JOURNEY OF IDEAS:
INTRODUCTION CHAPTER 4

THE LONG WAY TO BAGHDAD: GATHERING AND TRANSLATING KNOWLEDGE
Until the 4th Century CE the Greek astronomers from Alexandria had already made huge steps in the development of astronomy as a science, separating it from the practical uses (agriculture, trade, navigation) or religious practices. They started to map the night sky by measuring the positions and brightness of all visible stars, estimated the perimeter of the Earth and developed astronomical instruments to make their measurements (see chapter 3).

When Greece was conquered by the Romans, the latter showed little interest in following the scientific tradition initiated by the Greek astronomers. And once Christianity became the official religion of the Roman Empire in the 4th Century CE, the Emperor Justinian I ordered to close all Greek schools and banned all ancient pagan texts by an edict of the year 528. At the same time a small Christian sect called the Nestorians was condemned as heretical due to their belief in the distinction between the human and divine natures of Jesus. Their members fled to the East and settled down in the Sasanian Empire in Persia (today’s Iran), where they founded the Church of the East. The Nestorians, who were incredibly open to science, took with them the most precious books of the Greek astronomers. They were the first to initiate the journey of the astronomical ideas to the East! The Greek legacy was received with eager by the Persian astronomers, who themselves had a long tradition of observing the sky.

After the Islamic expansion and the fall of the Persian Empire in the 7th Century CE, the Nestorian scholars made great contributions to the Islamic civilisation by translating the ancient Greek and Hindi philosophic and scientific works into Arabic.

![Figure 1. Nestorians observing the sky in Persia](credit: Dschingis Khan und seine Erben (exhibition catalogue), München 2005, p. 268)

At the same speed in which the Islamic empire spread from the Arabian Peninsula to the East as well as to the West extending over Egypt, whole North Africa and the Iberian Peninsula, knowledge in the fields of medicine, mathematics, physics, astronomy and engineering also spread. Arabic became the language of science, the huge empire turned into a connected corridor to develop, exchange and communicate knowledge.

**Baghdad during the Abbasid Dynasty (750–1258)**

The main bulk of translating the work of the Greek philosophers and astronomers into Arabic took place in Baghdad (today’s Iraq). This city was founded by the caliph Al-Mansur in 762 during the Abbasid dynasty. Within a few years this city became the largest city in the world. More than 1.5 million people lived there! During the same time present-day cities like London and Paris were only very small towns.
Figure 2. Due to the scientific activity, Baghdad became the cradle of the Islamic Golden ages. This period lasted from the 8th to 14th Century AD. (Credit: Wikipedia)

The city of Baghdad was designed as a circle approximately 2 km in diameter, which is why it was called the "Round City". It had a ring of residential and commercial houses along the inside of the city walls, and another one inside the first. Within the city there were many hospitals, parks, gardens, villas, and promenades. In the middle of Baghdad was the Golden Gate Palace. The Palace was the residence of the caliph and his family.

The four surrounding walls of Baghdad were named Basra, Kufa, Khurasa and Syria, named this way because their gates pointed in the directions of these destinations. Each gate had doors that were made of iron, which were so heavy that several men combined had to open and close them. A canal brought fresh water into the city both for human consumption and for the manufacturing of the bricks.

The House of Wisdom (بيت الحكمة; Bayt al-Hikma)
The Abbasid dynasty had a strong Persian influence and adopted many practices from the Sassanian Persian Empire, among which was the translation of foreign works. However, during the Abassid dynasty these were translated into Arabic. For this purpose, al-Mansur founded a palace library which later evolved into the House of Wisdom, which became a major intellectual center during the Islamic Golden Age. Al-Mansur invited delegations of scholars from India and other places to come to Baghdad to share their knowledge of mathematics and astronomy. Many foreign works were translated into Arabic from Greek, Chinese, Sanskrit, Persian and Syriac.
The bulk of translation work of the Greek, Indian, and Persian philosophers and astronomers into Arabic took place in the House of Wisdom in Baghdad. All over the Islamic world the interest of astronomers was triggered to explore the sky as a science on its own and not only for applications in religion or agriculture. Following his predecessors, al-Mansur sent expeditions of scholars from the House of Wisdom to collect texts from foreign lands. One of the directors of the House was sent to Constantinople with this purpose. Al-Mansur was personally involved in the daily life of the House of Wisdom, regularly visiting its scholars and inquiring about their activities. He would also participate in academic debates.

The House of Wisdom was much more than an academic center. Its experts served several functions in Baghdad. Scholars from the Bayt al-Hikma usually worked as engineers and architects in major construction projects. Some became medics at the hospitals of the city.

**THE MOON CALENDAR**

One of the most important calendars used by the Muslims is the Moon calendar. Important religious festivities were fixed according to this calendar from the very beginning. After translating Aristotle’s texts, the scholars in the House of Wisdom started to observe the Moon in another way and learned from Aristotle why the Moon changes its shape and how to demonstrate it.