

The Interconnectedness Of Nature And The Human Being In The Scientific Heritage Of Abu Rayhan Beruni: A Socio-Philosophical Analysis

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Abstract: This article presents a comprehensive analysis of the concept of the interconnectedness between the human being and nature in the scientific and philosophical heritage of Abu Rayhan Muhammad ibn Ahmad al-Biruni. The study explores al-Biruni's theoretical views grounded in the laws of nature, his understanding of the human being's place within the natural environment, and the reciprocal relationship between human practical activity and natural processes as reflected throughout his works. Furthermore, the article examines the scientific research methods proposed by al-Biruni, highlighting the significance of empirical observation and experimentation in the acquisition of knowledge about nature, as well as the socio-philosophical implications of his ideas concerning the human–world relationship. The relevance of al-Biruni's intellectual legacy in contemporary ecological and humanistic contexts is also discussed, emphasizing the theoretical importance of his insights for fostering a balanced and harmonious relationship between humans and the natural world.

Keywords: al-Biruni, nature, human being, interconnectedness, existence, philosophy, scientific heritage, experiment, observation, ecological thought, socio-philosophical analysis, laws of nature, human–nature relationship.

Introduction: In the scientific legacy of Abu Rayhan al-Biruni (973–1048), the harmony between the human being and nature, the natural-scientific foundations of human cognition, and the significance of intercultural exchange occupy a central position. In this respect, his works contribute profoundly to understanding the role of anthropology within the broader system of knowledge concerning the human being and the natural world.

The German scholar E. Sachau, characterizing al-Biruni's achievements in the realm of science, stated that: "Beruni examined every subject through the judgment of a mind trained on the ideas of Aristotle and Plato, Ptolemy and Galen, and his investigation of those same subjects in the spirit of modern critical thinking would undoubtedly astonish our contemporaries" [1;149-150]. His views on the infinity of the universe and the human capacity for knowledge are of great significance.

METHODOLOGY

In this research, a comprehensive scientific approach was applied to thoroughly illuminate Abu Rayhan Beruni's philosophical and scientific views on the interconnectedness between humans and nature. The following methods were chosen as the main tools in conducting the research: the historical-philosophical method of analysis, comparative-analytical method, deductive and inductive analytical methods, and hermeneutic approach.

The methods used enabled an objective study of Beruni's intellectual heritage not only from a philosophical perspective, but also from scientific, epistemological, and ecological viewpoints. In this way, the interconnectedness between humans and nature was scientifically examined as the central idea of Beruni's teachings.

RESULTS

When studying Abu Rayhan Beruni's philosophical views, one must consider natural phenomena as well as his thoughts and conclusions. The scholar's scientific

thinking and research significantly influenced his socio-philosophical outlook, his study of the exact sciences, and the formation of his worldview. If we look more closely at the thinker's philosophical perspectives, we find that his worldview was shaped on the basis of natural-scientific concepts. He devoted great attention to philosophical problems such as space and time, law, necessity, coincidence, motion and development, contradiction, and essence. In the thinker's intellectual heritage and works, issues of gnoseology hold an important place. According to him, knowledge has two causes. The first is the irrational cause — pleasure — emphasizing that the purpose of knowledge is to meet human needs, and that the highest level of knowledge is intellectual cognition. Intellectual cognition is achieved through observation, comparison, analysis, and experimentation. Beruni stressed that only those who, while being philosophers, possess deep theoretical knowledge, conduct practical research, and remain truthful in their inquiries, deserve to be called true scholars [2;11].

Every individual, in their curiosity about natural phenomena, is endowed with two divine forces. The first is natural curiosity — the desire to understand the essence of things and events; the second is the ability to make use of the information obtained through cognition. According to Beruni, "If thoughts are not based on science, they must be abandoned." Thus, scientific conclusions must form the basis of philosophical reasoning.

In his work "Geodesy", Abu Rayhan Beruni reflects on the formation of the universe, stating that the emergence of the Earth spans a long period, which can be inferred from natural phenomena such as the transformation of mountains, rivers, and deserts. "All these events undoubtedly required immense periods of time, the limits of which cannot be measured, and they occurred under unknown qualitative changes" [2;55]. Beruni's natural-scientific views and his scientific explanation of the universe are of great importance. His research in the field of natural sciences also holds philosophical significance.

In his work *Chronology of Ancient Nations* (*Al-Āthār al-bāqiya*), the scholar, based on the above-mentioned viewpoint, achieved a philosophical contemplation and explanation of the universe and existence. Therefore, as a natural scientist, Beruni explained the laws of being and the universe on the basis of philosophical materialism [3;53]. In his views, he points to the existence of being, the place and role of the human within it, and to everything existing by the will of the Creator. The thinker, defining the place of humans in society, emphasizes the influence of geographical factors on human nature and temperament, saying:

"Differences in the physical constitution, color, appearance, nature, and character of people arise not only from differences in lineage, but also from the soil, water, air, and the places (where people) live. The reason for the diversity of languages is the separation of people into groups, their living far from one another, and the need for words to express various desires within each group. Over long periods of time, these expressions increased, were memorized, and through repetition became established and systematized" [4;16].

These words of Abu Rayhan Beruni help us understand the inherent interconnectedness between humans and nature from a philosophical perspective. According to him, a person's external features, character, and moral qualities are determined not only by biological factors but also by the natural-geographical environment. This shows that an individual's personal and societal development is not independent of nature.

When Beruni notes the influence of factors such as soil, water, air, and climate on human life, he advances the idea that nature directly affects the structure, diversity, and different temperaments of humans. From this viewpoint, the human appears as a product and inseparable part of nature.

At the same time, Beruni explains the formation of languages through the relationship between humans and their environment. According to him, the spread of people across various regions, their separation by geographical distance, and their social needs led to the emergence of different languages. This confirms that nature also plays a decisive role in social development.

CONCLUSION

In conclusion, the views of Abu Rayhan Beruni convincingly demonstrate the existence of a dialectical connection between humans and nature. From a philosophical standpoint, humans are shaped under the influence of various natural factors, and at the same time, through mastering and purposefully transforming the natural environment, they create new cultural and social conditions. Human social and practical activity thus appears as a factor influencing both the development of nature and culture. From philosophical perspective, the relationship between humans and nature unfolds through constant mutual influence, balance, and harmonious development.

Beruni's philosophical heritage is grounded in the interconnectedness of anthropology and natural science and explains, on a scientific basis, the decisive importance of natural factors in understanding the place and role of the human in society. His views allow for a deep interpretation of human adaptation to the natural environment, the ability to transform it, and the

complex social processes associated with human–nature relations.

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