

THE ROLE OF OUR GREAT ANCESTORS IN SCIENCE AND CULTURE

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Abstract: In this article, the great geniuses of the East who lived and created in the 9th-12th centuries, Muhammad ibn Musa al-Khorazmi, al-Farghani, Abu Nasr Farabi, Abu Ali ibn Sina, Abu Rayhan Beruni, and the great representatives of the Islamic world, Imam Bukhari, at-Tirmidhi, Abu Mansur al-Moturidi, Burhoniddin al-Marginani, the life path and activities of scientists are widely covered, and their contribution to world science and culture is analyzed on the basis of sources.

Key words: science, work, scientific heritage, teaching, encyclopedist, Bukhara, Khorezm, development, scale an-Nil Sharq ur-ra'is, Muallim us-sani, Bayt ul-hikma, algebra, astrolabe, mathematics.

Let us be proud of the enviable past of our country and people have worthy ancestors. When we look at the past, an involuntary feeling of pride arises. It is known that the foundation of the third renaissance is being built in New Uzbekistan. The first step to the future begins with looking at the future. As the first President Islam Karimov said, "There is no future without historical memory." The rapid development of science in our country corresponds to the 9th-14th centuries. In the second half of the 9th century, a new era began in the cultural life of Movarounnahr. With the end of the rule of the Arab caliphate and the establishment of the independent Samanid state, a wide path was opened for the revival of cultural life. Cities such as Bukhara, Samarkand, Urganch, Marv and Nishapur began to develop as scientific and cultural centers. In the 9th-10th centuries, the city of Bukhara rose culturally. In the capital - in the emir's palace, large libraries were built, where manuscript books related to various fields are stored. Most of the Samani emirs

patronize literature, poetry, science, art and architecture. During this period, poetry flourished in Bukhara. Great representatives of Persian classical poetry, Abu Abdullah Ja'far Rudaki, Abu Mansur Daqiqi, Abulhasan Balkhi and many other poets make a great contribution to its development. In this period, the Persian literary language developed a lot, but the Arabic language had an important place in science and literature. It is noted that 119 Arabic language poets were created in Bukhara, Khorezm and Khorasan. Almost all of them consisted of courtiers, members of the ruling house and representatives of other high classes. Scientific works on linguistics, jurisprudence, music, philosophy, mathematics, medicine, astronomy, history and other subjects are mostly written in Arabic. In Bukhara and other central cities, madrasahs were also opened to teach the main sources of Islamic teachings and Sharia knowledge. In the markets of central cities such as Bukhara, Samarkand, Urganch, Marv, Balkh, there were separate book stalls. They sold handwritten books in various languages on various fields of religious and secular sciences. According to Ibn Sina, he bought the book "Commentary on Aristotle's Metaphysics" by Abu Nasr Farabi for three dirhams in the Bukhara market. After reading this book, Ibn Sina understood the essence of the teachings and philosophy of the ancient Greek philosopher Aristotle. The development of urban culture, medieval society, the circle of intellectuals expansion undoubtedly brought the Samani rulers closer to the people of knowledge. They used their knowledge and advice in managing the country. During this period, most of the rulers used to collect scientists, poets and master artists and valuable books in various fields in their palaces. The establishment of the independent Samani state, political stability and economic growth enabled the development of cultural life. This period Abu Nasr Farabi, Abu Ali ibn Sina, Beruni, Abu Abdullah Khorezmi and Abu Bakr Muhammad Narshahi is a great man who made a great contribution to the development of world science. He nurtured the figures in his bosom and brought them to perfection. As Islam Karimov said, "...if literature and art works, architectural masterpieces, medicine and new discoveries in the field of human understanding were the results of the European Renaissance, then the unique feature of the Eastern Renaissance

