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THE PROBLEM OF EDUCATION OF YOUTH OF NEW UZBEKISTAN BY TEACHING THE HERITAGE OF SCIENTISTS OF THE KHOREZM ACADEMY OF MAMUUN

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Abstract
The article scientifically analyzes the problem of educating the youth of New Uzbekistan by teaching the heritage of scientists. The scientific activities of scientists of the Khorezm Ma`mun Academy, who worked in the 10th century, were also studied.

Keywords: youth, spiritual heritage, social sciences, natural sciences, philosophical heritage, medicine, astronomy, mathematics, education.

In order to study the heritage of the scientists of the Ma`mun Academy and effectively use it in educational practice, it is necessary to turn to the history of the Khorezm state of that time and analyze the events that took place there. However, understanding the past is the most important factor in ensuring human maturity.

Abu Nasr Mansur Ali ibn Iraq, one of the scholars of the Khorezm Ma`mun Academy, was a great mathematician and astronomer who taught Abu Rayhan Beruni. The famous poet and scientist Omar Khayyam spoke of him as “the greatest of those who studied mathematics.” The works of Ibn Iraq “Al-Majisti al-Shahi” (“King al-Magesti”), “Risala fi zadba masa’il al-Khandasa” (“Answers to Khandasa’s questions”) and other works are well known.

Abu Sahl Isa ibn Yahya al-Jurjani al-Masihi is a great scholar who studied medicine, ethics, psychology and philosophy at the Ma`mun Academy. During his life and scientific activity, he trained many students. His works “One Hundred Questions on Medicine”, “The Book of the Spirit”, “The Book of General Medicine” are well known.

По словам Абу Усайбиа, Масихи был близким другом Ибн Сины и был его наставником в области медицины. Ибн Сина также написал труды, посвященные Мессии. Он умер в возрасте 40 лет в 401/1010 г. при бегстве

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в Хорасан вместе с Ибн Синой, отвергнув приглашение христианского султана Махмуда в Газну [1, 326].

Абул Хаким Аль-Коси — ученый Академии, изучавший химию. Его «Сущность и помощь искусства» (عين الصنعة و عين الصناعة) («Айн ас-сана и айн ас-сана») соответствует уровню научных исследований в Европе XIII-XIV веков, а ее перевод на английский язык в 1905 году показывает, насколько высоки его знания. Узбекский ученый С.Каримова провела научные исследования по этой работе Аль-Коси.

Абу Мансур Абдулмалик ибн Мухаммад ибн Исмаил ас-Салиби – один из наиболее плодовитых создателей академии, обладатель знаний в области истории, литературы, логики, лингвистики. Аллома, автор многих работ по проблемам человеческой этики и речевого этикета, оставил нам богатое наследие. Он автор «Шедевров эпохи о добродетелях людей века», «Лучших манер», «Языковых законов и тайн арабского языка», «Удивительных сведений» и других произведений.

Абу Убайд Абд-аль-Вахид аль-Джуджани — судья, ученик Ибн Сины. Занимался философией, медициной, юриспруденцией. Южони подал пример самоотверженности в сохранении наследия своего наставника. Его знаменитый труд – «Жизнеописание главного учёного (Ибн Сины)». Помимо усердного изучения трудов своего учителя, Южогни участвовал и в хирургических операциях. Ему принадлежат труды по медицине «Лекарство царей», «Цель медицины», «Сокровища хорезмшахов», «Воспоминания в области медицины». Самым крупным из них был 12-томный «Клад хорезмшахов» [2, 326]. Хотя эти трактаты до нас не дошли, известно, что они внесли большой вклад в развитие медицинской науки своего времени. Ученые смогли использовать его более широко в результате сокращения и компактификации труда Ибн Сины «Аль-Канун» [3, 59-63].

Khorezmshah Ma`mun held scientific discussions with scientists in his palace. They expressed their opinions on various issues in various fields and argued. The winners of this scientific conference were awarded valuable gifts.

