

Charles darwin: pioneer of evolution theory



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Charles Darwin: Pioneer of Evolution Theory Charles Darwin is the source of one of the biggest controversial subjects in the modern world. A pioneer of evolutionary biology, Darwin's ideas and observations are all the more important in today's further understanding of the sciences. Darwin's work and understanding has propelled him to become one of the most influential scientists that ever lived. The Grandfather of Charles, Erasmus Darwin, was a physician and poet with a fascination for natural philosophy. (Berra, 2). He was a kind-hearted man and enjoyed a comfortable life due to his popularity as a physician. He refused payment from poor patients and even offered them food and money! He was very close to several of the wealthy patients who made his comfortable life possible, and was a member of a group of intellectuals that jokingly called themselves the Lunatics. This group included James Watt, who perfected the steam engine, and Joseph Priestley, who is credited with the discovery of oxygen. Perhaps more importantly, the work that Erasmus proposed included an explanation for the origin and development of life. He published a book where he discussed cross-fertilization of plants as well as the domestication of animals. He also published other works discussing inheritance mechanisms and sexual selection. Robert Darwin, like his father, was a respected physician. His marriage with Susannah Wedgwood was a result of the friendship between Erasmus Darwin and Josiah Wedgwood, the man credited with the industrialization of the manufacture of pottery. They had six children, four of which were girls. Charles Darwin was born on February 12, 1809. The family home, the Mount, was located in Shrewsbury. Except for the death of his mother in 1817, Charles had a happy as well as privileged childhood. Uninterested in the classical education in his home town, he enjoyed hunting

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at the age of fifteen. His father was displeased with his son's newfound interest, and decided to pull him out of school. He gave Charles the opportunity to serve as an assistant in his medical practice. Charles did insignificant work, but nonetheless realized that attempting to predict diagnoses was something that he had at least a remote interest in. His father and grandfather were going to influence the way Charles thought enough to pursue an understanding of the unknown. Charles joined his older brother Erasmus, or Ras, at Edinburgh University in 1825. The two enjoyed the privileged lifestyle that was given to them, but eventually Charles found the medical lectures boring and uninteresting. Instead, he enjoyed sorting through fisherman's nets, and had a genuine interest in zoologist and physician Robert Grant. Grant was an expert on marine life, particularly sponges, and provided Darwin with opportunities for field trips, research projects, and scientific presentations. It was around this point of his life where Charles began to discover what genuinely excited his interest and imagination. After attending a lecture of American painter and ornithologist John Aububon, he became fascinated with taxidermy. This led him to take private lessons from a former slave who was likely the only black man in Edinburgh at this time (Berra, 8). Charles wrote to his sisters about his unhappiness; he was much more interested in natural history rather than medicine. During his second year in Edinburgh, a persuaded father Darwin decided that if Charles would not become a physician, he would become a clergyman. It is important to note that the Darwins were quite the opposite of a religious household, but nonetheless Charles was to attend Cambridge to study for the church. Charles studied Latin and Greek for eight months before deciding that he was ready for Cambridge. After arriving to

Cambridge in 1828, he found that the environment was more suited for him. He socialized with like-minded individuals and collected different plants and beetles. He also socialized with card-playing drinkers and had his share of fun. Charles came under the tutelage of Reverend Professor John Henslow, a botanist, who is said to have influenced his career more than any other person. (Berra, 11) The two grew close; Charles was often invited to dine at Henslow's home, as well as field trips and walks where Henslow taught about the natural history of the area. Henslow truly opened the doors of the future for Charles. He arranged for geology professor Adam Sedgwick to take Charles as his assistant for a summer field trip where Charles learned the use of technical instruments, surveying, and geological description. Charles graduated at the age of twenty two in the year 1831 and was tenth in his class. When he arrived home, a letter from Henslow was waiting for him. Inside this letter was another letter from Cambridge astronomy professor George Peacock, offering Charles an opportunity for a voyage around the world. In *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, Charles Darwin writes: When on board...I was much struck with certain facts in the distribution of the organic beings inhabiting South America, and in the geological relations of the present to the past inhabitants of that continent. These facts...seemed to throw some light on the origin of species-that mystery of mysteries, as it has been called by one of our greatest philosophers...From that period to present day I have steadily pursued the same object. (1) The opportunity that was presented to Darwin would soon help shape the mind of the scientist who will be forever remembered for his studies and ideas. Much was to be absorbed from the voyage around the

