

CONTRIBUTION KHOREZM SCIENTIST IN MEDICINE FOR THE PERIOD OF IX-XI CENTURIES

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Abstract. Article examines the contribution made by the scientists of Khorezm Academy Mamuna in medicine period the IX-XI centuries. Analyze the work of great scientists – physicians like Al-Biruni and Ibn Sina, Ibn Iraq. In chronological order, the authors analyzed the works, among which the main place is occupied by the scientific work of domestic and foreign historians.

Keywords: Khorezm, history, medicine, Samanids, Academy, Mamun.

ВКЛАД ХОРЕЗМСКИХ УЧЕННЫХ В МЕДИЦИНУ НА ПЕРИОД IX-XI ВЕКОВ

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Аннотация. Статья рассматривает вклад Хорезмских ученых в медицину на период IX-XI веков. Проанализированы работы великих ученых-врачей, таких как Аль-Бируни, Ибн Сина, Ибн Ирак. В хронологическом порядке проанализированы работы авторов, среди которых основное место занимают научные работы отечественных и зарубежных историков.

Ключевые слова: Хорезм, история, медицина, Саманиды, Академия, Мамун.

Local dynasty of Samanids (819-999) came to the power during the period of political downfall of Arabic Caliphate in Central Asia in the XIth century. Khorezm that was a part of Samanids state was actually independent from central power. During the period of Samanids Khorezm was divided into 2 parts: Southern Khorezm with the center in Kyat, under the government of Khorezm Sheik, and Northern Khorezm with the center in Urgench that was ruled by Emir. There was a great economical and political ascent of Khorezm that was preceded by economical development of the country in the X-th century. It was a powerful agricultural center among the nomadic tribes around the Aral Sea. This country had widely spread economical connections with countries of North, Eastern Europe and Northern-Western Asia, Hazars, Bulgarians, Russia, tribes of Ural and Western Siberia.

A lot of ancient literature sources, archeological monuments witnessed about the Hourishing of Khorezm, especially Urgench in Xth century, including «King's road» to the Khorezm's land near Volga. There were created beautiful monuments in the end of X – in the beginning of XI-th centuries there. Among the monuments till our time kept stone Caravansary of Bellevue with the portal decorated by lions. We can name it as the unique monument of Central Asia.

Urgench – the capital of Khorezm was one of the beautiful and comfortable towns of East at the beginning of XI-th century. It was a cultural center. The town where scientists-doctors, handicrafts, construction men lived.

At that period Khorezm began to widening it's lands. Emir of Urgench Mamun and Kyat's Khorezmsheik Abu-Abdulla tried to occupy some regions in Harasan.

Inspire of the developing tendalizm and smash of Central Asian states, Khorezm took the head place among the countries. As due to S.P. Tolstov, the status of Khorezm as a for post of east civilization in European steppes, as the connecting chain of Slovenian-hazars-Bulgarian-Turkish nomadic

tribes and Asian cultural worlds was definitely by long prehistory in which Khorezm took its due historical place.

Khorezm is the motherland of famous scientists, poets and doctors. The first of them is Abu Abdulla Ibn Musa Mohammed Al-Khorezmee (783-850) the greatest scientist of IXth century. His scientific interests were wide: known his researches in mathematics, astronomy, geography.

We should pointed that al Mamun-Abu Abbas Abdullah (Sept. 786 – Aug. 833) – Caliph from Abbasides dynasty, the protector of science invited Mohammed Al-Khorezmee and administered his as the head of scientific center «Baitul Hikma» («The house of wisdom») in Baghdad. Mamun together with Al-Khorezmee built up an observatory and medrece where natural sciences were taught. There was also a large library there. They together translated the works of Greek scientists. Al-Khorezmee till the end of his life lived there and made scientific researches.

