14 November 1893

2 p. 28 cm. On his letterhead "Otto Lilienthal Maschinen-Fabrik" and a reproduction of the "Silberne Staatsmedaille" given for progress in industry. Letter stamped "Moedebeck Archiv" (with balloon design)

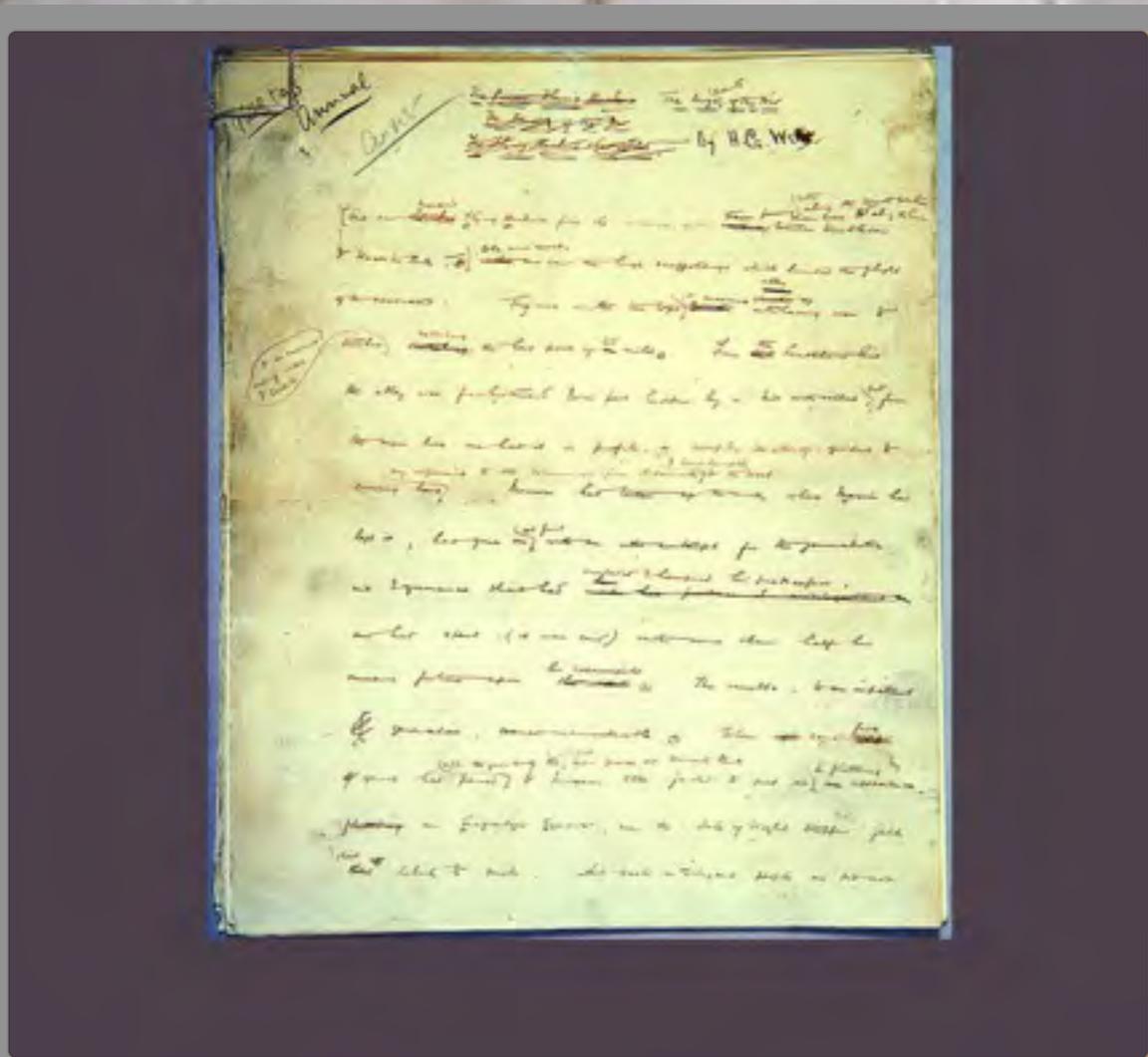
XF-2-1 2462 1893/NOV. 14

This letter was written at an important period in the work of the great German experimenter who was killed when flying one of his gliders less than three years later. Having become proficient in passive hang-gliding, Lilienthal was working on plans for the powered machine to which he briefly alludes. To the usual fixed wings of his earlier gliders he added, on each side, six movable slats to act as flappers. He intended eventually to power these by a 2-horsepower carbonic acid motor. In 1894 he tested the machine first without the motor and then with it in place but not functioning, using the combination as a glider.

