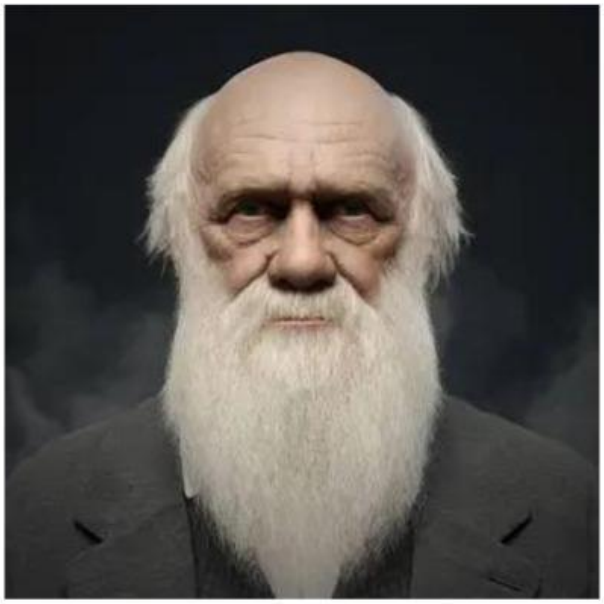
CHARLES DARWIN

(Biography)



Charles Robert Darwin (1809-1882) was an English naturalist, geologist, and biologist whose theory of evolution by natural selection revolutionized scientific understanding of life on Earth. Born in Shrewsbury, Shropshire, on February 12, 1809, Darwin was the fifth of six children born to a wealthy physician, Robert Waring Darwin, and Susannah Wedgwood. His grandfathers, Erasmus Darwin and Josiah Wedgwood, were both notable figures of the Enlightenment, influencing a family environment open to intellectual inquiry.

Darwin initially pursued medicine at the University of Edinburgh, following in his father's footsteps. However, he found lectures dull and surgery (pre-anesthesia) distressing, leading him to abandon his medical studies. During his time in Edinburgh, he did gain valuable exposure to natural history, particularly marine invertebrates, and even took taxidermy lessons from John Edmonstone, a freed former enslaved man from Guyana—a skill that would prove crucial later.

His father, sensing his son's disinterest in medicine, then sent him to Christ's College, Cambridge, to study for a Bachelor of Arts degree, with the intention of him becoming an Anglican country parson. While he wasn't particularly fervent about a clerical career, Cambridge allowed him ample time to pursue his true passion: natural history, especially beetle collecting. He also read extensively, including William Paley's *Natural Theology*, which argued for divine design in nature, and the travel narratives of Alexander von Humboldt, which ignited his desire for exploration.

A pivotal moment in Darwin's life came in 1831 when, after graduating from Cambridge, he was offered the unpaid position of naturalist aboard the HMS Beagle for a five-year scientific expedition around the world. This voyage, which lasted from 1831 to 1836, proved to be the defining experience of his life. He meticulously observed and collected an immense array of

geological, botanical, and zoological specimens, keeping extensive field notes. The diverse flora and fauna of South America, and especially the unique species on the Galápagos Islands, profoundly shaped his thinking. He noted, for example, the variations in finches on different islands, which suggested adaptation to local food sources, leading him to consider the idea of species changing over time.

Upon his return to England in 1836, Darwin dedicated himself to organizing and analyzing his vast collections and notes. He became a respected geologist and published his *Journal of Researches*, which gained him recognition. However, it was his growing insights into the "mystery of mysteries"—the origin of species—that consumed him. Influenced by Thomas Malthus's essay on population, which highlighted the struggle for existence, Darwin began to formulate his theory of natural selection in 1838. He proposed that organisms with traits best suited to their environment are more likely to survive, reproduce, and pass on those advantageous traits to their offspring, leading to gradual changes in populations over generations. He also conducted experiments, such as with pigeon breeding, to understand how artificial selection could lead to significant variations within a species, providing further evidence for his developing theory.

