

The Independent — The Pleasures of Ballooning

Alberto Santos-Dumont



1905

Exported from Wikisource on June 13, 2025

The Pleasures of Ballooning

BY A. SANTOS-DUMONT

[The interest taken all over the world in ballooning as a sport is largely due to M. Santos-Dumont's daring and successful experiments in the management of motor dirigible balloons.

The following article is copyrighted in Great Britain and other countries signatory to the [Berne Convention](#), and all rights are reserved.—Editor.]

I SHALL never forget the unalloyed pleasures of my first balloon ascension. Tho scarcely more than a youth, I had long dreamed of the adventure, because in those days, before the founding of the Aero Club, it *was* an adventure, even in Paris. Everything was still in the hands of the professional aeronauts; and it was with one of the kindest and best of these, the late M. Machuron, that I was to make my initiation. Today even ladies of Paris society, like the young Duchesse d'Uzes, think nothing of starting off from the Parc de Saint Cloud for an afternoon floating over the map of France.

It was a beautiful morning in late spring. The basket rocked coquettishly beneath the immense sphere. I stood in my corner and heard the last word given: "Let go all!"

The wind ceased. All seemed instantly motionless around us. We were off, without feeling it, at the speed of the air current in which we must live and move and have all our sensations, without having any sensation of its existence! Infinitely gentle is the unfelt movement upward and onward; the illusion is complete; it seems to be not we who move, but the earth itself that is sinking down and away from us!



M. Santos-Dumont in the Car of His Airship

In the emptiness that had already opened 1,500 yards below us, almost before I could realize it, the earth looked no longer the same. No, it did *not* look like an orange flattened at the Poles—we were not far enough away for *that*; but, by a phenomenon of refraction it showed concave like a bowl, the effect being to lift up constantly to the aeronaut's eye the circle of the horizon.

Villages and woods, chateaux and gardens slip and glide far, far below. Faint piercing sounds, like locomotive whistles and the yelping of stray dogs, are the only ones which penetrate to us. The human voice cannot mount up to these solitudes. Human beings look like ants along white lines that are highways.

While my gaze was still held fascinated a cloud masked the sun. It cooled the gas of our balloon, which obviously wrinkled and began descending, gently at first and then with accelerated speed, against which we struggled by throwing out ballast. Yes, I was frightened. I did not *feel* myself falling, but I could *see* the earth coming swiftly up to us; and I knew what that meant!

It was an idle emotion. A few pounds of ballast overboard not only stopped the mad career of the earth in our direction, but sent it down, down, down again away from us, and we found our equilibrium, this time above a plateau of clouds at about 3,000 yards. It was a wonderful sight. On the dazzling white cloud screen below us the sun cast shadows of the

balloon and ourselves, magnified to giant size; and this in the exact-center of a magnificent rainbow.

As we could no longer see the earth by reason of this cloud screen, all sight sensation, even of movement, ceased. Were we standing still? Were we traveling at storm speed? We knew nothing. To learn the direction we were taking we had to drop below the clouds.

At the moment we began to see the earth again a gay peal of bells mounted up to us. It was the noon Angelus from some village belfry. I had brought up a little *panier* of hard boiled eggs, cold meats, cheese, ice cream, fruits, cakes, champagne, coffee and liquors, and I now experienced how delightful it is to lunch above the clouds in the *nacelle* of a spherical balloon.

No earthly dining room could possibly have such a decoration. The sun's heat sets the clouds in ebullition, making them throw up rainbow jets of frozen vapor like fireworks all around the table. Lace-like spangles of the most delicate ice formation scatter themselves here and there, appearing out of nothing, and film-like flakes pop into existence under our very eyes, in our very drinking glasses.

Then, suddenly, all changed like the trick in the pantomime; and a somber drop scene fell on the fairy scene of sunlight, cloud billows and azure. The barometer rose rapidly 5 millimeters, showing a sudden rupture of equilibrium and a swift descent. Doubtless the balloon had become

overweighed with some pounds of snow, and it was certainly falling into a cloud.

We passed into the dim darkness of the fog. We still saw our basket, instruments and the parts of the rigging nearest us; but the balloon had completely disappeared. So we had the strange and delightful sensation of hanging in the void without support, either above or below; of having lost our weight; of being nowhere! Really, it was strange beyond description.

