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UPDATING OF THE KHOREZM ACADEMY OF MA'MUN, INFLUENCE AND PROSPECTS FOR THE DEVELOPMENT OF HISTORICAL AND PHILOSOPHICAL THOUGHT OF SCIENCE

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Abstract:

The scientific article analyzes the Khorezm Academy of Ma'mun and its modern science, international relations, the past, unique culture, fine arts, education, literature, poetry, the development of secular sciences. Today, the rapid development of national culture naturally requires a broad, deep and consistent study of our cultural heritage, which is its main source. As you know, the history of the peoples of Central Asia, which has a long history, went through various events, periods of ups and downs. These periods undoubtedly left a certain mark on history. In particular, the 9th-12th centuries played an important role in the development of our culture. This period glorified the peoples of Central Asia in world culture. Because the cultural achievements of the peoples of Central Asia during this period are an integral part of the development of science. Khorezm made a significant contribution to world civilization, is known throughout the world for its rich history, high spirituality, rare monuments, crafts and agriculture.

Keywords: Academy, Khorezm, science, development, international relations, the first academy, sacred land.

The first President of the Republic of Uzbekistan I.A. Karimov noted that Khorezm, who visited Khiva on October 20, 1997, is a unique place of culture, fine arts, education, literature and poetry, one of the centers of secular science. Centuries ago, one of the first academies in the history of mankind, the Ma'mun Academy, was recognized as established on this sacred land. On November 11, 1997, the President issued a decree «On the reorganization of the Khorezm Academy of Ma'mun». Centuries ago, one of the first academies in the history of mankind, the Ma'mun Academy, was recognized as established on this sacred land. On November 11, 1997, the President issued a decree «On the reorganization of the Khorezm Academy of Ma'mun». The adoption of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated November 9, 2004 «On the celebration of the 1000th anniversary of the Khorezm Ma'mun Academy» was an important step in familiarizing the international community with it [1].

The Khorezm Academy of Ma'mun, reorganized by a special decree of the First President of the Republic of Uzbekistan, has created ample opportunities for scientific activities of scientists of the republic, especially the Khorezmians. It is also important to increase the scientific potential of Uzbekistan, strengthen its position in the world scientific community, further develop science in the region and support talented and selfless scientists, develop national traditions in creating a high intellectual environment.

«Although the Khorezm Academy of Ma'mun employs scientists from many countries of the East and West, different nationalities and religions, its founders were the born Abu Nasr ibn Iraq, Abu Raikhan Beruni and Ibn Sina, Mahmud Khojandi, Ahmad ibn Hamid Naisaburi in this region. and pride for all of us» [8, p.45], said the First President of the Republic of Uzbekistan Islam Abduganievich Karimov in his speech on the occasion of the 1000th anniversary of the Khorezm Academy of Ma'mun under the title» Science and education never remain».

It is known from history that Muhammad ibn Musa al-Khorezmi, Abu Ali ibn Sino, Abu Raikhan Beruni, Abu Nasr Farabi and other great scientists lived and worked in the 9th-10th centuries. In view of the importance of the works they created, this period can be called the Renaissance in Central Asia. Features of science and culture of the Renaissance are as follows:

1. The desire to educate all people, thus using the heritage of the past and the achievements of science, the culture of neighboring countries, the development of natural philosophy and social sciences.

2. Study nature, develop natural science knowledge, believe in the power of reason, focus on the cognition of truth, cognize the truth as the basis of human knowledge.

3. Enhancing the natural, artistic, spiritual qualities of a person, glorifying humanity, observing the highest spiritual laws in the upbringing of a harmoniously developed generation.

4. Universalism - interest in all problems of life and social life, important aspects of the culture of this period.

The culture of this period served the development of universal human values. The development of trade, the expansion of economic ties, the exchange of cultural values between different regions of the Caliphate and the

strengthening of its ties with other countries, the study of natural and cultural resources, traditions, language and history of different peoples. , the creation of the most suitable methods and means increased the need for improvement. The rapid development of such fields of science as optics, mathematics, astronomy made it possible to expand the methods of deep study of nature and research methods. In the Middle Ages, Eastern philosophy developed not only in the bosom of mythology and religion, but also in the bosom of science. The achievements of oriental scientists in the field of mathematics, astronomy, geography, medicine, history, and alchemy are well known. Eastern philosophers, who were usually physicians, astrologers, and travelers, relied more on natural science and experience than on abstract considerations.

