



CENTRAL ASIAN THINKERS ON THE ROLE OF PHILOSOPHY IN THE ISSUE OF PREVISION

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KEY WORDS: Al-Khwarizmi, Al-Farabi (Alpharabius), Al-Biruni, Ibn Sina (Avicenna), Ulugbek, A. Navoi, philosophy, scholars, encyclopaedist, physician, astronomy, medicine, science, mathematics, geography, algebra, arithmetic, geology, minerology, literature, history, physiology, biology, natural science, knowledge, patterns, cause, effect, Earth, mind, rationalism, faith, will, cybernetics, cosmogony, prevision, heritage, theory, method, world, matter, experience, creativity, observatory, nature, phenomenon, explanation, comprehending, thought, intellect, fact, time, contribution, concept, teaching, views, decision, development, movement, celestial bodies, system, approach, problem, humanism, man, learning, fate, physician, illness, education, justice, management, ideal, culture, household, society, ruler, state, issue, well-being, attention, perfection, quality, utopia, activity, labour, influence, increasing, happiness, patriot, perspective, future, era, freedom, equality, optimism, respect, West, Central Asia.

DISCUSSION

As it is known, the peoples of *Turon, Turkistan* (Transoxiana) have been distinguished with their rich history, priceless heritage, diverse and great culture, customs and traditions. Great representatives of them have made a significant contribution to the development of all spheres of national and world science and culture. The peoples of the world remember and pronounce the names of such great scientists with great respect as the founder of algebra Al-Khwarizmi, the second teacher recognized as Aristotle of the East Abu Nasr al-Farabi, the great *khakim* (physician or wise man – *tr.*) Shaikh-ul-raisi Abu Ali Ibn Sino, scientist encyclopedist Abu Raihan al-Biruni, great man of science of astronomy Mirza Ulugbek, founder of the Uzbek literary language, genius poet Alisher Navoi, great thinker Ismail Bukhari, great thinkers of the teachings of Sufi Ahmad Yassavi, Abdu-al-Khaliq Gijdivani, Najm-al-din Kubra, Muhammad al-Ghazali (Latinized Algazelus or Algazel), Mahmud al-Zamakhshari and others.

The leading representatives of social and scientific thought in Central Asia such as Al-Khwarizmi, Al-Farabi, Ibn Sina, Ulugbek and others made a significant contribution to the development of philosophical and natural-scientific thought of their

time, in particular, to the increase of the concept of foreseeing natural appearance.

The activity of the brilliant scientist encyclopedist, the greatest humanist al-Khwarizmi (783-850) is a vivid example of the creative development of scientific knowledge. His research in mathematics, astronomy, geography and history contributed greatly to the further development of these academic subjects. His great merit is that he is the founder of algebra, which is a generalized theory of equations and methods for their solution. The formation of the philosophical, socio-political views of Al-Khwarizmi was influenced by the philosophical works of Ancient India, the peoples of Central Asia and Iran, Ancient Greece and Rome as well. In turn, the rich and diverse culture of the peoples of Central Asia had a beneficial effect on the development of the culture of the West.

The fundamental concept of modern cybernetics ‘algorithm’ is etymologically associated with the name al-Khwarizmi. First of all, his activities were aimed at the development of natural science knowledge, knowledge of nature, and the study of the world by experience. ‘Elements of algebra were known even before al-Khwarizmi. This is evidenced by the ancient Egyptian papyrus of *Ahmes*, which has existed for almost four thousand years. For instance, in ancient Babylon arithmetic as



well as elementary algebraic problems were solved using special tables. However, the pre-al-Khwarizmi period (from ancient times to the beginning of the 9th century) is characterized by the absence of a unified theory and method for solving algebraic problems, i.e. the absence of a separate, special science – ancient mathematics was unified, abstract.’ [1]

According to the famous scientist of Uzbekistan A. Fayzullaev, ‘the generalization of a huge number of partial quadratic equations in the form of finite types of their classification, carried out by the great scientist of the Middle Ages al-Khwarizmi, laid the foundation for modern algebra.’ [2]

Significant mathematical and astronomical treatises by Al-Khwarizmi brought him immortal fame. With the help of mathematical and astronomical calculations, astronomical tables, the scientist-astronomer determined the location and daily movement of the planets of the Sun, Moon and others, predicted solar and lunar eclipses.