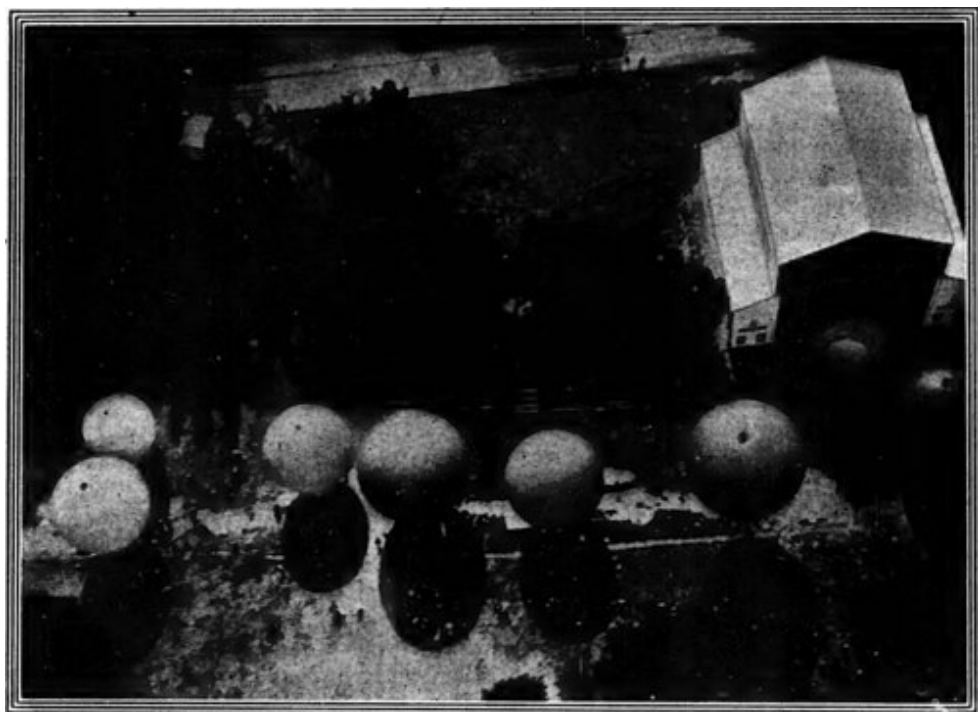
We slackened the fall, as usual, by throwing out ballast, and came to equilibrium far, far below the clouds at scarcely more than 300 yards altitude. A village fled beneath us. We were scudding fast. We compared our route map with the immense natural map unfolding below us, and soon we could identify roads, railways, villages and forests—all hurrying toward us from the horizon with the swiftness of the wind itself.

The storm which had sent us down marked a change in the weather. Little gusts pushed the balloon from one side to the other and up and down. Again, and again the guide rope, dangling 100 yards below our basket, touched earth; and soon even the basket began to graze the tops of trees.

What is called “guide roping” thus began for me. M. Machuron and I each held a sack of ballast, and when some special obstacle rose in our path—a tree or house—one of us would throw out a few handfuls of sand, to make the balloon

leap up and pass over it. More than half the guide rope dragged behind us, and so we scudded comparatively close to earth at a wonderfully even altitude.

But shortly, as we passed over a little group of trees, a shock threw us backward into the basket. The balloon had stopped short and was swaying in the gusts at the end of its guide rope, which had curled itself around the head of an oak. For fifteen minutes it kept us shaking tremendously, and it was only by throwing out a quantity of ballast that we were able to get ourselves loose. The lightened balloon immediately made a terrifying leap upward, piercing some low clouds like a cannon ball.



Photograph of Inflated Balloons Ready for the Ascent in the
Aeronautical Park, Paris. Taken from a Balloon 200 Meters
Above

That was a sensation. We were still shooting up, up; and it was time to have recourse to effective means, to open the maneuver valve and let out a portion of our gas. It was done in a moment. The balloon began descending again, until its guide rope again dragged on the ground. There was nothing but to bring the trip to an end, because only a little sand remained in the ballast bags.