is, first of all, mathematics. , manifested in the development of exact and natural sciences such as astronomy, physics, chemistry, geodesy, pharmacology, medicine, as well as history, philosophy and literature. The famous scholar and wise thinker Muhammad ibn Musa al-Khorazmi (783-850) was born and grew up in Khorezm. He received his initial literacy and knowledge in various fields from many teachers in his native cities of Khorezm and Movarounnahr. Then he worked as a director in "Bayt ul-Hikma" during the time of Caliph Ma'mun (813-833). He made a great contribution to science as a famous mathematician, astronomer and geographer of his time. Al Khorazmi wrote more than 20 works. Only 10 of them have reached us. Among his works, "Al-jabr wal-muqabala" on mathematics is especially famous. Even the term "algebra" is an expression of the short name of this book, which is called "al-jabr". Khorezmi's name was expressed in the form of the term "algorithm" in mathematics. His work "Al-jabr" has served as a guide for generations in the hands of land surveying, ditch construction, building construction, inheritance distribution and other various calculation and measurement works. This treatise of Khorezmi was translated into Latin and processed in Spain as early as the 12th century. Khorezmi's arithmetic treatise was of great importance in the spread of the decimal system based on Indian numbers in Europe and the whole world. Thus, our compatriot Khorezmi raised algebra to the level of an independent science, founded the science of algebra and left an indelible mark in history. In 1983, the 1200th anniversary of Al Khorezmi's birth was solemnly celebrated. Another great astronomer, mathematician and geographer who contributed to the name of our generous motherland, Uzbekistan, with his works, who worked in "Bait ul-hikma" Abul Abbas Ahmad ibn Muhammad ibn Kasir al-Farghani (797–865). He was born in the city of Quva in the Ferghana Valley, and became famous in the East with the nickname Al-Farghani, and in Europe with the nickname Alfraganus. He studied astronomy, mathematics and geography. He wrote a number of scientific and practical works. At the observatory in Damascus, he led the work of determining the movement and position of celestial bodies and creating a new zij (astronomical chart). His prediction of the solar eclipse in 812, and

his discovery that the Earth is in the shape of a round sphere brought fame to the scientist. In 832-833, he took part in the measurement of the length of one degree of the earth's meridian between the Sinjar steppe and al-Raqqa in the north of Syria. In 861, under the leadership of al-Farghani, the ancient hydrometer, the structure "Miqyos al-Nil", which determines the level of the river flow, was restored and its grade was restored. Eight works of Ahmad al-Farghani have been preserved until our time. The scientist's "Tables of Al-Farghani" and "The Book of Acting with Usturlob" are in India, the manuscript of the treatise "Determining the time when the moon is above and below the earth" is in Cairo, the manuscript of the work "Seven Climate Smells" is in Germany, "Usturlob four copies of the manuscript of the book on making " are kept in Berlin and Paris. His book "Celestial motions and general science of astronomy" was also very popular and was translated into Latin and Hebrew in the 12th century and started the development of the science of astronomy not only in the Muslim East, but also in European countries. The name alloma, popular in Europe, was given to one of the lunar craters in the 16th century. During the years of independence, the unique scientific heritage of Ahmed al-Farghani was returned to our people. In October 1998, the 1200th anniversary of the birth of Allama Ahmad al-Farghani was celebrated. A garden was built in Kuva, and a statue of Alloma was installed. A lot of good work is being done to study and publish his rich creative heritage. With the efforts of the first President of Egypt, a statue named after Ahmed Farghani was erected in Cairo, the capital of Egypt. Abu Nasr, one of the great representatives of the scholars of the East Farobi (873–950) in the city of Farob, located at the confluence of the Aris water into the Syrdarya was born. He studied first in his native city, then in Samarkand, Bukhara and Baghdad received At the end of his life, he lived in the cities of Aleppo and Damascus. Pharoah He created in the fields of mathematics, astronomy, medicine, music, logic, philosophy, linguistics, education and literature. He wrote more than 160 works, the medieval science and made a great contribution to culture. Among them are "Commentary on Aristotle's Metaphysics", "The Book of Music", "On the Attainment of Happiness", "The Organs of Living Beings". about", "City of Virtuous

