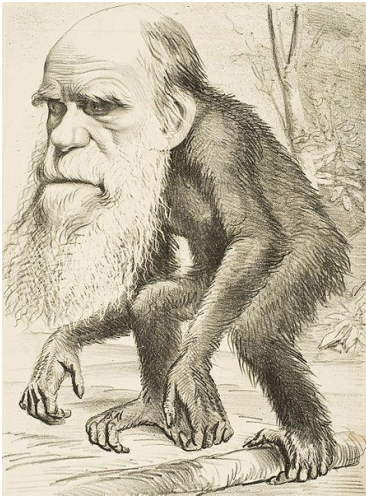


What is Evolution?



A cartoon of Darwin as an ape, his theories on evolution were controversial when he was alive. (Wikimedia)

Evolution is a theory, an idea with lots of evidence. It explains why animals and plants are so good at surviving in their environments, the places where they live. What it means is that a **species** changes over time and can even split in two new **species**.

The theory of evolution was developed by **Charles Darwin** back in 1859. He said that evolution worked through **natural selection**. Natural selection means that some individuals in a species are better at surviving than others and will have more children.

Rabbits live all over, and have dark fur. But in a place where it snows a lot, white fur would be an advantage. A white furred rabbit would be harder to see and is more likely to survive and have children. These children will **inherit** its mum or dad's white fur. Eventually all the rabbits living in the cold place will have white fur.

This is called '**survival of the fittest**' because animals which are best able to survive also fit better in their homes, like a white rabbit fits better in a cold country.

Evolution also explains how one species can become two, like with the rabbits. We call this **Speciation**. The white rabbits are better fits where it snows but dark brown rabbits fit better where it snows less. With time, the different rabbits will become different species, both living in their own, separate environment.

Evolution says that all living things are **related**. This means that if you will go back far enough in time, all animals, all plants and every other living thing, had one ancestor. Evolution led to that one species becoming many more until today when we have millions and millions.

Some animals are more closely related than others. The more closely related animals are, the more they look and act alike. Swans and geese look and act so similar because they are closely related. A sparrow looks very different to a swan but both still have beaks, feathers and can fly so are related but less closely than the swan is to the goose.

We look very different to a swan or a sparrow but we do have **similarities**. We both have two eyes, both have two legs, two arms (adapted to wings in a bird), one head, one heart, a nose and ears. We share all of these things and more with birds so, although we are very different, we are also related to birds.

Evolution is an important part of **palaeontology**. Many of the extinct animals found look like they have bits of different animals stuck to them. Many fossil birds are found with teeth. This is because birds evolved from **Dinosaurs** which do have teeth. Eventually birds lost their teeth and now no living species has them.

So evolution means we share a **history** with all the animals around us but also all the animals that are extinct. It means we are a part of nature and not better than it or above it. And it means that we should treasure those connections with nature and better protect them from our own, sometimes destructive, ways.