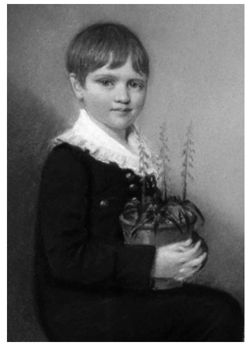
THE LIFE OF CHARLES DARWIN - A Chronology   ©Dr. John Freedman 2025

12 February 1809: Charles Robert Darwin was born in Shrewsbury, England, the 5th of 6 children to Dr. Robert Darwin and his wife Susannah Wedgwood, heiress to the Wedgwood Pottery Company fortune. Charles Darwin's family wealth would provide him lifelong independence for his scientific work.



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1817: Susannah Darwin dies when Charles is 8 years old.
1818–1825: Charles attends Shrewsbury School as a boarder
1825–1827: Charles studies Medicine at University of Edinburgh but abandons due to aversion/disinterest in surgery and keen interests in geology, zoology and botany
1828–1831: Studies at Christ's College, Cambridge, completing a B.A. degree with an intent to join the clergy. As a student he was strongly influenced by two professors: geologist Adam Sedgwick and botanist John Stevens Henslow. After completing his B.A. but before moving on to the next phase (ordination):

1831 A life-changing opportunity is offered to **Charles, age 22: to join the *HMS Beagle* hydrographic expedition voyage** as a gentleman companion for the Captain and a Naturalist, paying his own way.

- **27 Dec 1831**: **The *Beagle* departs Plymouth** under the command of Captain Robert FitzRoy
- **6 Jan 1832**: Porto Praya, Cape Verde Islands
- **16 Feb 1832**: St. Paul's Rocks (a small, remote group of 15 barren, rocky islets located in the central equatorial Atlantic Ocean, about 620 mi/1000 km NE of Natal, Brazil
- **28 Feb 1832**: Salvador, Bahia, Brazil
- **April 1832**: Rio de Janeiro, Brazil
- **May-June 1832**: Darwin reads the works of geologist Charles Lyell, which suggest the Earth is much older ('millions of years') than the accepted teachings of St. Augustine (6000 years) - *this mindset and understanding will be absolutely critical in conceiving the theory of evolution by natural selection, which requires enormities of time* (Note: the actual age of Earth is now thought to be approximately 4.6 billion years).
- **Jul–Oct 1832**: Argentina - many megafauna fossil discoveries and combined geological and biological observations suggest Lyell's theory of a very ancient Earth is correct
- **Nov 1832–Jan 1833**: Tierra del Fuego (including the Beagle Channel)
- **March 1833**: Falkland Islands
- **April 1833**: Back to Maldonado, Uruguay
- **May-June 1834**: Entered the Strait of Magellan from the Atlantic side but turned back due to severe weather and decision to further survey Atlantic Patagonia
- **Jul 1833–Jul 1834**: Extended Patagonian coast surveys
- **June 1834**: Second Strait of Magellan passage - this time all the way through to the Pacific
- **July 1834**: Valparaíso and Santiago, Chile.
- **Nov 1834**: Chiloé Island and Valdivia, Chile.

Feb–March 1835: Concepción, Chile (observes massive earthquake aftermath and makes major geologic observations which contribute to his embrace of Lyell's ancient Earth hypothesis
Sept 1835: Galápagos Islands - 5 weeks - Observation of distinctly differing plant life on different islands puzzles and intrigues him; collects bird specimens, *not yet realizing they were all finches*
Oct 1835: Tahiti. Extensive hiking, greatly impressed with Tahiti's natural beauty and his Tahitian guides: analyzed reef structure and began the first formulations of his theory of atoll formation
Nov 1835: Bay of Islands, New Zealand. Disappointed with New Zealand after the lushness of Tahiti; found the Maori far less friendly and engaging than the Tahitians.
Dec 1835: Sydney, Australia. Marveled at the fauna of Australia, especially a platypus encountered in the Blue Mountain region. Pointedly noted that a creationist view of the origin of species 'would necessitate two creators' in light of the 'platypus and otherAustralian marsupials and monotremes which were so utterly different from Europe's placental mammals. This in turn led him to heretical thoughts that the notion of one creator did not fit the facts. The observation of dramatically different creatures that were perfectly adapted for their environmental niche on different continents (example: the platypus and the English water shrew) led him to the inescapable conclusion that 'the object is the same': adaptation to the environment. He would later come to fully understand that the process which yields that outcome is natural selection. *It was Darwin's observations in Australia (not the Galapagos) that first ignited his doubts about creationism and his search for other explanations for the origin of different species*. It was also in Australia that he came to consider the core truth of evolution: species are mutable, not fixed, as religious dogma of the time maintained.
Jan 1836: Hobart, Tasmania. Here he focused on insects, plants and geological observations.
Feb 1836: King George's Sound on Australia's west coast - last stop before the Pacific crossing.
March 1836: Cocos (Keeling) Islands. Extensive observations in this Indian Ocean archipelago of 27 islands (halfway between Australia & India) further supported his theory of atoll formation..
April 1836: Mauritius (a British colony from 1810, after periods of Dutch and then French rule).
July 1836: Cape Town, South Africa. Here he spent time with John Herschel, the prominent British polymath, son of famous astronomer William Herschel. Their friendship and intellectual compatibility proved important: Darwin wrote: "He stirred up in me a burning zeal to add even the most humble contribution to the noble structure of Natural Science" and Herschel's emphasis on *verae causae* ("true causes") and the need for testable hypotheses shaped Darwin's approach to science, philosophy and natural selection. Darwin would ultimately choose the path of evidence over the path of faith, a decision that was long in coming and with which he never fully made his peace.
Aug 1836: Back up to Salvador, Bahia, Brazil (second visit).
Sept 1836: Azores.
2 October 1836: HMS *Beagle* returns to Falmouth after almost 5 years.
Darwin immediately arranges and meets with Charles Lyell to discuss his geologic observations in South America that aligned with Lyell's view of a much older Earth than biblical teachings.

