



Charles Darwin (1809-1882)

Mentored By

John Henslow - Professor at Cambridge. Long walks transformed him from playboy student into serious naturalist. Became his scientific agent during voyage on Beagle

Helped by

Thomas Huxley

Influences

Charles Lyell: Principles of Geology-

- *Lyell argued that earth has undergone geological changes*
- Darwin argued that biological changes also occurred.

Adam Smith: Laissez-faire economics -

- *Belief that competition, the market's invisible hand, would lead to proper pricing. Strongly opposed any government intervention into business affairs.*
- Darwin compared it to struggle for food, territory and noted it is more severe

Adolphe Quetelet: Frequency Curves

- Believed that it was possible to determine the average physical and intellectual features of a population. Through gathering the "facts of life," the behavior of individuals could be assessed against how an "average man" would normally behave.
- Darwin thought that in any given population, some individual units possess more of a certain characteristic thus adapting better to the environment

Thomas Malthus: Principle of Population

- Food increasing arithmetically but population geometrically would lead to checks on population growth such as war and famine
- Darwin felt that population pressure creates struggle for existence to compete for food. Nature acts as a selective force, weeding out the weak and allowing development of those which adapted.

Key Theories

- I. Natural Selection and Evolutionary Theory

Discovered new species of Rhea which lead him to ponder if one evolved from another

Questioned conventional wisdom that each species fits its home environment perfectly.

Galapagos Islands - Finches and Giant turtles.

Species not by divine creation but by a process where new species arise while others become extinct through **differential survival**.

Units whose variation (from the edges of bell curve) are best suited to the environment (more food, better economics) will have greatest possibility of reproducing their own kind.

Alfred Russel Wallace

Naturalist who independently formulated his theory of natural selection and sent to Darwin for informal evaluation. Forced Darwin to hasten publication of his own work

Actions that contributed to the field

1. Launched study of non verbal communication. Darwin - The Expression of Emotions in Men and Animals. Facial movements are genetically inherited and not learned.
2. Key concepts borrowed by population ecology scholars - use evolutionary concepts to predict life and death of organizations over time.

Darwin's research helped:

1. Sir Herbert Spencer: Survival of the fittest
 - Coined the term and applied it to social life as Social Darwinism
 - Held **Lamarckian** (not Darwinist) views: he believed that parents acquire traits through voluntary exertion and then pass on them to their progeny
 - Led to sociology - Theory attracted criticisms from Cooley and Park, but drew them to the field. Cooley created the name sociology while Park become the first theorist of mass communication.
2. Robert Park's work on urban ecology directly influenced by Darwin
3. Directly influenced Karl Marx is formulating **dialectical materialism**
 - Every economic order grows to a state of maximum efficiency, while at the same time developing internal contradictions or weaknesses that contribute to its decay