

History of biology essay sample

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The first man to make a significant contribution in biology is Alcmaeon, living in Crotona in the 5th century. He was considered to be the 1st scientist who made first scientific discoveries in the field of anatomy.

After him it was Aristotle a Greek scientist who proposed a theory about heart, that it is the base of intelligence. To prove his idea while dissection of corpses, he emphasized on connection between brain and eyes (the optic nerves) and mouth with the ears (Eustachian tubes).

Aristotle did a lot of research in the field of biology however his notes on botany are lost, however we can find a lot of his observations in earliest known botanical text available- nine books by Aristotle's has written almost 9 books regarding his observation about plant physiology.

During 300 BC, Theophrastus worked on classification, structure, habits and benefits of plants. His comments are founded on observations carried out in Greece, Middle East, Persia and India, gathered by Alexander the Great during. [Mayr, Ernst . 1982]

During 2nd century AD 158 Galen a Greek doctor studied all types of wounds during his medical practice. For further knowledge he did dissection of apes and pigs which helped get detailed information about medical tracts on the organs of the living organisms. He was the first to discover that living arteries contain blood. He presumed, which was considered authentic for centuries, that the blood moves back and forth from the heart in an ebb-and-flow motion.

He also studied bone structures and illustrated almost 700 diagrams of bones, muscles, internal organs, and the brain along with the position of the fetus in the womb of female body.

After that we can find a lot of books written by scientists during 16th century AD

Otto Brunfels produced a book describing living images of plants during 1530 and 1540. In 1542 Leonhard Fuchs, headed little bit further by producing more detailed account of it with much accuracy.

Belon's during 1550's wrote book marine animals along with a map of Mount Athos and of Mount Sinai (1557).

Vesalius and the science of anatomy: AD 1533-1543

Vesalius a medical student from Brussels, his studies defined that even the skin of a human being can breathe, thus providing clear illustrated images in his text.

Attempts at classification: AD 1583-1704

Andrea Cesalpino, provided floral cartelistic of plants and there seed and fruits in his book *De Plants* in the year 1583 .

Harvey' book is published in 1628 provides one of the greatest revolution in the undoubtedly the greatest until the discovery of the structure of DNA.

Up till now it was presumed that there is tow different types of blood, 1st delving energy to the entire body through arteries, and 2nd type of blood

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provides food to the liver through veins. Both the blood is different in color as well.

Marcello Malpighi, medical lecturer at the University of Bologna with the help of a powerful microscope during AD 1661 discovered capillaries running through out every individual human body measuring about 100, 000

He in his research found that capillaries are the link by which oxygenated blood from the arteries initially delivers its energy to the cells of the body and then go back to the veins to thus returning to the heart.

Georges Cuvier during AD 1812 studied the fossils for and defined a new field of biology, ' paleontology. In 1838 and 1839, Schleiden and Schwann worked on reproduction of cell during 1830 to 1840. As a result Robert Remak and Rudolf Virchow, during 1860s succeeded in presenting the cell theory.[Sapp, *Genesis* , chapter 7]

Ecology considered being a separate branch of science in the 1940s and 1950s after Eugene P. Odum produced numerous concepts of ecosystem ecology [Hagen, *An Entangled Bank*] by 1970.

Thomas Hunt Morgan's demonstration of crossing over, part of the Mendel chromosome theory of heredity. [Caldwell, John 2006] During 20th century Hugo de Vries, Carl Correns, and Erich von Tschermak worked further on Mendel laws defining new innovative theories about it , Mendel laws were lacking defining chromosomes as hereditary material.[Randy 2001].

Between 1910 and 1915, Thomas Hunt Morgan and the “ Drosophilists”

rejected that theory.[T. H. Morgan, A. H. Sturtevant, H. J. Muller, C. B. Bridges (1915)]

During 1960s W. D. Hamilton altruism and supported his theory through kin selection.[Gould] Between the 1930s and 1950s, Fritz Lipmann and his partners defined the role of ATP as the actual power station providing energy to the cells, and mitochondria of the cell [Fruton]. Oswald Avery confirmed during 1943 that DNA as the genetic element of the chromosome, not its protein;”[Watson] After the 1958 Meselson-Stahl experiment confirmed the semi conservative replication of DNA, Between 1953 and 1961, there were few known biological sequences [Morange]

Biotechnology in the form of genetic engineering was practically worked on during 1970s, with the discovery of recombinant DNA procedures.[Morange]

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