

Man or Bird?

► Can humans fly like birds? Of course not! Even if we had wings, our muscles wouldn't be strong enough to flap them, our bones are too heavy and our limbs are not in the correct position. Although we humans are well-suited to life on the ground, physical skill and strength are not our main assets: we certainly don't have the ability to lift ourselves into the air. We can run, jump, swim and climb reasonably well; but up against the the real experts in the wild – the cheetah, the kangaroo, the dolphin or the monkey – we just cannot compete.

The reason for our success as a species is not down to any physical attributes; instead, we have flourished because we are excellent at inventing. We use our inventions to help us do the things that we would otherwise be average at. Early humans learned to make stone weapons to kill animals and stone tools to cut wood. They learnt how to start fires to keep warm and to cook. They even made simple canoes to travel across the water. Nowadays, we have guns to kill, chainsaws to cut, central heating and microwave ovens. We have also invented a huge number of ways to travel on land, in the air, on and under the water. The internet, computers and smartphones help us communicate over long distances.

One of the greatest technological challenges for humans was to achieve flight. The earliest attempts were simple – people would strap on wings and jump off a high tower or a cliff. This usually resulted in death or serious injury – the mechanics of flight weren't well enough understood and the technology wasn't sufficiently advanced. The most successful early attempts involved strapping someone to a large kite – although this was also extremely risky! The discovery that hot air rises through cold air was a great leap forward and led to the invention of all kinds of balloons to carry people: these were driven upwards by heating the air trapped inside them. A variation on this idea used gases that were lighter than air, such as hydrogen. You can see this principle in action at any birthday party or celebration where balloons are filled with a very light gas called helium.

The invention of the first glider came about as a result of closely studying how birds glide: the way in which they adjust the angle and pitch of their wings to drive them through the air. The development of the aeroplane was to follow. By the end

► CONTINUED FROM PAGE 1

of the 19th century, inventors from different countries desperately raced to be the first to claim that they had invented a flying machine. The first powered flight in an aeroplane was made in 1903 by the American brothers Wilbur and Orville Wright.

Just over a century later, the flimsy planes flown by the Wright brothers are already a distant memory. Planes, helicopters and spaceships are now high-powered, super-fast flying machines. The most sophisticated – military planes – are capable of huge speeds and agile flight. Passenger planes can carry hundreds of people over long distances in safety and comfort. The space shuttle can fly to space and back, and plans are being made to begin taking untrained passengers into space.

These modern methods of flight are all due to the rapid technological developments of the last 100 years; yet it seems that humans have not lost the desire to fly more simply, without power. New developments in high-tech fabrics have enabled intrepid humans to mimic the flight of birds. The extreme sport of wingsuit flying developed from parachuting. The wingsuits have a strong, kite-like fabric stretched between the arms and legs of the flyer which allows them to control the direction and speed of their descent. A skilled wingsuit flyer, after jumping from a plane or a clifftop, can position their wings to swoop upwards and downwards, just like a bird. The fastest recorded flight speed is 226 mph and the longest distance flown is 4.7 miles.

Wingsuit flyers have become famous for their daredevil antics, such as flying through rock arches, and plunging close to cliffs and trees. Using video cameras attached to their helmets, they capture their flights on film and often post the results on the internet. If we compare one of these films to the footage taken by a camera strapped to a bird, we can see that the sensation experienced by a wingsuit flyer is probably as close to bird-flight as we are ever likely to get.