The scientists were led by Abu Rayhan Beruni, the Prime Minister of Khorezmshah, the patron of science, Abu Mansur al-Sakhri, who did not spare his services in creating a truly creative environment for scientists. Scientists studied in the rich library of Gurganch, deepened the knowledge of their students

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and expanded their thinking. Representatives of the Academy made a worthy contribution to the rise of science not only in Central Asia, but also in all countries of the East and West [4, 24]. They served to further increase his influence in Movarunnahr and Khorasan.

The head of the Khorezm Academy Ma`mun Abu Raikhan Beruni studied with the famous scientist of his time Abu Nasr ibn Iraq. This teacher wrote several works on disasters, geometry and mathematics, dedicating 12 of them to Abu Rayhan Beruni. He introduced him to the geometry of Euclid and Ptolemy's doctrine of the apocalypse.

Abu Nasr Mansur ibn Iraq wrote in one of his scientific works that Abu Rayhan Beruni, despite being very young when he lived in Khorezm, made important observations of disasters in the city of Kot in 384-385 (994-995). AD). He himself invented instruments for these observations. But he was able to determine the farthest, highest point of the ecliptic and the ecliptic without azimuth only for the village located south of Khorezm on the left bank of Jeyhun (Amu Darya).

Abu Rayhan Beruni was educated by Abu Nasr ibn Iraq and became a mature scholar. At a young age, he had a deep knowledge of mathematics, astronomy and other sciences. First of all, it is noteworthy that he knows many languages. Judging by the fact that all the scientist's works were written in Arabic, Arabic was the common scientific language in the countries where Islam was spreading at that time, and he knew the grammar of this language deeply. His "Mineralogy", "India" and other works testify to his deep knowledge of Arabic poetry and its meanings [5, 20-23].

His works such as "Ancient Monuments of Past Generations", "Kanuni Masudi" and "Saydana" show that Abu Raikhan Beruni knew the Sogdian and Persian-Dari languages very well. According to Saidan, he studied Greek from a young age. He began learning Sanskrit from Indian merchants in Khorezm when he was young [6].

The fact that Abu Rayhan Beruni in his youth was familiar with historical treatises written in these languages is reflected in his first major work (written in 1000-1003) "Ancient Monuments of Past Generations."

Abu Rayhan Beruni, in the direction of practical disaster, expressed ideas about determining the geographical latitude and longitude of places [7, 77 p.], compiling calendars.

ISSN (E): 2980-4612
Volume 2, Issue 11, November-2023
Website: intentresearch.org/index.php/irsj/index

In his "Cartography" he mentions two treatises: the first is "The Book on Compiling a Globe," mentioned only in "Cartography," and the second is "The Book on Determining the Longitude and Latitude of Places on Earth." «They are included in the list of scientific works of the encyclopedist.

Abu Rayhan Beruni writes about the addresses of the Moon in his work "Ancient Monuments of Past Generations": "I saw a man who was among the scientists of science and astrology in the city of Ray in those days when I was far from the high dargah and deprived of the happiness of honest service." [9, 399 p.]. The "high dargah" mentioned here is, of course, the palace of Khorezmshah Abu Abdullah in Kot, and the "honorable service" is his service to Khorezmshah. The deprivation of this by Abu Raikhan Beruni means the execution of the Khorezmshah and his departure from Khorezm. After this incident, the scientist came to Ray in "Mineralogy" with the words "I had a friend from the Isfahan merchants in Ray, sometimes I was a guest in his house," in "Geodesy" "But Abu Mahmud told me his measurements and said that it had crept mistake and that he is not happy to discover the greatest deviation," this is fully confirmed by his lines.

The scientist spent his entire life collecting information for Abu Rayhan Beruni's work "Mineralogy." During his childhood in Khorezm, and then during his stay in Iran, India and Afghanistan, he collected stories, stories and information about the properties of precious stones, the lands where they were mined and such minerals, and studied their physical and chemical properties. It describes the results of almost 60 years of research in the field of mineralogy. In the treatise, he gives an idea of the weight and volume of objects, for the first time in the history of science, with modern accuracy, he calculates the density and specific gravity of more than 50 substances, and makes special instruments for measuring the specific gravity of solids. and liquids and gives their description [10,11,12, 13].