I watched my captain's maneuvers. He who would navigate an airship should first practice landing in a spherical balloon, take my word for it. The wind being strong enough, it was necessary to seek shelter for this last crowning act of air-captainship. A corner of the forest of Fontainebleau was coming toward us. We turned the extremity of the wood, sacrificing our last ounce of ballast. Here the trees protected us from the violence of the wind, and we cast anchor, at the same time opening wide the emergency valve for the wholesale escape of the gas. And so we landed—plump !—without dragging, and stood watching the balloon die. It was almost a pitiful sight. Sprawling in the field, it was losing the remains of its gas in convulsive movements, like a great bird that dies beating its wings. Then we packed the silk envelope, anchor, rope and utensils in the basket and hired a man to haul it to the nearest railway station.

After two more such personally conducted trips, in which I sought to do all the maneuvering with my own hands under M. Machuron's kind instruction, I ventured in a spherical balloon, and during this early period I made very many trips, landing in all parts of France. Often they were prolonged into the night; and no sporting sensations are more diversified and agreeable than those of night ballooning. One is alone in the black void—yes, in a murky limbo; but one seems to float there without weight, without dimensions, without a surrounding world—a soul freed from the trammels of matter!

Now and again there come the lights of earth to cheer you. You see a point far below ahead. It slowly expands, until where there came to be a blaze there are countless bright spots. They run in lines, with here and there a cluster. It is a city

Then it is out again over the lone land. When the moon rises you see, perhaps, a faint curling line of gray. It is a river, with moonlight or starlight falling on its waters. There comes a flash and a faint roar; it is a railway train, the locomotive's fires illuminating for a moment its smoke as it rises. Then you throw out ballast and rise through the dank black clouds to a soul-lifting burst of starlight. And there, alone with the constellations, you await the dawn.

When the dawn comes, red and gold and purple, one is almost loath to seek the cheery, busy earth again, altho the

novelty of landing in who knows what part of Europe affords still another unique pleasure. For many the greatest charm of spherical ballooning lies here. The spherical balloonist becomes an explorer. Are you young? Would you roam and tempt adventures? And are you tied down? You may still penetrate the unknown and deal with the unexpected. Take to spherical ballooning, as do the youth and beauty of the Paris Aero' Club. At noon you lunch paceably with your family. At 2 p.m. you dart into the air; ten minutes later you are no longer a commonplace, law-abiding citizen. You are an explorer in unknown seas of light!

You know but vaguely where you are, and you do *not* know where you are going to bring up. Something depends on your skill and experience. The choice of altitude and air currents is yours, but when the moment comes to land you have the true explorer's zest of coming on unknown peoples, who are not expecting you—a god from a machine!

“ What country is this?” Will the answer come in French, German, Italian, Norwegian, or even Russian? Paris Aero Club members have actually been shot at crossing European frontiers.

Yes, the air is still for most people an unknown element; and I who know it remain astonished at the world of different sensations one experiences in it as one goes as a spherical or dirigible balloonist. The realization of this wonderful difference flashed on me, at a moment I recall well, as I was

steering a straight, swift course along the Mediterranean coast in my No. 6 during the memorable winter of 1902.

I was by this time an experienced dirigible balloon captain—it was the winter following my winning of the Deutsch Prize in Paris; I had no task to perform, nothing to prove, and I could give myself up to the pleasures of aerial navigation in by far the swiftest airship I had yet constructed. As I steered my course I remember saying to, myself:

" How different are these from the sensations of the spherical balloonist! It is true that he has the earth flying backward beneath him at a great speed, but he knows that he is powerless. The sphere of gas above him is the plaything of the air current in which it finds itself ; and he cannot change its direction."

In my dirigible balloon I could see myself flying over the sea, and I had my hand on a helm that made me master of my direction in the splendid course I was making. Once or twice, to test the power, without other motive, I shoved the helm around, while going at full speed. Delightfully obedient, the airship's helm swung to the other side, and I was speeding in a new diagonal course that would have brought me to shore in a few minutes had I continued it. But these maneuvers only occupied a few instants each, and each time I swung myself back on a straight line to the entrance of the Bay of Monaco, from which I had come and to which I must return to the balloon house built for me by the Prince

of that bay and the land around it, for I was flying homeward like an eagle.