The life of Al-Khorezmee mostly took part in scientific center «Baitul Hikma». In this first «Academy of Science» of East under the administration of Al-Khorezmee worked such famous scientists as Ahmed Ibn Mohammed Al-Fergani, Ahmad Ibn Abdullah Al-Markazi, Halide Ibn Abd Al-Malik, Al-Marvarudi and Abbas Al- Djauhari.

Thus, we can say that Al-Khorezmee opened the source of progressive socially-philosophical idea of Central Asia.

The main merit of Al-Khorezmee is the foundation of Algebra, as generalized theory of leveling and methodical decisions. We can say that the term «algorithm» in Kibernetics is connected with the name of Al-Khorezmee.

A.N. Bogolubov and V.A. Gudovich wrote in their article «Al-Madjusy and medicine» in 1983 that even if great Khorezm scientist – mathematician didn't work in medicine, and we didn't know his articles that devoted to medicine, his mathematics, nevertheless, influenced on the development of medicine. It's known, that Al-Khorezmee gave lectures and taught medicine. On ancient

Spain language the word «Alhebrista» had two meanings: «mathematics» and «doctor».

150 years later on his motherland in the ancient capital of Khorezm – Urgench «Academy» of Mamun II was organized.

«Mascani-Diman» – «Academy» of Mamun II

V.V. Bartolds, E.A. Bertels, S.P. Tolstov and I.U. Krachkovsky thought that period of VII- XII centuries was pointed as the period of joining people that worked in different branches of science around the rules of Central Asia. We can see the witness of this in works of Baihaki, Nizamul Al-Mulk and many others.

These scientists were named as «Mascani fazilan», «Mascani oliman», «Allaman-Ulama» or «Maglisi Ulama». When the staff of it was researched by Russian orientalists, it was cleared that the number of problems which were researched by this institution were suitable to level of Academy. That's why Russian scientists says that «Mascani oliman» and it was «Academy» of Mamun II was organized in Khorezm in XIth century.

This assembly gave the world science great scientists as Beruni, Ibn Sina, Masihi, Ibn Hammar and many others. Russian historians of medicine (B.D. Petrov, V.N. Ternovsky, M.P. Multanovscky, P.E. Zabludovsky) signed that «Academy» of Mamun II was the largest center of concentration of famous scientists-historics, poets of Central Asia.

Such Uzbek scientists as A.A. Askarov, A.A. Abdullayev, H.A. Abdullayev, A. Nasirov, U. Karimov, V.K. Jumayev, S.A. Azimdjanov, A.A. Kadirov, P.G. Bulgakov and others also mentioned about the organization of «Academy» in Khorezm in X-XIth centuries. The foundation of Academy they connected with the visit of Beruni to Khorezm. Yakut Hammavi in his book «Irshad Al-Arib» also wrote that Beruni came to Khorezm state's center – Urgench in 1010th year, and Abul-Abbas Mamiin Ibn Mamun II (who rule in 1000-1017) met Beruni in official situation and administered him as a head of

scientific meeting, which joined famous scientists, philosophers, astronomers, doctors. In this close unit famous persons of IX-Xth centuries worked.

S.P. Tolstov wrote about Beruni and the organization of «Academy» in Khorezm following: «Mamun Ibn Mamun II called Beruni in 1010 from banishment, neared to himself, made him his first political advisor and charged on him important diplomatic missions». During this period in famous «Academy» of Mamun was grouped a brilliant circle of scientists around 26 years old Beruni, all of them were invited by Khorezmsheikh from different countries. The glory of «Academy» side by side with Beruni was Abu Ali Ibn Sina – genius natural researcher, doctor and philosopher. Later, his works became the base of European medicine and natural sciences.

Evidently, we should count this opinion as right one and that's why we can say that «Academy» was organized in Khorezm by Mamun Sheik in X-XIth centuries. The appearance of Mamun II as the head of Khorezm state was a great date in history of Eastern science, especially of Central Asia. Mamun II tried to strengthen and make comfortable his state, make Urgench the capital of the world.

