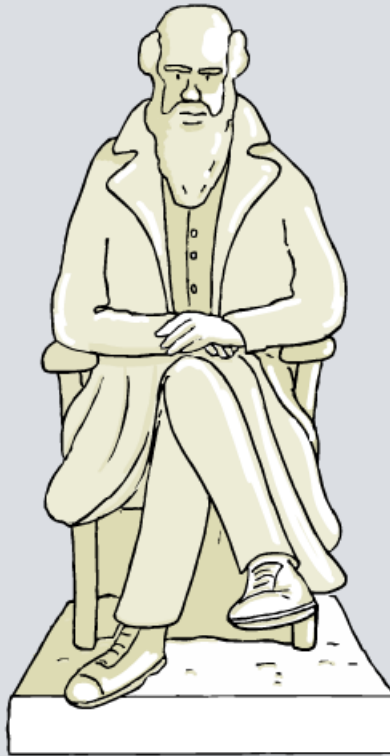


## Darwin



# Lamarck's theory of evolution

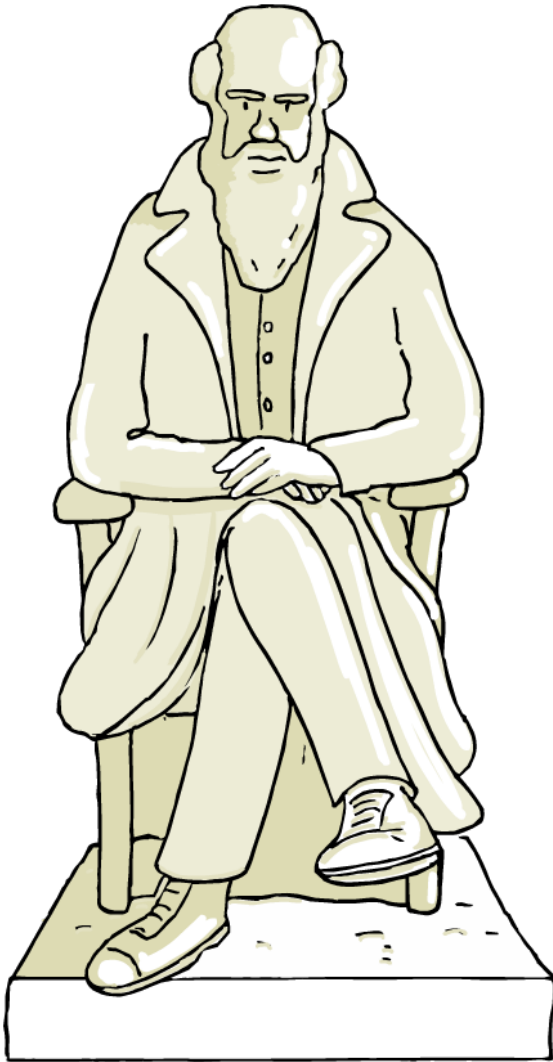
**Jean-Baptiste Lamarck** (1744-1829) was a French botanist who believed that species evolved because they inherited traits acquired through the over or under-use of body parts.

How would this theory explain a giraffe's long neck?

The short-necked ancestors of modern giraffes needed to reach the leaves on tall trees when food was scarce.

Over their lifetimes these giraffes stretched their necks; a trait which was then passed on to their offspring.





The British naturalist **Charles Darwin** (1809–1882) later suggested a more persuasive argument for evolution.

Darwin proposed that evolution took place through **natural** and **sexual selection**.

Darwin developed his theory of evolution after noticing close similarities between certain fossils and the adaptations of modern day animals he saw during his round-the-world voyage on the HMS Beagle.



# Who was Charles Darwin?



# Controversial research

Darwin knew that in religious Victorian society his findings would be controversial and blasphemous. He was unwilling to publish and risk his reputation.

However, when Darwin learned that another British naturalist, Alfred Russel Wallace, had proposed an almost identical theory of natural selection, he published his findings.



Luckily, a handful of influential scientists were convinced by Darwin's work and spoke out in public to promote his ideas.

# Could Darwin explain everything?

Darwin made extensive use of specimens and fossil evidence to explain his theory of evolution, but because DNA and genes had not yet been discovered, he was unable to explain why traits varied within individuals or how they were inherited.



Victorian scientists found it difficult to test Darwin's theory. For his theory to work, the Earth needed to be millions of years old, but its age was not known at that time.

In addition, little was known about the process of fossilization or how to explain gaps in the fossil record.

