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Development of Biology in the Passage of History

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ABSTRACT

The aim of this research is to provide a wealth of information on the history of the development of biology in the passage of history. Beginning with the wizarding era and ending with heart and neurosurgery and hundreds of other developments in Biological Science based on scientific methods. This means that biology is one of the oldest sciences and human beings with intellect, logic, thought and will have drawn many dark corners of ambiguities and are still trying to use chemical, physical, technical, computer and other sciences.

Biology was born in ancient Greece in the 6th-7th centuries BC and was developed by the great philosophers of the world such as Hippocrates, Aristotle and other Greek philosophers. Famous Roman scientists have also done great service in the development of this science. With the advent of the holy religion of Islam, Islamic scholars in the field of medicine and other scientific sciences have done great service. The services of Abdul Malik Samael, Abul Hassan Ali bin Sahl Tabari and Abul Mohammad Zakaria Razi in the development of biology are unforgettable. The great scientists of the world of science have succeeded in discovering important biological problems since the seventeenth century.

Keywords- Introduction of Biologists, Development of Biology from BC to Present.

I. INTRODUCTION

Various sciences, including social sciences and experimental sciences, have been fertilized in human societies for many centuries and in special periods and have grown in the context of suitable conditions and environments. Biology is also one of those sciences that has a long life and in fact, has lived with it ever since man felt his place on earth. Our goal in writing the history of biology begins where history remembers and the reality of development processes is tied to documents and evidence. As it is stated in this article that the development of biology started from the period of ancient human beings, or better to say Satanists and sorcerers, and continued until the 21st century, from the distant times when science was associated with superstitions and until now. The flourishing of the vital sciences is considered to have gone through winding roads. It should not be forgotten that until the 18th century, the theory of the creation of the clock (the production of small living objects, insects, worms, and other organs from orphans) was accepted by human society, but with the invention of light and electron microscopes, etc. The face changed and the opinions of the people changed. It is due to the great efforts and valuable services of biologists that today the number of biology departments reaches fifty, certainly, the advancement of modern technology has also played a fundamental role in the flourishing of biology.

II. BIOLOGY DEVELOPMENT COURSES

Biology is one of the oldest sciences, because it exists in different periods of history with human beings. As human beings are the superior of the creatures and they have the logic, thought, will, and have a large number of positions and blessings, and God (c) has had mercy on him and enabled human beings throughout history to benefit from beneficial organisms and to avoid from harmful organisms. The developments and advances that have taken place, especially during the last hundred years, have helped biology to develop more than ever before, and now we are witnessing great advances, which are explained below:

Biology, which has a long history, if we look at the theories of the first philosophers of different eras, we will find that apparently the first people to give rational reasons for explaining the various manifestations of nature were a few Greek philosophers. Thales (546-640 BC); Alcmaeon (500 BC), Qarqlitus (480-540 BC), Hippocrates (370-460 BC) are the oldest known scientists who have studied this field. Hippocrates is the most famous physician and scientist whose name is associated with the beginning of biology. Hippocrates did not believe that the cause of the disease was in the hands of man-made gods, but that the organs of a healthy person worked in unison and in a regular manner. They are made and he calls them general elements [1].

Anaximander de Willie (546-640 BC) considered the origin of creatures to be moisture and believed that the first living creatures were like fish and their bodies were covered with scales and lived in the depths of the seas. Upstairs, they landed and dropped their scales, which is how humans were found.

Thales believed that water is the father of nature and that water is the substance of the matter. Thales knew the world was full of God.

Empidocel, born in (484 BC) , said about the evolution of living things: in the first stage, parts of the body; Like the head, neck, eyes and ears, it was created

separately and the mentioned parts were absorbed together and formed the body, and in the third stage, the internal parts; Such as lungs, liver, heart, etc. were obtained [2]. Periods of the evolution of biology have been divided by modern scientists as follows:

The first period: the period of human beings (devils and wizards)

The ancients believed that hunger, famine, earthquakes, hurricanes, and diseases were the product of the activities of demons and evil spirits. At that time, all diseases were cured by witchcraft, staining the body with paint and wearing terrible clothes.

The Second period: Greek medicine and the beginning of biology

Hippocrates: He was the first Greek physician who during the year (359-406 BC) separated the doctor from witchcraft and used practical methods to treat and cure diseases and was named after the father of medicine. Aristotle, who lived for many years (322-384 BC) and was a student of Plato, scientifically studied animals and plants and studied the development of the embryo in the egg. He used to treat sick people. He treated the patient not only with medical methods but also with its psychological methods [6].

Third Period: Roman Medicine

When the Greek Empire fell to the Romans, a famous scientist named Clydes Guillen, who lived for many years (130-200 AD), studied medicine in Alexandria, where he treated Roman prisoners of war. He studied medicine in the structure of the human body, learned a lot about blood flow in the human body, and wrote a book on human anatomy called the Gulen Book [3].

Fourth period: Dark Age

During this period, the Roman Empire was destroyed, and as a result, from the fifth and sixth centuries to the fifteenth and sixteenth centuries, medicine and science in non-Islamic societies completely stagnated.

Fifth period: The period of the emergence of the holy religion of Islam

Abdul Malik Samai, who was born in Basra in 831 AD, is known as the first scientist and zoologist. Abu al-Hasan Ali ibn Sahl Tabari (251 AH) was born in Merv. Abolmohammad Zakaria Razi, who lived in the year (932) AD, is the famous record of the said scientist in the research on Chichak disease and also for the first time making a note and using it in surgery by the same person, the said scientist for the first time (First Aid) in executive medicine [3].

