

«THE MOST BEAUTIFUL MOVEMENT IS FLIGHT»

McCullough David. *The Wright Brothers*. Trans. from English. Moscow, Alpina Non-Fiction publ., 2017, 338 p.



ABSTRACT

The book of the twice Pulitzer Prize winner narrates with biographical and historical details about the destiny of two sons of the American Bishop of Ohio who «secretly» built their flying machine. Being owners of a modest bicycle workshop and not having a technical education, they designed and tested the world's first manned airplane – after making four flights with a man on board in December 1903, their «Flyer» dramatically changed the course of Earth's history, laid the foundation for the era of aviation technology, airspace of our planet.

Keywords: airplane, aviation, Wright brothers, history, biography, dream embodiment.

It is amazing how fascinatingly similar were people who ever dreamed of flying over the earth, associations with the flight of birds. The example of these representatives of the animal world for centuries excited the imagination of the townsfolk, evoked uneasy envy, and more rational minds pushed to study the biomechanisms hidden from the eyes, invented by nature, so that in the airspace «God's creation» also had a niche for itself, a nourishing niche.

The Wright brothers were recharged by the dream of «likening themselves to the birds», which was contributed by the accident with their youngest of them – Orville. At a young age, being 25-year-old (1896), he fell seriously ill with typhus, which ravaged then in many American states. Doctors were powerless, but older brother Wilbur (four years of difference) and younger sister Catherine took turns on duty at the bedside of the patient, maintaining the hope of his recovery.

In Dayton, Ohio, where they lived in the house of their father, a Protestant bishop, they had a very rich library, and there was a lot of literature on the subject of popular science. All the month and a half, until Orville was able to get out of bed for the first time, Wilbur studied books, while the book was among the last ones – that is the fate – the one about the German aeronaut Otto Lilienthal, who was recently killed in the wreck of a glider. Most of the book he read aloud to his brother and them, first and foremost Wilbur, began to form an increasingly progressive interest in ideas that were so attractively and clearly expressed by such selfless enthusiasts as Lilienthal: «Our desires should not be limited to mastering the art of flying like birds. Our duty is not to calm down until we solve the problem of flying completely from a scientific point of view».

Wilbur returned to the book of the French physiologist Etienne-Jules Mare «The Arrangement of Living Beings», read in childhood. The author, as it were, generalized the universal urge to learn the possibilities of a man to move through the air and once again raised the question of whether people are doomed to continue to envy the birds and insects that have wings, whether they will ever be able to travel through the air, as they now swim across the ocean. Mare himself, to a certain extent, remained an optimist: «Scientific minds, having calculated, at various times declared it an unrealizable dream, but how many times we saw how what was considered impossible was realized».

Wilbur was very impressed in a similar context by the position of James Pettigrew in his study «Movement of animals: walking, swimming, flying and reasoning about aeronautics». The book opened his eyes and made him think about such things, about which he had never before allowed himself to reason.

In particular, the famous professor, opposing the unbelievers in «artificial flights», told them that if they consider true support of the ground to the four-legged, and water-fish, it is equally true that the air supports birds and their maneuvers are safer, faster and more elegant, than the movements of the four-legged on the ground, and the fish – on the water. And most importantly, he asserted: «Of all the movements of animals, the most beautiful is undoubtedly the flight... The fact that a creature as heavy as many solid substances can, with the help of independent movements of its wings, carry itself through the air at a speed slightly inferior to speed of a cannonball, it causes admiration and surprise».

In a word, the support of the brothers in their new enthusiasm was worthy of learned



men and the considerable practical experience gained by glider pilots and balloon makers. Moreover, it should be emphasized that Orville, after being completely freed from the consequences of the terrible disease, followed his brother's self-education in the same list of literature that Wilbur had already mastered. And this, by the way, was concisely demonstrated in his diary by Bishop Wright-father: they «studied aeronautics as a doctor studies his books».

Quotation is not for a red word here. In many accounts about the brothers Wright, on various occasions, the authors like to remember that they did not have a chance to graduate, like their sister Catherine, even from a college, and they, they say, were satisfied with only the knowledge of technology, the skills of designing and manufacturing details at the level of their bicycle workshop (which, between by the way, not only fed them, but later also invested, albeit modestly, aircraft projects). But such an interpretation is unfair. The book just shows convincingly how consistently the brothers mastered the engineering literacy and with what natural talent the technical solutions were calculated by them. That is, they were not just easily trained people, they happily combined the mind, strong character, ability to achieve a goal.

Of course, there is no point in retelling all the life conflicts of the characters in the book of David McCullough. As for the culminating events, they appear before the reader in chronological order, and their logic is inherent in the usual scenarios for the birth of a scientific discovery, a large-scale invention.

Of course, the culmination is a test of the initial designs in Kite Hawke; the first flights of the Flyer in December 1903, an airplane with a gasoline engine and two propellers, a steering and a twist mechanism; obtaining a patent for a flying machine on May 22, 1906 (after three years of waiting from the date of filing an application). But numerous demonstration flights in European countries and in the homeland in the US, most of them triumphant are apparently equally important.

Particular parts of the book may seem unnecessarily detailed, oversaturated, especially when they relate to descriptions of demonstration flights, the situation around them and the organization of negotiations, the multi-day trips to hotels, the places of interest of countries that took part in the competition for the right to use the airplanes of Wright brothers. However, you should not rush to criticism. In my opinion, McCullough's book

is quite compatible with both fiction, and the reporter's genre, and the style of popular science literature, which in such biographies predetermines the very theme of the scientific interest of the main characters.

What else attracted attention is the dynamics, the speed of the progress of the aviation industry, which began with its pioneers the Wright brothers. We know, for example, which way in its development the locomotive and the railway, the steamer and all its surface and underwater derivatives have passed for about two hundred years. We know of longer and less revolutionary transformations in the automotive field. But what, unlike them, is the progress made by man-made «birds»!

We look: 1903–1906 – the embryonic model of a flying machine (airplane), made by Wilbur and Orville in an artisan way. And after some forty-odd years – the flight in 1947 of the first supersonic fighter (USA), in another twenty-one years – the flight of the world's first supersonic airliner TU-144 (USSR). And this is in the presence of already space vehicles and launch vehicles capable of launching at speeds of 11,2 km/s.

Perhaps, it that the rapidly growing radio communication, since its ancestor Alexander Popov, is comparable with such a development dynamics transformed for the same hundred years with a small one into electronic networks with inconceivable speeds and volumes of information transfer, fantastically rapidly expanding their possibilities with communication channels.

It is difficult to be aware of such total capture by technology, machines of people's living space, that is observed by a man in all current processes. But this phenomenon can be explained – including with the content of the book under review. It shows (and in its own way proves) the unchanged presence in any new human generation of creators ready to implement the existing public order, to offer their own ideas, to make them popular, and if necessary, and selflessly fight for them. It is not uncommon for the Wright brothers, giving their participation and their projects an additional powerful impetus to the emergence of a new, epoch-making field of activity, scientific search, technology and production that is epoch-making for a person's life.

People realized their long-standing dream – they learned how to fly like birds. And they do it no less beautifully than those. Although the aesthetics of the airplanes and birds that have become «competitors» are still different. But there is nothing you can do about it: you cannot prohibit flying beautifully. ●

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