Another representative of this culture is Abu Nasr al-Farabi (c. 870-950), known as the ‘Second teacher’. He was the first major philosopher of the peoples of Central Asia during the beginning of the Eastern Renaissance. His rich heritage testifies to the fact that his philosophical system was the most optimal and rational, and in solving a number of issues, he ‘went forward his time.’

Basing on the generalization of the achievements of medieval philosophy and sociology, Al-Farabi built his own socio-philosophical system. In his teaching, Al-Farabi pays special attention to the problems of public life and the state. He created the ideal of a perfect state, a virtuous city, led by an ideal ruler, who, as Al-Farabi writes, should ‘possess astuteness and shrewdness, allowing him to learn at any time both the existing state of affairs and future events.’ [3]

In his opinion, any person cannot be the head of a city (state), in order to become one, that must have the following qualities: initially, have perfect organs; secondly, must understand; thirdly, have a strong memory; fourthly, be discerning and perspicacious; fifthly, have an expressive syllable and clearly express his thoughts; sixthly, be diligent in teaching; seventhly, be abstinent in food and beverages; eighthly, love the truth; ninthly, have a proud soul; tenthly, love justice; eleventhly, despise wealth; finally, be persistent.

A person endowed with all these qualities has the highest degree of human perfection and is at the pinnacle of happiness. That is such a person who can best direct people to find happiness and the actions by which it is achieved. The main thing is Al-Farabi’s belief in a person, his strength, capabilities and abilities. A person can be happy, but he should not wait for happiness as a donation, but earn it with his own hands, through training and labour. Thus, the

ideal of the ruler of the state coincides with Al-Farabi’s idea of a perfect person as a person endowed with the ability to see the perspective, and on this basis only a perfect person can be entrusted with the fate of other people.

Al-Farabi imagines the future of humanity with a great deal of optimism, where freedom, universal equality, mutual respect, and complete well-being will reign. In science and its foresight capabilities, he saw the only way to transition to such a society. Al-Farabi, being the greatest humanist of his era, opposed feudal wars, seizures, robberies, against injustice and deception, defended human rights to work, knowledge, and a peaceful life. He dreamed of a prosperous society based on the mutual assistance of people.

In his time, the role of the city as a centre of trade, culture, and state administration especially increased in the life of society. Al-Farabi divides city-states into ‘virtuous, or ideal (*al-madinat al-fazilah*) and ignorant (*al-madinat al-jahiliyah*).’ [4]

Cities where evil is done are ignorant. And ‘the city in which the unification of people is aimed at mutual assistance in matters by which true happiness is obtained is a virtuous city, and a society where people help each other in order to achieve happiness is a virtuous people. In the same way, the whole earth will become virtuous if nations help each other to achieve happiness.’ [5]

Affirming the ideals of a virtuous city and a perfect person, that time, Al-Farabi expressed the foundations of universal humanism.

Al-Farabi’s humanistic ideals, preaching justice, friendship of peoples, equality of all people in the development of culture, science, mental abilities and aiming them at achieving prosperity, happiness, perfection, are consonant with the pressing problems of the countries of Central Asia and all the peoples of the world. Preaching friendship between peoples, humanism, exalting the person himself, his abilities and intelligence, Al-Farabi in his works highly appreciated the abilities and will of a person, defended the real happiness of people, encouraged them to improve themselves through constant training and determining the prospects for further development. The philosophical and socio-utopian ideals of Al-Farabi, his views were influenced by progressive teachings, the ideas of humanism of the peoples of the Near and Middle East. Due to historical conditions, he was greatly influenced by Aristotle and Plato, but he very critically approached the assimilation of their heritage. Al-Farabi’s social philosophy is permeated with the spirit of humanism and faith in the future, further human improvement. Therefore, it is no coincidence that his philosophical views entered the treasury of human thought, the history of the formation of humanistic ideals that excite all of mankind.



