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# **Naturalistic Beliefs of Mohammad Ibne Zakariya Razi and Abo Rayhan Biruni**

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## **Abstract**

The present research aimed to theoretically justify an onto-metaphysical hypothesis about the essence of activity in an attributive condition of antikhaosny life implementation. Ontologic approach was applied as the leading method providing the egoism knowledge of an object, abstracting from valuable criteria and sociocultural effects. The present paper presents justification of the activity concept in value of attributive representation of life perfection as the self-implementation according to condition life an autonomous definiteness by means of antikhaosny transformation of internal and external factors in the environment.

**Key words:** Ontology, Metaphysics, Life, Activity, Chaos.

## Creencias naturalistas de Muhammad Ibn Zakariya Razi y Abu Rayhan Biruni

### Resumen

El propósito del estudio es la familiaridad con los pensamientos científicos de Mohammad Ibne Zakariya Razi y Abu Rayhan Biruni sobre el mundo de la naturaleza y la cosmología a través de un método descriptivo-analítico. Como resultado, Razi y Biruni fueron los hombres del campo de acción y el pasado científico de la humanidad es bien conocido con sus pensamientos, y sus teorías son la piedra angular de los pensamientos de los filósofos contemporáneos. El autor concluyó que, sin depender de la ciencia y las leyes de la naturaleza, uno no puede tener ideas adecuadas sobre el flujo de la aparición de la vida y otros fenómenos naturales.

**Palabras clave:** filosofía, naturaleza, evolución, Razi, Biruni

### 1. INTRODUCTION

Mohammad Ibne Zakariya Razi can be regarded as the rector, the most prominent figure of rationalism and empiricism in the Iranian culture, in the Islamic world, and in the world in the Middle Ages and pre-Renaissance era, whose philosophy method in the new philosophy of the west has been accepted somewhat. Probably he is the only philosopher in the Muslim world who has not been an imam of the past, and has a greater intellectual autonomy and originality of opinion than others. Because of this dissent, he has not even been

considered in recent times, and his philosophical thoughts and opinions have remained almost unknown. Abu Rayhan Biruni (2007), the great scientist, is the only one who has recognized both the philosophical importance and scientific value of Zakariya Razi. Abu Rayhan Biruni (1974) was also interested in the study of visible phenomena in nature as well as human existence.

Therefore, the study of the scientific texts belonging to Mohammad Ibne Zakariya Razi and Abu Rayhan Biruni (1974) reveals their service to humanity and their influence on the scientific societies of the world, especially contemporary Europe. Therefore, it is necessary to understand, explain and describe their intellectual and scientific foundations about the world of nature. The theory of the scientists mentioned in the scientific field is not limited to a particular age and territory.

Mohammad Ibne Zakariya Razi introduced a new concept by combining the Boghrati Medicine and Jalinus and elixir (Chemistry), and the Abu Rayhan Biruni (2007), an Iranian scholar, and scientist, without any reliance and strict adherence of the famous schools of his time, established a special scientific method and in order to recognize and awareness of human knowledge, he searched for the works of the old nations, and in this way, he coped with many problems and achieved some unexampled results.

Therefore, the purpose of the study is familiarity with the scientific thoughts of Mohammad Ibne Zakariya Razi and Abu Rayhan Biruni (1974) about the world of nature and cosmology. In fact, the

subject is an introduction to understand the realities of the cosmology and scientific theories of these Iranian scientists about the natural world. It is hoped that scholars and researchers achieve a new perspective in recognizing the scientific evolution for contemporary human society by examining the intellectual and scientific foundations of other thinkers.

## **2. MOHAMMAD IBN ZAKARIYA RAZI**

### **2.1. Mohammad Ibne Zakariya Razi and the philosophy of nature**

Zakariya Razi (2002) scientific method is based on researches and scientific experiments and uses pure scientific techniques. For this reason, he has a special reputation. He took a special feature in the scientific method. He considered trusteeship in the use of scientific resources, which today is known as trusteeship rights or scientific property rights. Zakariya Razi had an empirical induction method and paid attention to sensible investigating affairs. Because he was physician and naturalist, he was paying attention to the sensible facts.

