

Millenary of  
Abū Raihān Muhammad Ibn Ahmad Al-Birūni

AL-BIRUNI AS AN ASTROLOGER

by

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The 11th century has been described as the golden time of Muslim  
Culture and as the climax of mediaeval thought, because it is in this  
century that the establishment of the orthodox faith opened a new era  
of independent research and investigation.

Al-Biruni is considered as one of the most outstanding figures of this  
century, so much so that George Sarton in his "Introduction to the  
History of Science" styles the first-half of this century the "Time of  
Al-Biruni". He further comments: "He was one of the greatest scientists  
of Islam, and all considered, one of the greatest of all times".

Al-Biruni must rank high in any list of the world's great scholars and  
scientists. No history of mathematics, astrology, astronomy, geography,  
anthropology, or religion is complete without the acknowledgement of his  
immense contribution. He summed up the ancient lore of knowledge, in sci-  
ence, philosophy and literature, possessed at that time by the Arabs, the  
Iranians, the Greeks, the Jews, the Indians and other nations including the  
Egyptians. There is much of modern spirit and method of critical study  
and research in him. He is considered to be a phenomenon in the annals  
of Eastern learning and literature.

Some 1,000 years ago he came up with new revolutionary theories in Astronomy, Mathematics, Chronology, Physics, Medicine, History and Geography that continue, in many instances, to hold good even today. Among his theories were that the earth rotates on its axis. He correctly calculated longitude and latitude. And he determined with a spectacular degree of accuracy the specific weights of 18 precious stones and metals.

Abu Rayhan Muhammad ibn Ahmad al-Biruni was born in a suburb of Khwarazm (modern Khiva) on Zul-Hijja 3, A.H. 362 (Sept., 4, A.D. 973).

Khiva is now the capital of the Uzbekistan Republic of the U.S.S.R.

The first part of Al-Biruni's life was spent in Khwarazm, and it was here that he learnt the "atural Sciences. After his studies, he was attached to the court of Prince Mam'un b. Mam'un in Khwarazm, where he was held in high esteem on account of his learning. But at this time, unfavourable political changes compelled him to leave his native land and migrate to Gurgan, where he was equally well treated. Here he embarked upon a career of writing and in A.D. 1000 completed his celebrated book "Al-Athar'l-Baqia", the Chronology of Nations. This book was dedicated to Qabus b. Washmgir, the ruler of Gurgan. From here, he again repaired to Khwarazm near about A.H. 400. By this time, he had won his reputation as a great scholar and was appointed, in his native country, a Councillor at the court of Prince Mam'un. His extraordinary qualities of head and heart made him eminently competent for the high office in the State that he occupied. In Khwarazm he wrote another book Chronicle of Khwarazm in which he

described the traditions relating to the antiquity of his native country and the events of which he had himself been a witness. After a few years' stay here, he went to Ghazna on the invitation of Sultan Mahmud in the spring of A.H. 408. He often accompanied Sultan Mahmud on expeditions to India. Here he learnt Sanskrit and studied religions and sciences of the people of India. His book "Kitab-ul-Hind" in Arabic deals with the religious beliefs of the Hindus and their morals.

In A.D. 1031 Mas'ud son of Sultan Mahmud succeeded to the throne. To Mas'ud, he dedicated his greatest work al-Qanun al-Mas'udi. He received a pension which enabled him to devote the rest of his life to literary works and scientific studies. It is said that Mas'ud sent him an elephant-load of silver coins for writing al-Qanun, but he returned it to the treasury.

As a writer, his industry equalled his learning. During his 65 years, according to a list that he prepared, he authored over a hundred books. The list as included by Sachau in the German Introduction to his edition of al-Athar'l-Baqia, comprises:

1-Geometry, Astronomy, etc-	18 works
2-Geography	15 "
3-Arithmetic	8 "
4-Light	4 "
5-The Astrolabe	5 "
6-Times and Seasons	5 "
7-Comets	5 "
8-Stations of the Moon	12 "

described the traditions relating to the antiquity of his native

9-Astrology-----7 works

10-Persian and other tales-----13 "

11-Religion-----6 "

12-Books of which the author retained no copy-----5 "

13-Unfinished books-----10 "

Total-----113 "

and sciences of the people of India. His book "Kitab-ul-Hind" in

Al-Biruni was one of the greatest astronomers of Islam. He wrote two books on Astronomy. "Kitab-al-Tafhim fi Sinaati't-TaMjim (Explanation of the Science of Astronomy) was written in A.D. 1029 at Ghazna and was dedicated to Rehana, daughter of Husain Khwarazmi. Originally it was in Arabic, but the author later translated it into Persian. It may be regarded as a primer of 11th century science. Apart from discussions on geometry and astronomy and the use of the astrolabe, it treats geography and chronology also.

"Qanun-i-Mas'udi", dedicated to Sultan Mas'ud was his second book.

This book sums up the knowledge in Astronomy and Mathematics possessed at that time. For centuries it continued to occupy an important position as the standard book of reference in the Eastern seats of learning. It

has also been recognised in the West.

Al-Biruni says, in the first chapter of his "Explanation of the Science of Astronomy" (Kitab-al-Tafhim fi Sinaat't-Tanjim): "A man does not merit the title of Astronomer until he has attained proficiency in four sciences; viz., First, Geometry; Secondly, Arithmetic; Thirdly, Cosmography; and Fourthly, Judicial Astrology." He was proficient in all these four. Nizami Aruzi Samarqandi in his "Chahar Maqala" ("Four Discourses") has narrated an interesting story regarding his proficiency in Astronomy.

He states: "It is related that once when Yamin-ud-Dawla Sultan Mahmud ibn Nasir-ud-Din Subuktigin was sitting on the roof of a four-doored summer-house in Ghazna, in the garden of a Thousand Trees, he turned towards Abu Rayhan and said, "By which of these four doors shall I go out?" (for all four were practicable). "Decide and write the decision on a piece

of paper, and put it under my quilt." Abu Rayhan called for an astrolabe, took the altitude, determined the Ascendant, reflected for a while, and then wrote down his decision on a piece of paper. Mahmud bade his men bring a navvy with pick-axe and spade, and in the wall which was on the eastern side they dug out a fifth door, through which he went out. Then he bade them bring the paper. So they brought it, and on it Abu Rayhan had written, "He will go out through none of these four doors, but they will dig a fifth door in the eastern wall, by which door he will go forth." Mahmud, on reading this, was furious, and bade them cast Abu Rayhan down in the midst of the palace, and so they did. Now there was stretched a net from the middle floor, and on it Abu Rayhan fell. The net snapped, and he subsided gently to the ground, so that he received no injury. Mahmud again asked him, "O Abu Rayhan, at all events you did not know about this event " "I knew it, Sir, answered he. Said Mahmud, "Where is the proof?" So Abu Rayhan sent for his Almanac and produced the prognostications out of the Almanac; and amongst the predictions of that day was written: "To-day they will cast me down from a high place, but I shall reach the earth in safety, and arise sound in body."

All this was not according to Mahmud's liking. He waxed still angrier, and ordered Abu Rayhan to be detained in the citadel. So Abu Rayhan was confined in the citadel of Ghazna, where he remained for six months.

It is said that during his six months' incarceration none dared speak to Mahmud about Abu Rayhan. Ultimately on the intercession of his Prime Minister Ahmad ibn Hasan of Maymand, who was for six months seeking an opportunity to say a word on behalf of Abu Rayhan, he was released and honoured by the King.