Ma'mun held scientific talks with scientists in his palace. They expressed their views and discussed various issues in different fields. The winners of such scientific conferences were presented with valuable gifts and kindness.

The scientists were led by Abu Raikhan Beruni, and the Prime Minister of Khorezmshah, the patron of science, Abu Mansur al-Sakhri, also contributed to the creation of a truly creative environment for scientists. Scientists read in the rich library of Gurganch, deepening the knowledge of their students and expanding their thinking. Representatives of the Academy have made a worthy contribution to the development of science not only in Central Asia, but also in all countries of the East and West [4, p.158]. They served to further strengthen his influence in Movarounnahr and Khorasan.

Abu Nasr Mansur ibn Ali ibn Iraq is one of the 10th century mathematicians. There is no doubt that his life was spent in Khorezm. The fact that Abu Raikhan Beruni respected him as «my teacher» in his work is a good proof of this. There was a warm relationship between them. European historians have recognized that Menelaus of Alexandria in the first century translated Abu Nasr ibn Iraq's «Menelai fi Kuriyat» into Arabic [5].

Abu Nasr ibn Iraq was in Khorezm for a long time, and the last of the Khorezmshahs was Abu al-Abbas Ali ibn Ma'mun. After the execution of this ruler in 407 AD. 1018 A.D. Abu Raikhan Beruni and Sultan Mahmud ibn Sabuktegin took all the Khorezm scholars to Ghaznu.

Abu Raikhan al-Biruni in his famous work «Risalat ul-fihrist» («Book of Fihrist»), written in 427 / 1035-36, Abu Nasr ibn Iraq's most important treatise, Al-Majisti al-Shahi (الجميسطي الشهي) («King al-Magesti»).) And is dedicated to Ali ibn Ma'mun from Khorezmshah Abu-l-Abbas.

Abu Nasr ibn Iraq played an important role in the development of mathematical sciences in the Khorezm Academy of Ma'mun. According to Abu Raikhan al-Biruni, Abu Nasr ibn Iraq was the first to introduce the muganni form into the musallasati qurrawi «solution».

Abu Nasr ibn Iraq wrote several treatises on astronomy, geometry and mathematics, 12 of which are dedicated to Abu Raikhan al-Biruni. These works are as follows [5]:

1. Kitab al-Sumut (كتاب السموت) (Book of azimuths).
2. "Kitab fi' illati tansif at-tadil 'inda ashab al-Sind" (الا فيانت التاديل دنا با السندن) («ktạb fy a book on why the equation divides into two equal parts,» according to the authors of Sindhind).
3. The book about كتاب في تصحيح كتاب ابراهيم ابن سنان في تصحيح اختلاف الكواكب العلوية)) «Kitab fi tashihi kitab Ibrahim ibn Sinan fi tashihi ikhtilaf al-kawakib al-'ulwiyah».
4. «Risala fi-l-barakhin' ala 'amal Habash bi table in the calendar» (رسالة في البرحين الى امل السابا ب جدول ال تقوي م)
5. Brochure (السموت في الاسترلاب) «Risala fi tasxihi mo waqa'a li-Abu Ja'far al-Hazin min as-sahvi fi zij as-safayihi»
6. «Risala fi majazat dawair as-sumut fi-l-asturlab» رساة في مجازات دوائر السموت) في الاسترلاب).
7. «Risala fi table ad-dakaik» («ر سالة ف ي جدول ال دق اق») («Treatise on the table of minutes»).
8. Risala fi-l-barahini «ala amal Muhammad ibn as-Sabbah fi imtihan ash-shams» (رسالة ي البرحين الى امل امل ممد ب ن ال سبا ف ي ل م تان)
9. «Risala fi-d-dawair allati taksuddu as-sa'at al-zamaniyya» (رسالة في ال دوار ال تى ت اد ست ال زمانى) ال«A Treatise on Circles Showing a Time Limit»).
10. «Risala fi-l-burkhan 'ala' amal habash fi matali 'as-samt fi zijiksi» (رسالة في البرهان على عمل حبش في مطالع السمت في زيجه).
11. «Risala fi ma'rifat al-qasii al-falakkiyati bi-tarikin gaira tarikin ratisil muallafati» (رسالة في فرمة ال قسى ال فلكى ب ارق ḫ ر رلد ق ن س
12. «Risala fi hall subha» arada laxu fi-l-makalaas-shalasa 'ashara min kitab of Uqlidis» رسالة في حل الشبهة) أراد له في المقالات الثلاثة عشر من كتاب) ("[Al-Usul of Euclid] is a treatise on resolving doubts that arose in the thirteenth [chapter] of the Original Book).

