

THE FLYING MACHINE

Men have dreamed of flying for thousands of years. Here are a few examples. Daedalus and Icarus in Greek mythology. These mythical characters made wings of feathers and wax and Icarus was supposed to have flown so close to the sun that the wax melted and he perished. Archytas of Tarentum (400 B.C.) made a wooden pigeon able to fly for a few minutes. According to Suetonius, Simon Magus was killed in the time of Nero while trying to fly from one house to another in Rome. Friar Roger Bacon (1214 - 1294) constructed a machine featuring a pair of hollow copper globes designed to raise a man off the ground. Elmerus, a 13th Century monk flew over a furlong from the top of a tower in Spain. Other recorded attempts at flying include Giovanna Batista Dante (15th Century); Father Francesco Lana and Besnier (17th Century); Bishop Wilkins and Sr. George Cayley (18th Century) etc. Attempts to fly increased as society became more mechanized. Probably, however, the beginning of modern flight did not take place until Dec. 17, 1903 at Kitty Hawk, North Carolina. On that day, Orville and Wilbur Wright, a couple of bicycle mechanics, flew a 605 lb. aeroplane 852 feet in 59 seconds.

We should not be surprised, however, that God gave us the most perfect flying machines of all. We call them "birds". Virtually every aspect of a bird's design is beyond the reach of human engineers. The **skeleton** of a bird is both flexible and strong, yet hollow to conserve weight. The beak, skull, feet, and all other bones of a 15 lb. Pelican, for example, weigh only 23 ounces. A bird's body operates at high speed, like a racing engine, and therefore needs an efficient **cooling system**. God took care of this by placing air sacs throughout a bird's body that act like a radiator. The body temperature of a heron is 105.8; of a duck is 109.1, and of a swift is 111.2. The **fuel consumption** of a bird is so great that God created a sac like enlargement of the gullet to store extra food. Young robins have been known to eat 14 feet of earthworms in a single day. The pectoral muscles that power the **wings** feature an ingenious "block and tackle" system that places the heaviest muscles on the bottom so a bird will not be top heavy. A bird's **tail** can be skewed to any angle and used as a stabilizing fin, parachute, flag, or crutch. A bird's **neck** is so flexible that it can reach any part of the body with ease. This not only enables the bird to care for itself, but also is used to balance the bird in flight. Even a sparrow has twice as many vertebrae in its neck as does a giraffe (14 for the sparrow, 7 for the giraffe). **Feathers** are also a unique and distinctive feature. They are not only light and strong, but feature barbs, barbules, and barbicels. These are tiny hooks that hold the feather together. When the design of the feather is disturbed, these tiny hooks have the capacity to reattach themselves like a zipper. If a feather comes out, the bird can grow a new one to take its place. In **flight** the bird's wings do not simply "flap", they make a figure eight motion that propels them with great efficiency. The feathers also provide a graceful and intricate valve action that holds the air on the down stroke and open up when rising like slats on a Venetian blind. The raven and roller pigeon can close their wings and do snap rolls. Birds can fan out their wings and tail feathers for steering, braking and landing. Birds also excel in **navigation**. Without lessons or maps they somehow manage to migrate thousands of miles, often over trackless terrain or open water. The **Arctic Tern** makes the longest migration of any known bird. It weighs only 2/3 of a lb. and yet flies each year from the Arctic to the Antarctic and back. This is a round trip journey of some 22,000 miles. The **Humming bird** weighs only as much as a penny yet many fly non-stop across the Gulf of Mexico from Texas to Central America. This involves a minimum overseas flight of 500 miles. The **Golden Plover** is able to fly 4,000 miles non-stop in its vast transoceanic flight.

Congratulations are in order for Orville and Wilbur Wright as we approach the 100th anniversary of their historic flight. Congratulations are also in order for other aviation pioneers who have enabled each new generation of man to fly further and faster than our ancestors. Congratulations, however, are not enough for God. He deserves our worship. The most important flight we will ever make is when we come to the end of our earthly life . . . and fly away! (Ps. 90:10). The most important thing you will every do in life is to get ready for that flight!