One of the members of those events, historic – Abu-1-Fazl Baihaki, that lived in Khorezm (1030-1041), in his book «The history of Masud» brought following words from the book of Abu Raihan Beruni: «Famous people of Khorezm – Khorezmsheikh Abu-1-Abbas Mamun, son of Mamun, Allah blessed him, – was the last ruler, because his name after his death felled down and the power of Mamun's family came to its end. He was a scientist, active, honorable and persistent in his works. But side by side with good kinds of his soul, he also had no good kinds. I told this not because I was not going to talk about my attitude, I'm impartial, because it's known that in such cases they charge by the most predominant kinds. The worthy man is that man who hides his virtue and actions are suitable, but his crimes ruined his honorable actions. The highest virtue of emir Abu-1-Abbas was that his lips were closed for swearing, nonsense and other bad things.

The members of Academy of Mamun II were famous scientists – Abu Raihan Beruni (1006- 1017), Abu Sahl Masihi (1010-1017), Ibn Hammar (995-1017), Ibn Sina (1000-1017) and others. Academy of Mamun II existed during 17 years (1000-1017).

One of the famous scientists of Mamun's «Academy» was Abu Nasr Ibn Arrak Khorezmee, who was mentioned together with Beruni, Ibn Sina and Masihi by different authors. He worked in medicine. Many of scientists who researched his activities, told that he was born in Khorezm and got his education there. In 1017 because of moving scientist from Khorezm to Arrak with his teacher Abu Raihan Beruni also came to the place of Mahmud Gaznevi. There is no any information about his future life there. K. Elgut (1932) wrote about Arrak following: Abu Nasr Ibn Irrak was the nearest relative of Mamun. He was very talented doctor and painter. When he came to Gazne, Mahmud Gaznevi forced him to paint the portrait of Ibn Sina. He made nearly 40 portraits of Ibn Sina.

Foreign scientists wrote that he was talented and skillful doctor, but nobody mentioned about his medical books. Abu Raihan Beruni was elder than Abu Nasr. Abu Nasr with the great respect delivered to his tutor Beruni. Beruni also estimated skills and activity of his disciple.

One of the most honorable and eldest members of «Academy» was Abu Nasr Ibn Mohammed Ibn Banu Irak (he died in 1034). P.G. Bulgakov wrote: The birthrate of Abu Nasr didn't definite by researchers even nearly. The date of death of Abu Nasr Hair Addin – ar-Zikirli thought - 1034th year.

Abu Nasr was a great mathematician and astronomer of his time.

Abu Raihan Beruni and his work on pharmacognozia

«Kitab as-Saidanati-Tibb»

As there were pointed before a lot of the famous scientists of «Academy» – Abu Raihan Beruni (973-1048) were the best expert not only of Khorezm, Central Asia, but India and other countries of Asia and Africa. He was the specialist of mid-century East and recognized coripheus of culture

and science of Central Asia. Contemporary of Beruni, famous historic Baihaki gave true estimation to this brilliant son of Khorezm: Abu Raihan Beruni was a man, who didn't have equal to him in education and talent. He had the authority in science which we can reach by our minds and he was lord of the things we can feel and create.

This high estimation was given to him when he was alive. But after Mongols conquering, from XIIIth century, for a long time his works were almost unknown at his motherland. At present the researchers of Beruni got a high and true estimation in our and other countries.

The academician Tolstov wrote: Beruni wider than Khorezmee, his investment in developing of geology, mineralogy, pharmacology, physic chemistry were great and didn't researched sufficiently. But in spite of this, the base gift of scientific interests of both great scientist concurred. The key of this is that had common motherland. Khorezmee and Beruni – they are the landmark in developing of not Arabic, but Khorezm science, and it didn't disturb both of them to be world famous scientists, especially in history of science.