To those watching my return, from the terraces of Monte Carlo and Monaco town (as they told me afterward), the airship increased in size at each moment, like a veritable eagle bearing down on them. As the wind was coming toward them they could hear the low crackling buzz of my motor a long distance away. Faintly now their own shouts of encouragement came to me. They grew louder. Around the bay a thousand handkerchiefs were fluttering. I gave a sharp turn to the helm, and the airship leapt into the bay, to slow down and be caught and conducted to its “stable.”

Here in these azure solitudes there were no chimney pots of Paris, no cruelly threatening roof corners. I had plenty of leisure to look about me and enjoy my position. One of my impressions was that I was still isolated in spite of my ability to direct the airship's course. I remember once meeting two beautiful sailing yachts scudding toward me down the coast. Their sails were full bellied. As I darted over them and they beneath me, I heard a faint cheer, and a graceful feminine figure on the foremost yacht waved a red foulard. As I turned to answer the politeness I perceived that we were already far, far apart.

I was now well up the coast, about half way between Monaco and Cape Saint-Martin. Above was the limitless blue void; below was the solitude of the white-capped

waves, and a sudden squall was coming up. Well, I had the fierce pleasure of depending on myself, with every sense alert, and a growing curiosity to learn the power of my motor and propeller to get me out of the scrape. I had never turned in a storm.

Porting my helm, I held the rudder tight. The dirigible swung around like a boat, and as the wind now aided to send me flying down the coast my only work was to maintain my steady course and enjoy the reflections I have already described.

Pleasures like these—the triumphs of personal effort from minute to minute—the spherical balloonist may not know. I recall a similar moment of fierce enjoyment on my return from the Eiffel Tower, when I won the Deutsch Prize for aerial navigation in October, 1901. On my way to the Tower the motor had worked fairly well. Now, after I had left it some 500 yards behind me, it was actually on the point of stopping. I had an instant of great uncertainty. I must make a quick decision. It was to abandon the steering wheel for a moment, at the risk of being torn from my course, in order to give my attention to the carburating lever and the lever controlling the electric spark.

The motor began to work again. I had almost reached the Bois de Boulogne, where, by a phenomenon known to all aeronauts, the cool air from the trees began making the balloon heavier and heavier—*i.e.*, smaller by condensation

—when, by an unlucky coincidence, the motor began slowing again. Thus the airship was descending while its motive force was decreasing. I had instantly to throw back both guide rope and shifting weights, changing my center of gravity considerably. This caused the balloon to point diagonally upward, so that the remaining propeller force caused me to remount continually into the air by jerks, so to speak.

I was directly over the crowd of the Auteuil Racetrack. I heard the applause of the mighty throng, when suddenly my capricious motor started working like a *beau diable*. The suddenly accelerated propeller being almost under the up-pointing airship caused an exaggeration of the inclination, so that the applause of the crowd changed to cries of alarm as I darted for a moment almost vertically upward. As for myself I had no fear, knowing the circumstances and feeling doubly safe over the trees of the Bois de Boulogne, whose soft greenery always reassured me, in spite of its having played me many a trick in my earlier experiments. I might have checked the sensational upward shoot by simply slowing the motor that was causing it; but I was doing a race that I actually did win, so I went on, soon righting myself by shifting guide rope and weights forward again. All the same, this is why I passed so high over the judges' heads that my guide rope could not be caught—a detail that caused some hair-splitting at the time, as may be remembered.

If I were asked what were my very first sensations of aerial navigation, I would have to confess surprise to feel the airship going straight ahead. It was astonishing to feel the wind in my face. As a spherical balloonist I had always gone *in* the wind, becoming part of it and not feeling it. As my airship plowed ahead the wind fluttered my coat violently, as on the deck of an Atlantic liner, tho in all other respects it is more like river navigation with a steam-boat. It is not at all like sail navigation and all talk about “tacking” is meaningless. Imagine the air current to be a river running 10 miles per hour. If you go against the current, making 20 miles per hour, your net progress will be but 10 miles per hour. If your propeller makes you 20 miles per hour *with* the current, your net speed becomes 30 miles per hour. Well, it is just so in an airship. In a calm it makes its own speed, unaffected by wind current.