1837: To Darwin's surprise, eminent ornithologist Richard Owen identifies all of Darwin's Galapagos bird specimens as finches, despite profoundly different beaks. This new data shows speciation at work on separate islands and mirrors Darwin's own previous observations about Galapagos plant life. Darwin begins his 'Transmutation Notebooks' cataloguing key observations and insights, increasingly embracing the heretical notion of species transmutation rather than divine creation.

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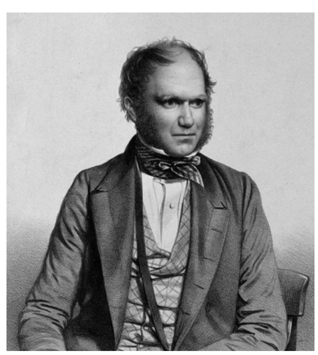
29 Jan 1839: Charles marries Emma Wedgwood (his first cousin).
1839: Publishes Journal of Researches (later and to this day known as The Voyage of the Beagle).
First child of ten, son William, is born Dec 27.
1841: Daughter Anne born March 2; Anne would die at age 10 of scarlet fever.
1842: Daughter Mary born in September but died one month later, likely from birth-related injuries.
Darwin's first major publication, The Structure and Function of Coral Reefs, based on his observations in Tahiti and the Cocos Islands, is published.
Darwin's decline in health begins, with a constellation of gastrointestinal, cardiac, neurologic, dermatologic, and psychological symptoms, the etiology of which is a fascinating subject in and of itself. Medical forensic historians believe that Chagas Disease (American trypanosomiasis) acquired in South America may explain many of his symptoms. Other theories invoke a genetic mitochondrial disorder, arsenic poisoning from Victorian medicines, and/or psychosomatic disorder as contributing factors.
1843: Daughter Henrietta ("Etty") born in September.
1844: Geological Observations on Volcanic Islands is published, expanding on his theory of atoll formation. Darwin sends a manuscript of his theory on the origin of species to Charles Lyell - who is fearfully and tentatively supportive of it. He will later become a strong supporter and advocate.
1845: Son George Howard Darwin is born in July.
1846: Geological Observations on South America is published - Fossils of ancient organisms found on mountaintops thrust up from under the sea millions of years ago would contribute to Darwin's appreciation of the enormity of geological forces and the vast expanse of geological time. Reflections on extinct species would inform his view of species mutability and survival/non-survival.
1847: Daughter Elizabeth born in July.



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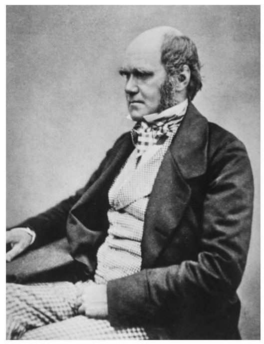
1848: Son Francis born in August.
1850: Son Leonard born.

1851: 10-yr-old daughter Anne died of scarlet fever, thrusting Darwin into severe grief and depression along with worsening of his now chronic medical issues. Anne's death also contributed to his increasing religious skepticism due to both human suffering and the 'horrific cruelty in nature' that he observed.
1851-54: Multiple authoritative monographs on the biology of barnacles published.
Work on his Notebooks regarding a theory for the origin of species had been somewhat slowed during 'the barnacle phase' (which was perhaps an escape from the troubling reality of his heretical thoughts). His attention to the origin of species would increase after 1854. All the while both Darwin and his loving wife Emma were fearful of the consequences - both in this life and the next - of Charles' embrace of the heretical notion of species transmutation by natural forces rather than a Creator-God.



