American Journal Of Current Tendency and Innovation, 2024, 34-38
https://publishingjournals.org/ajcti
Volume: 1 | Number: 1 (2024) January

Abu Nasr Ibn Iraq – Abu Rayhon Beruni's Loyal Teacher

Achil Buriyev
is a professor at Karshi State University

Uralov Doston
Magister of Karshi State University

***Correspondence :**
Achil Buriyev
durbekr@yahoo.com

Received: 13-01-2024
Accepted: 19-01-2024
Published: 20-01-2024

Abstract

It is known that every person learns from his teacher, matures and becomes known throughout the country. Even the great world hero Alexander the Great learned from his teacher Aristotle and always respected him. It is impossible to imagine an adult without a teacher . That's why there are proverbs in our nation such as "A disciple who has not seen a teacher will rise to any position", "A teacher is as great as your father", "Don't leave your teacher". This means that the teacher is respected like a father, and the Uzbek tradition of teacher-disciple goes back to a very distant history, which requires a special scientific study, of course.

Introduction

Representatives of world science recognized "11th century - Beruni's century". The teacher of the great thinker and encyclopedist Abu Rayhan Beruni is considered to be the famous scientist Abu Nasr ibn Iraq, and their teacher-student relationship is still an example for everyone after more than a thousand years. Below are some comments about the mentor-disciple relationships of these two great figures.

In his youth, Abu Rayhan Beruni (973-1048) studied with his teacher, the famous scientist Abu Nasr ibn

Iraq, learned the secrets of science and read many of his works. The first teacher, coach and teacher in Uzbekistan. Ibn Iraq also had a strong love for Abu Rayhan, and dedicated 12 works on astronomy, geometry and mathematics to him, and mentioned this future student with respect in many of his works. The date of birth of the teacher is unknown, but it is recorded in the sources that he died in Ghazna in 1034.

Abu Nasr ibn Iraq introduced Beruni to Euclidean geometry and Ptolemy's astronomical teaching. He noted that his student was extremely talented, and wrote that Beruni carried out independent astronomical observations in his youth (994-995), for which he also invented a special astronomical instrument. Ibn Iraq, recognized as the founder of spatial trigonometry, an encyclopedic scientist in the field of astronomy, was rightfully called "The Second Ptolemy" (History of Khorezm in new studies - T., - Urganch, "Navroz", 2019. P. 288).

was the mature scholar of his time, Abu Nasr Muhammad ibn Iraq, cousin of the African Khwarazmshah Abu Abdullah. Ibn Iraq was involved in politics, used a rich library, participated in the conversation of scholars, and was famous for participating in scientific debates. At the age of 25, he took the young Abu Rayhan under his patronage, because the teacher's works on astronomy and spherical geometry were popular.

As a teenager, Abu Rayhan was interested in science and learned mathematics from the scholar Ibn Iraq, and philosophy from Abu Sah al-Masihi. At the age of 17, he made independent astronomical observations and measured the geographical width of the city. In 994, at the age of 21, he determined how close the plane of the ecliptic is, and was the first in the world to create a globe (Ahmedov B. Sources of the history of Uzbekistan. 2nd edition, -T.: "Teacher", 2001. P.128). At the age of 16-17, Abu Rayhan became a mature scientist in astronomy and mathematics, at the age of 20 he wrote three works. At the age of 20-21, he won the title.

In 1017, Ibn Iraq and his close disciple Abu Rayhan Beruni came to the palace of Sultan Mahmud of Ghaznavi and served there until the end of his life. But the future great scientist spent the first period of his life - his childhood and teenage years - in his hometown, Kot, the ancient capital of Khorezm, during the reign of Abu Abdullah Muhammad ibn Iraq, the last representative of the Khorezmshahs - African dynasty. There is no clear information about the family of Beruni, because his according to his words, he did not know his father or grandfather. The great scholar writes: "I swear by Allah that I frankly do not know my lineage." After all, I don't even know my grandfather, how can I know my grandfather when I don't even know my father?"

So Abu Rayhan was orphaned by his parents as a child, but because of his sharp mind and talent, he attracted the Iraqi rulers of Kot. (Bulgakov P. G. Abu Rayhan Beruni - T.: "Science", 1973. B. 8).