Next year should bring me a good deal of further progress since the flight which now occasionally shows an angle of 1:10 without wing-beats is to be fitted out with powerful beating wings. The aircraft that I shall use for this purpose is basically finished

and I believe that this winter I shall be able to demonstrate it in a flying session, equipped with movable wings though not flying freely.

On August 9, 1896, when Lilienthal was flying one of his standard gliders, a gust caused him to stall. He could not get the nose down in time and in the crash his spine was broken. He died the next day.



**Wells, Herbert George, 1866-1946.] Early holograph draft, in pen, of his short story "The Argonauts of the Air." 1895**

22 p. 26 x 21 cm.

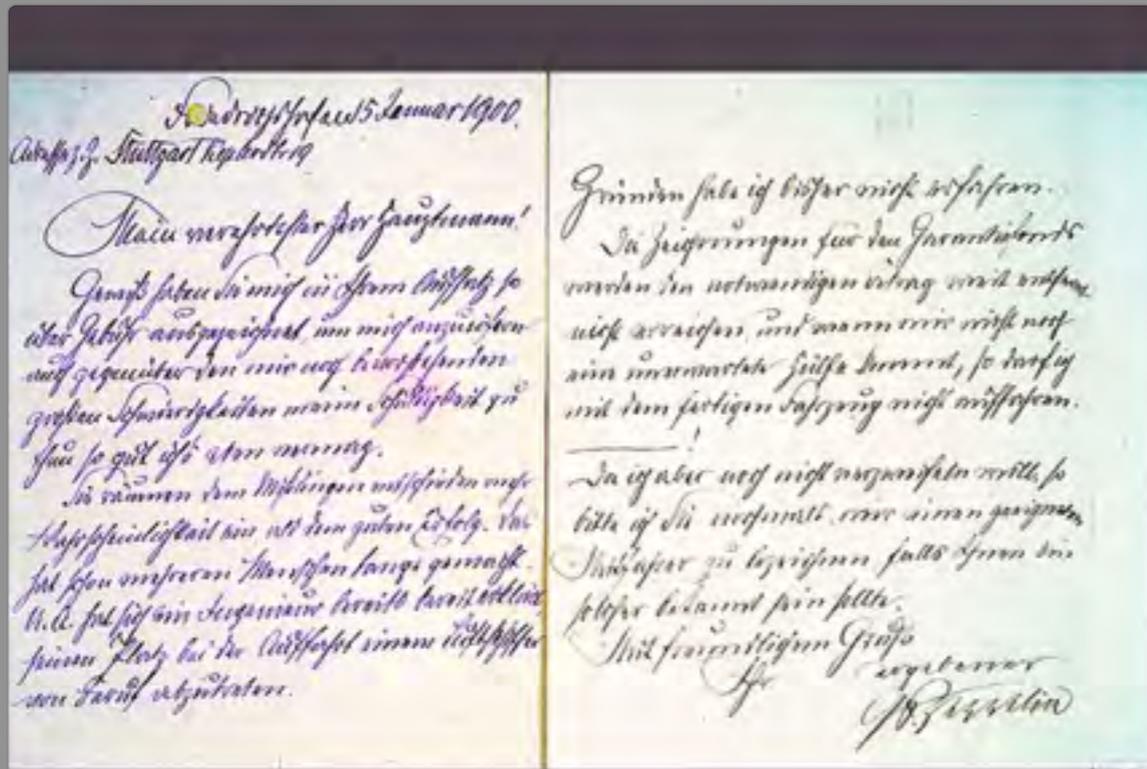
Some ms. notes in another hand, including "By H.G. Wells," on p. 1