People" and many other works were important. One of the scientist's services to science is that he interpreted the works of Greek thinkers and enriched them with new ideas. He created a classification of sciences that was considered perfect in the Middle Ages. Due to his deep knowledge of Greek philosophy, his commentaries on it, and his promotion to the world, as well as his thorough mastering of the sciences of his time, and his great contribution to the development of sciences, Farabi is the greatest thinker in the East after Aristotle (Aristotle) - "Muallim Us-Sani" and "Aristotle of the East". " gained fame with the names. According to some historical sources, Farabi knew more than 70 languages. The legacy left by the thinker spread not only in Eastern countries, but also in Europe and had a significant impact on the development of socio-philosophical thought. Farabi's scientific and creative works on the classification of sciences are extremely valuable in the development and progress of medieval science. In his treatises "On the Origin of Sciences", "On the Classification of Sciences" and other treatises, he gives the order, classification and details of about 30 fields of science known at that time. In general, Al-Farabi shows five main categories of sciences:

1. The science of language (grammar, poetics, correct writing, etc. There are seven sections in total).
2. Logic (consists of eight sections).
3. Mathematics, seven independent sciences: arithmetic, geometry, optics, planets, music, gravity, mechanics.
4. Ilm at-tabii and ilm al-ilahi - natural and divine sciences or metaphysics.
5. Political science (ilmal-madani - the science of the city, the science of city management), jurisprudence (fiqh) and Muslim theology (kalam).

Thus, the scientific-philosophical heritage of Farabi, as a great spiritual wealth of our nation, will continue to serve as a source of inspiration and creativity for generations.

Abu Ali ibn Sina, one of the famous scientists and the founder of medicine, was born in the family of a local official in the village of Afshona near Bukhara in 980. After graduating from school, he studied logic, philosophy, mathematics and jurisprudence

from his teacher Abu Abdullah. From the age of sixteen, he independently studied the scientific works of Eastern and Western scientists in various disciplines. In particular, he thoroughly studies the works of ancient scholars of medicine, Abu Nasr Farabi, Abu Ali ibn Sina, Hippocrates and Galen, and the great judge and thinker of the Middle Ages, Abu Bakr al-Razi (865-925). At the age of seventeen, Ibn Sina became a distinguished judge and scholar. After he cured Emir Nuh ibn Mansur, he received permission to use the palace library of the Samanis. By fate, Ibn Sina works among the scholars of Khorezm Ma'mun Academy in Gurganch (Urganch). He died in 1037 and was buried in Hamadan. Ibn Sina wrote more than 450 works, including 43 works on medicine. In his encyclopedic work "Al-qanun fit-tib" ("The Laws of Medicine"), the causes and sources of diseases, diagnosis, treatment methods, properties of medicinal plants and medicines, diet, the importance of physical education for human health are discussed. special attention was paid to the most important issues. Ibn Sina divided the "Laws of Medicine" into 5 books. His work "Al-Qanun Fittib" was translated into Latin in the 12th century and was used as the main guide in European medicine until the 17th century. Abu Ali ibn Sina became famous in the East as "Sheikh ur-Rais" and in the West as "Avicenna". The brilliance of Ma'mun Academy, established in Khorezm in the Middle Ages one of its stars, the great scientist and thinker Abu Rayhan Beruni (973-1048) He was born in Kat, Khorezm, and studied in Urganch. Khorezmshah Abul Abbas created Ma'mun Academy together with the scholars gathered in the palace of Ma'mun II. After Khorezm was conquered by Mahmud Ghaznavi, Beruni and other scholars were taken to the city of Ghazna, where he worked until the end of his life. Beruni died in 1048 in Ghazna. Beruni wrote more than 160 works on astronomy, geography, mathematics and history. His major works such as "Relics of Ancient Peoples", "India", "Mineralogy", "Geodesy" are among them. In his works on astronomy, he was the first to put forward the idea that the Earth revolves around the Sun in the Middle Ages, almost five centuries before Copernicus. Beruni explained that the earth is round in shape. He compiled a table of stars with the coordinate magnitudes of 1029 stars and a geographical map of the world. Beruni wrote several times

