

Birds and other flying creatures have been gliding and soaring for millions of years, and people have been watching them with envy as long as there have been people. Nature gave us the incentive and showed us the way to fly. Why did it take us so long to follow?

There were many unsuccessful early attempts at human flight, generally ending in serious injury or death, which led many to conclude that "If God had wanted man to fly He would have given him wings". Men like Otto Lilienthal believed that if God had not wanted man to fly, He would not have given him a brain. Nearly 100 years ago Lilienthal built bird-like wings and made hundreds of flights before his unfortunate death in 1896. But his dreams of flight did not die. Others, including the Wright Brothers, were inspired by his success and carried on what he had started. As a result we have the wonderful flying machines of today and will have more wonderful ones in the future.

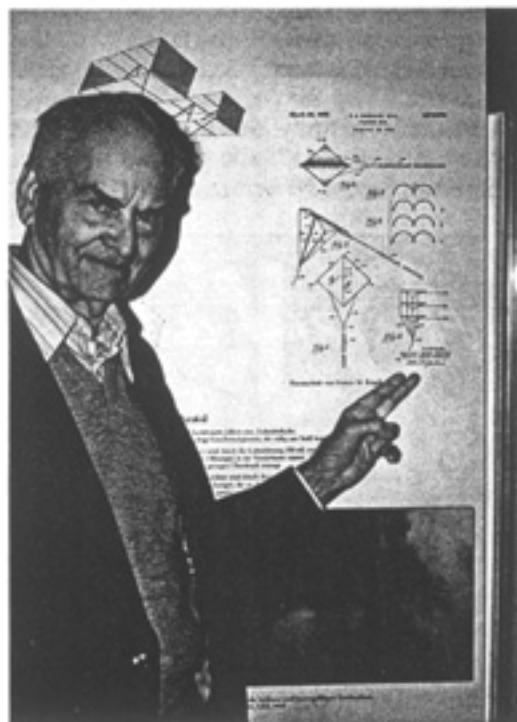
My interest in aeronautics began in 1919 when I was 7 years old, but I did not make any serious effort to develop a simple, practical, inexpensive, and reasonably safe flying machine for the average person until 1945. At that time the US Government, for whom I had been doing aeronautical research since 1936, was not interested in such a goal, but allowed me to devote my spare time at home to this effort. My wife Gertrude joined in this work, and by the end of 1948 we had developed successful flexible wings and had flown them as kites and model gliders, and had applied for a patent. Not until 1958 were we able to interest the government or the aeronautical industry in doing research and development of flexible wings. After the Russians launched Sputnik I and the US created NASA, for whom I worked until 1970.

Between 1958 and 1970 the US Government and corporations under contract developed and flew a variety of experimental flexible-wing aircraft and published the test results. Some of these aircrafts were also pictured and described in magazines and newspapers in the US and abroad, coming to the attention of individuals who built a variety of manned flexible-wing flying machines. Gertrude and I also built several man-carrying paragliders at home, and from 1967 to 1974 we flew them near our home in Kitty Hawk. We achieved manned flight by three methods -foot launching from high dunes, towing with a boat, and flying kites in the wind over the beach at the sea shore.

During these years, 1967 to 1974, when we were experimenting with our all-flexible gliders (parawings), we corresponded with John Dickenson of Australia and learned that in 1963 he had seen an article on one

A Brief History of Hang Gliding and Paragliding

by Francis Melvin Rogallo



Speech given by Francis Melvin Rogallo on the occasion of the DHV-meeting in Oberstdorf, Germany, October 1989. (Ph. Charly Jöst)

of the early US Government flexible-wing aircraft with stiffening tubes at leading edges and keel. Using this wing design, he added the Triangle Control frame and pilot suspension method that are still in general use. He demonstrated these gliders at many water ski shows between 1963 and 1967, launching in the same way as the flat ski kites had been launched, but now he could release the tow line and fly as a free glider, manoeuvring and landing at a chosen point.

Inevitably other Australians followed Dickenson's lead, notably Bill Moyes and Bill Bennett who began building and

flying similar wings in Australia, and then introduced them in Europe and America, where others joined the party, and some came out of the water and began foot launching from the sand dunes and hills. The excitement aroused in America by this new sport was capably expressed by Wolfgang Langewiesche in "The Flyingest Flying There Is", published in the February '74 issue of Reader's Digest.

In July 1973 a hang gliding meet was held near our home in Kitty Hawk, attended by 26 pilots from many parts of the US, especially California. It has been repeated annually ever since, and Gertrude and I have never missed one.

In January 1974 I was given my first commercially built hang glider, followed by a later model in 1976, and again in 1978, which I still fly but not often. In December 1974 we were invited to attend the organizational meeting of the Swiss hang gliding association. Many pilots from other countries also attended, including Alfio Caronti whom we later visited at his home in Italy, and Mike Harker who operated a hang glider business in Germany and whom we saw again in 1981 at Cypress Gardens in Florida.

In the years since 1974 hang gliders have evolved into aircraft of much higher performance, but have also become complex and expensive, and demand more skill and training because of their ability to fly higher, faster, and farther than the older models. Perhaps it is this trend that has opened the door for popularization of all-flexible wings such as those we flew from 1967 until 1974 and wings stiffened by ram-inflated tubes, a modification we had proposed in our original flexible-wing patent. There is a great variety of possible designs between the all-flexible paragliders and the nearly rigid hang gliders today. The future for gliding and soaring is bright, and I know that Germans will play an important part in this future as they have in the past.

We have been privileged to attend several international hang gliding meets, including the 1987 world meet in Australia and feel that hang gliding helps to bring people of many nations together in friendship, thereby helping to promote world peace. In the meets held annually at Kitty Hawk since 1973, the goal is for everyone to be friendly and have fun, no matter who wins. Perhaps all forms of gliding and soaring flight should be joined in one giant organization that could be called The Friendly Fun Flight Federation or FFFF for short.

We wish to express our appreciation to Charly Jöst for the use of this article.