The navigator of the air, however, has one great pleasure unknown to the navigator of a river. He can seek to change one air current for another. The air is full of varying currents. Mounting, I have often sought and found either a calm or an advantageous breeze, even in a spherical balloon; and this is one of the ever-changing delights of the aerial realm.

Before going on my first airship experiment I really wondered if I should be seasick. I imagined that the sensation of mounting and descending *obliquely* (with my shifting weights) might prove queerish, and I looked forward to a deal of pitching—not rolling—another novelty in

ballooning. For, remember always, the spherical balloon gives no sensation of movement at all.



Returning to the Bay of Monaco, “Flying Homeward Like an Eagle.” (Page 1228.)

In my first airship, however, the suspension was so long that it approximated that of a spherical balloon. For this reason there was very little pitching. And speaking generally, since that time, tho I have been told that on this or that trip I pitched considerably, I have never been seasick in the air.

You see in the airship there is no smell. All is pure and clean, and the pitching itself has none of those shocks and hesitations of the boat at sea. The movement is suave and flowing, owing to the immensely lesser resistance of the air.

The pitches are less rapid than at sea; the dip is not brusquely arrested—so the mind can anticipate the curve to its very end and be prepared. There is no shock to give that “empty” feeling as the giant transatlantic construction rises out of the water, first its fore part, then its aft, with its propeller churning the air so viciously, to sink the next moment and churn the water.

All this brings me to the most remarkable of all the sensations of aerial navigation. This is the wonderful diagonal flight. On my first trip it actually shocked me. Man has never known anything like free vertical existence. Held to the plane of the earth, his movement “down” has scarcely been more than a return after a short excursion “up,” our minds always remaining on the plane surface, even while our bodies may be mounting, and this is so much true that the spherical balloonist as he rises has no sense of movement, but gains the impression on which I have insisted, that the earth is descending below him. With respect to combinations of vertical and horizontal movement man is quite without experience. Indeed, I cannot describe the delight, the wonder and intoxication of that free diagonal movement onward and upward, or onward and downward, combined at will with changes of direction horizontally when the airship answers to the touch of the rudder! The birds have this sensation when they spread their wings and go tobogganning in curves and spirals through the sky.

Of course, when I look back, it is not always easy for me to separate the pleasures of successful effort, the satisfactions of *amour propre*, and the anticipations of triumphs to come from the natural and innate pleasures of dirigible ballooning. The time, nevertheless, came when I tired of the former and leaned toward the latter, and I made this comparison: Once I was enamoured of high power petroleum automobiles—they can go at wonderful speed to any part of Europe, finding their fuel in any village. But when I discovered that I did not want to go to Moskow or to Lisbon, the small and handy electric runabout in which I do my errands about Paris proved more satisfactory.

From the standpoint of my pleasure and convenience as a Parisian, my experience has been similar. Because, you understand, I do this for my pleasure; I have no mission to labor and risk my life merely to demonstrate things to the public. So I built my little “No. 9 runabout,” the smallest of possible dirigibles, which I am, in one sense, copying again on a larger scale this summer. Indeed, it was so small that its original motor was a 3 horse-power Clement, weighing 26 pounds, while its ballast capacity was only 66 pounds. Yet with it I went careering over the Bois at as much as 15 miles per hour, notwithstanding its egg-shaped form, which was seemingly little calculated for cutting the air. The balloon of my airship for this summer will be much more cigar-shaped, slender and pointed, because I have hit on a new stiffening device and no longer fear doubling up like a jack-knife.

How practical this little “ runabout ” proved itself was shown when I landed with it the first time in the grounds of the Aero Club at Saint-Cloud, in the midst of nine fully inflated spherical balloons, there held ready to be let off on a ladies’ race. After a short call, I prepared to start away again to my own balloon house at Neuilly, Saint-James.

“Can we give you some gas?” politely asked my fellow clubmen.

“You saw me coming all the way from Neuilly,” I replied; “did I appear to be throwing any ballast?”

“You threw no ballast,” they admitted, and it was obvious I could only have started with some 66 pounds of it.