According to the famous European historian of mathematics K. Zachau (1845-1930) and the German historian M. Krause (1909-1944), the work of Abu Nasr ibn Iraq (المجسطي الشاهي) «Al-Majisti ash-Shahi» (mlmjsṭy ạlsẖạhy) was dedicated to Khorezmshah. Ma'mun. Written at the Ma'mun Academy between 997-1010. Menelaus's book on the Spheric was also written in the years 1007-1008, which indicates that it was written at the Academy of Ma'mun. This manuscript is kept at Leiden University under number 989.

In 1017, Abu Nasr, together with all the scientists of the Ma'mun Academy, went to Ghazna with Abu Raikhan Beruni. Although little is known about his life during this period, Abu Nasr wrote the following works in mathematics and astronomy:

1. «Risala fixall subha 'arada laksu fi-l-makalaas-Salisa' ashara min kitab al-Usul» رسالة في حل الشبهة أراد له (في المقالات الثلاثة عشر من كتاب الأصول) ([Euclid's «A Treatise on the Resolution of Doubt in the Thirteenth [Chapter] of the Book of Fundamentals»]).

2. "Islax kitab Menelaus fi-l-kuriyat" (اصلاح كتاب منالاى في الكرية)("Menelaus" Spherica "siga sharhi").

3. «Kitab fi kuriya as-Sama» («كتاب في كرية السما»). The manuscript of this work is kept in the Patna Library under No. 2468/22.

4. Tahzib at-Taalim ((تهذيب التعاليم) (Mathematics education).

5. «Risala fi answer Masail al-Khandasa» (رسال ẗ يف بوج ماسم لاهندسا) The manuscript of this brochure is kept at Patna under No. 2468/19.

6. "Risala fi san'aal-asturlab bi-t-tarik as-sina'i ilaAbu Abdalaks Muhammad ibn Ali al-Ma'muni" رساة في صنعة الاسترلاب بالطريق الصناعة الى أبي عبد الله محمد بن على المأمونى) «Treatise on the proposals of Abu Abdullah Muhammad ibn Ali al-Ma'mun, to build an asturlaboratory by the method of art «) and a number of similar works in Patna 2468/9, 2468/10, 468/11, 2468/12, 2468/13, 2468/14, 2468/15, 2468/16, 2468/17, 2468 / 18, 2468/19, 2468/20, 2468/21, 2468/22 - stored in the room.

Omar Khayyam praised Abu Nasr's work in the field of mathematics and astronomy as follows: «Abu Nasr ibn Iraq is the greatest scientist in the field of mathematics» [6, p.313].

In his work Mustafa ibn Abdullah Kotib Halabi Haji Khalifa (1609-1657) «Kashf az-zunun fi asami al-kutub wa-l-funun» Abu Nasr gives the following information about the processing of the Alexandrian work of Menelaus (I-II centuries) under the title «Spherica the second time the famous mathematician of his time, Abu Fazil Ahmad ibn Abu Said Hirawi, took up this problem. The work begun by him remained unfinished. Amir Abu Nasr Mansur ibn Iraq is a scientist who completed work on correcting the book of Menelaus. Menelaus's commentary on the Spherical consists of three parts, the pamphlet of which contains 31 geometric names. Scholars of a later period expressed a number of different opinions regarding the number of sentences in the treatise of Abu Nasr. Some scholars say that the sentences in Abu Nasr's work are 25, 39, while others confirm that it is 24. The group of scholars has concluded that the number of sentences in Abu Nasr ibn Iraq's work is 85 [10, p.243].

According to Abu Nasr ibn Iraq, they play an important role in the conditions created for scholars of public administration and the Academy of Khorezm Ma'mun.

Abu Raikhan Beruni (his works written in 973-1048: «Monuments of ancient peoples», «India», «Mineralogy») did not doubt the existence of nature and its objective laws. He emphasized that nature is in constant change and development, matter itself creates and changes the form of things, the soul (contemplation, spiritual phenomena) is an important property of the body.

It is well known that experiment is one of the ways to know existence. Beruni writes: «My bewilderment can only be overcome by experience and repeated testing ... despite the unanimity of the speakers, its authenticity has not been confirmed in practice» [2, p.44].

