

CHAPTER VII

MY FIRST AIRSHIP CRUISES (1898)

In the middle of September, 1898, I was ready to begin in the open air. The rumor had spread among the aeronauts of Paris, who formed the nucleus of the Aero Club, that I was going to carry up a petroleum motor in my basket. They were sincerely disquieted by what they called my temerity, and some of them made friendly efforts to show me the permanent danger of such a motor under a balloon filled with a highly inflammable gas. They begged me, instead, to use the electric motor — "which is infinitely less dangerous."

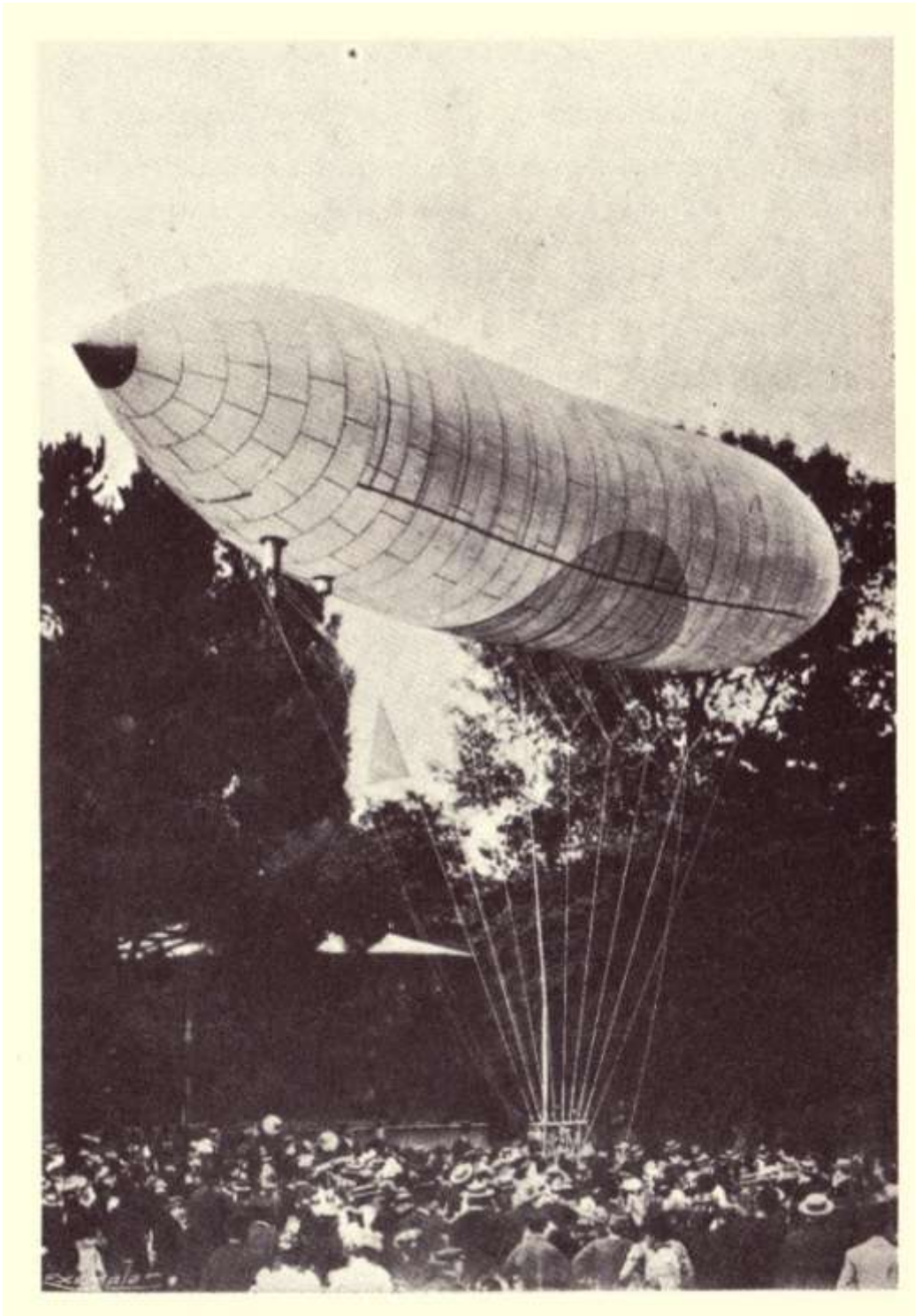
I had arranged to inflate the balloon at the Jardin d'Acclimatation, where a captive balloon was already installed and furnished with everything needful daily. This gave me facilities for obtaining, at one franc per cubic meter, the 180 cubic meters (6354 cubic feet) of hydrogen which I needed.