This verse refers to Ibn Iraq, the son of the aforementioned Khorezm Shah's uncle. According to Beruni's testimony, this same Ibn Iraq was his first teacher and mentor. The year of the teacher's birth is unknown. But according to biobibliographer Khayriddin al-Zirikli, he died in Ghazna in 1034. But in some sources, this date is 1036. If it is taken into account that Abu Nasr's grandfather was the Khorezm Shah of Iraq at the beginning of the 10th century, and that his son, that is, Abu Nasr's uncle, was seen by the famous traveler and geographer Ibn Fazlan on the throne of Khorezm in 921-922, then it can be assumed that Abu Nasr was in his 50s at the end of the 10th century. Then Beruni was 25 years old when he was born. Abu Nasr ibn Iraq was a great mathematician and astronomer of his time. According to Omar Khayyam, "He was the greatest of the scientists engaged in mathematics" (Omar Khayyam. Trakaty-M., 1964. P. 104).

During Beruni's youth, Khorezmshah Abu Abdullah Muhammad ibn Ahmad ibn Iraq, the last representative of the Iraqi dynasty, was the governor of Kot. Abu Nasr Mansur ibn Ali ibn Iraq, the son of his uncle Ali ibn Iraq, is the first and main tutor and teacher of Abu Rayhan. In many of his works, Beruni noted with deep satisfaction that the teacher taught him knowledge from a young age. Ibn Iraq was a famous scientist

of his time, he was famous not only in Khorezm, but also in many foreign countries with his scientific works and discoveries in mathematics and astronomy.

The number of works written by the teacher is about 15, 12 of which he dedicated to his student Abu Rayhan, six of them are devoted to the very important problem of medieval mathematics - the theorem of sines, and the proof of this theorem is given. Alloma - "Correction of Menelaus' "Spherical" ("Islah kitab Manalaus fi al-Kuriyyat"), "Reformation of the shape of Menelaus' "Spherical" ("Maqola fi islah shakl Manalaus fi kuriyyat"), "The arcs of the celestial sphere one by one A treatise on the determination of intersecting shapes and proportions without using them" ("Risola fi ma'rifya al-kisi al-falaki ba'zuho min ba' bi tariqghayr tariq ma'rifatiha fi shakl al-qi'a van-nisba al-muallafa"), "Theorem of flat and spherical sines for right-angled and acute-angled triangles", "Shahi Almagesteb" ("al-Majist al-Shahi"), "Book of Azimuths" ("Kitab as-sumit"), etc.

The main ideas of his master's collections were the first to be inculcated in his work by his student Abu Rayhan. Although the theorem of spherical sines looks rather simple from the outside, it has made it possible to easily solve various problems of spherical astronomy. For example, in geography, with its help, it was possible to find the coordinates of geographical points. In spherical astronomy, it was possible to find the equatorial and ecliptic coordinates of fixed stars and planets. Beruni used the formula of this theorem very effectively in his "Geodesia" and "Kanuni Masudi" (History of Khorezm in new studies - T.: Urganch, Navro'z, 2019. P. 288-289).

One of the main astronomical works of Ibn Iraq is considered to be "Shahi Almagest shahi". In addition, he is also the author of manuals written in Arabic. "The book on making a heptagon" is a work created on a geometric basis: "Commentary on Menelaus' Spherica" - a work of the theory of Menelaus about the spherical triangle; "Book of Azimuths" - methods of astronomical views are discussed. Ibn 'Iraq's contribution to mathematics is that he is considered one of the founders of spherical trigonometry, as he made the greatest contribution to spherical geometry. And he proved the theory of spherical sine and flatness for the first time.

Khorezmshah Abul Abbas dedicated to Mamun "Kitab fi kuriya as-sama" ("The book about the shape of the sky as a sphere"), "Risola filhalli shubhaten arazat fil-maqalat as-solis ashara min kitabal-usul" (in the thirteenth article of the book "Fundamentals" treatise on solving the doubt given by him), "Risala fi sana al-usturlab bit-tariq assi na i ila Abi Abdallah Muhammad ibn Ali al-Mamun" ("A treatise sent to Abu Abdullah Muhammad ibn Ali al-Mamun on making the usturlab using the method of art") wrote works such as The world-renowned scientist Abu Nasr Iraq's contribution to world science was highly appreciated by such scientists as Paul Luke (Germany), E. Kennedy (USA), Yu. Samso (Spain), K. Jensen (Holland). His "Treatise with Answers to Questions on Geometry" was translated into German and published by G. Züter in 1910.