According to the researchers, «Beruni with good reason can be considered one of the founders of the empirical method in medieval science. He conducted several experiments to determine the properties and specific gravity of metals and minerals»* [7, p.39].

His works, such as «Monuments of the Past Generation», «Qanuni Mas'udi» and «Saidana», show that Abu Raikhan Beruni was also fluent in Sogdian and Persian-Dar. According to Saidana, he studied Greek since childhood. In his youth, he learned Sanskrit from Indian traders in Khorezm [9, p.194].

Today the academy has turned into a unique scientific center, where all conditions for the work of scientists have been created. Modern equipment helps specialists in their work. The newly established laboratory of DNA technology and genetic analysis was equipped with highly sensitive equipment. They are used to determine the genetic and physical properties of physiological materials, to diagnose plant and animal diseases.

Thanks to active contacts with foreign partners, the Academy is restoring its reputation all over the world. One of the oldest universities in Europe in the field of history, archeology, ethnography is associated with the University of Sarbonne, France. An agreement was reached with the Ostrava Museum in the Czech Republic to study museum exhibits and organize an exhibition.

Today, in accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated April 14, 2017 No. 211 «On additional measures for the further development and improvement of the activities of the Khorezm Ma'mun Academy», the main scientific and organizational tasks of the Khorezm Ma'mun Academy have been determined. On its basis, the study of the ancient history of Khorezm in an organic sequence, the study of a unique civilization and culture, the role of its rich scientific potential in the development of world science and culture; Conducting regular archaeological expeditions to study the archaeological sites of the Khorezm oasis, systematically organizing ethnological research and source study and disseminating their results widely among the world scientific community; Development and implementation of scientific foundations for the protection of architectural monuments of the Khorezm oasis from biological, physical and various adverse effects; conduct regular scientific observations of the ecological state of the oasis, study the issues of rational use of available water and biological resources, prevention of salinization and desertification through the acclimatization of agricultural plants suitable for the soil and climatic conditions of the Khorezm oasis, in field conditions. creation of innovative developments in agriculture and fisheries; Conducting fundamental scientific research in the field of mathematics using the historical traditions of

Khorezm and the available scientific potential; creation and widespread introduction into production of scientific foundations for processing local minerals (mining, chemical industry, ore).

The Khorezm Academy of Ma'mun is working on a special plan to publish the activities of science and the academy in the media. Numerous speeches were made in national, regional and international media, scientific works, inventions and innovations of scientists of the Academy were brought to the attention of the general public.

Scientific results obtained today: Archaeological excavations at Humbuztepe have uncovered the remains of the oldest Zoroastrian temple, including a fireplace. Humbuztepa's findings are based on the results of radiocarbon analysis carried out by scientists from the University of Barcelona. It is noted that it belongs to the VIII-VII centuries. The samples of ancient Khorezm writing were revealed. There were published «Mukaddimat ul adab» by Zamakhshari, «Ahloki Mukhsini» by Hussein Voiz Kashifi, a large fundamental monograph «Jaloliddin Manguberdi - the great patriotic commander». A monograph on the history of Khorezm and a catalog of state archival documents of the Khiva khans have been prepared for publication. Work is underway to create an electronic library of manuscripts and smart technologies of monuments of cultural heritage of Khorezm.

In accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 20, 2019 «On the celebration of the 210th anniversary of Muhammad Rizo Erniezbek oglu Ogakhi and the creation of the Ogakhi School of Creativity in Khiva» 7 out of 9 volumes of the multivolume series «Works» (project coordinator A. Urozbaev) were published in full ... An electronic database of unique resources has been created in the Khorezm regional information and library center.

In order to popularize the history and culture of Khorezm, t.ph. The books by Y. Rakhmonov "History of Khiva" and "Pictures from the history of Khiva", as well as the booklet "History and culture of Khorezm" by the director of the museum Z. Rajabov, were published in Uzbek and Russian languages. history of ancient Khorezm «. The book of M. Abdullaev «Pages of the history of Khorezm», the book of D. Babozhanov «The Pearl of the Khiva Shark» are prepared for publication in 5 languages.

On May 18, 2020, an online international scientific conference «Khorezm - in the system of Central Asian civilization» was held in cooperation with USU and the University of Barcelona, Spain.

In conclusion, it should be noted that the revival of the Khorezm Academy of Ma'mun, the influence and prospects for the development of science, historical and philosophical thought in Uzbekistan played an important role in the development of world science, influencing not only the Eastern, but also the scientific heritage of Western scientists.

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