In the works of another no less famous thinker of Central Asia, Al-Biruni (973-1048), the prospects for the further development of astronomy and geography, geology and mineralogy, biology and medicine, history and physiology, mathematics and sociology are considered, as well as numerous scientific guesses of a truly prophetic nature.

It should be noted the special merits of the philosophers of Uzbekistan in this direction, who, in fact, for the first time raised the question of the methodological aspects of the historical and philosophical research of Al-Biruni, pointed out a number of their common features in the context of historical and scientific achievements that determine the direction of further research in this area.

Al-Biruni worked out his own scientific method to study the nature. [6] The characteristic features of this method are the requirements to clear the mind of outdated customs, fantasies, stereotypes. In explaining the phenomena of nature, he recommended proceeding from nature itself, from facts. The study of the subject begins with the study of the elements of which it consists, to conduct an objective observation, to compare the obtained data, to compare with the opinions of others. In research, it goes from the known to the unknown, from the general to the particular.

Attaching great importance to his method, Al-Biruni stated that this is the closest path to truth. Guided by this method, Al-Biruni achieved significant success in his multifaceted scientific activity. In his work, Al-Biruni strictly adheres to the scientific principle and seeks to explain reality on the basis of it, which opened up the possibility of increasing knowledge for the development of the methodology of scientific foresight of that time.

According to Al-Biruni, based on the interdependence of phenomena and objects, the reason for the connection, the laws that exist in nature, it is possible to cognize the world scientifically. He warned scientists, when studying natural phenomena, not to confuse the scientific approach with religious ideas. So, in the book 'India', referring to the mistakes and delusions of some scientists in astronomy, Al-Biruni writes that this delusion and error are explained, initially, by the lack of genuine knowledge and experience of these people, and secondly, by the habit of 'confusing scientific questions with religious traditions.' [7]

Al-Biruni, proceeding from the scientific method developed by him, relying on its principles, he anticipated on many issues the achievements of natural scientists of a later time. So, for example, in the field of astronomy, some phenomena, like the change of seasons, day and night, he explains by the influence of the Sun. Al-Biruni put forward the bold assumption that the Earth is moving, although it seems to us that it is stationary.

Although Al-Biruni was under the influence of the doctrine of geo-centrism, at the same time did not reject the doctrine of heliocentrism, spoke of the need for research in this area and thereby contributed to the correct solution of the extremely important issue of cosmogony.

The greatest services of Al-Biruni to science are related to astronomy. In this area, he left such bold guesses and thoughts that they found their recognition and development only a few centuries later. Al-Biruni in the conditions of the Middle Ages presented for the natural sciences amazing ideas for his time, conclusions and scientific hypotheses, which after several centuries found their confirmation in European sciences.

Zidj, a catalogue of stars, compiled by Al-Biruni is one of the largest and contains the coordinates and magnitudes of 1029 stars, that is, more than the Ptolemy catalogue, although it relied heavily on it. A. Sharipov writes 'the foresight of our great compatriot, who in the conditions of universal recognition of the Ptolemy system, nevertheless saw its weaknesses, is amazing, took a big step towards heliocentric ideas, which subsequently made a whole revolution in science.' [8]

Another very remarkable guess of the great scientist was that he was one of the first to speak out about the possibility of an ellipsoidal shape of the trajectories of the motion of celestial bodies. The scientific significance of this assumption of his is undoubtedly great: it anticipated Kepler's later discoveries.

