

Bayt Ulhikmah's Contribution To The Development Of Eastern Science

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ABSTRACT

This article provides information about the most famous scientific center of the Islamic world. Founded during the Abbasid dynasty, the center of science that brought together the most famous scientists in Baghdad and the entire Islamic world, contributed to the development of Islamic and secular sciences. Also, the contribution of the Abbasid dynasty to the development of science in the early Middle Ages, which occupied a large part of the earth's surface, and the scientific centers built by the Abbasid caliphs, are of great importance for their time and today. This article analyzes the contribution of the House of Wisdom to the Eastern Renaissance and the work of the scholars who worked there.

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Introduction. The "House of Wisdom" founded in Baghdad is undoubtedly a major scientific event in the history of science and culture of the peoples of the Middle Ages. In Eastern countries, institutions and societies in the form of an academy began to take shape in the 8th-9th centuries. In particular, during the reign of Harun al-Rashid (786-809) in the Arab Caliphate, the "House of Wisdom" ("House of Wisdom") was founded, and during the reign of Caliph Ma'mun (813-833), the activities of the "House of Wisdom" further developed.

In the history of science and culture of the peoples of the Middle Ages, the "House of Wisdom" built in Baghdad is undoubtedly a major scientific event. "House of Wisdom" in Uzbek means "House of Wisdom". The Abbasid dynasty founded a new city on the banks of the Tigris River in 750 and named it "Madinatus-Salom". However, the city remained in history under its local name - Baghdad. Founded in this city of Baghdad, the House of Wisdom was the most famous center of the Islamic world.

Material and Methods. Indeed, this center of knowledge was a very useful center of knowledge not only for the countries of the East, but also for other countries. Because not only books were stored here, but many books were translated into Arabic. In scientific literature, it became famous under the names "Baghdad Scientific School" and "Baghdad Academy". During the reign of the Abbasid caliphs Mansur (754-776), Harun al-Rashid (786-809) and Ma'mun (813-833), great attention was paid to science and enlightenment. For example, the "House of Wisdom", which became a major scientific center, was founded, where famous scholars and philosophers of their time, physicians, astrologers, musicians, architects, and engineers gathered. During this period, Arabs, Jews, Christians, Persians, Transoxiana, and Khorasanians translated into Arabic cultural, scientific, and philosophical works on mathematics, astronomy, logic, alchemy, geometry, history, and medicine from Jewish, Greek, Syriac, Persian, Indian, and other languages. The

works of the ancient Greek philosophers Ptolemy's Almagest, Euclid's Geometry, and many works by Plato and Aristotle were translated into Arabic. The translation of Aristotle's works on logic in particular led to a complete change in the worldview of the Baghdad intellectuals.

Results. At the same time, as the famous scholar J. Muhammad noted, "The inertia of the Eastern Renaissance began to enlighten the West: it was a logical continuation of the Renaissance, which had once begun in the East and reached its highest levels. Western poets and philosophers began to turn, on the one hand, to the metaphysics of Aristotle and the idealism of Plato, on the other hand, to the philosophical heritage of Al-Farabi, Ibn Sina and Ibn Rushd, as well as, on the one hand, to the foundations of the Christian religion, to such theological schools as patristics and scholasticism, and on the other hand, to the life-giving ideas of the Islamic religion, to Islamic rational thought - the philosophy of the word, and Islamic irrational thought - the doctrine of Sufism and the philosophy of knowledge."

According to M. Kadyrov, the study that initiated the study of Islamic philosophy was Alambe Jourdan's book "Critique of the Translations of Greek Documents of the Age of Aristotle into Arabic", published in 1819. This book revealed the influence of Islamic philosophy on Western philosophy, especially on teachings in Latin. Originally established as a library, "Bayt ul-Hikma" became a center for translating the books collected there into Arabic during the reign of the Abbasid Caliph Abu Jafar Mansur (754-775). Abu Jafar Mansur asked the Roman emperor to send Greek books. He sent books on medicine, geography, arithmetic and astronomy. The translators there translated these books into Arabic. The Islamic Golden Age is a period of cultural, economic and scientific development in the history of Islam. Most sources indicate that the Islamic Golden Age lasted from the 7th to the 14th centuries.

Discussion. It is said that during the reign of the most famous of the Abbasid caliphs, Harun al-Rashid (785-809), this place began to transform from a simple library founded by Caliph Al-Mansur into the largest center of science in the region. Because it was Caliph Harun al-Rashid who, after conquering many lands, brought many books from there and translated these books into Arabic in the "Bayt al-Hikma".

