The American Journal of Interdisciplinary Innovations and Research
ISSN 2642-7478 | Open Access

TYPE Original Research
PAGE NO. 73-75
DOI: 10.37547/tajiir/Volume07Issue10-09

Reflections On Nature In The Scientific And Philosophical Views Of Beruni And Ibn Sina

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OPEN ACCESS

SUBMITTED 24 August 2025
ACCEPTED 20 September 2025
PUBLISHED 22 October 2025
VOLUME Vol.07 Issue10 2025

CITATION
Bekzod Ibragimov. (2025). Reflections On Nature In The Scientific And Philosophical Views Of Beruni And Ibn Sina. The American Journal of Interdisciplinary Innovations and Research, 7(10), 73–75.
https://doi.org/10.37547/tajiir/Volume07Issue10-09

Abstract: This article presents the scientific conclusions related to the natural science hypotheses found in the intellectual correspondence (Q&A letters) between Abu Rayhan Beruni and Abu Ali Ibn Sina — two key figures considered vital sources in the development of socio-philosophical thought during the first Renaissance period in Uzbekistan. The article also explores the social and philosophical aspects of natural philosophy as reflected in the views of Beruni and Ibn Sina.

Keywords: Plato, Euclid, Thales, Anaximander, Anaximenes, Heraclitus, Aristotle, Epicurus, Abu Rayhan Beruni, Abu Ali Ibn Sina, On the Heavens, Physics, Indian Arithmetic, Kitab al-Mustaqim, Atoms, Isfahan Observatory, Risala fi Aqsam al-Hikma, Aristotle, Ajwibat 'an Ashara Masa'il Sa'ala 'Anha al-Shaykh al-Ra'is, Risala ila Abu Rayhan Muhammad ibn Ahmad al-Beruni.

Introduction: It is our duty to study the scientific-philosophical environment in Central Asia, particularly the science and culture of the Renaissance period, as well as the lives and contributions of its prominent scholars. The philosophical dialogue between two great figures of the Renaissance—Beruni and Ibn Sina—and the analysis of their teachings on the nature of knowledge and the universe, is of great importance [1]. Accordingly, the development of socio-philosophical thinking throughout human history, especially among the peoples of Central Asia, serves as evidence of their contribution to global science and scholarship.

The foundations laid by such scholars as Muhammad ibn Musa al-Khwarizmi, Ahmad ibn Muhammad al-Fergani, and Abu Nasr al-Farabi provided the basis for the advancement of socio-philosophical and scientific thought in later centuries, particularly in the first half of the 10th–11th centuries, during which Abu Rayhan al-Beruni and Abu Ali Ibn Sina worked.

Ibn Sina supported and further developed Aristotle's

core ideas related to the philosophy of nature, while Beruni, in his letters, offered critical perspectives on some of Aristotle's theses. For instance, while Aristotle argued in Physics that the circular motion of celestial bodies is natural, Beruni did not deny this type of motion but proposed that it might occur in two forms: one as compelled (forced) and the other as accidental (spontaneous) [2].

As a leading representative of Eastern Peripatetic philosophy, Beruni also suggested that the movement of celestial bodies could be linear as well. He was among the first Central Asian thinkers to apply the concepts of linear and curved motion, which are prominent in modern mathematics, to natural phenomena. This view is closely related to Beruni's doctrine concerning the universe and its existence. According to him, all matter exists in motion, and motion can be classified into several types: linear motion, curved motion, natural motion, and forced motion. Great representatives of ancient philosophy—Plato, Euclid, Thales, Anaximander, Anaximenes, Heraclitus, Aristotle, and Epicurus—studied and benefited from the teachings of Zoroaster. As noted by the Belgian Avestan scholar Jacques Duchesne-Guillemin "Among all the children of Western Asia, Zoroaster was the first to be recognized as a sage. His doctrine enriched ancient Macedonia even four centuries before Jesus Christ. Even Plato knew of Zoroaster. It took a long time for the voices of Buddha and Confucius to reach Europe. That is why the ancient Greeks referred to Zoroaster as Zarathustra, and for centuries he was preserved in the West as the sole symbol of ancient Eastern wisdom." [3] These reflections are presented by Q. Nazarov.

