

**A Voyage in a Balloon (1852)**

**By**

**Jules Verne**

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Translated from the French by Anne T. Wilbur

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I.

My Ascension at Frankfort--The Balloon, the Gas, the Apparatus, the Ballast--An Unexpected Travelling Companion--Conversation in the Air--Anecdotes--At 800 Metres[A]--The Portfolio of the Pale Young Man--Pictures and Caricatures--Des Rosiers and d'Arlandes--At 1200 Metres--Atmospheric Phenomena--The Philosopher Charles--Systems--Blanchard--Guyton-Morveaux--M. Julien--M. Petin--At 1500 Metres--The Storm--Great Personages in Balloons--The Valve--The Curious Animals--The Aerial Ship--Game of Balloons.

[Footnote A: A metre is equal to 39.33 English inches.]

In the month of September, 1850, I arrived at Frankfort-on-the-Maine. My passage through the principal cities of Germany, had been brilliantly marked by aerostatic ascensions; but, up to this day, no inhabitant of the Confederation had accompanied me, and the successful experiments at Paris of Messrs. Green, Godard, and Poitevin, had failed to induce the grave Germans to attempt aerial voyages.

Meanwhile, hardly had the news of my approaching ascension circulated throughout Frankfort, than three persons of note asked the favour of accompanying me. Two days after, we were to ascend from the Place de la Comédie. I immediately occupied myself with the preparations. My balloon, of gigantic proportions, was of silk, coated with gutta percha,

a substance not liable to injury from acids or gas, and of absolute impermeability. Some trifling rents were mended: the inevitable results of perilous descents.

The day of our ascension was that of the great fair of September, which attracts all the world to Frankfort. The apparatus for filling was composed of six hogsheads arranged around a large vat, hermetically sealed. The hydrogen gas, evolved by the contact of water with iron and sulphuric acid, passed from the first reservoirs to the second, and thence into the immense globe, which was thus gradually inflated. These preparations occupied all the morning, and about 11 o'clock, the balloon was three-quarters full; sufficiently so;--for as we rise, the atmospheric layers diminish in density, and the gas, confined within the aerostat, acquiring more elasticity, might otherwise burst its envelope. My calculations had furnished me with the exact measurement of gas required to carry my companions and myself to a considerable height.

We were to ascend at noon. It was truly a magnificent spectacle, that of the impatient crowd who thronged around the reserved enclosure, inundated the entire square and adjoining streets, and covered the neighbouring houses from the basements to the slated roofs. The high winds of past days had lulled, and an overpowering heat was radiating from an unclouded sky; not a breath animated the atmosphere. In such weather, one might descend in the very spot he had left.

I carried three hundred pounds of ballast, in bags; the car, perfectly

round, four feet in diameter, and three feet in height, was conveniently attached; the cord which sustained it was symmetrically extended from the upper hemisphere of the aerostat; the compass was in its place, the barometer suspended to the iron hoop which surrounded the supporting cord, at a distance of eight feet above the car; the anchor carefully prepared;--all was in readiness for our departure.

Among the persons who crowded around the enclosure, I remarked a young man with pale face and agitated features. I was struck with his appearance. He had been an assiduous spectator of my ascensions in several cities of Germany. His uneasy air and his extraordinary pre-occupation never left him; he eagerly contemplated the curious machine, which rested motionless at a few feet from the ground, and remained silent.

The clock struck twelve! This was the hour. My *compagnons du voyage* had not appeared. I sent to the dwelling of each, and learned that one had started for Hamburg, another for Vienna and the third, still more fearful, for London. Their hearts had failed them at the moment of undertaking one of those excursions, which, since the ingenious experiments of aeronauts, are deprived of all danger. As they made, as it were a part of the programme of the *fête*, they had feared being compelled to fulfil their agreements, and had fled at the moment of ascension. Their courage had been in inverse ratio to the square of their swiftness in retreat.

The crowd, thus partly disappointed, were shouting with anger and impatience. I did not hesitate to ascend alone. To re-establish the equilibrium between the specific gravity of the balloon and the weight to be raised, I substituted other bags of sand for my expected companions and entered the car. The twelve men who were holding the aerostat by twelve cords fastened to the equatorial circle, let them slip between their fingers; the car rose a few feet above the ground. There was not a breath of wind, and the atmosphere, heavy as lead, seemed insurmountable.

"All is ready!" exclaimed I; "attention!"

The men arranged themselves; a last glance informed me that everything was right.

"Attention!"

There was some movement in the crowd which seemed to be invading the reserved enclosure.

"Let go!"

The balloon slowly ascended; but I experienced a shock which threw me to the bottom of the car. When I rose, I found myself face to face with an unexpected voyager,--the pale young man.

