

# Kaaba: An Axis Mundi in the Arabian Peninsula

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The Kaaba, Islam's most sacred building, was a significant sacred temple for the pre-Islamic tribes of the Arabian Peninsula where polytheism was the dominant belief system.<sup>1</sup> In this paper, the author analyses the related historical reports, rituals, and physical evidence to understand the mythological and astrological symbolism of this structure. In bringing together information from architecture, religious scripts, astronomy, and mythology, this study blurs disciplinary boundaries in its attempt to uncover the original mythological and cosmological meanings of the architecture of the holiest structure in Islam.

There are many references between the Kaaba and astronomic phenomena. Islamic tradition holds that the Black Stone, which is currently placed in corner of Kaaba, had first fallen from heaven as a guide for Adam and Eve to build the first house of worship<sup>2</sup>, and then when Abraham and his son rebuilt the temple.<sup>3</sup> Therefore, the Black Stone has often been described as a meteorite<sup>4</sup> or otherwise a pseudometeorite. There are also other stories about the Kaaba that may be referring to meteorites or meteor showers.

The pagan Arabs' pilgrimage to Mecca, called Hajj, was adopted by Muhammad after making some reforms.<sup>5</sup> This tradition is one of the five pillars of the Islamic faith. The rites of Hajj include Walking around Kaaba in seven circuits; running or walking seven times between the hills of Safa and Marwa; throwing seven stones at three pillars that represent Satan; and animal sacrifice. In Hajj, the circumambulation starts from the corner of Kaaba marked by the Black Stone (figure 1). The first three rounds of this movement should be performed faster, and the remaining four rounds should be slower. The author believes this reflects the planetary order (the Moon, Mercury, Venus, the Sun, Mars, Jupiter, and Saturn). The order of the seven planets is defined by the length of their cycles, thus the Sun is placed in the fourth level of the planetary order (figure 2).

Islamic sources mention that there were 360 idols (or sacred objects) around the Kaaba before the rise of Islam.<sup>6</sup> Although we have no further records of the lost 360 objects that existed around the Kaaba and their possible astronomic arrangement in the site, the reported number relates to the number of the days in a solar cycle and is another piece of evidence that the Kaaba and its pre-Islamic pantheon of gods had other strong ties with the Sun. The Quran also indicates the worship of stars in pre-Islamic Mecca.<sup>7</sup> While Allah was accepted as the supreme deity in the pagan pantheon of pre-Islamic Arabia,<sup>8</sup> Meccans and their neighbors believed that the

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<sup>1</sup> Jonathan P. Berkey. *The Formation of Islam: Religion and Society in the Near East, 600-1800* (Cambridge: Cambridge University Press, 2003):42

<sup>2</sup> Martin Lings. *Muhammad: His Life Based on the Earliest Sources* (London: Allen and Unwin, 1983)

<sup>3</sup> Cyril Glasse. *New Encyclopedia of Islam* (Rowman Altamira, 2001):245

<sup>4</sup> John G. Burke. *Cosmic Debris: Meteorites in History* (Berkeley: University of California Press, 1991):221-23

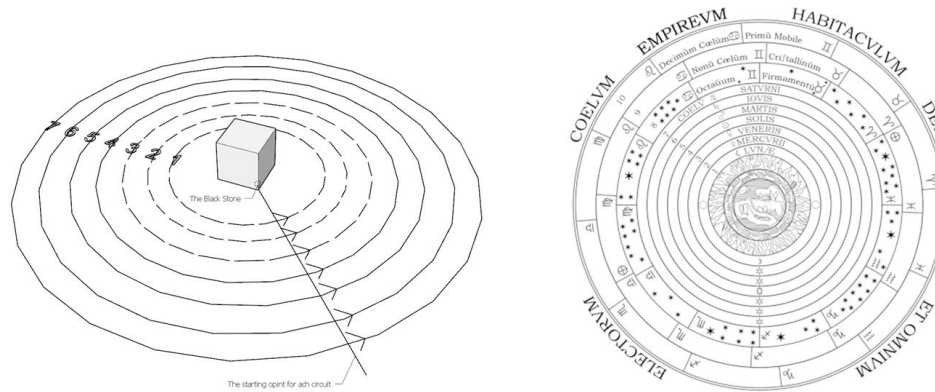
<sup>5</sup> Francis E. Peters. *Muhammad and the origins of Islam* (Boulder: NetLibrary, 1999):96