“Then why should I be in need of gas?” I asked. As a matter of curiosity I may relate that I did not lose or sacrifice a cubic foot of gas or a single kilogramme of ballast that whole afternoon.

After leaving my friends at Saint-Cloud I made a typically peaceful “ Parisian ” air trip—because you must not imagine that the pleasures of dirigible ballooning have all to do with fierce and palpitating effort in blue solitudes. No, there is also the aerial park saunter, absolutely devoid of risk and danger.

To go from Neuilly, Saint-James, to the Aero Club's park I had already passed the Seine. Now, crossing it again I made

for the *café* restaurant of the “ Cascade,” where I descended for refreshment and a chat. It was 5 p.m. Not yet wishing to quit the amusing little voyage, I left the sylvan *café*, crossed the river for a third time, and went straight as close to Mont Valérien as delicacy permitted. (It is an important fort, defending Paris and guarding its own secrets jealously.) Then returning I crossed the river for a last time and came to earth in my own grounds at Neuilly. During my whole trip my highest altitude was 346 feet. Taking into consideration that my guide rope hangs 130 feet below me and that the tops of the Bois trees extend up some 70 feet from the ground, I had enjoyed but 140 feet of clear space for vertical maneuvering.

It was enough, and the proof is that I have amused myself guide roping round the Arc de Triomphe and down the Avenue des Champs Elysées at as low an altitude as the housetops on either side, fearing no ill and finding no difficulty

Knowing that the feat must be accomplished at an hour when the pleasure promenade of all Paris would be the least encumbered, I had instructed my men to sleep through the early part of the night at the Neuilly station. Arriving at 3 a.m. I climbed the wall, soothed the dog, waked the men, brought out the airship and crossed the Seine as I rose diagonally a little after dawn. Turning to the left I made my way over the Bois, picking out the open spaces. When I came to trees I jumped over them. So, navigating through

the cool air of dawn I reached the Porte Dauphine and the beginning of the Avenue of the Bois, which leads to the Arc de Triomphe.

The carriage promenade of Tout Paris was empty, and I might actually have threaded the Arc de Triomphe had I deemed myself worthy. Instead, I rounded the national monument to the right, as the law directs. Like the Avenue of the Bois, the Avenue of the Champs Elysées, was deserted. Far down its length I saw a solitary cab. As I guide roped along to my house at the corner of the rue Washington, I thought of the time, sure to come, when the navigators of handy little airships will not be obliged to land in the street, but will have their guide ropes caught by their domestics on their own roof-gardens.

So I reached my street corner, to which I pointed downward my stem and descended very gently. Two servants caught, steadied and held the airship while I mounted to my apartment for a cup of coffee. That is another kind of dirigible ballooning!

Paris, France.

This work is in the [public domain](#) in the **United States** because it was published in 1905, before the cutoff of January 1, 1930.



The longest-living author of this work died in 1932, so this work is in the **public domain** in countries and areas where the copyright term is the author's **life plus 92 years or less**. This work may be in the **public domain** in countries and areas with longer native copyright terms that apply the [rule of the shorter term](#) to *foreign works*.



About this digital edition

This e-book comes from the online library [Wikisource](#). This multilingual digital library, built by volunteers, is committed to developing a free accessible collection of publications of every kind: novels, poems, magazines, letters...

We distribute our books for free, starting from works not copyrighted or published under a free license. You are free to use our e-books for any purpose (including commercial exploitation), under the terms of the [Creative Commons Attribution-ShareAlike 4.0 Unported](#) license or, at your choice, those of the [GNU FDL](#).

Wikisource is constantly looking for new members. During the transcription and proofreading of this book, it's possible that we made some errors. You can report them at [this page](#).

The following users contributed to this book:

- Erick Soares3
- Arbitan
- Simon Peter Hughes
- Chrisguise
- Croomfolk
- FML
- Jarekt

- Rocket000
- Dbenbenn
- Zscout370
- Jacobolus
- Indolences
- Technion
- Dha
- Abigor
- Reisio
- Blurpeace
- Dschwen
- Steinsplitter
- Boris23
- KABALINI
- Bromskloss
- Tene~commonswiki
- AzaToth
- Bender235
- PatríciaR