

# The Humming Bird

✧ A QUARTERLY ✧

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EDITED BY

A. BOUCARD.



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## THE FLYING MAN.

BY THE EDITOR.

**A** GERMAN, Mr. OTTO LILIENTHAL, a practical worker, has successfully invented an apparel, not exactly adequate for flying about, but quite good enough to precipitate himself into space from an elevated spot or eminence. During three years Mr. Lilienthal has been studying the mechanism of wings in birds, and the result was the construction of an apparel consisting chiefly of two gigantic wings, about sixteen yards square, when opened. These wings, weighing forty-two pounds, are fixed on a skeleton frame made with osier, in the centre of which the experimenter sits. From his seat he can easily modify the inclination of the wings, and direct two rudders, fixed at the back of the apparel.

With the exception of the hands, which lay on a transversal bar, the rest of the body is entirely free in its movements, and by sloping it more or less to the right or to the left, modifies the position of the centre of gravity of the apparel.

After numerous experiments, resulting in acquiring the perfect manipulation of the wings and rudders, Mr. Lilienthal made up his mind to experiment his flying machine. He first took his flight from a tower, twelve feet high, which he purposely built for that purpose. He was so successful that his next attempt was made from a hill, about three hundred feet high. He landed at a distance of nine hundred feet from the hill, leisurely and without the least difficulty.

During the aerial voyage, he worked the wings so, as to accelerate or delay the descent at will. He succeeded also to fly against the wind. Therefore we can say with certainty that the first step for the manufacturing of flying machines is an accomplished fact, and before long, man will have conquered AIR at last.

Mr. Lilienthal himself confesses that much remains to be done to make his apparel perfect; but with the elements worked upon by him, it will not take long now, to construct a perfect machine, which will enable Man to explore that domain. I congratulate, heartily, Mr. Lilienthal for his important discovery, to which his name will remain permanently associated, as the first practical discoverer of this most interesting and scientific problem.

To Mr. Lilienthal, and to others who will follow him, I will suggest this:—If you want to solve satisfactorily and quickly, the problem of travelling into space with a flying machine, follow the path so well laid out by Mr. Lilienthal. Study first NATURE in its aerial inhabitants, viz.:—BIRDS, either alive or dead. Nature contains everything as perfect as it can be. The solution of this problem, as that of many others, is there. Are not all successful inventors after all, only imitators of the works of NATURE. For example, begin by studying the skins of a Condor or a Golden Eagle. See how the feathers of wing and tail are disposed on their wings and tail, measure their length, count their number, weigh the bodies, then make your calculations, and construct an apparatus resembling as much as possible in its formation to the wings and tails of these birds. Then study their flight, note the strength of their nerves and muscles, so as to enable you to replace these with a machine of sufficient power, according to the weight which must be lifted in the air, and at the same time enabling you to move easily wings and tail in all directions. Then you will have an apparel with which the solution of the aerial navigation problem will probably be solved.

You may also study with advantage other species of Birds, especially Hawks, Gulls, Crows, Swifts, Swallows, etc. All of these have long wings, short tails, comparatively light bodies for the length of their wings, and fly easily and swiftly.

Since ICARE, captive of MINOS, made some wings to fly away from the place of his captivity without any other result than his fall in the Algean Sea, many are the attempts which have been made to construct a flying apparatus, but not one was adequate. The most important one, was made by the Frenchman, PILATRE DE ROZIER, but he was not more successful than his predecessors. But now we can hope that before the end of this century, such a machine will exist, and will produce a revolution in the ways of travelling, at least for the audacious; because I do not see how it could ever be so vulgarised as to make it handy for the public at large.