

A Martyr of Science.

Under the above caption *The Literary Digest* has an interesting discussion on the subject of aeronautics, with special reference to the death of Otto Lillenthal, which was the result of a fall during one of his "man-flight" experiments. Herr Lillenthal had met with many accidents during his long experience before he lost his life in one, and *The Digest* thinks that "he may be regarded as a true martyr to science." In this connection it quotes from an editorial article in the *New York Sun*, which reviews at length the achievements of the dead man. It appears that it had long been the belief of Herr Lillenthal's family and friends that he would eventually sacrifice his life to his scientific zeal, and *The Sun* remarks:

Herr Lillenthal's work was along strictly scientific lines. He did not, as have Professor Langley of Washington and many others, endeavor to construct artificial birds and send them flapping through the air. What he essayed to do was to accomplish flight himself, not to put forth a toy bird to do his flying for him. With this object in view he strove first to master the principles of air sailing. In fact he was an aeronaut in the literal sense of the term. Study of such birds as the albatross, which soars for miles with no visible movement of the wings, and of such contrivances as the Australian boomerang, the marvelous flights of which no scientist has been able to explain, convinced him that there are principles of aerostatics of which scientists are entirely ignorant. By experimentation he determined to find out for himself what these principles were, and his life for the last twenty-seven years was given up to that pursuit. * * *

The contrivance with which he made his first flight was a pair of wings made of strong sheeting fabric, stretched on light willow frames. They contained about eighty-six square feet of sustaining surface. Other men had experimented with wings of somewhat similar material before unsuccessfully. * * *

The value of Lillenthal's wings lay in the application of his discovery that success in artificial flight is to be expected only from concavo-convex sustaining surfaces, which has since become a maxim in aeronautics. His wings were ribbed like those of a bat.

Whatever measure of success Herr Lillenthal attained was the result of much patient and industrious study and effort. He began by practicing on a spring board in his garden, and continued by slow degrees until he was able, by the aid of mechanical contrivances, to soar sixty to eighty feet from a tower twenty feet high on the brow of a hill, and in 1894 he actually accomplished a flight of a fifth of a mile. In the course of his experiments he learned many important facts relating to the problem of aerial navigation, and he reached the confident conclusion that such an achievement was practical. *The Digest* says:

Lillenthal's death puts a stop to these interesting experiments, which seemed just about to bear fruit. It is to be feared that at present there is no one who can take them up where he left off. Indeed, men who are willing to run daily risk of death to advance practical aeronautics are not often met with, and that was what Lillenthal did, as his lamented death testifies.

No one will question that Herr Lillenthal died a martyr to a cause to which he was thoroughly devoted. But the query that will present itself to many minds will be, Was it worth the sacrifice? Here was a man endowed with more than ordinary ability. His talents, applied in any practical manner, could hardly have failed to bring reward to himself and benefit to the world at large. As it stands, what did he accomplish? He added something to men's knowledge of mechanics and air currents, and doubtless stimulated human desire for further ventures in the same direction. Suppose that aerial navigation is possible. Will it ever be safe? Must it not in the nature of things be accompanied by such perils that the risk to all voyagers by flying machines will be enormous? Is not the search for a solution of the problem likely to be attended by further loss of life?

There must be leaders in all movements. Had there been no adventurers into the unknown, America would have remained undiscovered, and if men had been content with what they formerly knew, the amazing progress in science and invention which is the chief glory of the nineteenth century would never have been made. Yet it is possible that Herr Lillenthal, by applying his faculties to other and more useful purposes, would have done more for the world than by dying in the interest of aeronautics.