On September 18 my first airship — the "Santos-Dumont No. 1," as it has since been called to distinguish it from those which followed — lay stretched out on the turf amid the trees of the beautiful Jardin d'Acclimatation, the new Zoological Garden of the west of Paris. To understand what happened, I must explain the starting of spherical balloons from such places, where groups of trees and other obstructions surround the open space.

When the weighing and balancing of the balloon are finished, and the aeronauts have taken their place in the basket, the balloon is ready to quit the ground with a certain ascensional force. Thereupon aids carry it toward an extremity of the open space in the direction from which the wind happens to be blowing, and it is there that the order, "Let go, all!" is given. In this way the balloon has the entire open space to cross before reaching the trees or other obstructions which may be opposite and toward which the wind would naturally carry it. So it has space and time to rise high enough to pass over them. Moreover, the ascensional force of the balloon is regulated accordingly: it is very little if the wind be light; it is more if the wind be stronger.

I had thought that my airship would be able to go against the wind that was then blowing; therefore, I had intended to place it for the start at precisely the other end of the open space from that which I have described: that is, downstream, and not upstream in the air current, with relation to the open space surrounded by trees. I would thus move out of the open space without difficulty, having the wind against me — for, under such conditions, the relative speed of the airship ought to be the difference between its absolute speed and the velocity of the wind — and so by going against the air current I should have plenty of time to rise and pass over the trees. Evidently it

would be a mistake to place the airship at a point suitable for an ordinary balloon without motor and propeller.



The "Santos-Dumont N^o 1"

And yet it was there that I did place it — not by my own will, but by the will of the professional aeronauts who came in the crowd to be present at my experiment. In vain I explained that, by placing myself "upstream" in the wind with relation to the center of the open space, I should inevitably risk precipitating the airship against the trees before I should have time to rise above them, the speed of my propeller being superior to that of the wind then blowing.

All was useless. The aeronauts had never seen a dirigible balloon start off. They could not admit of its starting under other conditions than those of a spherical balloon, in spite of the essential difference between the two. As I was alone against them all, I had the weakness to yield.

I started off from the very spot they indicated, and within a second's time I tore my airship against the trees, as I had feared I should do. After this, deny, if you can, the existence of a fulcrum in the air!

This accident at least served to show the effectiveness of my motor and propeller in the air to those who doubted it before.