### **2.2. The philosophical views of Mohammad Ibne Zakariya Razi**

Although Zakariya Razi (2002) is famous in chemistry and medicine, he has also raised important ideas in philosophy. He

believed in five old things in philosophy and worldview, i.e. from the birth of the universe, these five things have also been existed. And he says: "It is possible for assuming five old things that they have made a world of their mutual interaction that we know." The five old things are: the creator, the whole soul, the first monster (first material), the absolute place, and the absolute time. He is the creator of pure intellect and pure science, and life follows him as the light of sun. And from the general soul, the light of life is dispersed (Henry, 1959). However, because Zakariya Razi adhered to the Iranian tradition, he considered light as the first creation<sup>1</sup>, the material and the place and the time as old (Iqbal Lahouri, 2001). Some researchers have argued that Zakariya Razi believed in the five old ones from Haranian. However, it is true that the idea is known among Haranian after Zakariya. But Abu Rayhan Biruni (2007) said that Zakariya Razi has taken this idea from the Greeks. Ibn Hazm says in the book *al-Fasal: The belief of Majus* is that the creator of the universe (Ormozd) and the devil (Ahriman), and sometimes (time), place (place and vacuum), and tome (ink or nature, or essence) are five old. But Ibn Hazm, in a book that had written on rejecting the book of "Divine Almighty" of Zakariya Razi rejected the belief of Razi that according to Ibn Hazm had taken from the Magusians. From here it can be guessed that Zakariya Razi may have been influenced by the ancient Iranian philosophical thoughts (Halabi, 1994). According to Razi, the existence of these five things is emergency, because a material that is combined with the face is perceptible. Because some of these states are preceded by some others,

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<sup>1</sup> One of the ideas of today's worldview is that the first energy was existed, and later it became material and material was created

it is considered old and new by the time. There are some living things, so the soul is needed for them. And among them there are intellectuals and industries at the steady end; therefore, the wise, learned, reformer creator is necessary (Sharif, 1983).

As Henry says:

It should be mentioned that in the worldview system of Razi, if the purpose is to trace its previous tradition, it is seen more than the ancient Persians worldview, especially the Manaviyan, as well as the Atamiyan of Greece and Plato, and philosophers such as the Anbaz Gheles (Democrit) and Enxagoras. It is said that in many of his philosophical attitudes, he was influenced by Iranian thinker, Abul Abbas Iranshahri, who lived in the ninth century. Abu Rayhan Biruni (2007) has written that, I read the book of Razi in Divine Science; he is influenced by the books of "Mani", and especially the book Safar Al-Asrar (2003: 14).

### **2.3. A great deal of respect of Zakariya Razi to wisdom**

Zakariya Razi is completely opposed to prophecy and revelation, and opposes any kind of non-rational thinking. Zakariya Razi was too "intellectualist (rationalist)," and relied on the power of wisdom and reason too much. Although he believed in moving towards the Almighty God, his tenacity to the originality of wisdom was not let to the revelation and inspiration (Velayati, 2004). Zakariya Razi (2002) says: "The creator gave us wisdom so that we could profit from it, and we would recognize the world and what is beneficial to us, and we can discover, invent what caused our comfort. So let us command the wisdom instead of the ruler".

Ahmad Ibn Ravandi and other materialist thinkers and rationalists of Iran consider wisdom as the only Imam and the leader of human beings. If we compare the reasons of "Ibn Ravandi" with Razi (2002) reasons in denying the prophecy, we will find that they both argue in one way. And that is the use of reason and support for human thought.

### **3. ABU RAYHAN BIRUNI**

#### **3.1. Searches of nature philosophy of Abu Rayhan Biruni**

Abu Rayhan Mohammad Ibne Ahmad Biruni, one of the greatest Iranian scholars, was born outside of the city of Kas of the Iranian family (Khwarazmi) in 362 AD/ 973 AH. At a young age in his hometown, he was studying science near "Abu Nasr Mansour" from the Iraqi kingship. With the invasion of Sultan Mahmud Ghaznavi to Khwarazm, he went to the Ghazne and traveled to India with Mahmud and wrote "Malhand Research", and after Mahmoud's death, he was with his son "Masoud" and afterwards "Moodud" and in 443 AH/ 1041 AH died in Ghazne. From Abou Rayhan Biruni's professors; it can be mention Abu Mansour Iraq, that Abu Rayhan learned mathematics with him and studied natural sciences with Abu Sahl Masihi, and also learned philosophy near Abd al-Sammad Hakim (Sultan Mahmoud hanged and killed Abdolsamad-Hakim) for the crime of the Qarmatian and Ismaili near Abu Rayhan (Safa, 1995).