in his works that the American continent existed about 450 years before European scientists. Beruni's opinion that there is a large land in the Western Hemisphere was confirmed in the 15th and 16th centuries. Beruniy developed a new method for measuring the length of the Earth's circumference - a mathematical method. He was the first to create a globe. Beruni's great scientific and philosophical heritage was undoubtedly a great contribution to the treasury of world science and culture. Beruni also wrote a valuable work on the history of his homeland - Khorezm ("Wonderful People of Khorezm"). So, it is not an exaggeration to say that there is no area where our great encyclopedist did not touch his pen. No matter which work of the scientist we look at, we will find poetic verses and artistic similes. Beruni's work is an unparalleled treasure. This treasure is the spiritual wealth of our people, our national pride, our pride. It is our duty to learn and know it.

Islam began to play an important role in the spiritual life of the 9th-12th centuries. During this period, Islam spread widely in the Muslim East and rose to the level of a world religion, and Sharia became the ideology of the Muslim world. During this period, drastic changes took place in the spiritual and religious life of Movarounnahr residents. It is known that in early Islam, the legal and ideological management of society was carried out only on the basis of the Qur'an and hadith. However, due to the fact that all the legal and moral issues of the Muslim community were not covered in the Qur'an, the collection of hadiths began at the end of the 7th century and the beginning of the 8th century. Because hadiths are considered a sacred source after the Qur'an. At the beginning of the 9th-10th centuries, 6 collections of hadiths, recognized as authoritative among Islamic scholars, appeared. Among these hadiths considered to be Sunnah, "Sahih Bukhari" and "Sahih Muslim" are considered the most reliable. Hadith scholars such as Abu Abdullah Ismail al-Bukhari and Abu Isa at-Tirmidhi grew up from Mowarounnahr.

He was awarded the honorable title of "Amir-ul Mumineen in the science of Hadith". Muhaddith scholar Abu Abdullah Muhammad ibn Ismail ibn Ibrahim al-Mughira al-Bukhari al-Jubfi was born in Bukhara on the 13th day of Shawwal 194 Hijri, on July 20 810 AD. Imam Bukhari, who began to study the science of hadith before he was 10 years

old, began to find the mistakes of some of his teachers at the age of 11. Imam Bukhari Muhammad (s.a.w.) visited cities such as Damascus, Kufa, Basra, Cairo, Baghdad, which were the major centers of the world of Islamic science at that time, with the intention of further studying the hadith sharifs and collecting and organizing them. Here he received education and lessons in jurisprudence as well as the science of hadith, took part in debates in the circle of great scholars, and taught students of science. Imam Bukhari collected a total of 600 thousand hadiths. Of these, 100,000 authentic and 200,000 non-authentic hadiths were memorized. There was no one in the Muslim world who was equal to Imam Bukhari in the field of hadith science. Imam Bukhari left a huge and rich legacy. The number of works he wrote is more than twenty. "Al-adab al-mufrad", "At-tarikh as-sagir", "Kitab al-ilal", "Kitab alkuna" and other works of the scientist, "Al-jame as-sahih", which is considered a royal work, consists of 4 volumes. It is the most reliable and perfect collection of hadiths compiled by other muhaddiths in the Islamic world. This collection includes 7275 most authentic hadiths. From that time to the present day, it is considered a sacred book, a valuable source, second only to the Holy Qur'an in Islamic teachings. With the honor of independence, Bukhari's immortal legacy returned to the heart of the country. On the basis of the decision of the Cabinet of Ministers of the Republic of Uzbekistan dated April 29, 1997 "On the celebration of the 1225th anniversary of the birth of Imam al-Bukhari according to the Hijri-lunar calendar", great work was done on the study of Bukhari's scientific heritage. On October 23, 1998, jubilee celebrations were held in Samarkand. A huge memorial complex was opened in the village of Khartang, Chelak district, where Alloma settled forever. Muhammad ibn Isa ibn Sarwa ibn Musa ibn az-Zahhaq Abu Isa al-Sullami az-Zariyr al-Bu'i al-Tirmizi is one of the great Muhaddith scholars who gained fame in the Islamic world. He was born in the village of Bug near Termiz Shari. At-Tirmizi, who was very thirsty for science from his youth, lived and created in Termiz, Samarkand, Marv and other cities of Central Asia, studied the works of muhaddis scholars with great interest and envy, met with great hadith scholars, participates in creative debates with them. In particular, the scientist's trips to Hejaz,