But some foreign scientists justly estimating investments of Beruni in different branches of science, wrongly delivered to him as to him as to one of representatives of Arab state. For example, Zahau called Beruni proud top climbed up the valley of past Arab science and told about the author of «India» as about indianist. Rozen estimated «India» by Beruni as a document that didn't have any equal to itself in all ancient and mid-century literature of West and East. Sarton called the first part of XI century in world science as the epoch of Beruni. Aurel Steina called Beruni as Leonardo de Vince of XI-th century.

He was born in September 1073, near Kyat, the capital of Khorezm (the present Beruni town in Karakalpakistan). He lost his parents being very young. He was brought up by court scientist Abu Said Ahmad Ibn Irak. He helped him to get many-sided education. Beruni was interested in vegetative

world. He brought his teacher different corns, fruits and signed their titles. Later knowledge he got, he used in his works in pharmacognozia.

The second tutor of Beruni was well-known doctor Abu Masl Masihi, with whom he became friends when he was in banishment in Gurgan. Perfectibility of his medical knowledge helped their common work in «Academy» of Mamun II with Ibn Sina and many others (S.P. Tolstov «Beruni and his time» 1949).

Nasirov gave us the list of scientific works of Beruni. There are more than 150; they are devoted to different branches of science. Between them we are going to mention those that had a direct or indirect attitude to medicine.

Those scientists who researched Beruni's activities didn't mention any of his books about medicine. Direct attitude to medicine have such books of Beruni as «In addition to considerations of Abdumalik – bust's doctor, about the beginning and the end of the world», «Disproof of different vicious ideas that came to mind of some doctors about circumstances of stars appearing», «About the method of Indians to determine the size of life», the translation of Barohemirs's book «About non alive nature, vegetative and animal world», «The book that connected all phenomena that we can take by our minds and feelings», «The beneficent treating kind of sun», «Pharmacognozia in medicine», «The using of mind and mentality», «The book about the distribution of climate». We are interested in such books as «Kitab as – saidana fil-t-tibb», «Pharmacognozia», «The book about the distribution of climate» in which Beruni put the base of pharmacognozia and medical meteorology.

«Pharmacognozia» by Beruni is a brilliant witness of medical knowledge of this genius scientist. Before the appearance of Beruni's «Pharmacognozia» there was no such book in other countries of Central Asia.

In introduction of this book Beruni explained the reason, that made him to describe medicine and give the explanations of the world «Saidana» that means a unit of several types of substances - food, medicines and poisons. In his work he described the kinds of substances, the effect of them on human organism and also the reaction of the organism on them. Many of the medi-

cines were described before Beruni by Hippocrates and Galen, Yahe Masuvaikh, Masartuvaikh, Mohammed Ibn Zakari, Abu Zaid Argapiiami. But in translation from Greek to Arab language a lot of mistakes were made, and from Arab into Persian language. Insufficiently of literate pharmacognosists stopped developing of this science in Khorezm.

U.N. Karimov wrote following: «Saidana» is a valuable source about the history of medicine in mid-century East. There were descriptions of more than 100 medicines of animal, vegetative and mineral origin. There are medicines that Beruni found himself in different countries. Partly he gave results of his own experiments and observations. «Saidana» includes 1116 paragraphs, 800 from them devoted to the description of medicine plants, their parts, also about the products of their exertion. Al together mentioned nearly 750 kinds of plant in book. The number of mineral remedies – 107, animal ones – 101. Except it, there were 30 titles of complex medicines (especially antidotes, some sort of medicine food and others) in the book. Beruni tried to point the substitution's of various medicines. He made a great investment in researching the distribution of medicine substances, especially, in Khorezm.

Thus, as a result of developing of medical «Academy» on the territory of Central Asia in IX-XII centuries, especially in Khorezm state, members of Mamun's «Academy» developed achievements in different branches of theoretical and practical medicine made by Greek, Egypt, Rome, India, China scientists, also by scientists of other East countries.