### **3.2. Biruni as a philosopher of science**

The title "philosopher" usually refers to individuals who are professors of the teachings of one of the philosophical schools. Though, each of the philosophical schools has many branches and divisions. According to this point, Abu Rayhan Biruni (2007) has never been categorized as a "philosopher" by traditional writers. Consequently, he is placed in none of the famous schools of traditional Islamic philosophy (Nasr, 2004). Although he has not entered much in the philosophical field and has not intervened in this matter, in the present age, a group thinks about the opposite, and they consider him a philosopher who has been more advanced than his contemporaries. According to this group, adhering to the Aristotelian philosophy, did not convince Abu Rayhan. That is why he protested from Aristotle, that no one had the courage (Motahari, 1994). Abu Rayhan Biruni (1974) was a precise man and owed his philosophical studies, though in the philosophy, he was not the follower of the standard method of his covenant. i.e. it is not a way which was consolidated and developed by Kandi and Farabi and the like.

The intellectual product of Biruni is an extract of the mixing of Iranian, Greek, Indian knowledge, and other nations and experienced religions, which reflects both deep awareness and reflection of his intense tendency to intellectual and philosophical convergence (Naser, 1995). What remains from the philosophical thoughts of Abu Rayhan shows that he paid attention to Hermetic writings of Razi (2002). Undoubtedly, Abu Rayhan in the field of science was the only

representative of the philosophy of Iran, which has been influenced by Iranian philosophical schools. In general, it can be said that Abu Rayhan is closer and more similar to the scientific and philosophical way to Abu al-Abbas Iranshahri and Razi (2002). And like Razi (2002), he is from the naturalist philosophers.

### **3.3. The method of Abu Rayhan Biruni**

The great work of Abu Rayhan Biruni (2007) which has considerable significance is his methodology. Abu Rayhan chose the sensory and experimental method and observation that we know as the "scientific method." Abu Rayhan considers wisdom as the greatest blessing of God, given to man, and that man must use the power of "wisdom" and what is seen in nature will achieve the truth of things to achieve a goal that in this world is a human's responsibility (Homayi, 1974).

Abu Rayhan wrote the treatise "List" from his devotion to "Mohammad Ibne Zakariya Razi". In this regard, the method of Abu Rayhan in the natural and physical sciences is undoubtedly influenced by the experimental method of Zakariya Razi, and subsequently influenced by the beliefs of "Mani" and philosophical method of Mani and Manaviye. Although Francis Bacon (1561-1626), in modern scientific research, created a new idea in Europe in the history and philosophy of science and he spoke a lot in praise of his induction style.

He collects a science that he had gained through experimentation and observation of nature, and is perfectly correct and accepted, with a science related to the universe of the senses and objects, and observes the laws and rules of nature as evidence of science on generalities and explores the meaning of details in generalities. In addition, he never considered impossible what is impossible and never considered possible what is certain. He considers respected the observation and experimentation in the universe of objects and the application of logic in the study of nature, but he did not consider this tool as the sole means of reasoning (Nasr, 1980). Hence, Abu Rayhan cannot be considered just as an experimentalist scientist. The novelty of this method is that he used mathematics to study human and social issues, and in studying historical events searched for understanding their causes, and also paid attention to experience and observation. This issue has astonished his critics, as if the Abu Rayhan had not belonged to that era. He disagrees with philosophers like Ibn Sina and Farabi. The fundamentals of the methodology of Abu Rayhan are: 1- Realistic 2- Separation of valuation from reality 3- argument 4- Mathematic.

### **3.4. Theory of Evolution of Abu Rayhan Biruni**

According to Abu Rayhan Biruni (2007), evolution is gradual, not mutation (revolutionary). Biruni, in the process of evolution, or the conversion of the old to the new, but the combination of the two together, considers the principle of opposite or conflict as assumed and necessary. And he says in this regard:

But the singular elements do not accept him in their entirety, and no longer change and disappear, but change is in their way. Because they are opposing, and opposite with opposite will be in wrath, because their boundaries will come together and interact with each other, overcome and blend on the earth (2007: 139).