Mecca and Medina, Iraq, Khorasan were of great importance in this regard. Ismail Bukhari's role in the perfection of At-Tirmidhi is invaluable. A great scientific and spiritual legacy was left by the great Muhaddith scientist al-Tirmidhi. The scientist has more than ten works. Imam al-Tirmizi died in Termiz in 894 at the age of 70. In most of the works of At-Tirmidhi, ablution, prayer, zakat, fasting, pilgrimage, marriage, funeral, trade, judgments, sacrifice, faith, generosity, qualities of heaven, faith, moral issues, Qur'anic virtues, recitation, interpretation, there are chapters such as prayers, the scholar cites one or more hadiths on each issue, uncovers the essence of the issue and expresses his opinion. At-Tirmizi, with his scientific heritage, will continue to serve in the way of enriching the spirituality of our people. In September 1990, the public of Uzbekistan solemnly celebrated the 1200th anniversary of the birth of Muhammad ibn Musa al-Tirmizi. The great scholar Abu Mansur al-Moturidi (870-944) was born in the village of Moturid near Samarkand. Al-Maturidi wrote a number of works intended to teach about the rules of Islamic etiquette and the secrets of spiritual and moral maturity. Of them, only the works named "Kitab al-Tawhid" ("Oneness of Allah") and "Ta'wilat ahl as-sunna" ("Review of Sunni traditions") have been preserved. In them, religious teachings and Islamic traditions are interpreted as the essence of the formation of the worldview in the development of a person. Al-Moturidi died in Samarkand in 944. In November 2000, the 1130th anniversary of the birth of Imam al-Moturidi was celebrated in our country, where our religious values are being restored with the honor of independence. A memorial complex dedicated to the memory of al-Moturidi was built in Samarkand, and his works were published in Uzbek. Islam Karimov in his work "High Spirituality - Invincible Power" expressed the following thoughts about al-Moturidi: "In the Islamic world, receiving the high honor of "corrector of the faith of Muslims" is the great intelligence of this rare person. and a testament to his tenacity will give". The famous fiqh (jurist) scholar Burkhaniddin al-Marginani in 1123 he was born in Rishton (Fergana Valley). Al-Marginani's rarest work is a four-volume "Hidaya" work. "Hidaya" is a graduate of Islamic jurisprudence is a work of jurists in Muslim countries for several centuries served

as a theoretical and practical guide for The book has been translated into several languages. It is still used as an important source. For this reason, the scholar gained great respect not only among scholars, but also among ordinary people as "the leader of the path of guidance". Burkhaniddin was awarded the honorable title of wal-millah (evidence of the religion of Islam). In 2000, the 910th anniversary of al-Marginani was celebrated. In this regard, the Burkhaniddin Marginani memorial complex was built in the center of Margilan city, and his symbolic mausoleum was installed there. I can conclude from the above that it is as big as Uzbekistan, It is no exaggeration to say that we, the youth, were born in our homeland, in the land of scholars who rocked the cradle of world science. The only thing that is required of us is to learn the masterpieces of science inherited from our grandfathers and to be a generation worthy of them. This is the main duty of all of us to our people and ancestors.

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