XF-2-1 900 [1895]

Even the most visionary of science fiction writers commonly underestimate the speed of technological progress. As late as 1901, Wells suggested that a practical flying machine would "probably" be achieved by 1950. This story, written in his late twenties, tells of a brave failure. Monson, an inventor, has designed an aircraft that combines ideas from Maxim and Lilienthal, both of whom are acknowledged. Wells nevertheless shows little awareness of aeronautical principles and especially of stability. Monson's machine is powered by a pusher propeller "in place of a tail; and so hovering, which needs an almost vertical adjustment of a flat tail, was rendered impossible." The angle of incidence of the wings can be varied either together, for control of pitch, or separately, for control of roll and (presumably) yaw. Wells also says that the leading edge can be moved back to reduce the wing area, although he explains neither the mechanism nor the purpose of this. The machine is initially tested on a trolley running on a captive-rail structure derived from Maxim. On the first, premature free flight

Monson overcontrols the wings, which leads to his death and to that of his engineer. A year later Lilienthal was killed.

Wells wrote "The Argonauts of the Air" in 1895 for publisher Grant Richards, who was the editor of *Phil May's Christmas Annual*. The story was delivered in typescript in mid-July. The manuscript is close to being a heavily emended first draft. Before settling on the published title, Wells tried five others: "The Pioneer Flying Machine," "The Pioneers of the Air," "The Pioneer of the Air," "The Flying Machine that Flew," and "The Argo of the Air."



**Zeppelin, Graf Ferdinand von, 1838-1917.  
Letter (ALS) from 19 Kepler Street, Stuttgart,  
to [an unnamed captain].**

Written at two periods, dated 15 Januar 1900, and 22  
Januar 1900

Prix DÉPÊCHE - BALLON Parait  
6 p. 17.7 cm.  
XF-2-1 2466 1900/JAN. 15

Count Ferdinand von Zeppelin (1838-1917) made his first balloon ascent in America, where for a time he had acted as an observer moving freely among the Union forces during the Civil War. On August 17, 1863, he accompanied German-born John Steiner on a tethered ascent in St. Paul, Minnesota. Interested in aeronautics thereafter, he was the inventor of the fully practical rigid airship, the first version of which, the LZ1, he began constructing in June 1898. In July 1900, he and his crew flew it over Lake Constance, managing to keep it airborne for 18 minutes. It achieved a top speed of about 17 miles per hour but because the sliding-weight mechanism used to control pitch had broken, it was thought advisable to terminate the flight about 4 miles from the starting point. The airship was slightly damaged on landing. Although the LZ1 was barely successful, Zeppelin learned much from its flight.

Zeppelin wrote this letter during what for him was a very depressing period. Funding was proving difficult, commentators in the press were alleging that



2)  
 of little value—money, as they are  
 paying a large percent on the  
 money invested.  
 I got home the 3th, and found  
 Katharine and Berin and family  
 well, but Wilbur and Orville are away  
 in an outing of several weeks to  
 Kitty Hawk, Currituck Co., North  
 Carolina; Wilbur partly to make  
 some experiments concerning  
 his improvement in the construc-  
 tion and control of flying ma-  
 chine—the winds being favorable there.  
 I came out here Sat. the 18th, and  
 preached Sunday at 10.30 at Hope-  
 well M. B. Church, in Beach, adjoining  
 my farm, and made an address at a  
 B. rally at Salem M. B. Church, 1/2 mile  
 N. E. of Hopewell, the best M. B. church  
 society I ever knew, its surviving old  
 members being warm friends of our life,  
 and since we lived there in 1848-1852.  
 I have not heard of you or your health  
 since I left you in August 18th. I will be here  
 till Monday the 23rd, then go to Boston, where  
 I have another fair, and come back

**Wright, Milton, 1828-1917. Letter (ALS) from  
 Fairmount, Ind., to "Dear Sister" [Mrs. B.  
 Mosier?].**

Dated Oct. 18, 1900

2 p. 20.4 cm.