The scientific institution formed in Khorezm in the 11th century and later named Ma'mun Academy soon became a major center of knowledge in Central Asia. The traditions of this scientific center are inextricably linked with the scientific and cultural center of Khorezm and Kot Udums during the African period. It is known that Kot was the ancient capital of Khorezm, where a group of scholars had traditionally gathered. The most famous figure among them is Abu Nasr ibn Iraq, who achieved high achievements in the field of exact sciences, published a number of scientific treatises, and at the same time, he was a teacher who cultivated a great scholar like Beruni. Ibn Iraq proved the theorem of sines for planar and spherical triangles in his work entitled "Spherica". After that, it became possible to solve all the problems of spherical astronomy and astronomy in general before the invention of telescopes. Beruni was the only potential student of Ibn Iraq who fully mastered these achievements and traditions.

Abu Rayhan Beruni's place in Khorezm Ma'mun Academy is also incomparable. He was not limited only to the sciences he learned from his teacher, but also engaged in many other fields of science of that time.

Among them, the history of ancient peoples, religion, and the issue of scientific relations between them took an important place. Indian history, ethnography, and religion also played an important role in his scientific work. The formation and development of Khorezm Ma'mun Academy is inextricably linked with the life and work of the great encyclopedist Abu Rayhan Beruni. Along with Beruni, mature scientists such as Ibn Iraq, As-Saalibi, Ibn Miskovayh, Abu-l-Khair Hammar, Abu Sahl Mashihi, Ibn Sina worked effectively in this scientific institution.

So, for more than a thousand years, the traditions of teacher-studentship between teacher Abu Nasr ibn Iraq and student Abu Rayhan Beruni have been imprinted in history. If these noble traditions are observed in the current period, if lessons are learned from this lesson and relevant conclusions are drawn, the processes of spiritual growth in our society will be accelerated. In the new Uzbekistan, the weight of world scientists such as Abu Nasr ibn Iraq and Abu Rayhan Beruni will increase even more.

List of used literature:

Саидов, Н. В. (2019). Значение гражданской авиации в современной России. *Актуальные проблемы авиации и космонавтики*, *3*, 559-561.

Тухтабаев, А. (2023). ЎзССРда тиббиёт авиацияси тарихи. Общество и инновации, 4(6/S), 117-120.

Тухтабаев, А. Ш. (2023). История Воздушного Сообщения В Центральной Азии. CENTRAL ASIAN JOURNAL OF SOCIAL SCIENCES AND HISTORY, 4(6), 132-135.

Тўхтабаев, А. Ш. (2020). ҲАВО ТРАНСПОРТИ ТАРИХИ. Интернаука, (22-3), 46-47.

Ravshanova, M. (2021). Transformation of the modern national identity of the peoples of Japan and Uzbekistan. Asian Journal of Multidimensional Research (AJMR), 10(3), 491-494.

RAVSHANOVA, M. PROBLEM OF THE CONCEPT OF PERSONALITY AND PERSON IN JAPANESE CULTURE. UNIVERSITETI XABARLARI, 2019,[1/1] ISSN 2181-7324.

Bekmirzayev, A., & Omonova, M. (2023). ZAMONAVIY INSONIYATNING MADANIY XILMA XILLIGI VA FALSAFANING INTEGRATSION VAZIFASI. Models and methods in modern science, 2(6), 143-146.

Omonova, M. (2023). THE PROBLEM OF EXISTENTIALISM IN JAPANESE PHILOSOPHY. Solution of social problems in management and economy, 2(5), 84-88.

Омонова, М. М. К. (2023). ПАРАДИГМА НАЦИОНАЛЬНОЙ ИДЕНТИЧНОСТИ НАРОДОВ ЯПОНИИ И УЗБЕКИСТАНА (ФИЛОСОФСКО-КОМПАРАТИВНЫЙ АНАЛИЗ). Oriental renaissance: Innovative, educational, natural and social sciences, 3(3), 967-980.

Равшанова, М. М. К. (2022). ФИЛОСОФСКИЙ АНАЛИЗ МЕЖКУЛЬТУРНОЙ КОММУНИКАЦИ: ЯПОНИЯ И УЗБЕКИСТАН. Oriental renaissance: Innovative, educational, natural and social sciences, 2(5), 827-833.

Абсаламова, Г. (2021). Bolalar tarbiyasi haqida. Общество и инновации, 2(5/S), 390-402.

Absalamova, G. (2021). FRANSUZ MUTAFAKKIRI MICHEL DE MONTEN FARZAND TARBIYASI XUSUSIDA: FRANSUZ MUTAFAKKIRI MICHEL DE MONTEN FARZAND TARBIYASI XUSUSIDA. Журнал иностранных языков и лингвистики, 4(9).

Sharifovna, A. G. (2022). Views of french renaissance thinkers on child upbringing. Asian Journal of Research in Social Sciences and Humanities, 12(5), 386-390.