Sixth period: the period of development and promotion of biology

One of the most important developments in biology was made in 1600 by the Dutch scholars HANS, JANSSEN and ZACHARIA with the development of the first microscope. In 1665, ROBERT HOOKE, using a simple microscope, first detected on a carcass plate that the cantilever body was made up of extremely small geckos, reminiscent of how beehives were built. He called it "Cells". ANTON VAN LEEUWEN HOKE in 1680 with a magnifying glass that showed objects more than 250 times larger.

The electron microscope was invented by Ruska in 1934 and works with the electron beam. The maximum magnification of an electron microscope is about 2000 times greater than that of a light microscope [4].

Concentric laser scanning microscope (CSLM) was invented after the discovery of the electron microscope. This type of microscope combines a laser light source with a normal light source. This type of microscope enables scientists to observe atoms and molecules at the sample level [5].

Pasteur (1896-1896), who has the title of the father of medicine, after many studies, stated that the fermentation process of alcohols is related to yeast. It is harmful that this practice is used to eliminate aerobic microbes and is called pasteurization.

The English scientist Lester, through extensive experience, was able to state that lactic acid has antimicrobial and antiseptic properties. Ivanovsky (1846-1920 - AD) is the discoverer of filterable phytophthogenic viruses and the founder of virology [6]. Carles Lance, who lived between 1707 and 1778, and the Englishman Ray (Ray) used the Latin name, respectively. Carles Lance invented the best artificial classification system for plants and animals, grading living things (Species, Genus, Order, and Class), earning him the title of Founder of Taxonomy.

Edward Jenner, who lived in 1823-1849, discovered the vaccine. In the late 18th and early 19th centuries, a French scientist named George Quvieer categorized the animal world and divided all animals into four branches (filems) and 19 classes. Alauta Koviyeh also laid the foundations of comparative anatomy. Koviyeh was in favor of the variability of plant and animal species.

The French Lamarck (1729-1844) developed the theory of evolution and explained it in his work Philosophy of Zoology. Lamarck divided the animal world into poor and non-poor, and used these terms for the first time. Lamarck advocated variability of species. [7].

In 1838, the German Mathias Schleiden theorized that all plants were made of cells (cell theory), and the following year (1839) Theodur Schwan suggested that all animals be made of cells. In the same year, Johanns purkin coined the term protoplasm and said that the sticky viscous substance filled the cell. In 1861, Max Schultz called the protoplasm the physical basis of life and said that it was found in all living things. In the same year, the Frenchman Flis Dujardin recognized the creatures of a cell and introduced them to the world. [8].

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Gregormandel (1822-1889), known as the father of genetics, founded the science of genetics in 1866 with the publication of his papers. He attributed the inheritance of hereditary traits to the transmission of hereditary units between generations. He discovered the laws of separation and independent sorting of inherited units. Inheritance units are known today as jinn.

Charles Darwin (1809-1882), the founder of the theory of evolution, believed, like many biologists, that different cells in the body make very small, gemmule-like components that are transmitted to the genitals through the bloodstream. And arises from the accumulation of male and female gametes [1]. Robert Brown (1773-1858) discovered the nucleus in 1833.

Strasbourg (1844-1912) also attributed this to plants and introduced the terms nucleoplasm and cytoplasm for protoplasmic materials in and around the nucleus. The chromatin filaments in the nucleus called chromatin were first observed by Schneider (1873) and then by Fleming, and it was found that these filaments split longitudinally during cell division. Van Benden (1845-1910) expressed the division of chromatins during cell division and their transfer to daughter cells in equal proportions.

In 1900, three botanists, Hogodoris, Carl Korns, and Varish von Shermack, independently rediscovered the results of Mendel's experiments. [9] In 1902, Garrod and Galton, the founders of medical genetics, reported the first example of Mendelian inheritance in humans by studying Alcaptonuria. In his report, he emphasized kinship marriages in creating so-called congenital metabolic errors.

In the late twentieth century, the scientific study of human chromosomes became possible and the role of chromosomal defects in developmental and mental retardation, infertility and other complications became clear. Subsequently, chromosomal mapping of human genes became possible.

The application of genetic knowledge in the breeding of animals and plants has led to a significant increase in animal and agricultural products. The transfer of genetic material from one species and even genus to another species or genus with the help of genetic engineering has made plants resistant to diseases and has improved their quantity and quality. [4] In 1953, James Watson, Francis Crick, Rosalind Franklin, and Soris Wilkins identified the structure of DNA. In 1958, Mathewselson and Franklin Stahl identified DNA replication and introduced it to the world. In 1961, the prophet RNA was discovered by Sydney Brenner, François Jacob and Matthews Melson.

Preparation of the first recombinant DNA in the laboratory by Paul Berg in 1972, the first use of plasmids to clone DNA by Herb Boyer and Stanley Cohen in 1973, the first methods of determining DNA in 1977, the discovery of neutrons in elves in 1977 by Philip Sharp and Erpmard Roberts [10].

III. CONCLUSION

From the research lab, it is inferred that biology in the early stages of development (600-700 BC) was associated with unscientific and delusional ideas such as witchcraft and satanism, but over time, the efforts of scientists, technical development, growth Economics of countries This science has opened its way to development. No lightning science has come into being and developed; Rather, the passage of time and the twists and turns of the times have caused the evolution of ideas, which is reflected throughout the article.

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