Prix DÉPÊCHE - BALLON Parait

XF-2-2 2490 1900/OCT. 18

An obsessive concern with money and property was a major contributing factor to the ultimate failure—much to be regretted—of the Wright brothers' attempts to dominate the early days of powered flight. This letter to their aunt from their father, Milton—a preacher who had become a bishop of the United Brethren Church—reveals that a strong focus on financial matters was a family characteristic. Always a firm supporter of his sons' work, Milton mentions their first visit to North Carolina where they tested their No. 1 glider, a biplane structure with warping control fitted to wings of 17-foot span and an area of 165 square feet. This craft had the now familiar forward elevator that the Wrights used in all their aircraft until 1910, but no tail surfaces. On most occasions it was flown as a kite, the controls being operated from ground level. As winds were lighter than expected, only a few pilot-controlled tethered flights were made, together with a few pilot-controlled glides. These experiments marked the first important stage in their successful development of a powered craft. Milton's letter reflects his sons' paramount concern with control: "Wilbur and Orville are away in an outing of several weeks to

Kitty Hawk, Currituck Co., North Carolina; Wilbur partly to make some experiments concerning his improvement in the construction and control of a flying machine—the winds being favorable there."



**Santos-Dumont, Alberto, 1873-1932. Note (ALS) from 1314 Olive St., St. Louis, Mo., to Miss Love.**

Dated March Wednesday 23 1904

1 p. 13.5 cm.

XF-2-1 2468 1904/MAR. 23

The energetic and determined Brazilian-born Alberto Santos-Dumont delighted Paris in the late 1890s with his exploits in small powered airships roughly similar to the one sketched on his note to Miss Love. During a visit to the United States in 1904, he attended the Saint Louis Exhibition where he met Octave Chanute (1832-1910), re-established his acquaintance with Samuel Pierpont Langley (1834-1906), whom he had met in Paris in 1900, learned of the Wright brothers' recent successes, and began to turn his attention to heavier-than-air flight. Two years later that new interest resulted in the creation of one of the most famous airplanes of all time—if also one of the ugliest—his canard-configured no. *14-bis*. Something of his engaging character may be judged from the simplicity of his invitation to Miss Love. He offers her the security of a separate basket. Did she accept?

has already been born, we will never again be able to secure that degree of privacy while conducting experiments, which we have heretofore enjoyed. Consequently we are very loath to wake it up until our experiments and plans are complete, and all the points on which we need protection fully secured.

As our story is one which will not lose interest by being delayed a few months we would prefer to postpone fixing a date for submitting it for publication.

Thanking you for your kind letter, I am,  
Yours truly  
Wilbur Wright.

**Wright, Wilbur, 1867-1912. Letter (ALS) from Dayton, Ohio, to Mr. R.U. Johnson, New York.**

Dated Oct. 16, 1904

3 p. 16.4 cm.

XF-2-2 2524 1904/OCT. 16

Throughout their experiments the Wrights insisted on secrecy. By nature private, taciturn, and confident that they were ahead of the competition in the early years of the century, they zealously protected rights that they believed they could sell for large sums of money.

We realize that when once the world really wakes up to the fact that the flying machine has already been born, we will never again be able to secure that degree of privacy while conducting experiments, which we have heretofore enjoyed. Consequently we are very loath to wake it up until our experiments and plans are complete, and all the points on which we need protection fully secured.

As our story is one which will not lose interest by being delayed a few months we would prefer to postpone fixing a date for submitting it for publication.

In later years, when their financial hopes were largely disappointed, Wilbur's courtesy as a correspondent gave way to a somewhat sharper tone.

At the time of this letter, the brothers were hard at work transforming their successful but barely practical machine of ten months earlier into an aircraft that could be reliably flown for extended periods. The outcome of these efforts was the *Flyer III*, finished in June 1905. It was the first truly practical airplane ever flown.