



THE CONTEMPORARY SIGNIFICANCE OF ABU RAYHAN BERUNI'S SCIENTIFIC DISCOVERIES

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Annotation: This article describes the development of modern science, the creative heritage of great scientists who made a significant contribution to it. In particular, the essence of Abu Rayhan Beruni's works, the relevance of his study today, and his invaluable contribution to world science are described. Some aspects of the greatest works of art are also touched upon.

Key words: Science, development, scholars, Abu Rayhan Beruni, "Saydana", "Minerology", relevance .

In today's era of globalization, when there is a struggle for the human heart and mind, instilling spiritual values into the minds of young people, deeply teaching them the scientific heritage of our ancestors is inextricably linked with the perfection and consistency of the education of a mature and well-rounded person. Studying the heritage of ancestors is an important criterion that determines whether a person has a perfect profession and changes in his intellectual world, and has been the subject of constant scientific research. After all, in any historical period, respect for the heritage of ancestors, their free transfer to the next generations is the priority of the state policy, and the urgency of its implementation is as follows:

First, in the years of independence, important reforms are being implemented in efforts to restore history and bring the works of great scholars to the general public. In general, the need to restore national values, and in particular, to deeply study the legacy of our great ancestor Abu Rayhan Beruni, is growing.

Secondly, since the development of science in the development of the state and society depends on the study of the scientific heritage of ancestors, it is important to study, analyze and find solutions to the current problems of its improvement.

Thirdly, the humanistic content of the scientific discoveries of our scholars of the first renaissance period is the wide promotion of knowledge, and moreover, "Education of the children of the era as children of high virtues became a vital and civil belief of the enlightened people of that time." [1] and it is time to study these aspects.

The great scientist Abu Rayhan Beruni, who made a significant contribution to world science, left more than 100 works as a legacy to the generations. His greatest works are "Relics of the Peoples of the Past", "India", "Minerology", "Geodesy" and "Saydana". Among his works, "Saydana" is a work of special importance in the development of medicine. The manuscript of this work was found in Turkey in the 1930s. According to the data, Beruni describes 1116 types of medicinal plants in his work "Saydana". Among them, 750 species are from plants, 101 species are from animals, and the remaining 255 species are from minerals. Through his work "Saydana", Beruni recognizes that pharmacology should be a separate science and lays the foundation for modern pharmacology.

In the context of our article, we will list the characteristics of some plants mentioned in the work "Saydana".

1. Almonds. It contains vitamin B2, 42-62% oils. Almonds are widely used in medicine today. It is recognized for its health benefits for hair and nails, as well as for the treatment of gastrointestinal disorders and as a laxative. Today's medicine recommends almond fruit and oil to overcome almost many diseases in the complete healing of the human body.

2. Mingdevona is a plant whose fruit is a multi-seeded pod that blooms throughout the summer. Dry extract medicine and oil are obtained from the root. It is added to the composition of drugs for bronchial asthma.

3. Dalachoy (also called sarychoy) is an upright growing plant, 30-100 cm tall. The underground part contains 10-12% additives, 0.4% hypericin, dyes, flavinoids, carotene, vitamin C. Tincture, poultice, liquid extract and bacteriorcidimanin preparation are prepared from the surface part.

4. A plant belonging to the sachratqi-complexaceae family. This plant is rich in milky juice. The root contains bitter glycosidlintabin, inulin, sugar, vitamin B1, and vitamin C in the leaf. A liquid extract prepared from sachratki is used in the treatment of diabetes.

5. Mint is a plant with a four-sided stem. The leaf is simple, opposite on the stem. Tincture of leaves, peppermint water in essential oil, poultice, menthol, migraine pencil, validol are prepared. These drugs are prepared from mint water and poultice made from essential oil to relieve nausea, vomiting, prevent it, digestion, ear, nose, respiratory diseases, as well as toothache.

"The American science historian Sarton describes the 11th century as the "Age of Beruni" [2]. Indeed, the 11th century was a period decorated with Beruni's discoveries. Because

in this period, a huge renewal in mineralogy, ethnography, geography and medicine is characterized by Beruni's work. The value of these scientific works is of great importance not only for the 11th century, but also for the present time.

The 15th-16th century European Polish astronomer Nicolaus Copernicus became famous for the heliocentric theory (that is, the theory that recognizes the Sun as the center of the universe). But Bernius was several centuries before Copernicus explained that the geocentric system, which considers the earth to be the center of the universe, and the heliocentric system, which teaches that the sun is the center of the universe, have equal power. Beruniy is one of the scientists who emphasized the ellipsoidal shape of skylights and the trajectory of movement, and he is an innovator in choosing the ways of determining the geographical distance and width of places. Beruni is also a famous geographer. In his work "India", he scientifically substantiated the existence of the American continent and wrote the following: "... a quarter of the earth is an administrator. The administration is surrounded by the Mediterranean Ocean (Atlantic and Pacific Ocean) from the west and east. This Mediterranean Ocean separates the inhabited part of the earth on both sides (west and east) from the land or inhabited islands that may be on the other side of the seas... [3] .

After a certain period of time, that is, in 1492, it was noted that the traveler Christopher Columbus discovered the American continent. In fact, it is known to the people of the world that Beruni discovered it. Frederic Starr, chairman of the Institute of Central Asia and the Caucasus at Johns Hopkins University in Washington, said: "Al-Biruni, who never saw the ocean in his life, deserves the "crown of discovery", his tools were not wooden boats with sails and strong oarsmen, but careful observation , was a masterful combination of collected quantitative data and rigorous logic"[4].

Beruni is a scientist who made a radical change in mineralogy. He compiled a catalog of underground mines. Beruni gave valuable information and recommendations on the methods of searching for precious stone deposits and measuring the specific gravity of minerals in his work "Minerlogia". In recent times, this discovery has become important in the development of the field of geology.

So, the scientific legacy of the great scholar Abu Rayhan Beruni dialectically characterizes the substantial and humanistic nature of the development of science. The following conclusions can be given to our article in this regard:

- firstly, the in-depth study of Abu Rayhan Beruni's works reveals the possibilities of creating new scientific horizons;
- secondly, the wide promotion of the study of the scientific heritage of Abu Rayhan Beruni reveals important aspects in the improvement of succession;



- thirdly, the research based on the scientific heritage of Abu Rayhan Beruni serves the efficiency in the implementation of scientific and practical projects.

Regarding the content of the article, the following is **recommended** :

- providing the population with high-quality medicines is the most important social issue, and in this case, ensuring the priority of health culture by studying the scientific works of our ancestors on medicine ;

- development of the scientific heritage of the great scholar Abu Rayhan Beruni not only in medical, but also in philosophical, aesthetic, moral, religious, and political aspects;

- enrichment of natural and social-humanities taught in educational institutions with materials related to Beruni's works;

Of course, studying the scientific heritage of our ancestors and promoting it to the countries of the world remains an integral part of the goals of developing an enlightened state in our country and contributing to it .

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