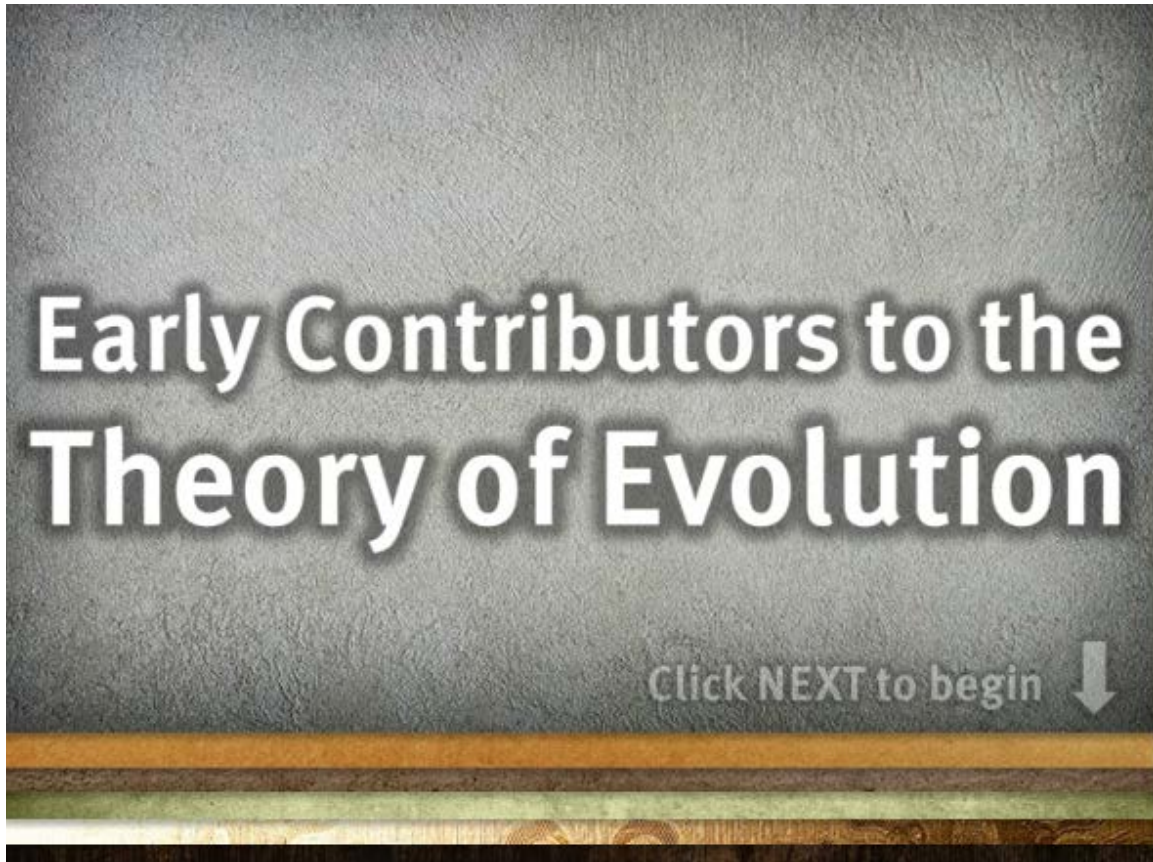


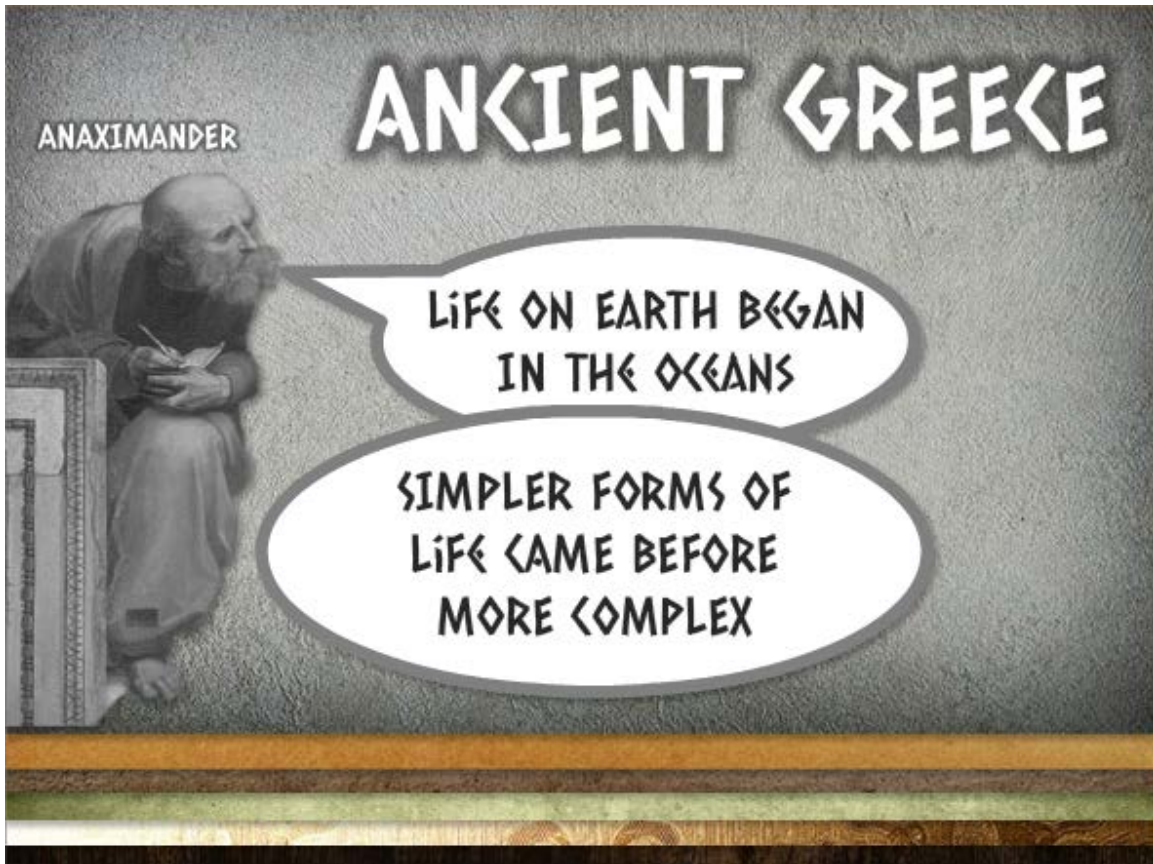
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Early Contributors to the Theory of Evolution

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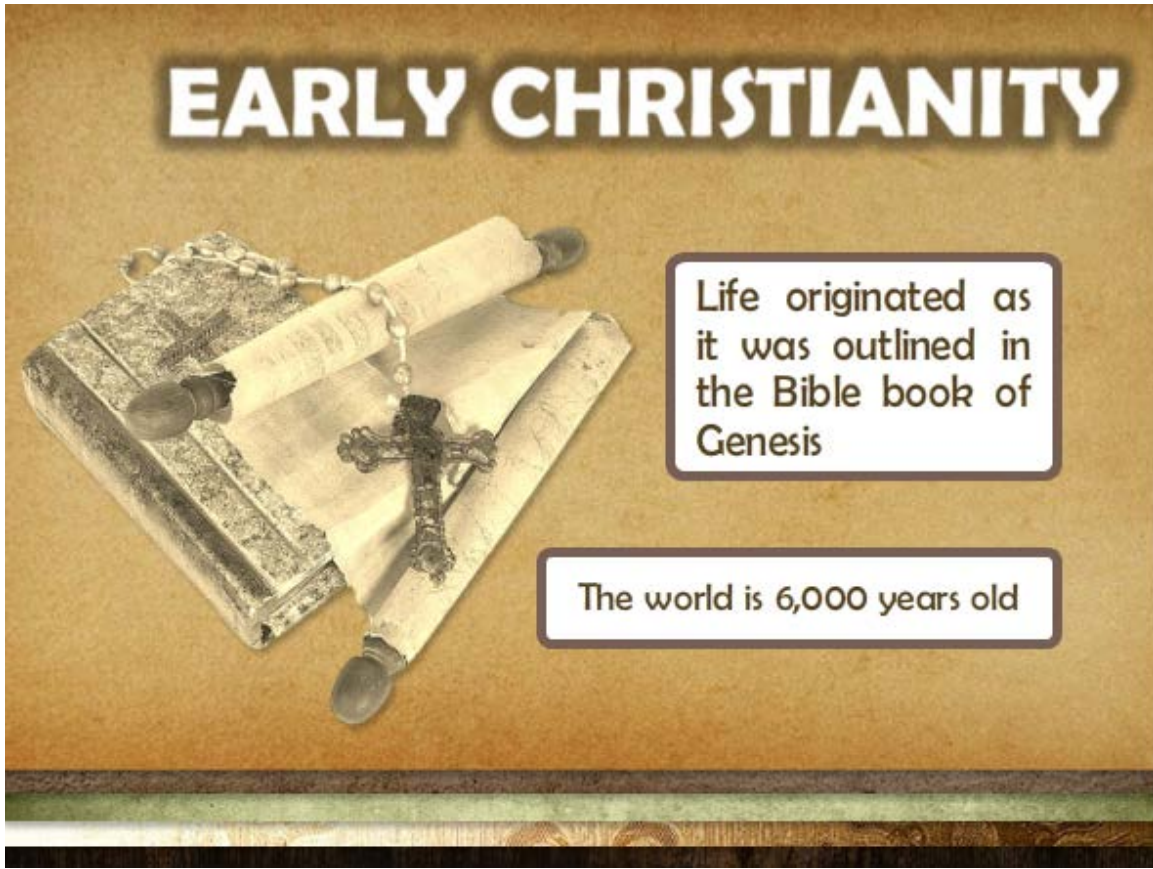
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Discussion about how or whether species change over time began in ancient Greece. Living from 610 BC to 546 BC, the philosopher Anaximander proposed that life on Earth originally began in the oceans. In addition, he set forth the idea that simpler forms of life came before more complex versions of life.