"Monsieur, I salute you!" said he to me.

"By what right?"--

"Am I here? By the right of your inability to turn me out."

I was confounded. His assurance disconcerted me; and I had nothing to say in reply. I looked at him, but he paid no regard to my astonishment. He continued:

"My weight will disturb your equilibrium, Monsieur: will you permit me--"

And without waiting for my assent, he lightened the balloon by two bags of sand which he emptied into the air.

"Monsieur," said I, taking the only possible course, "you are here,--well! you choose to remain,--well! but to me alone belongs the management of the aerostat."

"Monsieur," replied he, "your urbanity is entirely French; it is of the same country with myself! I press in imagination the hand which you refuse me. Take your measures,--act as it may seem good to you; I will wait till you have ended--"

"To--"

"To converse with you."

The barometer had fallen to twenty-six inches; we had attained a height of about six hundred metres, and were over the city; which satisfied me of our complete quiescence, for I could not judge by our motionless flags. Nothing betrays the horizontal voyage of a balloon; it is the mass of air surrounding it which moves. A kind of wavering heat bathed the objects extended at our feet, and gave their outlines an indistinctness to be regretted. The needle of the compass indicated a slight tendency to float towards the south.

I looked again at my companion. He was a man of thirty, simply clad; the bold outlines of his features betokened indomitable energy; he appeared very muscular. Absorbed in the emotion of this silent suspension, he remained immovable, seeking to distinguish the objects which passed beneath his view.

"Vexatious mist!" said he, at the expiration of a few moments.

I made no reply.

"What would you? I could not pay for my voyage; I was obliged to take you by surprise."

"No one has asked you to descend!"



"A similar occurrence," he resumed, "happened to the Counts of Laurencin and Dampierre, when they ascended at Lyons, on the 15th of January, 1784. A young merchant, named Fontaine, scaled the railing, at the risk of upsetting the equipage. He accomplished the voyage, and nobody was killed!"

"Once on the earth, we will converse!" said I, piqued at the tone of lightness with which he spoke.

"Bah! do not talk of returning!"

"Do you think then that I shall delay my descent?"

"Descent!" said he, with surprise. "Let us ascend!"

And before I could prevent him, two bags of sand were thrown out, without even being emptied.

"Monsieur!" said I, angrily.

"I know your skill," replied he, composedly; "your brilliant ascensions have made some noise in the world. Experience is the sister of practice, but it is also first cousin to theory, and I have long and deeply studied the aerostatic art. It has affected my brain," added he, sadly, falling into a mute torpor.

The balloon, after having risen, remained stationary; the unknown consulted the barometer, and said:

"Here we are at 800 metres! Men resemble insects! See, I think it is from this height that we should always look at them, to judge correctly of their moral proportions! The Place de la Comédie is transformed to an immense ant-hill. Look at the crowd piled up on the quays. The Zeil diminishes. We are above the church of Dom. The Mein is now only a white line dividing the city, and this bridge, the Mein-Brucke, looks like a white thread thrown between the two banks of the river."

The atmosphere grew cooler.

"There is nothing I will not do for you, my host," said my companion.

"If you are cold, I will take off my clothes and lend them to you."

"Thanks!"

"Necessity makes laws. Give me your hand, I am your countryman. You shall be instructed by my company, and my conversation shall compensate you for the annoyance I have caused you."

I seated myself, without replying, at the opposite extremity of the car.

The young man had drawn from his great coat a voluminous portfolio; it was a work on aerostation.

"I possess," said he, "a most curious collection of engraving, and caricatures appertaining to our aerial mania. This precious discovery has been at once admired and ridiculed. Fortunately we have passed the period when the Mongolfiers sought to make factitious clouds with the vapour of water; and of the gas affecting electric properties, which they produced by the combustion of clamp straw with chopped wool."

"Would you detract from the merit of these inventions?" replied I. "Was it not well done to have proved by experiment the possibility of rising in the air?"

"Who denies the glory of the first aerial navigators? Immense courage was necessary to ascend by means of those fragile envelopes which contained only warm air. Besides, has not aerostatic science made great progress since the ascensions of Blanchard? Look, Monsieur."

He took from his collection an engraving.

