Mythology and Legend

The year 1953 being the fiftieth, or Golden Anniversary, of man-carrying, heavier-than-air aircraft, the time seems fitting to see how this prodigious off-spring of gliding came about; and to review the progress made on this continent. Without appreciable government aid, such as was the experience of the Wright Brothers, flight without benefit of powerplants has developed to the point where our gliders and their pilots can, and do compete with participants from all major powers of the world. Financed by their respective countries, either directly or through clubs or organizations, they have the monetary blessing so necessary to continue the scientific investigation of the air, which is, as Sir George Cayley of Great Britain wrote in early 1800's: " An uninterrupted navigable ocean that comes to the threshold of every man's door as a source of human gratification and advantage."

The first period of man's desire to fly came about largely as a yearning to emulate the birds, or the time when mythology and legend began to deal with the idea, and conjecture started as to just how the art of flight was to be accomplished. First, man, being unable to soar up into the heavens, vested his gods with the ability to fly; e.g., the Greek messenger god, Hermes and his winged sandals; the German Valkyrie and Bellerophon (Winged Pegasus), the latter a well-known symbol in the petroleum industry of today.

Legend reveals that in 400 B. C. Archytas, a Greek philosopher and disciple of Pythagoras, constructed a pigeon of wood which he ultimately flew. Also that Chinese experimenters froze the wings of birds, into flying position. and then proceeded to hand-launch them.

On this continent, so reported the Polish archaeologist, Professor M. J. Tenenbaum, the famous Aztecs built and flew gliders in Mexico. The Aztec glider was said to be called a "Crir," much superior to Solomon's "Reshed" which apparently never flew, and was described as "an ingenious contrivance having spreading wings fabricated from stork feathers." Subsequent events indicated that later experimenters soon learned that while the air was a fluid, the same as water is a fluid, density was lacking, and therefore man lacked the self-contained energy necessary to propel himself forward in order to create enough lift necessary to emulate the birds, e.g., the albatross which is capable of both dynamic and static soaring.

So when Leonardo da Vinci wrote, about 1505, that "bird flight could be thoroughly understood only when a knowledge of the air and its currents had been acquired" the situation revealed the necessity of broader avenues of approach. Simultaneously came much experimenting with ornithopters and lighter-than-air aircraft. Da Vinci's conception of the heavier-than-air aircraft embodied the fundamental principles of flight as applied today; e.g., his development of a toy helicopter, his design for an ornithopter (flapping wings), his (the first) drawing of a propeller, and the first parachute. He also was the first to advocate streamlining.

Da Vinci is recorded as having built a glider and employed as test pilot, one Jean Baptiste Dante. The drawings of the aforementioned craft have been handed down and indicate that Da Vinci understood the theory of cambered airfoils. Toward the end of the 15th century Dante made flights with a glider near Lake Trasimene in the city of Perugia, Italy. The craft was designed with "non-vibrant wings," later referred to as fixed surfaces or airfoils.

All of the foregoing activity had been followed and studied by Sir George Cayley, previously mentioned, and he conducted many experiments that made lasting contributions to the research that was to follow ir later years. Cayley first worked with paper helicopters, ornithopter gliders, and finally a rigid fixed-wing glider; a monoplane first and then a biplane. Although all of the craft designed and built by Cayley started with models, he did build one glider that weighed 140 pounds, with 300 square feet wing surface that, flown as a kite or launched from hills, actually glided and "skimmed the ground;" and then he gave up in favor of powered aircraft.

Another Frenchman, LeBris by name, a sea-going man, built a "hang glider" using the albatross as his model. Incidentally, a thrilling tale has been written about the Captain describing his first towed flight at which time he used a horse and cart. He was successfully launched, made a partial flight, and then became entangled with the tow line with discouraging results. Later he continued the study of soaring flight and conducted many experiments. About this time two schools of thought existed regarding heavier-than-air aircraft. "Power plants or no power plants" was the basis of the controversy bu the latter is the one with which we are concerned here, and the advocates of that phase of experimentation were LeBris of France, Pilcher of Scotland, and Chanute of the United States. Also about this time an event happened which is recorded as the basis for the Wright Brothers' becoming interested in the possibilities of aircraft design and building. Alphonse Penaud built a model helicopter and followed with a rigid-wing model monoplane. Both models were powered with rubberbands. The father of the Wright Brothers is said to have returned from a trip to Europe with one of these toy aircraft and from the first time Orville and Wilbur saw the Penaud model until their deaths, from natural causes, their interest in improving the efficiency of their aircraft never lessened.