

## Analysis of Epistemological Problems in the Correspondence of Beruni and Ibn Sina



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**ABSTRACT:** This article highlights the scientific thoughts associated with the analysis of epistemological problems in the scientific and philosophical questions and answers (correspondence) of Abu Rayhan Beruni and Abu Ali Ibn Sina, which are an important source in the development of social and philosophical thought of the early Renaissance in Uzbekistan. The article compares the worldviews of two scientists through opinions, theories formulated on the basis of the views of Beruni and Ibn Sina on being. Beruni also in the correspondence in the article provides important points of view on the formation of theories of knowledge, the perception of Ibn Sina's answers to Beruni's questions based on Aristotle's work "Physics".

**KEY WORDS:** Abu Rayhan Beruni, Abu Ali ibn Sina, "About the Sky", "Physics", Epistemology, "Zakariya ar-Razi", Air, Soil, Air, Fire, Aristotle.

### INTRODUCTION

In the correspondence between Beruni and Ibn Sina, the epistemological essence is embodied as part of the philosophical science that studies the problems of knowledge and education. In the problem of knowledge of the world, we witness that the value, fairness, perspective of all the elements of existence are studied as important bases. In the writings, the essence of the epistemological views of Beruni and Ibn Sina is related to their scientific abilities. All their scientific works serve as the basis of the important principles of the philosophy of knowledge, the understanding of the world by man[1]. Of course, their epistemological views play an important role in the correspondence.

The correspondence emphasizes one of the most important themes included in Beruni's philosophy of knowledge, the need to study the most important epistemological foundations in the analysis of the problems of existence. Beruni's thoughts and scientific information about the philosophical foundations of epistemology (knowledge of the Universe) play a very important role in it.

### THE MAIN FINDINGS AND RESULTS

The ontological nature of the scientific and philosophical views related to knowledge expressed in the writings is of great importance in the development of philosophical sciences dealing with the study of the universe and physical problems[2]. It covers scientific foundations, epistemological problems, their scientific analysis and other issues in the problem of knowing the world.

In the writings, Beruni's and Ibn Sina's philosophy of knowledge shows the provision of information, development and perspectives of the world as basic knowledge. Researching the epistemological nature of the questions and answers in the correspondence, the opinions of the two scholars agree with each other in many cases. At this point, it should be noted that Beruni's question in the Russian text is: "So we differ only in words. (Here Russian "Raskhodimsya" - B.I.) on the essence of the dispute", we agree[3].

The study of the problems of epistemology in the correspondence, orientalist M. Usmanov stated that Beruni's correspondence with Ibn Sina supports the views of Zakariya ar-Razi on this issue[4].

In particular, their epistemological views are embodied in some questions and answers about Aristotle's work "Physics", which is considered the second part of the correspondence, and we quote the following excerpts from them:

Beruni's first question:

- A white, round, clear bottle filled with water will serve as a round clear stone for burning. If the bottle is emptied of water and filled with air, it does not burn and does not accumulate solar radiation; why water is like that, i.e. the power of burning and the power of gathering solar energy appear in a water bottle?.

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Ibn Sina's answer:

Of course, water is a thick, restrained, clear body, and there may be some color in its nature. Everything of this quality reflects light. Therefore, light is reflected from a glass filled with water. Because air is actually round glass air is actually thin, thin and clear. If the round glass is filled with air, strong reflection will not occur in the glass [5]. In this question and answer, we can witness the development of views on the natural philosophy of the world. The physical properties of two elements, water and air, are epistemologically analyzed. At the same time, the problems of knowledge of existence on the basis of immutable physical laws are revealed. From a scientific point of view, it is not difficult to understand that the question of existence forms of substance, scientific knowledge and understanding of the universe played an important role in the correspondence.

Beruni's second question:

Which of these two speakers is correct? One of them said, "Water and soil move toward the center, air and fire move away from the center." Another is that "everything (water, earth, air, fire) also moves toward the center." But the heavier ones move towards the center and pass the lighter ones," [5. 26] he said.