"Here is the first aerial voyage undertaken by Pilatre des Rosiers and the Marquis d'Arlandes, four months after the discovery of balloons. Louis XVI. refused his consent to this voyage; two condemned criminals were to have first attempted aerial travelling. Pilatre des Rosiers was indignant at this injustice and, by means of artifice, succeeded in setting out. This car, which renders the management of the balloon easy, had not then been invented; a circular gallery surrounded the lower part

of the aerostat. The two aeronauts stationed themselves at the extremities of this gallery. The damp straw with which it was filled encumbered their movements. A chafing-dish was suspended beneath the orifice of the balloon; when the voyagers wished to ascend, they threw, with a long fork, straw upon this brazier, at the risk of burning the machine, and the air, growing warmer, gave to the balloon a new ascensional force. The two bold navigators ascended, on the 21st of November, 1783, from the gardens of La Muette, which the Dauphin had placed at their disposal. The aerostat rose majestically, passed the Isle des Cygnes, crossed the Seine at the Barrière de la Conférence, and, directing its way between the dome of the Invalides and L'Ecole Militaire, approached St. Sulpice; then the aeronauts increased the fire, ascended, cleared the Boulevard, and descended beyond the Barrière d'Enfer. As it touched the ground, the collapsed, and buried Pilatre des Rosiers beneath its folds."

"Unfortunate presage!" said I, interested in these details, which so nearly concerned me.

"Presage of his catastrophe," replied the unknown, with sadness. "You have experienced nothing similar?"

"Nothing!"

"Bah! misfortunes often arrive without presage." And he remained silent.

We were advancing towards the south; the magnetic needle pointed in the direction of Frankfort, which was flying beneath our feet.

"Perhaps we shall have a storm," said the young man.

"We will descend first."

"Indeed! it will be better to ascend; we shall escape more surely;" and two bags of sand were thrown overboard.

The balloon rose rapidly, and stopped at twelve hundred metres. The cold was now intense, and there was a slight buzzing in my ears.

Nevertheless, the rays of the sun fell hotly on the globe, and, dilating the gas it contained, gave it a greater ascensional force. I was stupified.

"Fear nothing," said the young man to me.

"We have three thousand five hundred toises of respirable air. You need not trouble yourself about my proceedings."

I would have risen, but a vigorous hand detained me on my seat.

"Your name?" asked I.

"My name! how does it concern you?"

"I have the honour to ask your name."

"I am called Erostratus or Empedocles,--as you please. Are you interested in the progress of aerostatic science?"

He spoke with icy coldness, and I asked myself with whom I had to do.

"Monsieur," continued he, "nothing new has been invented since the days of the philosopher Charles. Four months after the discovery of aerostats, he had invented the valve, which permits the gas to escape when the balloon is too full, or when one wishes to descend; the car, which allows the machine to be easily managed; the network, which encloses the fabric of the balloon, and prevents its being too heavily pressed; the ballast, which is used in ascending and choosing the spot of descent; the coat of caoutchouc, which renders the silk impermeable; the barometer, which determines the height attained; and, finally, the hydrogen, which, fourteen times lighter than air, allows of ascension to the most distant atmospheric layers, and prevents exposure to aerial combustion. On the 1st of December, 1783, three hundred thousand spectators thronged the Tuileries. Charles ascended, and the soldiers presented arms. He travelled nine leagues in the air: managing his machine with a skill never since surpassed in aeronautic experiments. The King conferred on him a pension of two thousand livres, for in those days inventions were encouraged. In a few days, the subscription list was filled; for every one was interested in the progress of science."

The unknown was seized with a violent agitation.

"I, Monsieur, have studied; I am satisfied that the first aeronauts guided their balloons. Not to speak of Blanchard, whose assertions might be doubted, at Dijon, Guyton-Morveaux, by the aid of oars and a helm, imparted to his machines perceptible motions, a decided direction. More recently, at Paris, a watchmaker, M. Julien, has made at the Hippodrome convincing experiments; for, with the aid of a particular mechanism, an aerial apparatus of oblong form was manifestly propelled against the wind. M. Petin placed four balloons, filled with hydrogen, in juxtaposition, and, by means of sails disposed horizontally and partially furled, hoped to obtain a disturbance of the equilibrium, which, inclining the apparatus, should compel it to an oblique path. But the motive power destined to surmount the resistance of currents,--the helice, moving in a movable medium, was unsuccessful. I have discovered the only method of guiding balloons, and not an Academy has come to my assistance, not a city has filled my subscription lists, not a government has deigned to listen to me! It is infamous!"

His gesticulations were so furious that the car experienced violent oscillations; I had much difficulty in restraining him. Meanwhile, the balloon had encountered a more rapid current. We were advancing in a southerly direction, at 1200 metres in height, almost accustomed to this new temperature.

"There is Darmstadt," said my companion. "Do you perceive its magnificent chateau? The storm-cloud below makes the outlines of objects waver; and it requires a practised eye to recognise localities."

"You are certain that it is Darmstadt?"

"Undoubtedly; we are six leagues from Frankfort."