<sup>6</sup> Al-Bukhari, Book 59, Hadith 583

<sup>7</sup> Quran 6:76-78

<sup>8</sup> Juan E. Campo (, ed.), "Allah." *Encyclopaedia of Islam* (New York: Checkmark Books, 2009)

goddesses Lāt, 'Uzzá, and Manāt were the daughters of Allah.<sup>9</sup> Modern scholars have frequently associated the names of these Arabian goddesses with cults devoted to celestial bodies, particularly Venus.<sup>10</sup>



**Figure 1 (left):** The seven circuits of Tawaf starting from the corner marked by the Black Stone. The first three rounds of this movement should be performed faster.

**Figure 2 (right):** A digital reproduction of Peter Apian's diagram of the celestial orbs from his 1539 work *Cosmographia* showing the geocentric understanding of the universe.<sup>11</sup>

There is another important Islamic narrative about the unique cosmological attributes of the Kaaba. Ibn-Rustah, a 10th-century Persian explorer, quotes from early Islamic narratives that the Kaaba is built right under a celestial house called Bayt-Al-Ma'mur, in such a way that if a stone falls from that house it falls right on the Kaaba.<sup>12</sup> According to other sources, Beyt-al-Ma'mur is located in the fourth layer of the sky<sup>13</sup> which belongs to the Sun. Mecca is almost located in the tropic of Cancer<sup>14</sup> (figure 3) a latitude where the Sun reaches the zenith at the time of the summer solstice noon (figure 4). Beyt-al-Ma'mur could be a direct reference to a phenomenon called the zenith passage of the Sun at summer solstice noon,<sup>15</sup> which is an important astronomical phenomenon among several ancient cultures. The original building of the Kaaba is reported to have only four walls with no roof.<sup>16</sup> During the zenith passage, the walls of the Kaaba cast no shadows inside or outside the building, and one can imagine that the Kaaba is located right under the celestial seat of the Sun, where it reaches the zenith right in the summer solstice noon.

<sup>9</sup> Jonathan P. Berkey: 42

<sup>10</sup> G.R. Hawting. *The Idea of Idolatry and the Emergence of Islam: From Polemic to History* (Cambridge: Cambridge University Press, 2006):142

<sup>11</sup> Source: Creative Commons: [https://commons.wikimedia.org/wiki/File:Ptolemaic\\_System\\_-\\_Digital\\_Reproduction.png](https://commons.wikimedia.org/wiki/File:Ptolemaic_System_-_Digital_Reproduction.png)

<sup>12</sup> Ibn-Rustah. "Kitāb al-a'laq al-nafisa" *Bibliotheca geographorum Arabicorum*. Vol 7 (Leiden: Brill, 2013): 24

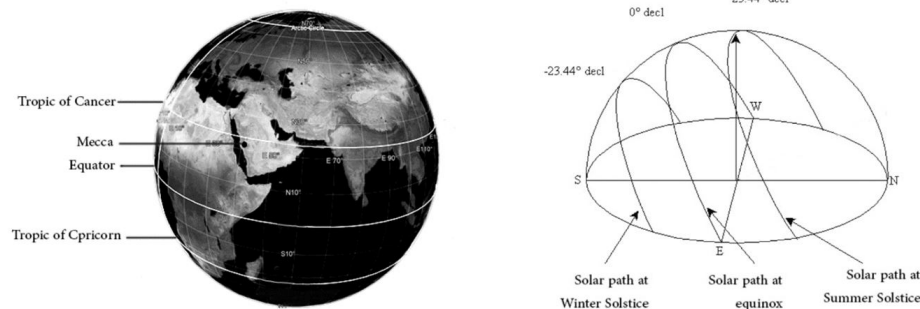
<sup>13</sup> Mohammad Hossein Tabatabai. *al-mizan fi tafsir al-quran*. Vol. 19 (Qom: Bita):8

<sup>14</sup> We know that the latitude of Mecca is 21°25'21"N, which is only 2 degrees south of the Tropic of Cancer (23°26'14"N), and almost no other ancient settlements in the Arabian peninsula are closer to the Tropic of Cancer than Mecca.

