

Historical Developments of Theories of Evolution

And the Social and Political Factors Influencing These Developments

- Prior to the 18th Century CE - There was a strong belief in Creationism. It was common belief that God created all creatures the way they are now. Organisms were considered as unchanging. Human beings are considered to a special creation of God.
- 1735 - Carolus Linnaeus published a classification system in which humans are grouped together with apes. The idea that humans are animals is strongly resisted.
- Late 18th Century CE - Erasmus Darwin (Charles Darwin's grandfather) proposes the idea that all life originated from a single source.
- 1809 - Jean-Baptiste de Lamarck puts forward the first theory of evolution; Evolution by Acquired Characteristics. He stated that variation in species was caused by the use or disuse of body parts, and these variations are passed onto offspring. He was the first to propose that organisms change over time due to natural phenomena. Although his theory was incorrect, it challenged the commonly accepted belief of creationism, and paved the way for Darwin's theories to be accepted.
- 1859 - Charles Darwin publishes his famous treatise, *On the Origins of Species by Means of Natural Selection*. It is the first scientifically acceptable explanation for the gradual change in species over time. Basic points of his theory: All populations have variations. Organisms with favourable variations reproduce and pass them on. Over time favourable variations become common in the species, and they are fit to survive.
- 1864 - Alfred Wallace publishes an essay on evolution, titled *On the Tendency of Varieties to Depart Indefinitely from the Original Type*. Very similar to Darwin's work, but less credited.
- 1866 - Austrian monk, Gregor Mendel, published his work on genetics, based on his work on some 28,000 pea plants. He is widely ignored.
- 1871 - Darwin applies his theory of evolution to humans, in his book *Descent of Man*.
- 1883 - August Weismann publishes his paper *On Inheritance*, outlining the chromosomal basis of heredity based on his studies of somatic cells and germ cells.

- 21st Century - The modern theory of evolution is called Neo-Darwinism. It combines Darwin's theory of evolution, Genetics from Mendel and the chromosomal basis of heredity, by Weismann.

Social and Political Influences:

- Influences Prior To Publishing of Evolutionary Theory:
 - Christianity was a very dominant force during the time of Charles Darwin.
 - Creationism was widely accepted, as a religious and a scientific concept
 - Darwin knew what a huge impact his knowledge would make on the world when he released it, so he withheld his theory for 25 years.
 - It was only when he felt the social and political climate was right, did he publish his information
 - He chose to publish it during a time of great societal change; i.e. the Industrial Revolution, and a time when the power of the Church was waning.
 - Also, Wallace's willingness to propose his own version of evolution prompted Darwin to finally publish his papers
- Influences of Evolutionary Theory on Society:
 - Darwin's theory caused great furore in the society at the time. Great debates were fought out by evolutionists and creationists (a famous one being between Thomas Huxley and Bishop Samuel Wilberforce).
 - Darwin was also blamed for many catastrophes in history, as people continued to wrongly apply the "Survival of the Fittest" to normal life.
 - Darwin has been blamed for the destruction of religion and the rise of atheism, fascism, communism and even the Second World War, as people like Karl Marx base their philosophies on *The Origin of Species*.

Bibliography:

Source 1 - HSC Biology: Alford & Hill
Source 4 - Tutor Courseware, 1993
"Theories about evolution" Pages 45 - 49
<http://en.wikipedia.org/wiki/Mendel>
<http://en.wikipedia.org/wiki/Weismann>