"Then we must descend."

"Descend! you would not alight upon the steeples!" said the unknown, mockingly.

"No; but in the environs of the city."

"Well, it is too warm; let us remount a little."

As he spoke thus, he seized some bags of ballast. I precipitated myself upon him; but, with one hand, he overthrew me, and the lightened balloon rose to a height of 1500 metres.

"Sit down," said he, "and do not forget that Brioschi, Biot, and Gay-Lussac, ascended to a height of seven thousand metres, in order to establish some new scientific laws."

"We must descend;" resumed I, with an attempt at gentleness. "The storm



is gathering beneath our feet and around us; it would not be prudent."

"We will ascend above it, and shall have nothing to fear from it. What more beautiful than to reign in heaven, and look down upon the clouds which hover upon the earth! Is it not an honour to navigate these aerial waves? The greatest personages have travelled like ourselves. The Marquise and Comtesse de Montalembert, the Comtesse de Potteries, Mlle. La Garde, the Marquis of Montalembert, set out from the Faubourg St. Antoine for these unknown regions. The Duc de Chartres displayed much address and presence of mind in his ascension of the 15th of July, 1784; at Lyons, the Comtes de Laurencin and de Dampierre; at Nantes, M. de Luynes; at Bordeaux, D'Arbelet des Granges; in Italy, the Chevalier Andreani; in our days, the Duke of Brunswick; have left in the air the track of their glory. In order to equal these great personages, we must ascend into the celestial regions higher than they. To approach the infinite is to comprehend it."

The rarefaction of the air considerably dilated the hydrogen, and I saw the lower part of the aerostat, designedly left empty, become by degrees inflated, rendering the opening of the valve indispensable; but my fearful companion seemed determined not to allow me to direct our movements. I resolved to pull secretly the cord attached to the valve, while he was talking with animation. I feared to guess with whom I had to do; it would have been too horrible! It was about three-quarters of an hour since we had left Frankfort, and from the south thick clouds were arising and threatening to engulf us.

"Have you lost all hope of making your plans succeed?" said I, with great apparent interest.

"All hope!" replied the unknown, despairingly. "Wounded by refusals, caricatures, those blows with the foot of an ass, have finished me. It is the eternal punishment reserved for innovators. See these caricatures of every age with which my portfolio is filled."

I had secured the cord of the valve, and stooping over his works, concealed my movements from him. It was to be feared, nevertheless, that he would notice that rushing sound, like a waterfall, which the gas produces in escaping.

"How many jests at the expense of the Abbé Miolan! He was about to ascend with Janninet and Bredin. During the operation, their balloon took fire, and an ignorant populace tore it to pieces. Then the caricature of The Curious Animals called them Maulant, Jean Mind, and Gredin."

The barometer had began to rise; it was time! A distant muttering of thunder was heard towards the south.

"See this other engraving," continued he, without seeming to suspect my manoeuvres. "It is an immense balloon, containing a ship, large castles, houses, &c. The caricaturists little thought that their absurdities

would one day become verities. It is a large vessel; at the left is the helm with the pilot's box; at the prow, maisons de plaisance, a gigantic organ, and cannon to call the attention of the inhabitants of earth or of the moon; above the stern the observatory and pilot-balloon; at the equatorial circle, the barracks of the army; on the left the lantern; then upper galleries for promenades, the sails, the wings; beneath, the cafés and general store-houses of provisions. Admire this magnificent announcement. 'Invented for the good of the human race, this globe will depart immediately for the seaports in the Levant, and on its return will announce its voyages for the two poles and the extremities of the Occident. Every provision is made; there will be an exact rate of fare for each place of destination; but the prices for distant voyages will be the same, 1000 louis. And it must be confessed that this is a moderate sum, considering the celerity, convenience, and pleasure of this mode of travelling above all others. While in this balloon, every one can divert himself as he pleases, dancing, playing, or conversing with people of talent. Pleasure will be the soul of the aerial society.' All these inventions excited laughter. But before long, if my days were not numbered, these projects should become realities."

We were visibly descending; he did not perceive it!

"See this game of balloons; it contains the whole history of the aerostatic art. This game, for the use of educated minds, is played like that of the Jew; with dice and counters of any value agreed upon, which are to be paid or received, according to the condition in which one

arrives."

"But," I resumed, "you seem to have valuable documents on aerostation?"

"I am less learned than the Almighty! That is all! I possess all the knowledge possible in this world. From Phaeton, Icarus, and Architas. I have searched all, comprehended all! Through me, the aerostatic art would render immense services to the world, if God should spare my life! But that cannot be."

"Why not?"

"Because my name is Empedocles or Erostratus!"