Собирова, Э. А., & Мухсинова, М. Х. (2020). СОВРЕМЕННЫЕ МЕТОДЫ ДИАГНОСТИКИ РЕАКТИВНОГО АРТРИТА У ДЕТЕЙ. In НАУКА И ТЕХНИКА. МИРОВЫЕ ИССЛЕДОВАНИЯ (pp. 219-222).

MUKHSINOVA, M., Ortikov, U. U., Khudjaeva, F. S., Abduvokhidov, J. Z., & Abdurazakova, Z. K. EURASIAN BULLETIN OF PEDIATRICS. EURASIAN BULLETIN OF PEDIATRICS Учредители: Ташкентский педиатрический медицинский институт, Санкт-Петербургский государственный педиатрический медицинский университет, (3), 98-105.

Eshonkulov, U. K. O. G. L., Shukurov, A. Y., Kayumov, O. A. O. G. L., & Umirzoqov, A. A. (2021). STUDY OF THE MATERIAL COMPOSITION OF TITANIUM-MAGNETIC ORE OF THE TEBINBULAK DEPOSIT. Scientific progress, 2(7), 423-428.

Umirzoqov, A. (2020). Justification of rational parameters of transshipment points from automobile conveyor to railway transport. Scienceweb academic papers collection.

Eshonqulov, U. K. O. G. L., Umirzoqov, A. A., Khodjakulov, A. M., & Quziyev, H. J. (2021). DEVELOPMENT OF A TECHNOLOGICAL SCHEME OF SAMPLE ENRICHMENT TITANIUM-MAGNETIC ORE OF THE TEBINBULAK DEPOSIT. Scientific progress, 2(7), 407-413.

Umirzoqov, A. (2020). Using Intermediate Buffer Temporary Warehouses Inside the Working Area of the Gold Mining Quarry. Scienceweb academic papers collection.

Umirzoqov, A. (2020). Justification of the Need for Selective Development of the Phosphorite Reservoir by Horizontal Milling Combines. International Journal of Engineering and Information Systems (IJEAIS).

Nasirov, U., Umirzoqov, A., & Fathiddinov, A. (2021). ANALYSIS OF THE MODERN DEVELOPMENT OF MINING AND PROCESSING COMPLEXES IN UZBEKISTAN. 36ipHrn наукових праць ЛОГОХ.

Umirzoqov, A. A. (2021). SMALL-SCALE QUARRY TRANSPORTATION SYSTEM. Scientific progress, 2(5), 492-497.

Umirzoqov, A. (2020). Development and Implementation of Technical Solutions Aimed at Increasing the Performance of the DTC Complex. Scienceweb academic papers collection.

Umirzoqov, A. (2020). On the Results of Research on the Causes of Abnormally High Reservoir Pressures in the Fields of the South-Eastern Part of the Bukhara-Khiva Region. Scienceweb academic papers collection.

Umirzoqov, A. (2020). Justification of the Need for Selective Development of the Phosphorite Reservoir by Horizontal Milling Combines. International Journal of Engineering and Information Systems (IJEAIS).

Umirzoqov, A. (2020). Calculation of the Optimal Distance Between Parallel-Converged Charges When Exploding High Ledges. Scienceweb academic papers collection.

Umirzoqov, A. (2020). Analysis of the Improving Dynamic Craft and Small-Scale Deposits. Scienceweb academic papers collection.

Umirzoqov, A. (2020). Development and Implementation of Technical Solutions Aimed at Increasing the Performance of the DTC Complex. Scienceweb academic papers collection.

Djurayevich, K. K., Kxudoynazar O'g'li, E. U., Sirozhevich, A. T., & Abdurashidovich, U. A. (2020). Complex Processing Of Lead-Containing Technogenic Waste From Mining And Metallurgical Industries In The Urals. The American Journal of Engineering and Technology, 2(09), 102-108.

Abdurashidovich, U. A. How to Develop Economic and Mathematical Modeling of Rational Progress of Small and Artificial Gold Deposits. 56. Abdurashidovich, UA Special Issue On Environmental Management In The Small-Scale Mining Industry, 57.

Umirzoqov, A. (2020). The Analysis Of Influence Of Productions Of Open Mountain Works On Environment At Formation Of Various Zones On Deep Open-Cast Mines. Scienceweb academic papers collection.

Umirzoqov, A. (2020). As A Road to Sustainability in Small Scale Mining. International Journal of Engineering and Information Systems (IJEAIS).