After the conquest of the Heraclius and Byzantine Empires, many books were brought from there. Harun al-Rashid entrusted the translation work to Yuhanna ibn Misawayh during this period. The translation of books into Arabic served to spread knowledge not only for the Islamic world, but also for other countries. In addition to translators, copyists, treasurers, bookbinders and other employees also worked in the Bayt al-Hikma. During the reign of Caliph Ma'mun, Bayt ul-Hikma reached the peak of its development. Ma'mun attached great importance to it, spent his incalculable wealth and time on its development. He himself led Bayt ul-Hikma, selected scholars and brought books from other places. Bayt ul-Hikma served as a library, translation, scientific research center, and observatory at the same time. The fact that Caliph Ma'mun spent his wealth on "Bayt ul-Hikma" at this time was a great deed for the development of science in the world. Because it was the development of "Bayt ul-Hikma" that was one of the reasons for the spread of science in the world.

Ma'mun was the ruler of Khorasan and Transoxiana during the caliphate of his father. After his father, he ruled in the city of Merv until 819. During this period, he met many scholars in this area and in 819 he took them with him to Baghdad. Thus, scholars from different regions gathered in Baghdad and left an indelible mark on the activities of a large scientific institution. Caliph Ma'mun's gathering of famous scholars in the "Bayt ul-Hikma" and providing them with all-round assistance ensured the development of the "Bayt ul-Hikma" at the highest level of development and its transformation into a unique scientific school for that time. Indeed, there are many scholars who conducted their scientific activities there. Scholars who conducted their scientific activities in this place contributed to the development and spread of science by compiling many books. Among them, the role of scholars from Central Asia was incomparable. We will dwell on the following, whose research had a great impact on the development of science:

Muhammad ibn Musa al-Khwarizmi is considered one of the scientists who made a great contribution to world science. He was the most famous of the Central Asian scientists in the "Bayt al-hikma". The full name of the scientist is Abu Abdullah Muhammad ibn Musa al-Khwarizmi, he was born in 783 and died in 850. A great mathematician, astronomer and geographer, known in Europe under the names "Algorismus" and "Algorithmus". It is known from history that he spent most of his scientific activity in the "Bayt al-hikma" in Baghdad. The word algebra itself, which is currently used all over the world, is taken from the "al-jabr" in

the scientist's famous "Al-jabr wal-muqabala", and was written and pronounced in Europe as "al-gebra". Later, this word became established in science in this way. Al-Khwarizmi also made a significant contribution to the development of trigonometric tables with the sine function, and later this practice led to the extrapolation of the tangent function. The number of works by Al-Khwarizmi is 10, and they are as follows: 1. "A work on arithmetic". 2. "A short book on the calculation of algebra and correspondence". 3. "Khwarizmi's ziji". 4. "A book on working with astrolabes". 5. "Determining the azimuth using astrolabes". 6. "Making clocks on the surface of a sundial (marble)". 7. "A book on the operation of an astrolabe". 8. "A book on the sundial (marble)". 9. "A book on the image of the earth". 10. "A book on history".

Yahya ibn Abu Mansur entered the history of medieval Eastern astronomy mainly as the founder of the observatory built in 828 in the ash-Shammosiya area of Baghdad, the organizer of scientific research and practical experiments conducted there, and one of the authors of the book "Al-Ma'mun's Tested Table". He was born and raised in the city of Merv and served al-Ma'mun. Later, the caliph took him with him to Baghdad. Some literature indicates that the scientist died in 830, and others indicate that he died in 845 in Tarsus. Al-Abbas al-Jawhari is a mathematician and astronomer who worked in Baghdad and Damascus. He was born in a place called "Jawhar" near the city of Farab (800-860). He had a unique talent for using astronomical equipment (al-Qifti). He determined the positions of some planets, as well as the sun and moon. Jawhari's idea that from any point inside an angle, a line can be drawn connecting the two sides of the angle is famous (this idea was fully proven in science in 1800). Abul Abbas Ahmad ibn Muhammad Kathir al-Farghani - was born in the Fergana Valley in 798. Along with many Central Asian scholars gathered in Merv, Ahmad Farghani was in the service of al-Ma'mun. When the Caliph moved to Baghdad with all his courtiers and scholars in 819, the Khorezms and Farghanis were among them. Later, a team of scientists led by Khalid ibn Abd al-Malik and Farghani conducted scientific research at the Damascus Observatory. We can learn that Ahmad al-Farghani participated in measuring the length of one degree of the Earth's meridian between Padmur and al-Raqqah in the Sinjar Desert in northern Syria (832-833). During the reign of Caliph Mutawakkil (846-862), al-Farghani created a new measuring instrument (Miqyas jadid) for measuring the water of the Nile River. Ahmad al-Farghani's works were first translated into Spanish and Latin in the 12th century. Al-Farghani's name was called "Alfraganus". The following works by Ahmad al-Farghani have been preserved in various manuscript collections around the world: 1. "Fundamentals of Astronomy and Methods of Heavenly Movements". Available in the libraries of Dublin, Istanbul, Leiden, Moscow, Oxford, St. Petersburg, Cairo. 2) "A Complete Book for Constructing a Northern and Southern Astronomy Using Geometry and Calculation". 3) "Calculus of the Seven Climates" is kept in Cairo and Gotha. 4. "Book on the Use of the Astrologer" is kept in Rampur. 5. "Al-Farghani Tables" is kept in Patna. 6. "Al-Farghani Tables for the Diameter of the Earth" is kept in Manisa (Turkey). 7. "Treatise on Determining the Time When the Moon is Above or Below the Earth" is kept in Cairo. 8) "Book on Making a Sundial" is kept in Cairo and Aleppo. 9) "Explanation of the Al-Khwarizmi Jijin".