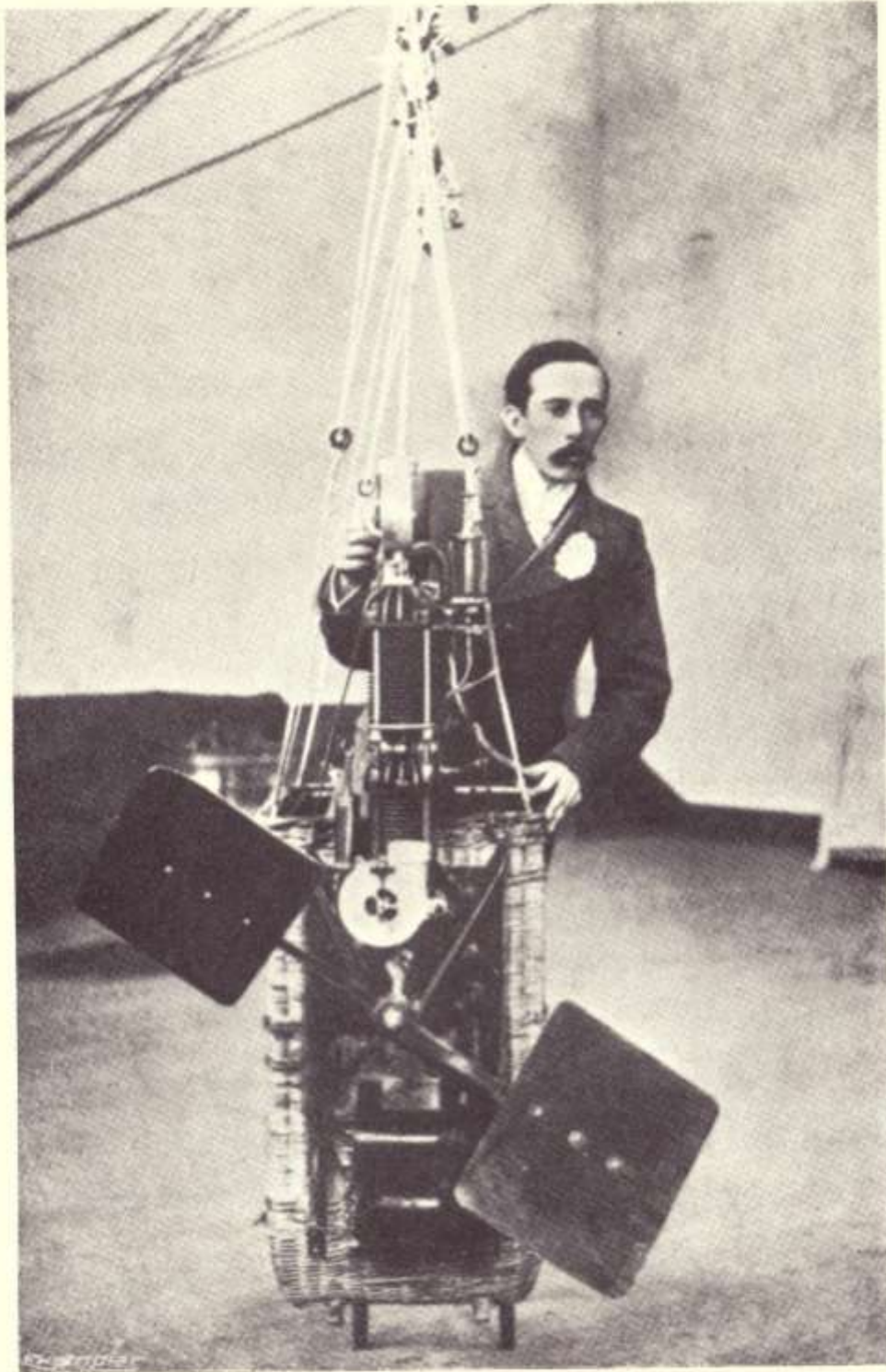
I did not waste time in regrets. Two days later, on September 20, I actually started from the same open space — this time choosing my own starting point.

I passed over the tops of the trees without mishap, and at once began sailing around them, to give on the spot a first demonstration of the airship to the great crowd of Parisians that had assembled. I had their sympathy and applause then, as I have had them ever since; the Parisian public has always been a kind and enthusiastic witness of my efforts.

Under the combined action of the propeller impulse, of the steering rudder, of the displacement of the guide rope, and of the two sacks of ballast sliding backward and forward as I willed, I had the satisfaction of making my evolutions in every direction — to right and left, and up and down.

Such a result encouraged me, and, being inexperienced, I made the great mistake of mounting high in the air — to 400 meters (1300 feet) — an altitude that is considered nothing for a spherical balloon, but which is absurd and uselessly dangerous for an airship under trial.

At this height I commanded a view of all the monuments of Paris. I continued my evolutions in the direction of the Longchamps racecourse, which from that day I chose for the scene of my aerial experiments.



Motor of the "Santos-Dumont N^o 1"

So long as I continued to ascend, the hydrogen increased in volume as a consequence of the atmospheric depression. So by its tension the balloon was kept taut, and everything went well. It was not the same when I began descending. The air pump, which was intended to compensate the contraction of the hydrogen, was of insufficient capacity. The balloon, a long cylinder, all at once began to fold in the middle like a pocket knife, the tension of the cords became unequal, and the balloon envelop was on the point of being torn by them. At that moment I thought that all was over; the more so as the descent which had begun could no longer be checked by any of the usual means on board, where nothing worked.

The descent became a fall. Luckily, I was falling in the neighborhood of the grassy turf of Bagatelle, where some big boys were flying kites. A sudden idea struck me. I cried to them to grasp the end of my guide rope, which had already touched the ground, and to run as fast as they could with it *against the wind!*

They were bright young fellows, and they grasped the idea and the rope at the same lucky instant. The effect of this help *in extremis* was immediate and such as I had hoped. By the maneuver we lessened the velocity of the fall, and so avoided what would otherwise have been a bad shaking up, to say the least.

I was saved for the first time! Thanking the brave boys, who continued aiding me to pack everything into the airship's basket, I finally secured a cab and took the relics back to Paris.

Source: *My Airships* by Alberto Santos-Dumont - 1904