The scientist remained devoted to his love of science until the last moments of his life. Even on his deathbed he tried to study. During his life, Abu Rayhan Beruni wrote 180 works on mathematics, astronomy, its instruments, geography, philosophy, mineralogy, pharmacognosy, history, ethnography, chronology and philology.

At the suggestion of Abu Rayhan Beruni, the Khorezmshah, the patron of knowledge in Khorezm, began to gather many great scientists of the East in

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Volume 2, Issue 11, November-2023
Website: intentresearch.org/index.php/irsj/index

Gurganj. Among them were famous doctors, philosophers, poets, mathematicians, astronomers, historians and linguists.

About one of them, Ahmad ibn Muhammad al-Sakhri, Abu Rayhan Beruni writes the following: “Sakhri collaborated with Ma`mun shah. He was a scholar and wrote poetry with a very beautiful and refined taste. The wide range of knowledge that interested Khorezm scientists at that time is surprising. These are jurisprudence, geology, grammar, narrative, theory of poetry, history, philosophy, logic, medicine, arithmetic, geometry, astronomy, music, mechanics, optics, chemistry, astrology, physiognomy, interpretation of words, geodesy, topography, measures and weights. and precisely they studied the knowledge of measuring instruments, the mixing of water and chemistry, the knowledge of magic, education, spirituality and witchcraft. All scientists were teachers and students of each other.

The scientists of the Ma`mun Academy were mainly creative people in the field of exact sciences and medicine. Among them, the famous doctor, philosopher, astrologer, linguist and ethicist Abu-l-Khair Hammar stood out for his fruitful activities. Khorezmshah Ma`mun II, born in Baghdad, summoned Abu-l-Khair Hammar to Gurganj and appointed him as his personal physician and minister, serving in the palace along with Ibn Sina. Abu l-Khair Hammar left the Christian religion and converted to Islam. He was interested in various sciences, and became especially famous for his works on philosophy and medicine; he was called the “Second Hippocrates.” He was well versed in Greek medicine and was known throughout the East for his scientific achievements in this field. Hammar also took an active part in the academic discussions of the academy and acquired an excellent reputation. His work here was the most productive period in the scientist’s work.

After Mahmud Ghaznavi transferred Khorezm to his sphere of influence, he took Hammar with him to the capital. In the palace, Hammar acts as the Sultan's personal physician, treating him for the rest of his life. The Sultan will allocate private land to the scholar in a place called Hammar, and this name will be added to his name.

Abu-l-Khair Hammar not only wrote books, but also translated. Among his translated works, the following have reached us: “Kitab al-Asor al-alwiyya” (كتاب الأثار العلوية) (“The Book of Highest Impact”), (كتاب اللبس فى الكتب الأربعة فى المنطق) «Kitab al-lubs fi-l- kutub al-arba'a fi-l-mantiq» («The Book of Confusion

ISSN (E): 2980-4612
Volume 2, Issue 11, November-2023
Website: intentresearch.org/index.php/irsj/index

in Four Books of Logic»).

Abu Ali Ibn Sina (980-1037) is one of the great figures who made a great contribution to the development of world science, and his scientific works, together with the works of the Khorezm encyclopedist Abu Rayhan Beruni, constitute the highest peak of development. science of that time.

According to Ibn Sina, mathematical sciences include the following parts: number theory (علم العدد) (ilm al-adad), geometry (علم الغيامترية) (ilm al-handāsa), astronomy (علم الهيئة) (ilm al-handāsa) - hai`a) and music (علم الموسيقي)('ilm al-musiqi) [144, 77 p.].

The life and work of Abu Ali ibn Sina took place in extremely difficult conditions. All his life he had to move from one city to another, from one country to another. In 999, the Samanid state was abolished; in 1002, Ibn Sina arrived in Khorezm from Bukhara.