Observing natural phenomena for a long time, Al-Biruni noticed their periodicity, cyclicity, the natural features of their development. In relation to society, Al-Biruni shows a great inclination towards the theory of circles. 'Al-Biruni,' writes Y. Yakovets, 'put forward the idea of large historical cycles, which was a significant step already at that time.' [9]

'Although the activity of a person and society,' he goes on, 'is largely predetermined by natural laws and cycles, historical heritage, the natural and social environment, historical processes have a regular cyclical character in similar situations, people retain a certain freedom of choice / and responsibility to future generations / in creating their own diverse future.' [10] For this, history must be studied in order to solve the dilemmas of our own future.

The greatest scientists and unsurpassed authorities of science Euclid, Ptolemy, Al-Razi, Ibn Sina and others, were supporters of geo-centrism, Al-Biruni dared to doubt the correctness of this theory, arguing that the Earth is moving, and that it only seems to us that it is motionless. It is possible that Al-Biruni also took some practical steps in the field of studying the motion of the Earth. So, some sources report that the largest astronomer and mathematician



As-Sakhri, with whom Al-Biruni was personally acquainted, invented an astronomical instrument based on the principle of the Earth's motion, not without Al-Biruni's participation. Al-Biruni repeatedly mentions his name, not hiding his sympathy for him.

The formulation of the question of the Earth's motion was a huge progressive step in terms of the Middle Ages, when the theory of heliocentrism was paid with life.

In the field of geology, he anticipated many specific discoveries, in particular, indicated changes in the course of the Amu Darya and so on.

The development of astronomy played an important role in planning the cycle of agricultural work in the conditions of irrigation agriculture in Khorezm.

Al-Biruni's research was not limited to the framework of his time. His views on the importance of the natural sciences in the development of society, his research method were much ahead of the existing era, respectively, many of his guesses, conclusions were confirmed by the further development of science.

The greatness of Al-Biruni is most vividly expressed in the fact that 'about thousand years ago, as V. Zakhidov writes, Al-Biruni, rising to a small hill, looked at the horizon line. The world-out-looking expanded. Not much for the mere man. The genius saw the endless! He calculated the circumference of the Earth / prosaic '41 550 km' in modern measure / with an accuracy that was not significantly shaken by thousands of further measurements, looking from above after thousand years and from a cosmic height ...' [11]

Al-Biruni's views on social development issues are also of considerable interest. According to him, a society should be governed by individuals with a deep mind, objectivity, enterprise, philanthropy and other high qualities.

The essence of management and the possession of power, according to him, is deprivation of peace for the sake of the peace of the ruled, this is fatigue of the body while protecting and protecting their families, their property and life. These and other humanistic ideas of Al-Biruni are especially relevant today, when the current policy of independent Uzbekistan proceeds from the position: 'The people do not serve the state, but the state does them.'

The great '*tabib*' (doctor) Ibn Sina (980-1037) is one of the largest medieval thinkers made his invaluable contribution to medical and philosophical thought. Including his ideas on scientific foresight are of great interest.

Ibn Sina studied almost all the known sciences of that time and strove to say his word, his understanding about each of them. He is the author of many books such as 'The book of healing', 'The book of salvation', 'The book of knowledge', 'The

book of directions and admonitions' and others that are still world famous today.

Ibn Sina's main medical work 'The Canon of Medicine' was not only the result of a thousand-year development of medicine, but a new stage in the development of science, an application, a program of actions, a testament for subsequent generations of doctors.

This is in many ways an anticipation of those paths and achievements that took several more centuries to complete. For hundreds of years, doctors of all countries used the book by Ibn Sina as an inexhaustible source of knowledge. It taught the recognition, treatment and prevention of diseases, the peculiarities of the approach to a sick person, set out the foundations of the theory of medicine. Fundamental ideas in the field of surgery, the doctrine of the brain, internal medicine, formation, very interesting from the point of view of modern science, are set out in this main work. 'The Canon of Medicine' is truly a medical encyclopaedia. It is no coincidence that this work has been a guide for many generations of doctors for many centuries.