So these mutations are the cause of corruption in this world, i.e. according to Hegelian, "thesis" and "antithesis" that its product is "synthesis", in this respect, the transformation or corruption in the universe according to the Abu Rayhan Biruni (2007) is the gradual emergence occurred during a particular time. Like all of the old scholars, he considers all of the phenomena that are in the universe of corruption resulting from mixing elements and interactions. He considers the causes of earthly and atmospheric changes should be searched in the changes that occur in the composition of the elements.

Biruni based on the principle of gradual evolution specifies the degrees of existence as follows: Object → plant → animal → human

Regarding evolutionism of Abu Rayhan Biruni (1974), it can be accepted that the factor of evolution is nature in natural affairs; and the factor of evolution is the reason in human affairs, and nature is subject to the physical laws of material, and rejects the interference of factors of metaphysics.

### **3.5. Natural sciences of Abu Rayhan Biruni**

External biographies also have important views in the natural sciences, and a discussion that has been raised in this regard shows his precision in this regard. In this case, following points can be mentioned:

1. Abu Rayhan, with the help of his own abstract thought and without experience and experiment, pointed out that the speed of light is higher than the speed of sound and the speed of light is above speeds. And he also said that light and sound are moving:

The scholars also have different views in the motion of the radius: some have said that the radius does not move at the time because the radius is not objected. Others say that this move is in time, but it's not faster than something that speed of measuring is felt. As the motion of the sounding is more intense than the motion of radius of light, so they said the motion of the radius with that scale, and understand its time (1974: 29).

2. Abu Rayhan with experience and deduction has concluded that flowers have 3- 4- 5-6 or 18 sepals, and there is no flower with 7 or 9 sepals:

What is surprising in plants is that as it opens, a circle is formed around it that in most times contains the circle of geometric theorems, and in most often times corresponds to geometrical shapes. And it will never be possible for a person to see to have seven leaves of flower or nine flower leaves. But it is very likely that a triangle, a square, a pentagon and a hexagonal or

eighth-edged to be occurred, and this is most likely to be found in the majority (1974: 83).

One of the differences between monocotyledonous and dicotyledonous flowering plants is today considered in flower components. In monocotyledons, flower components usually are 3 or multiple of 3, but in dicotyledons, they are usually 4 or 5 or a multiple of them (Jest, 1999).

3. Abu Rayhan Biruni (2007) discusses with certainty about the "symmetry" in the world, which is the new issue of science. He predicts the existence of a dry land in the west of the world (America's continent) and considers it necessary. As the Antarctic lands are necessary.

Abu Rayhan in the fourth question from his eight-second question from Ibne Sina has posted an issue that astonished the old and new scholars. "Why a northern quarter of the land is residential and the other northern quarter and two southern quarters is not so? And the provisions of the two southern quarters are as the northern quarter, and they are in common in all provisions" (Biruni, 1974: 138).

Despite this, Abu Rayhan believes in the harmony and preservation of the symmetry in the role of the universe. Because it says: "It is obligatory and necessary that every pair of quarters of the earth to be a continuously interconnected unit that one is continent and the other is sea" (Biruni, 1974: 231).

Before the discovery of the American continent by Christopher Columbus in 1492, the old geographers and wise men believed that the residential and developmental area of the land is limited to the northern quarter. According to the scientific rules and by the force of perceiving and guessing, Abu Rayhan considers the existence of another state against it based on the natural symmetry and the necessary balance of the earth's gravity certainly, and states: "In terms of our research and induction, we consider necessary that in one of the two northern quarters of the earth, which is drought, like the same land (continent) to be in its quarter" (Biruni, 1974: 194).

4. The cause of the eruption of the springs and well of Artesian; Abu Rayhan writes in the works of Al-Baghi on the eruption of springs and the ascension of water upwards: "The reason is that its treasury is higher than the source itself. The interpretation of Abu Rayhan has been stated in these cases, according to the hydrostatic laws, according to the law of the communication vessels and a sign of his fully aware to the flow of water in nature and on the ground and underground.