Manuscript No. 9042 of the Institute of Oriental Studies named after Abu Raikhan Beruni of the Academy of Sciences of the Republic of Uzbekistan stores a manuscript entitled “The Amazing At-Tabakot” [15]. The author of this treatise is Muhammad Tahir ibn Abu-l-Qasim [16] and it consists of an introduction and seven sections (chapters). In the last part of the fourth chapter, information about him is given in red ink under the heading “Dhikri Sheikh Abu Ali ibn Sina.” This manuscript is a geographical work[17]. On one of the pages dedicated to Ibn Sina, about how long he spent in Bukhara and Khorezm, the following lines are written:

“Abu Ali ibn Abdullah ibn Sina, at the age of twenty-four, was knowledgeable about all the intellectual, narrative and mathematical sciences, and in Bukhara he argued with the scientists and defeated them. Then he went to Khorezm and taught there for seven years. And then he goes from there to Djurzhan” [16, 163 p.].

A similar opinion was expressed by Sharifjon Makhdoom Sadri Zia. In this regard, in his work entitled “Tazkiray shuaroi mutakaddimin wa salatin”, stored in the manuscript fund of the Republic of Uzbekistan named after Abu Raikhan Beruni, the following lines are written:

“Abu Ali Sina debated with scientists at the age of twelve and defeated them all. He was in the service of the Khorezm Shah for seven years” [17]. In both quotes, the phrase “seven years” is objectionable. Because the year of Ibn Sina’s departure from Khorezm is indicated by Yu. N. Zavadovsky as 401 AH/1011

ISSN (E): 2980-4612
Volume 2, Issue 11, November-2023
Website: intentresearch.org/index.php/irsj/index

AD. Ibn Sina al-Masihi and they went to Jurjan and left through the Karakum Desert.

There were many difficulties along the way, the guide got lost, and Abu Sahl al-Masih died on the way, unable to withstand the suffering of the road and the lack of water. As a result, Ibn Sina and his guide, after many difficulties, reached Naso, which is about twenty miles from modern Ashgabat, and from there to Abivard. He visited several cities of Khorasan, but did not find permanent refuge in any of them. Internal conflicts and upheavals here haunted him.

According to the biography of Ibn Sina, written by his student Abu Ubaid Jujani, who worked with him for a quarter of a century, he reached the maturity of science at the moment when the Samani state reached a high stage of political, economic and cultural development. He gained fame as a scientist in the fields of medicine, logic, philosophy and natural sciences. Considering that there are sufficient grounds for a separate study of natural sciences within the framework of scientific research, the opinions of Abu Ali ibn Sina, one of the scientists who worked at the Khorezm Ma`mun Academy, are of great importance.

Ibn Sina's work Usul 'ilm al-Khandasa (أصول علم الهندسة) (Fundamentals of Geometry) consists of fifteen articles (we call the article a book because of its large size), which contains 418 geometric figures.

Based on the above, the following conclusions can be drawn:

1. One of the factors that motivated the development of science was the expansion of external relations. The development and arrangement of new lands required mastery of geography and ancient sciences. To improve the well-being of the people and raise a healthy generation, it is necessary to study medicine and the spiritual heritage of our ancestors. It is clear that establishing contacts with foreign countries is impossible without studying their life and culture. This situation gives rise to the need to study the languages of other peoples. That is why the rulers, as far as possible, tried to gather mature scientists in their country and opened a wide path for translations.

2. “Kitab ash-shifa” is considered the greatest philosophical work of Abu Ali ibn Sina; it can be called the scientific encyclopedia of its time. It consists of four parts: 1) logical; 2) natural sciences (this section is devoted to minerals, plants, wildlife and humans); 3) mathematics subjects will be discussed (counting, geometry, astronomy and music); 4) metaphysics or theology.

3. Abu Ali ibn Sina divided philosophical sciences into two groups: theoretical

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Volume 2, Issue 11, November-2023
Website: intentresearch.org/index.php/irsj/index

(النظري) (an-nazari) and practical (العملي) (al-amali). In turn, he divides theoretical sciences into physics (علم التبيعى) (`ilm al-tabi`i) and mathematics (علم الرياضى) (`ilm ar-riyadi).

4. At the Khorezm Ma`mun Academy, a scientific environment has been created for scientific research by world scientists, scientific research is being carried out.
5. Training the youth of new Uzbekistan by studying the knowledge of scientists is of great importance today

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