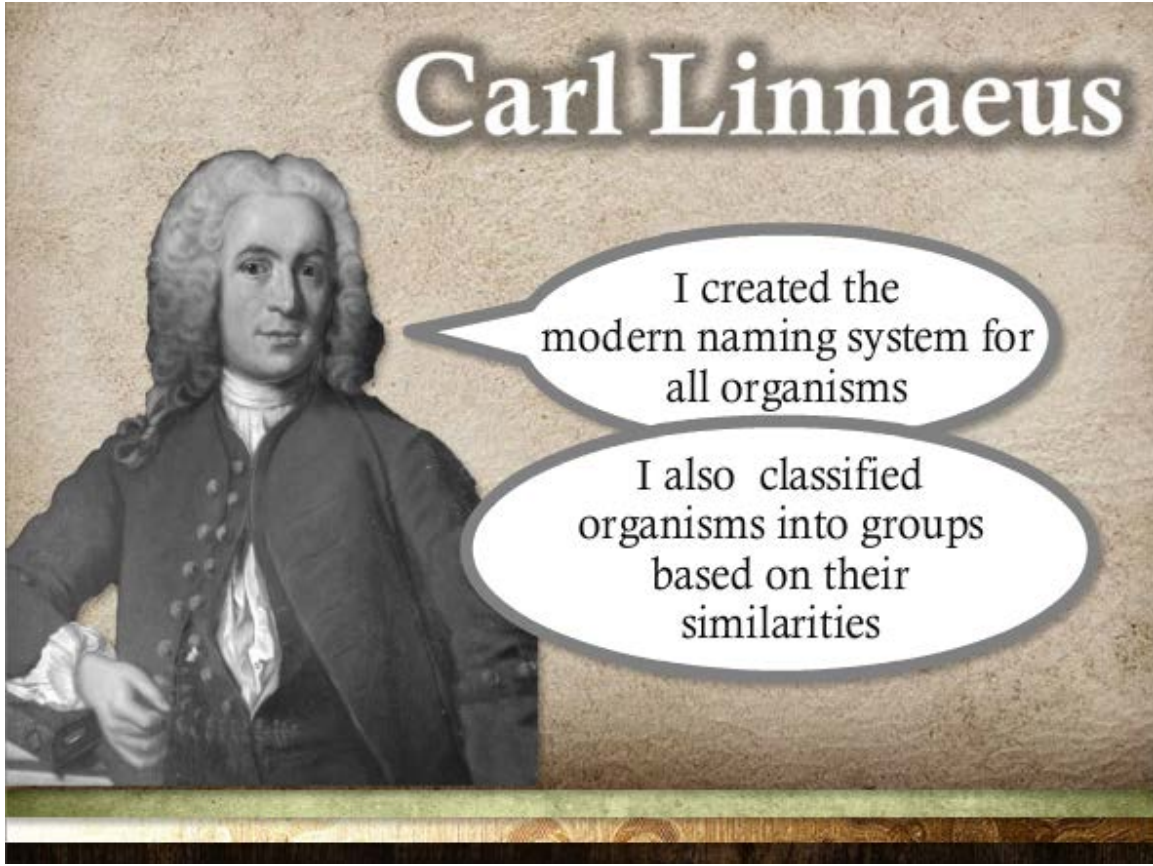
In contrast, the famous Greek philosopher Aristotle believed that species did not change or evolve. He believed that species were fixed by divine design.