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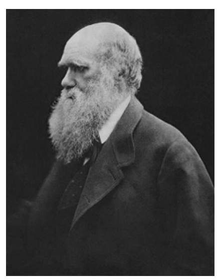
1855: Alfred Russell Wallace publishes his 'Sarawak paper' based on his Amazonian and Malay Archipelago biogeographic observations, formally titled "On the Law which has Regulated the Introduction of New Species". It includes the idea of natural selection.
1856: Son Charles Waring Darwin is born in December with Down Syndrome; died at age 18 months.
1857: Darwin formally acknowledges, with notable humility, grace and collegiality, Wallace's Sarawak Paper. Darwin and Wallace correspond regarding 'speciation'.
1858: Darwin and Wallace (who was still 5000 miles away in Indonesia) communicate regarding their shared observations and conclusions on species mutability and the origin of species through the process of natural selection. Wallace sends Darwin his 'Ternate Paper' on natural selection, formally titled "On the Tendency of Varieties to Depart Indefinitely from the Original Type". (Neither Wallace nor Darwin would use the term 'evolution' until several years later.)
Charles Lyell begins to actively encourage Darwin to publish his treatise on the origin of species before Wallace's Ternate Paper is published. This helps break Darwin's long resistance to widely sharing his highly controversial views. Emma, for the first time, now concurs that publication should proceed.
1859 : Geologist Charles Lyell and botanist Joseph Hooker, both friends, colleagues and admirers of Darwin, steward the now-famous 'Delicate Arrangement' in which Darwin's and Wallace's papers were co-presented and co-published by the Linnean Society, cementing their joint discovery and 'ownership' of the theory of evolution.
On November 24, 1859 - a full 24 years after returning from the Beagle voyage, <u>On the Origin of Species by Means of Natural Selection</u> is published. It does not contain the word 'evolution' but espouses all of the key tenets of what we now know as the theory of evolution by natural selection.
It was and is Darwin's signature contribution to science and human history.
1860: Renowned ornithologist and paleontologist Richard Owen - a close colleague and friend of Darwin who had identified all the Galapagos birds and also first coined the term 'dinosaur 'in 1841 - publicly

condemns Darwin's theory on the grounds that is both lacking in proof and fails to explain speciation and other biological phenomena as well as 'a divine plan'.
T.H. Huxley, a staunch Darwin supporter, debates Owen, a staunch Darwin opponent, at Oxford. Darwin himself is now largely housebound at age 51 due to chronic illness and debilitation. He tries many experimental treatments including ice water hydrotherapy, without success.
1862: <u>On the Various Contrivances by Which British and Foreign Orchids Are Fertilised by Insects</u> is published by Darwin. He is ailing physically and trying to stay out of the glare of controversy.
1863: Huxley publishes essay, 'Evidence as to Man's Place in Nature', strongly supporting Darwin.
1864: Darwin receives the prestigious Royal Society Copley Medal.
1868: <u>The Variation of Animals and Plants Under Domestication</u> is published by Darwin, outlining that artificial selection (breeding plants, or animals for specific qualities) has a parallel in nature.
T.H. Huxley, after almost a decade of staunchly supporting Darwin, is called 'Darwin's Bulldog Defender'.
1871: <u>The Descent of Man</u> is published to a firestorm of controversy. Darwin has now said it out loud: No organism, including humans, is exempt from the process of natural selection, and all organisms - including humans - evolved from other organisms. This resulted in both a public outcry and was rejected by many of his scientific colleagues as well. Even Wallace rejected the idea, clinging to the idea that the human mind was too complex to have been created by evolution. Wallace would increasingly turn to mysticism in later life. Darwin had now de-throned man from his pinnacle position, just as Copernicus had de-throned Earth from its central position 300 years earlier.
1872: Darwin's <u>The Expression of the Emotions in Man and Animals</u> is published, making an evolutionary case for emotions as biological adaptations as with any other characteristic of animals.
1875: Darwin's <u>Insectivorous Plants</u> is published.
1876: Darwin's <u>The Effects of Cross and Self Fertilisation in the Vegetable Kingdom</u> is published - again using plant breeding/artificial selection as a paradigm for evolution.



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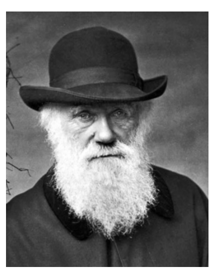
1880: Darwin's <u>The Power of Movement in Plants</u> (with son Francis) is published.



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1881: Darwin's <u>The Formation of Vegetable Mould Through the Action of Worms</u> is published. Similar to the barnacle obsession, this intense focus helps calm his mind and keep a distance from controversy.
19 April 1882: Charles Darwin dies of a probable coronary event, age 73. He is buried in Westminster Abbey 7 days later.