<sup>15</sup> Reza Moradi-Ghiasabadi. "peyvand-hayi kabe ba khorshid va khane-yi khorshid." *Persian Studies*. Accessed Dec 20, 2018. <http://ghiasabadi.com/kabe.html>

<sup>16</sup> W. M. Thackston (, ed.). *Nāṣer-e Khosraw's book of travels*. (Albany: Bibliotheca Persica, 1986):41

The Kaaba is a good example of an Axis Mundi: a mythological place that connects the earth to the heavens. The Kaaba is a terrestrial counterpart to the celestial seat of the sun as described as Beyt-al-Ma'mur. The Kaaba forms a symbolic axis that connects the human world to the divine and becomes a geographical reference point to which all the rituals should be aligned. Muslims must always face Kaaba during Salat, the mandatory daily prayers, and other religious contexts. The direction towards Mecca where the Kaaba is located is called Qibla. After the geographic expansion of Islam, determination of the direction of the Qibla became one of the central issues for mathematicians and geographers during the Islamic golden age. All mosques need to be oriented towards the Kaaba. In the framework of Islamic rituals, the Sun not only defines the sacred space but also defines the sacred time. A practicing Muslim must perform the daily prayers five times a day and fast during the month of Ramadhan all based on the solar time.



**Figure 3 (left):** Mecca is located 2 degrees south of the Tropic of Cancer.

**Figure 4 (right):** The summer solstice solar path passing through the zenith is shown on a sun path diagram for a location on the Tropic of Cancer.

Arabian people were originally related to a variety of groups with homelands in all directions outside Arabia. They were also in contact with the Byzantine and Persian empires, as well as Christians and Jews in the Arabian Peninsula and Africa, at the time of Muhammad. It is not a surprise that knowledge of the sky could have played a key role in pre-Islamic traditions of the Arabian Peninsula. Although little is still known about this realm in archaeology, we can conclude, on the example of the Kaaba, that the ancient cultures tried to find answers to their existential questions in their immediate relationship with their landscape and the sky above them: the equilibrium between the chaos and the order, mortality and eternity, the terrestrial world and the celestial divine. The sky and the earth have always been dominant factors in myths. Myths open the mind of people living in a particular society to the mysterious dimension of being that cannot be analyzed; they present an image of the cosmos that connects the transcendent to the world of everyday experience, and they present a social order by which people can be coordinated to the mystery of being.

The transformation of myths from their original forms into modern era practices is also important here. The very fundamental function of myth is forgotten in the modern world. This neglect, which has led to the rational and demystified approach toward knowing the universe, is implicitly intrinsic to the western tradition (including Judaism, Christianity, and Islam), with roots in both Greek and Judeo-Christian origins. The Old Testament interpreted archetypal symbols as facts. Since then, God seems to be an individual fact, not a symbol; Heaven is not a concept, but a place. The mythical primordial events, which take place in infinite space-time, become

understood as parts of a linear historical timeline, creating a pseudo-history composed of both historical and mythical events. Religion in the western tradition is based on faith, not a genuine experience of the perception of truth through rituals and symbolism. Although the mythical functions were preserved or spontaneously reappeared in some forms of mysticism in western traditions, they were not justified or accepted inside the structure of these religions.

The Kaaba is an example of a simple geometric structure whose function of defining the sacred space, as well as the sacred orientation, predates Islam and has kept its importance in the course of a long history and we can conclude that imitation of the cosmic order as an archetype has always been an essential part of the spiritual experience of the space-time crystallized in the form of Kaaba.