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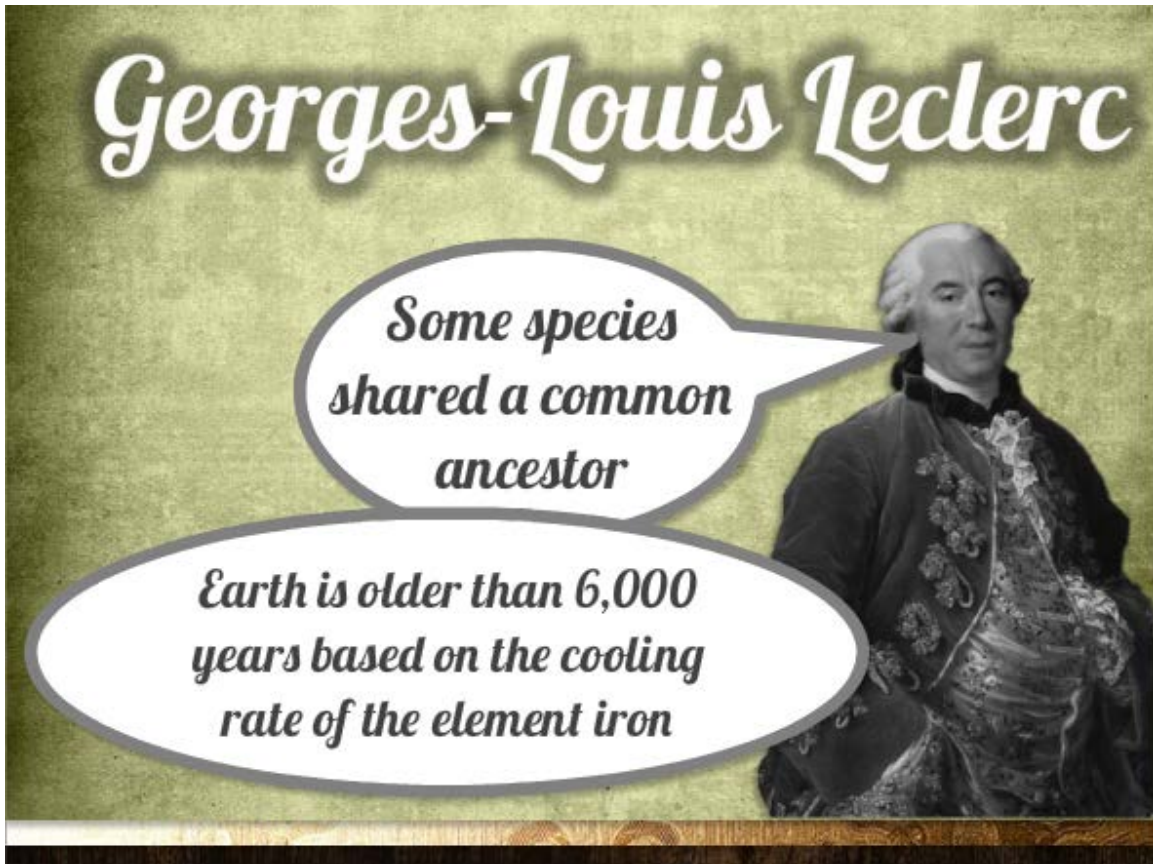
In the early part of first century AD, Christianity arose as a religion. The Judeo-Christian idea that life originated as it was outlined in the Bible book of Genesis, as well as the belief that the world was only 6,000 years old, was accepted by the majority of people until the emergence of empirical evidence and the scientific method during the Scientific Revolution.

