

Carolus Linnaeus In the 1700s, the Swedish botanist Carolus Linnaeus developed a classification system for all types of organisms known at the time. Although Linnaeus used his system to group organisms by their similarities, the system also reflects evolutionary relationships. This system is still in use by scientists today. Years into his career, Linnaeus abandoned the common belief of the time that organisms were fixed and did not change. He proposed instead that some might have arisen through hybridization—a crossing that he could observe through experiments with varieties, or species, of plants. A **species** is a group of organisms so similar to one another that they can reproduce and have fertile offspring.

Georges Louis Leclerc de Buffon Buffon, a French naturalist of the 1700s, challenged many of the accepted ideas of the day. Based on evidence of past life on Earth, he proposed that species shared ancestors instead of arising separately. Buffon also rejected the common idea of the time that Earth was only 6000 years old. He suggested that it was much older. This argument was similar to that of Charles Lyell, a geologist whose work helped inspire Darwin's writings. You will read more about Lyell later in this section.

Erasmus Darwin Born in 1731, Charles Darwin's grandfather was a respected English doctor and a poet. He proposed that all living things were descended from a common ancestor and that more-complex forms of life arose from less-complex forms. This idea was expanded upon 65 years later by his grandson.

Jean-Baptiste Lamarck In 1809, the year of Darwin's birth, a French naturalist named Lamarck proposed that all organisms evolved toward perfection and complexity. Like other scientists of the time, he did not think that species became extinct. Instead, he reasoned that they must have evolved into different forms.

Lamarck proposed that changes in an environment caused an organism's behavior to change, leading to greater use or disuse of a structure or organ. The structure would become larger or smaller as a result. The organism would pass on these changes to its offspring. For example, Lamarck thought that the long necks of giraffes evolved as generations of giraffes reached for leaves higher in the trees. Lamarck's idea is known as the inheritance of acquired characteristics.

Lamarck did not propose how traits were passed on to offspring, and his explanation of how organisms evolve was flawed. However, Darwin was influenced by Lamarck's idea that changes in physical characteristics could be inherited and were driven by environmental changes over time.