Ibn Sina's answer:

The word of the second person is wrong and corrupt. Because if the elements move towards the center, they either reach the center with this movement, or they don't reach it at all. If it is not completely centered, it is not always centered. Maybe he will try to reach the ground. If all the elements come to the center, then the second person is the most deceitful. Because nothing moving downwards was seen. But some of them are forced downwards by impulse. For example, about a fire that tends to move from below, like lightning and other fires, does the owner of the second word say that it moves naturally or moves by impulse? Now the second part remains. And it is to say that "fire naturally moves upwards". This is what we want to explain and prove [6]. The answer to this question clearly indicates the level of knowledge of existence. It can be understood from Ibn Sina's thoughtful answer that the 4 elements considered as the basis of the universe are strictly connected with each other and complement each other. We can see that in the answer to this question about understanding the world in a simple form, epistemological views with deep scientific foundations have been formed. In other words, the level of scientific knowledge of a scientist is evidenced by the fact that it was studied by our scholars a thousand years ago with the help of deep scientific foundations.

3. Beruni's third question:

What is perception and vision with the help of the light of the eye, why is it clear, what is under the water is visible, while the clarity of the light of the eye is reflected from clear objects, the surface of the water is polished (smooth) and shiny? [5. 27-28].

3. Ibn Sina's answer:

According to Aristotle, seeing is not the appearance of clarity. It is the saying of the great Plato to say that seeing is the appearance of clarity. When the words of Aristotle and Plato are put together, there is no difference between the two opinions. Of course, Plato made this statement absolute and general to the extent that it is held true for many people. Teacher Abu Nasr Farabi explained and clarified that there is no difference between these two words in the book he proposed about the unification of the thoughts of two sages (i.e. Aristotle and Plato).

The accuracy and scientific justification of this answer amazes the great scholar Beruni. It is the epistemological views of scholars that are discussed in the issue of the perception of the universe and existence in the human mind. The issues of knowing and understanding the world in the human mind are thoroughly analyzed, the difference between the world perceived by human senses and the world that exists outside of his consciousness is clearly distinguished. Therefore, the epistemological essence of the third question is very important. If we dwell a little on this issue, the epistemological issue of perception in the 6 questions we mentioned (Aristotle's work "Physics") mainly focuses on the issues related to the reflection of natural laws in the human mind. So, we can safely conclude that it played the role of the foundation for further research on the theory of perception.

It is through mathematical calculations that the location of the elements in the universe is proven through precise scientific hypotheses. Beruni expresses his opinion against some of Aristotle's theses in his questions. For example, in his work "Physics" he describes the natural nature of the circular motion of celestial bodies, while Beruni does not deny that celestial bodies are circular, but he comments on the two natures and causes of such motion, i.e. circular motion in forced (bilaks) [7] and accidental (bilaro) forms. acknowledges its existence [8], and also focuses on the analysis of the relationship between the universe and the Earth through scientific knowledge. The writings consider that the movement of celestial bodies can also be a rectilinear movement at the same time. It is evidence that Beruni applied the problem of motion along straight lines and curves, popular in modern mathematics, to natural phenomena.

What is the main issue in Ibn Sina's natural philosophy of theoretical physics? is a question, to which he puts forward the belief that the body is not the movement of the moving terms of the space, but consists of the unity of matter and form [9]. This theory testifies to the level of epistemological thinking in scientific correspondence.

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### CONCLUSION

In conclusion, we can say that in the Writings we see that the epistemological views of the masses are important in the development of rational sciences about the universe. In the first half of the 10th-11th centuries, created by scientists like Beruni and Ibn Sina, it became the basis for the development of socio-philosophical and scientific thinking, as well as epistemological knowledge[10]. They support and develop Aristotle's main ideas about the knowledge of the universe in his work "Physics". Research of writings, scientific results should not be limited to generalization, every scientific reasoning or hypothesis of Beruni and Ibn Sina determines the level of intellectual and emotional knowledge of the world. It will be necessary to determine new scientific fields and achievements, human understanding of existence, the role and importance of human knowledge in social practice. It should not be forgotten that the scientific theoretical views of our great grandfathers have a great place in the study of existence, structure, structure and laws of development of some hypotheses of the philosophy of knowledge.

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