world for Darwin. He indulged in the opportunity to be surrounded by what interested him most in life; he even hunted frequently and often brought back fresh game for the ship's galley. He read many books and was particularly inspired by *The Principles of Geology*, written by Charles Lyell. He wished to write a book on the geology of the places he visited. Lyell rejected the catastrophist interpretation of the formation of the earth and developed a concept which stated that physical processes of the earth have proceeded and will proceed at the same rate. Darwin and Lyell eventually became close friends, and Charles would make extensive use of this concept to make sense of geological structures he was to describe (Berra, 17). During the early part of his voyage, Darwin excavated about four hundred miles south of Buenos Aires. Darwin and Covington, a personal servant and secretary, uncovered huge fossil bones that would later be identified as the skeleton of a giant land sloth, *Megatherium*. This exciting discovery bridged an important gap in evolution. Along with collecting hundreds of different species, Darwin collected giant tortoises and finches from the Galapagos Islands. The shape of the tortoises' shells varied slightly between the islands, but also varied slightly in general. The finches however, had consistent physical differences depending on which island the finch was obtained from. The fact that all of these animals from the same species had different features depending on their environment was one of the most significant in more fully understanding both natural selection and evolution. After nearly five years of extraordinary acquaintances, acknowledgements, discoveries, studies, ideas, and theories, the voyage came to an end on October 2nd 1836. Shortly after he returned home, he went back to Cambridge to meet with Henslow. After all of his hard labor, he earned the respect of the

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scientific community, and more importantly his father (Berra, 34). Charles was officially no longer pursuing the position of a clergyman. After even more assistance from Henslow, by means of the referral of Darwin's works and specimens to other scientists, Charles was not only respected by the scientific community, but quite well-known. However, Charles often wished for a more quiet life away from crowded London. He married Emma Wedgwood, his first cousin, and they lived rather wealthily. Charles' mother was also a Wedgwood, as well as his brother-in-law, so the two families had grown fairly close. Emma was deeply religious, but nevertheless she would read her husband's manuscripts before they were sent off. In 1842, Darwin had completed a 35 page sketch of his species theory, and referred to it as a "natural means of selection." (Berra, 42) Toward the end of the pregnancy of their third child, they moved near the small village of Downe in Kent. Three weeks after their third child was born, the child died. The contrasting beliefs of religion and science were now a source of tension for Charles and Emma. Darwin was not very public with his works and ideas for quite some time. It is not known why he chose to be so, but many speculate forcing his beliefs onto others and perhaps offending or upsetting his wife was not in his character. It was not until the 1850s when Darwin was considering publishing his major theory of natural selection. A naturalist by the name of Alfred Wallace had been studying much of the same material that Darwin had, except nearly twenty years later, and had begun to write about shockingly similar ideas and theories as Darwin. After Darwin received Wallace's essay, Darwin was having trouble deciding whether or not it was ethical to publish his "big book" before Wallace. Wallace was very understanding and openly acknowledged that Darwin's lifetime of labor deserved the credit and

recognition. Wallace wrote: Darwin...wrote to me in the most kind and courteous manner, informing me of what had been done, of which they hoped I would approve. Of course I not only approved, but felt that they had given me more honour and credit than I deserved, by putting my sudden intuition...on the same level with the prolonged labors of Darwin, who had reached the same point twenty years before me, and had worked continuously during that long period in order...to present...the theory to the world with such a body of systematized facts and arguments as would almost compel conviction. (My Life: A Record of Events and Opinion, 193)

Darwin and Wallace remained in contact throughout Darwin's life, and Darwin even arranged for a government pension for Wallace (Berra, 63).

Darwin then decided to start from scratch; the "big book" was not going to get any bigger. After months, this new abstract was complete. On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life was published on November 24th 1859. The work of Charles Darwin allowed for the advancement of science. He provided scientific evidence that all species of life have evolved from one or a few common ancestors through natural selection. His Origin of Species established evolution by common descent as the scientific explanation for the countless number of organisms in nature, and his other works have contributed greatly to the further understanding of human evolution and sexual selection. Charles Darwin's work will always be known as the beginning of modern biology, and his lifetime of hard work is what shifted the way of thinking for many from creation to evolution. Works Cited Berra, Tim M. Charles Darwin: The Concise Story of an Extraordinary Man. Baltimore, MD: Johns Hopkins UP, 2009. Print. 86) Darwin, Charles. The Origin <https://assignbuster.com/charles-darwin-pioneer-of-evolution-theory/>

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