As a philosopher, Ibn Sina recognized the eternity of matter, its inconceivability and indestructibility. Cause and effect are in unity and cannot be separated from one another. Based on his doctrine of the eternity of matter, he considered it to be the basis, the cause of all single, concrete things. Matter is in constant motion, change, development. Ibn Sina believed that plants, animals, man are at different stages of development: plants are at a low, animals are at a middle, man are at a higher level.

According to Ibn Sina, the world is cognizable and there are two types of cognition: cognition of the general, abstract, divine and cognition of the particular, concrete, worldly. A person realizes the first one through theoretical reason, and the second one is realized by 'external' organs – sensations and practical reason. In addition to five external senses, a person also has five internal 'senses', internal cognitive organs. In his works, he gives a detailed description of the five senses, their functions and role in the cognitive process.

Ibn Sina did not specifically deal with the development of foresight problems, but in his works, proceeding from the causal determinism of both the physical, animal world and human society, put forward bold guesses about the future development of events. This can be seen especially clearly in his statements about the causes of various diseases, the patterns of the course of illnesses, their treatment and prevention, which were confirmed with great accuracy in practice.

Ibn Sina claims that *mijaz* / mixing / is an essential quality of the organism, a necessary part of its nature. And this doctrine forms the foundation of his thoughts on human health and his diseases, determines the natural foundations of a healthy



lifestyle, nutrition, treatment of diseases, and the use of drugs. Ibn Sina also described the forms of manifestation of *mijaz*, its intervention during biological processes in living beings, healthy people and the patient, scientifically-philosophically substantiated its nature and origin. Although Ibn Sina's ingenious guess is based on numerous facts, observations not only of himself, but also of many outstanding scientists who were doctors, and on the experience of oriental medicine for many centuries, scientifically, its depth was limited by the state of science in the distant Middle Ages.

The doctrine of *mijaz* and other scientific ideas of Ibn Sina on theoretical and clinical medicine arose in the medieval period of the life of society, when there was no reliable knowledge about nature, its diversity, about the structure of the human body, about the functions of its organs, about the causes of diseases, and so on. Of course, there were not any instrumental research methods.

And only in the 2nd half of the 20th century, when new methods and branches of science appeared, which made it possible to study life at the cellular and molecular levels, conditions arose for a comprehensive study of this mysterious natural phenomenon and opportunities arose for a scientific interpretation of *mijaz*.

His views on social issues are of great interest. He attached great importance to the development of agriculture, crafts and trade. As the greatest humanist, he recognized that the ruler compiled a code of laws, took into account the moral characteristics of the people, and national traditions and customs that encourage justice. 'It, justice,' Ibn Sina states, 'is the best adornment of human actions.' [12]

Ibn Sina notes in 'The book of directions and admonitions' that a person is not isolated in the sense of the independence of his personal needs, since he can satisfy them only in communication with other representatives of the human race.

In the processes of exchange and interdependence that are established between people, each relieves the other of any concern, while if each did everything himself/herself, too heavy and hardly feasible burden would fall on his/her shoulders. As a result, agreements between people, established norms of justice and law are necessary. These and other thoughts of Ibn Sina indicate that he, like Al-Farabi, Al-Biruni, dreamed of an ideal society, made guesses, assumptions about a better life in the future, about a free and just society.

The principles of upbringing and education of the younger generation set up by Ibn Sina are a good pattern for modern scientific life. Abu Ali Ibn Sina became one of the first scholars of the East, who gave a coherent system of methods for educating the young, considered moral actions in the context of his professional activities.

The educational and upbringing views of Abu Ali Ibn Sina should be noted. The focus of his attention was always a person as an individual with his knowledge, spirituality, moral character.

Above-mentioned data despite being incomplete, statements of the thinkers of Central Asia show that since ancient times philosophical thought sought to know not only the present and the past, but also to look into the future state of phenomena and things. On the basis of empirical data, they strove to foresee, predict the direction of development of events in natural and social processes, phenomena in the future. Their statements, although they were not framed in the form of a holistic concept of scientific foresight, are of great interest as a vivid evidence of a man's natural desire to look into the future, to penetrate the essence of future happenings.

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