



## THE GOLDEN AGE OF THE ISLAMIC RENAISSANCE

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| Article history:  | Abstract:  |
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| <b>Received</b> 17 <sup>th</sup> August 2022<br><b>Accepted:</b> 17 <sup>th</sup> September 2022<br><b>Published:</b> 23 <sup>rd</sup> October 2022 | This article reveals the historical origins of Muslim science, presents the facts of the first scientific discoveries of Turkic scientists, which influenced the development of culture and art around the world. The Islamic Renaissance, which was the beginning of discoveries and innovations in European and Western sciences, is analyzed. |

**Keywords:** Islamic renaissance, religions, golden age, house of wisdom, observatory, Sanskrit, ophthalmic disease, spherical mirrors.

In fact, science is connected with religion, just as religion is created from science. To prove it, let's turn to the origins of Muslim science, which is often called Arab culture, although history proves that all the first discoveries in science were made by Muslims, most of whom were not Arabs. The Islamic Renaissance in history belongs to the VIII-XIII centuries, where the Arab Caliphate dominated, which was the largest state of its time. Within the framework of the caliphate, a common Muslim cultural space was formed, which continued to exist even after its collapse. Thanks to this, Islamic scientists, writers and artists of this period made a significant contribution to the development of world science and culture. During the Golden Age, Muslim scientists, artists, engineers, poets, philosophers and merchants contributed to science, economics, literature, philosophy, maritime affairs, agriculture, both preserving the traditions of the past and using their own inventions. During the reign of the Umayyad's, and then the Abbasids, scientists enjoyed great support from the rulers. The practical importance of medicine, military equipment, mathematics helped the development of the Arab Caliphate. Arabic has become the universal language of science. Scientists from different countries from Cordoba to Baghdad and Samarkand had the opportunity to communicate in the same language. In the 9th century, the rulers of Baghdad held regular meetings (intellectual assembly), during which theologians, philosophers and astronomers gathered to discuss their ideas. Muslims have perfected a tool for determining the location of stars and measuring the distance between them (an astrolabe). In the IX—X centuries, the Musa brothers made calculations of the length of the earth's circumference. Khorezm scientist al-Biruni proved that the Earth rotates around its axis and around the Sun. Conducting research near the Indian city of Nandan, he was able to calculate the surface area of the Earth. The method used in this case is referred to in Europe as the "Biruni rule". The Central Asian scientist, born in Uzbekistan al-Fergana, discovered the existence of spots on the Sun, and his works in the field of astronomy have been used in Europe as a textbook for 700 years. He became the first scientist to calculate the exact value of the curvature of the ecliptic.

Famous scientists of the Islamic Renaissance Names of scientists The period of discovery of the Field of sciences Al-Battaniy Ibn Sarafiyun In the works of Battaniy contains a list of coordinates of 273 geographical objects. In the sixth chapter of this book, a description of the earth as a whole is given, and the seas, including the Black, Azov, and Caspian, are characterized in particular detail. The Persian scholar Ibn Sarafiyun, who called himself Suhrab, in the early 10th century, he wrote the work "Kitab 'ajaa'ib al-akalim as-sab'a" ("The Book about the amazing seven climates"), consisting of tables in which the names of cities, seas, islands, mountains, lakes, rivers and their sources distributed according to climatic features and provided with digital data. The famous Arab traveler Muhammad Ibn Battuta toured all the countries of the Islamic world — from Bulgar to Mombasa, from Timbuktu to China. Geography Muhammad al-Khorazmiy Mathematics Abu Bakir Muhammad ar-Razi, Ibn Sino Abul-Qasim al-Zahrawi Kambur Vesim Bakr ibn al – Qasim Ali ibn Isa Ali ibn Abbas Amir al-bahr Ibn Fazyl Mirzo Ulugbek Abu Reyhan Biruni Abu Bakr Muhammad ar-Razi (865-925) became the first doctor to describe the pupil response reflex and the first to identify and describe diseases such as chickenpox and fever. The famous scientist Ibn Sina (980-1037), known in the West as Avicenna, is credited with the discovery of infectious diseases, anesthesia, the connection of psychological and physical conditions and many other areas of medicine. His book "The Canon of Medical Science" from the XII to the XVII century was used as a textbook in the best medical institutes in Europe. Andalusian physician Abul-Qasim al-Zahrawi (936-1013), known as Albucasis, was the first surgeon to introduce catgut (sheep intestines)

sutures into everyday practice. Among his inventions are a number of sophisticated surgical instruments, including scalpels, syringes, forceps and surgical needles. In 1761, Cambur Vesim systematized knowledge about tuberculosis and was the first to determine the infectious nature of this disease. Bakr ibn al-Qasim al-Mawsili in the 10th century invented a needle for removing cataracts by suction. The needle was inserted through the limb, where the cornea is connected to the conjunctiva. Ali ibn Isa (XI century) wrote a scientific work "Tazkira", containing a description of 130 eye diseases. This book remained for centuries the most authoritative publication on ophthalmology until about the middle of the 19th century. Ali ibn Abbas in 994.

He performed a surgical operation on oncology. The medical encyclopedia "Kitabul-Malikiy" written by him has not lost its relevance today. Medicine Navigation Industry Agriculture Astronomy Geography, Natural Sciences Abu Maari, Ibn Rushd Al-Kindi, Al-Ghazali Al-Farabi. The works of such scientists as Abu Ma'ari, Ibn Rushd, al-Kindi and al-Ghazali had a great influence on philosophical thought Philosophy The Central Asian scientist Ulugbek in his observatory with the main instrument of which was a wall quadrant with a radius of 40 meters and with a working part from 20° to 80°, which had no equal in the world to In 1437, he compiled a catalog of the starry sky, in which 1018 stars were described. The length of the sidereal year was also determined there: 365 days, 6 hours, 10 minutes, 8 seconds (with an error of + 58 seconds) and the inclination of the Earth's axis: 23.52 degrees (the most accurate measurement). The highest achievements of Muslim scientists can be noted in medicine. It was in the Arab Caliphate that hospitals and hospitals were built for the first time, and the first medical institutes appeared. Muslim doctors have been at the forefront of science in the field of eye diseases research for many centuries. The first hospital in the Caliphate was established in 707 during the reign of Caliph al-Walid ibn Abdul-Malik. The founders of almost all branches of science were Muslim scientists, who rightfully remain the great thinkers of the golden age!

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