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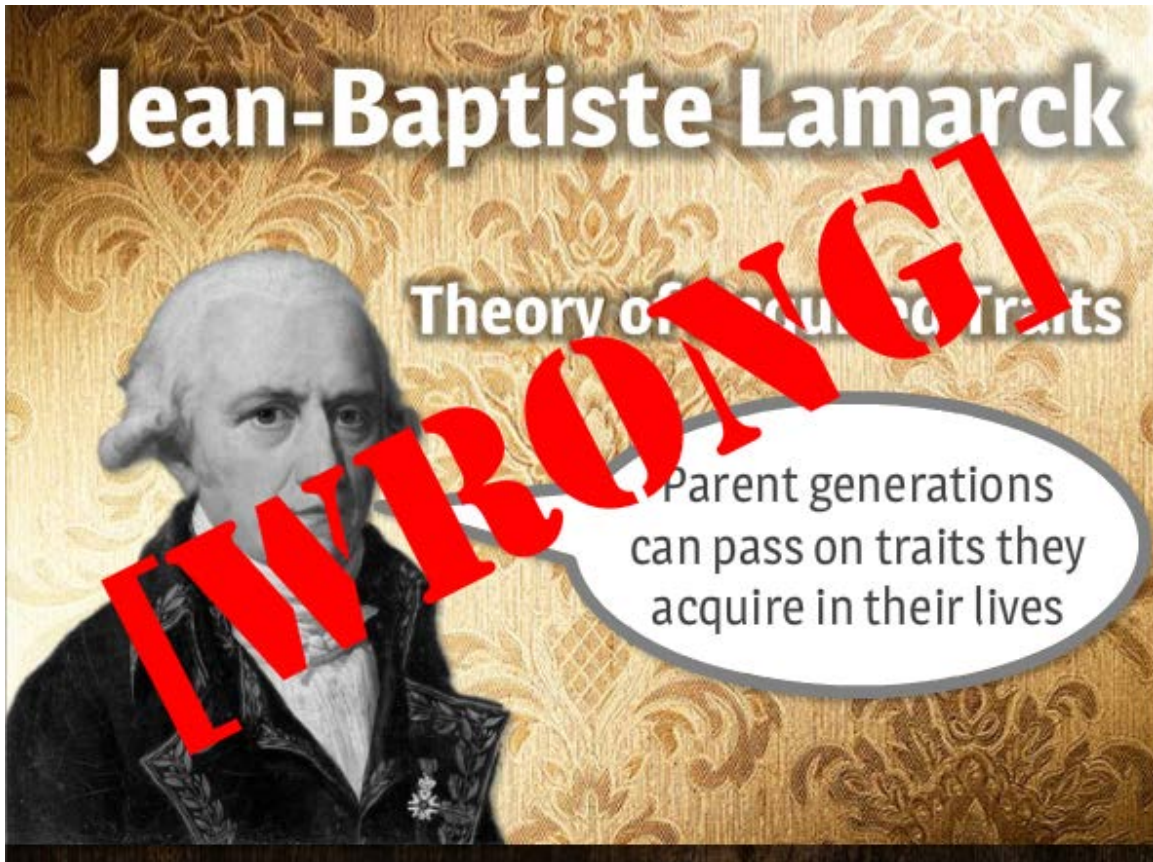
Living from 1707 to 1778, Carl Linnaeus was a Swedish botanist and zoologist who created the modern naming system for all organisms. As part of his studies, he classified organisms into groups based on their similarities. This work would provide the foundation for modern concepts of evolutionary relationships.

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Georges-Louis Leclerc was a French scientist and mathematician who lived from 1707 to 1788. He was one of the first scientists to challenge long-held beliefs by publishing the idea that some species shared a common ancestor. He also argued that the Earth was older than 6,000 years based on the cooling rate of the element iron.