In particular, it is appropriate to quote the following thoughts of V. Rosen, who commented on Beruni's work "India": "This work exudes the spirit of a critical approach, devoid of any religious, racial, national or class prejudices and bigotry" [4]. Therefore, it can be concluded that Beruni expressed reasonable objections in the correspondence.

Beruni's thoughts about the world are presented openly, researching and based on scientific facts. He seeks to obtain real knowledge based on scientific research, considering historical facts. The important and main goal of Beruni's thoughts is to pay attention to justice, truth, right, loyalty and knowledge, to find authenticity. His thoughts are known as one of the important sources among specialists and scientists. These aspects indicate that the scholar has high spirituality and deep knowledge [5].

Ibn Sina expressed his thoughts about nature in several main aspects. His main ideas are related to the structural foundations of nature, its movements, organization, natural laws, and the social elements living in nature.

The scientist, who studied the forms of movement of nature, expressed his thoughts about the movements of nature, their causes, and natural laws. His thoughts and scientific research were devoted to analyzing the movements of air, water, planets, and gases, and studying their laws.

The socio-philosophical thinking of the scientist can be described as follows:

Firstly, it includes the study, analysis, description, solution, social criticism and selection of socio-political networks of the socio-political structure of society, social services of state management, human rights, social human relations and other social issues;

Secondly, among the main issues of their socio-philosophical thinking, one can also observe current trends such as human rights, social problems, social networks, democracy, social calculations, social criticism, integration of social networks with education and scientific research, as well as social international cooperation relations.

Al-Beruni was a polymath, an astronomer, astrologer, mathematician, geologist, biologist, local historian, botanist, mineralogist, historian, source scholar, religious scholar, literary scholar, sociologist, logician, theologian, and poet.

Therefore, in the words of Academician I. Krachkovsky, "It is easier to list the areas in which Al-Beruni was not involved than to list the areas in which he was involved [6]." According to sources, the scientist left behind a scientific legacy consisting of research collected in more than 152 works. In particular, these works had a great influence on the recent development of the culture of the Muslim East. Important information about Al-Beruni is provided in the works written in Arabic and Persian by such famous scholars as Bayhaqi, Shahrizuri, Qifti, and Yakut Hamavi [7].

The scientific ideas and concepts of Beruni and Ibn Sina have not lost their relevance to this day. Many of the issues raised by scientists, scientific predictions and hypotheses are important in the development of science, are a valuable source for finding solutions to a number of issues, and at the same time, they provide scientific and theoretical foundations for philosophical knowledge of the world surrounding man and its mysteries, and for determining the place of the Renaissance in the East in world civilization. Representatives of the early Renaissance in Uzbekistan not only studied the scientific and philosophical heritage of ancient scholars, but also created new scientific

discoveries related to this heritage, new fields of science, and world civilization.

2. Our great ancestors, Al-Khwarizmi, Al-Farghani, Abu Rayhan Al-Beruni and Ibn Sina, who fully proved the hypothesis that world civilization first emerged in the East and then migrated to Europe with their rare works and scientific discoveries, created a huge scientific heritage for world science. The scientific and philosophical correspondence between Al-Beruni and Ibn Sina is also a very rare heritage, as the great scholar not only explained the scientific heritage of Aristotle to the reader, but also created the basis for the development of new knowledge based on scientific considerations and created new natural and philosophical hypotheses for future generations.

During the Early Eastern Renaissance, one can also observe the current trends in the study of the socio-political structure of society, the social services of government and statehood, human rights, social human relations and other social issues, social problems, social networks, democracy, social calculations, social criticism, the integration of social networks with education and scientific research, as well as social international cooperation.

The diversity of the Beruni scientific research of Beruni and Ibn Sina, their universality is a unique phenomenon. Some scientific and philosophical issues discussed in the writings of and Ibn Sina were also analyzed in their major fundamental works.

Beruni and Ibn Sina are considered great thinkers among the encyclopedic scientists who created during the Early Renaissance of the East and made a huge contribution to the development of scientific and philosophical thinking.

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