Despite having developed his theory privately, Darwin delayed its publication for over two decades, partly due to his meticulous nature, the immense scale of his evidence, and perhaps also concerns about the societal and religious impact of his ideas. He married his cousin, Emma Wedgwood, in 1839, and they had ten children. He settled at Down House in Kent, where he continued his research, often suffering from chronic illness, which some historians believe was exacerbated by anxiety about his groundbreaking work.

The catalyst for finally publishing his theory was a letter in 1858 from Alfred Russel Wallace, who had independently arrived at a similar concept of natural selection. This prompted Darwin to rapidly prepare and publish his seminal work, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, in 1859. The book was an immediate sensation and sparked intense debate, challenging the prevailing creationist views of the time.

On the Origin of Species presented a powerful, evidence-based argument for evolutionary descent with modification as the explanation for the diversity of life. Darwin's theory gradually gained widespread acceptance within the scientific community. He continued to publish extensively, further exploring aspects of his theory in works like *The Descent of Man, and Selection in Relation to Sex* (1871), which addressed human evolution and sexual selection, and *The Expression of the Emotions in Man and Animals* (1872). He also conducted detailed research on plants, publishing several books on topics like orchids and climbing plants, and even studied the role of earthworms in soil formation.

Charles Darwin died on April 19, 1882, and was buried in Westminster Abbey, alongside other scientific giants like Isaac Newton. His legacy as one of the most influential scientists in history is immense, having fundamentally reshaped our understanding of biology and our place in the natural world. His theory of evolution by natural selection remains the unifying principle of modern biology.

CHARLES DARWIN'S BIOGRAPHY

COMPREHENSION ACTIVITIES

A) Charles Darwin: A Short Quiz

1. **Which of the following universities did Charles Darwin attend before embarking on the HMS Beagle voyage?** a) University of Oxford b) University of Cambridge c) University College London d) University of Edinburgh

2. **What was the name of the ship on which Darwin made his famous five-year voyage?** a) HMS Endeavour b) HMS Discovery c) HMS Beagle d) HMS Challenger

3. **In what year was Darwin's seminal work, *On the Origin of Species*, first published?** a) 1836 b) 1842 c) 1859 d) 1871

4. **Which of the following concepts is most central to Darwin's theory of evolution as presented in *On the Origin of Species*?** a) Inheritance of acquired characteristics b) Catastrophism c) Natural selection d) Spontaneous generation

5. **Besides *On the Origin of Species*, which other significant work by Darwin addressed human evolution and sexual selection?** a) *The Voyage of the Beagle* b) *The Descent of Man, and Selection in Relation to Sex* c) *The Expression of the Emotions in Man and Animals* d) *The Power of Movement in Plants*

B) Charles Darwin: Fill in the Blanks

1. Charles Darwin was an English naturalist, geologist, and biologist whose theory of evolution by _____ revolutionized scientific understanding of life on Earth.
2. He was born in Shrewsbury, Shropshire, on February 12, _____.
3. Darwin's famous five-year scientific expedition was aboard the HMS _____.
4. The unique species he observed on the _____ Islands significantly influenced his developing ideas.
5. Darwin's most famous work, *On the Origin of Species*, was published in the year _____.
6. The concept that organisms better adapted to their environment tend to survive and reproduce more offspring is known as _____ selection.
7. After his voyage, Darwin settled at _____ House in Kent.
8. Another significant work by Darwin, which addressed human evolution, was titled *The* _____ *of Man*.

C) Charles Darwin: Matching Exercise

Match the item in Column A with its correct description or associated fact in Column B.

Column A

1. *HMS Beagle*
2. *On the Origin of Species*
3. *Galápagos Islands*
4. *Natural Selection*
5. *1859*
6. *The Descent of Man*
7. *University of Cambridge*
8. *Alfred Russel Wallace*

Column B

A. The year Darwin's most famous book was published.

B. The process by which organisms better adapted to their environment tend to survive and reproduce more offspring.

C. The ship on which Darwin made his famous voyage.

D. This work addressed human evolution and sexual selection.

E. The location where Darwin observed unique species, influencing his theory.

F. The book that introduced the theory of evolution by natural selection.

G. The individual whose independent similar ideas prompted Darwin to publish his work.

H. One of the universities Darwin attended, where he studied to become a parson.