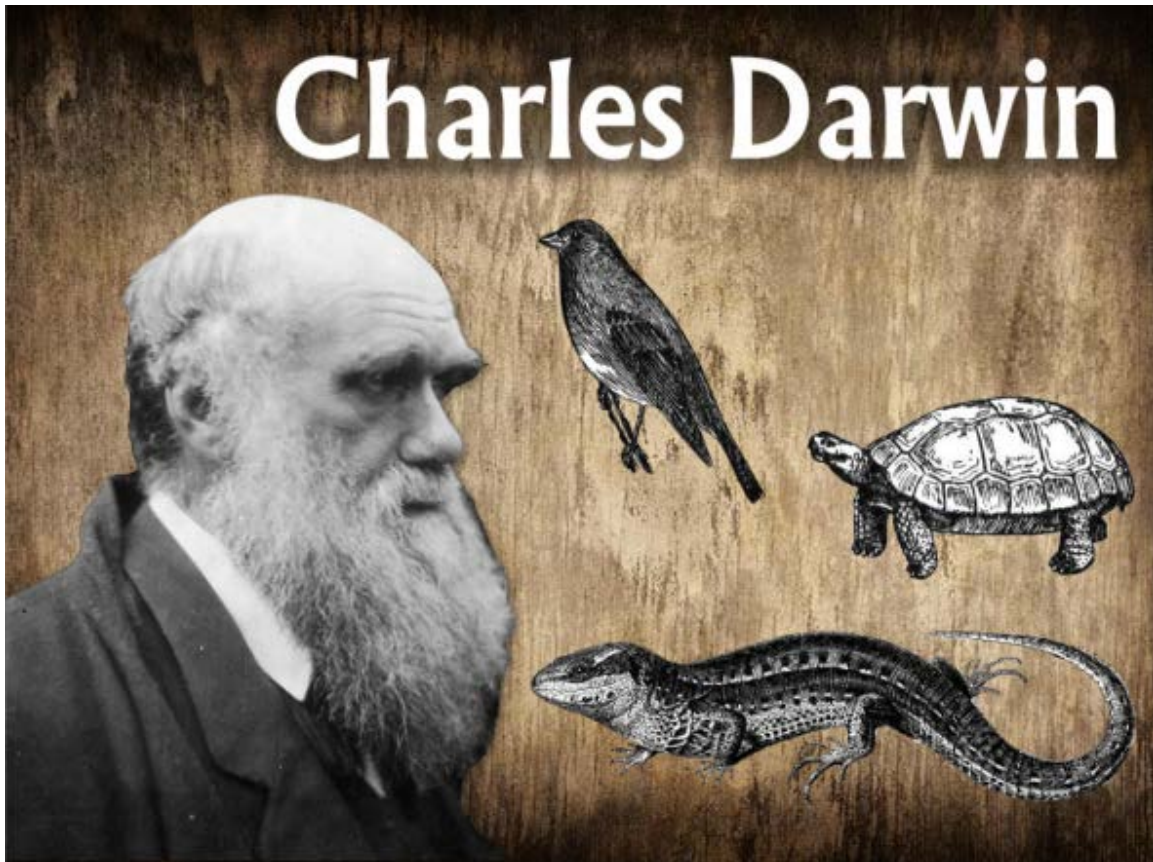
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Jean-Baptiste Lamarck was a French naturalist who lived from 1744 to 1829. In 1809, Lamarck drew from earlier thinkers to propose an idea for how organisms change over time. He called this the theory of acquired traits. According to Lamarck, parent generations could pass on traits that they acquired during their lifetime to their offspring. For example, he believed that giraffes began with shorter necks and that they stretched their necks to reach food on higher branches. Following Lamarck's thinking, later generations inherited the stretched necks.

At the time, many scientists agreed with Lamarck's theory of acquired traits; however, now it is accepted that Lamarck's assumptions were wrong. His theory focused on the change of an individual organism, rather than the species as a whole. He also did not know about genes and the process of genetic inheritance from parent to offspring.

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Charles Darwin was an English naturalist who lived from 1809 to 1882. In 1831, when Darwin was just 22 years old, he was invited to travel around the world on a ship called the HMS Beagle. One of the ship crew's most important missions was to spend five years surveying the South American coastline. As the crew surveyed the coastline, Darwin took advantage of the opportunity to explore the land, observing the animals and plants he encountered on the continent and nearby islands.

While exploring the Galapagos Islands, which are just off the coast of South America near Ecuador, Darwin observed some intriguing differences among certain species, including finches, tortoises, and iguanas, compared to their counterparts in Ecuador.

When he published his book *On the Origin of Species* in 1859, Darwin theorized that natural selection is the process by which organisms with favorable traits survive and reproduce at a higher rate than the organisms with less favorable traits. Because these organisms with favorable traits survive, they are then able to pass on these traits to their offspring. Darwin's ideas provided the foundation for modern studies of evolution.