

CREATIVENESS AND INNOVATION VIEWS IN THE TEACHINGS OF ABU RAYHON BERUNI

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Abstract

In this article, the scientific research of the great encyclopedic scientist Abu Rayhon Beruni, who lived and worked on the first wave of the Eastern Renaissance, his contribution to science, his activity at Khorezm Ma'm Academy were analyzed philosophically. In the article, Beruni's manifestation of his era as the creator and innovator of yaqool is highlighted by historical data.

Introduction

In the IX-XII centuries, the first wave of the Eastern Renaissance, which included the development of science, art, culture, came into being in Muslim countries, in particular in Central Asia. There were many socio-economic, spiritual reasons for this. Due to the establishment of trade relations through the Great Silk Road, the call for Science in the religion of Islam, as well as the coming of enlightened caliphs to power, the period of Eastern Awakening arose. Especially due to the incentive to look at science and the appreciation of scientists, this period of East tsiliziasia had a huge progressive impact on World Science.

In particular, the establishment of the Academy of international philosophy of Abu-l Abbas Ma'mun ibn Ma'mun Khorezm in our country was a historical event. In the field of Science, which was used in historical sources with terms such as "Academy of Sciences", "Beth ul-hikma", "House of wisdom", brought up encyclopedic scientists who made great discoveries,

inventions to World Science with their creativity and innovation. From such scientists, Abu Rayhon Beruni became a vivid example of World Science. [1.260-261]

Main part. Materials and Methods

Abu Rayhon Muhammad ibn Ahmad Beruni (973-1048) encyclopedic scholar is a clear, founder of fundamental Sciences, linguist, literary critic, dorishunos, philosopher, sociologist, logician, theologian, poet, statesman, politician and diplomat.

Beruni studied all the sciences of his time, first of all astronomy. Physics, mathematics, theology, mining have been thoroughly studied, with the feeling that these sciences have added to the development, its name has taken place in a number of great figures of World Science.

Beruni's contribution to science:

In all of the modern sciences, Beruni uses scientific discoveries in one way or another. Beruni should not be a field of science that did not contribute with his discoveries. Beruni was the first to recreate the globe of the lion of the Earth. This invention is used by all geographers, every educated today.

Beruni's greatest contribution has been added to the field of astronomy. Beruni approaches the structure of the universe in an original way, that is, it is the system that drives the Earth's sphere, although Ptolemy's geocentric (that is, he believes that the Earth's sphere stands in the center of the Universe) approaches this issue. And such a view was an innovative and creative approach, contrary to the prevailing view that at that time the Earth was still. Beruni embodied the idea of inersial counting systems in his work "India". To such an idea he came after 1564 years from Galileo Galileo (1642-1600). Beruni also made various astronomical observation instruments. The tracking prints on them have not lost their value to this day. [2.49-50]

Beruni is one of the scientists who made a great contribution to the science of mathematics. He biirinci analyzed trigonometry as a separate independent science. In his work " the law of Masoud " he described flat and spherical trigonometry and created the linear and square interpolitive rule of trigonometric functions.

Beruni also made a great contribution to the sciences of Geography, Geology and geodesy with his creative and innovative ideas in his works "Geodesy" and "Mineralogy".

Beruni, relying on mathematical calculations, predicted that Christopher Columbus could become an American continent almost 450 years ago. He proved that the southern part of the Atlantic and Pacific oceans are adjacent to each other, assuming that there should be a droughts that cover the ice on the southern side of the Earth's globe.

It is believed that the method Beruni used in the calculation of geographic latitude was invented in the XVI century by Tixo de Brage. But this method was used by Beruni VI centuries ago.

Beruni foreshadows scientific thoughts about the fact that from the Earth in the universe, in addition to the world in which we live, there can still be other worlds, that the movement has a contradictory essence, that the forms of matter are constantly changing and renewing. The idea was voiced by the Italian scientist Jordano Bruno (600-11548) after 600 years and became a victim of Inkuisition.

The scientist worked in all branches of mathematics of his time, developing new concepts, theories and methods of solving problems. He is one of the scientists who first thought that the motion train and shape of the Celestial Spheres are ellipsoids. This remarkable prophecy of Beruni was to some extent predictable, rather than later Kepler discoveries.[3.72]

Beruni put forward the idea that the rays coming from the lamps are not only a wave of light, but also a particle of light. [4.29]

Results

Abu Rayhon Beruni has created about 200 works related to such Sciences as history, mathematics, astronomy, media, Mineralogy, geography. As the scientist studies the movement of celestial bodies, he explains the theory of the geocentric system, as well as the doctrine of heliocentrism. In his work, linked to the past of Kharezm, the earth's crust, various geological processes, having their own material causes, showed that it was the result of long

historical changes. The work " Geodesy", " Ma'sud lawful " shows that Beruni was far from impulsive thoughts in the study of nature, that scientific conclusions were firmly in the opinion that it was based on empirical quatches, concrete conclusions.

Beruni emphasizes that in the process of cognition it is impossible to form a clear picture of natural phenomena without them, paying great attention to sensory cognition - intuition, perception, memory etc. And the theoretical conclusions in the science are reached with the help of thought, and various scientific ideas, views are formed on the basis of concrete representations, interpretation and generalization of verbs.

Beruni was a supporter of scientific rationality and recognized the role of experimental knowledge. Beruni also paid great attention to the emergence of Science, the typology of knowledge and the differentiation of Sciences. In particular, he defined accuracy, veracity, proofreading and experience as the criteria for scientific knowledge. [5.54]

Conclusion

Applied in Beruni research, creativeness became an important principle of the scientific way of thinking at that time.

1. Beruni was a noble and progressive scientist of his time, and natural-scientific ideas in all his works ere kerativ and Innovation in character.
2. . Studies show that the works of Beruni are written at the level of scientific monographs of the present time.
3. Having abandoned the traditional method and approach of Beruni in all sciences, he made a lot of discoveries, inventions, using such methods as experiment, rationality, logic, observation.
4. In Beruni teaching, hypothesis and theories have paved the way for new discoveries in World Science and philosophy.
5. Beruni, in his scientific research, left a name as a bright encyclopedic scientist who left a deep imprint in the history of science.

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