Ahmad al-Marwazi is a great astronomer and mathematician of his time who was engaged in scientific research in Baghdad. He is known by the nickname "The Abyssinian Accountant". The word al-Marwazi in his name indicates that the author was from Merv, near the city of Bayram Ali in modern Turkmenistan in the Middle Ages. Bibliographic books on the history of science estimate that the scientist lived between 770-870. Ahmad al-Marwazi is the author of the works "Astronomical Tables", "Damascus Ziji" (this Ziji was compiled for the city of Baghdad) 4 and "Al-Ma'mun's Tested Table". Ibn al-Qifti indicates that al-Marwazi is also the author of another small treatise entitled "Zij for the Horn". In general, al-Marwazi was one of the scientists who most actively participated in the experiments and scientific research carried out during the reign of al-Ma'mun. In particular, he worked in the Sinjar steppe in 832-833.

Conclusion. Abu Bakr al-Razi is a great scholar who worked at the House of Wisdom. The scholar was born on August 28, 865, in the city of Rayy, one of the important scientific and cultural centers of the Middle Ages. Little is known about his early years in the sources. According to this information, in his youth he was initially interested in literature and poetry, wrote poems, and was a musician. In addition, the scholar also studied the craft of jewelry at that time, and even engaged in silversmithing. Al-Razi made a huge contribution to the development of medieval chemistry by creating works such as "The Book of Secrets", "Introduction to Chemistry", "The Origin of Minerals", "The Book of Stones", "The Book of Elixir", "The

Test of Gold and Copper", "Refutation of Al-Kindi, the Denier of Chemistry", "Refutation of Muhammad ibn Layth al-Rasaili, the Denier of Alchemists", and "The Book of Secrets". Al-Razi, who was around 30 years old, came to Baghdad in search of knowledge in such fields as medicine, chemistry, and philosophy. The scientist soon became a famous physician and even received the honorary title of "the Arabs" Joli Yunus. The scientist died in 925 in the city of Ray at the age of 60. Ibn al-Nadim cites 113 books and 28 treatises by al-Razi, while Ibn Abu Usaybi'a cites 232 works. According to experts, the total number of works mentioned in the sources exceeds 270.

Acknowledgement. Abu Nasr al-Farabi - One of the greatest Central Asian scholars who worked in Baghdad was Abu Nasr Muhammad ibn Muhammad ibn Uzlug' al-Farabi. He was not only a famous philosopher, but also a very talented encyclopedist. Born in a place called Farab on the banks of the Syrdarya, this scholar was honored with the title of "second teacher" after Aristotle, who was considered the first teacher, because he was one of the brightest stars of medieval Muslim philosophy. Born in 873 into the family of a high-ranking military officer, Al-Farabi received his primary education in his native land, and later improved his knowledge in scientific centers such as Tashkent (Shosh), Bukhara, and Samarkand. In addition to Baghdad, Al-Farabi also lived in Damascus and Aleppo. The scientist, who earned great respect from the governor of Aleppo, Sayf ad-Dawla al-Hamadani, spent his most productive years there. Al-Farabi also lived in Egypt for a short time (949-950) and died in Damascus in 950. According to experts, Al-Farabi wrote more than 160 works on various fields of medieval science. In conclusion, the city of Baghdad, built during the Abbasid era, became a true scientific city. The "House of Wisdom" founded there is considered a major scientific event in our history. As mentioned above, many books were translated into Arabic there, and not only translation work was carried out there, but also many scientific researches were carried out and books were written. "Bayt ul-Hikma" also served as an observatory. Many scholars from Central Asia worked in Baghdad, the capital of the Caliphate in the 9th-12th centuries, and also in Damascus, making a great contribution to the development of science and implementing a number of scientific innovations.

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