5. Abu Rayhan in his sixth question to Ibn Sina considers the shape of moving heaven as oval (in fact, the motion of the earth). "... According to most of people and I do not say from my belief that the shape of heaven is not spherical, but oval and

lentiform. Because I have done Ijtihad<sup>2</sup> in rejecting this promise (Dekhoda, 1973).

6. Biruni has been interested a lot in the problem, likelihood of moving the Earth around the sun. As an astronomer, he believed that this issue is from the problems of physics rather than astronomy. Therefore, it attracted the attention of researchers in physics to this issue, and he himself was investigating the physical results and properties of the central solar system. At the end of his life, after years of imprudence on this issue, he confirmed the central planetary system: this was not due to his astronomical work, but physics based on the central sun seemed to be impossible. And in this case, he has written:

“I saw the astrolabe known as Zuraghi, which Abu Saaid Sajzi has invented. I liked it very much and I said it to him bravo. Because it is based on the idea of the motion of the earth, not the motion of the sky, throughout my life, it has been difficult for me to analyze or reject it” (Biruni, 2007: 157). Whether the Earth is moving or the sky, the result will be the same. In neither of these two modes, there is no effect on astronomy. The rejection of this problem is in the responsibility of the scientists of nature (Naser, 2007). Abu Rayhan (2007) by skepticism has influenced Ptolemy central system and paved the way for the replacement of the central solar system (heliocentric). Although he considers useful both systems for astronomy studies, he

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<sup>2</sup> Ijtihad is an Islamic legal term referring to independent reasoning or the thorough exertion of a jurist's mental faculty in finding a solution to a legal question.



creates a revolution in natural systems (physics) by suspicious and violent in a central ground system in order to open a way to the new world of science. The central solar system in the 16th and 17th centuries crashes all those wide and long means of the Christian church and political systems reliant on it.

Therefore, the rejection of the theory of central land at that time was impossible politically and socially, and the field of mathematics and equations were not provided for it. The Ptolemy's astronomical system was accepted by all the scholars of Islam and Ibn Sina, Zakariya Razi and Farabi in that era, and five hundred years after Biruni, Cooper Nick introduced the theory of the central sun.

#### **4. CONCLUSION**

The history of the human sciences is all about trading among nations and nations. What a nation invented, another nation accepted it and added new contents. Today, most people complain about a few things and facilities. But few people talk about a little effort. Are the means of Zakariya Razi (2002) and Abu Rayhan Biruni (2007) comparable with modern facilities? Therefore, in a rational and logical analysis, they were the men of action field, and through observation, experience, precision, and with a strong worldview, they tried to discover the hidden secrets of the universe and, with work and effort, thought decreased the number of unknowns. In this case it can be said: Zakariya Razi and Abu Ali Sina studied various diseases, and their

wish was to discover the cause of disease and to cure the pain of the human community.

Although, Zakariya Razi (2002) and Abu Rayhan Biruni (1974) and others lived in the past, it cannot be said they belong to the past. But the scientific past of mankind is well-known with their thoughts, and their theories are the cornerstone of the thoughts of contemporary philosophers. In fact, if they were not, the philosophers of the nineteenth and twentieth centuries did not have the ability to create philosophical works. As some of the writers of the present era have interpreted the philosophical works of past philosophers and they added new discoveries on the history of philosophy of science. Reconstruction of the history and philosophy of science in Iran without the study of the work of predecessors will be impossible. Reconstruction of the past and the pursuit of trends and the growth of science are essential.

Indeed, new theories should not be the basis for evaluating the works of the ancestors. But it can be compared to some of the scholars and thinkers of Iran's past with new theories in the contemporary world, to clarify the role and influence of Iranians in the history and philosophy of science. Every generation, as it uses the scientific and exploratory heritage of past generations, it is almost as equally as required to preserve and add to this precious heritage for the benefit of the future.

In general, intellectual and material thinkers in Iran and in the world aimed at improving the spiritual and material suffering of

mankind and trying to rid humans from the storm of non-scientific thoughts. Without relying on the science and laws of nature, one cannot has proper ideas about the flow of the emergence of life and other natural phenomena.

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