

---

## Case Study 8.2: The Temple of Amun at Karnak, Egypt

---

### Presentation and analysis of the site

*Geographical position:* The temple of Karnak is located in the northern sector of the city of Luxor, province of Qena, Egypt.

*Location:* Latitude 25° 43' 5" N, longitude 32° 36' 45" E. Elevation 80m above mean sea level.

*General description:* The site is a huge complex comprising no fewer than ten temples, surrounded by a huge temenos wall. The largest and most conspicuous of the temples is that of the god Amun-Re, the most important divinity of the ancient Egyptians from the 12th Dynasty to the Ptolemaic Period and even later.

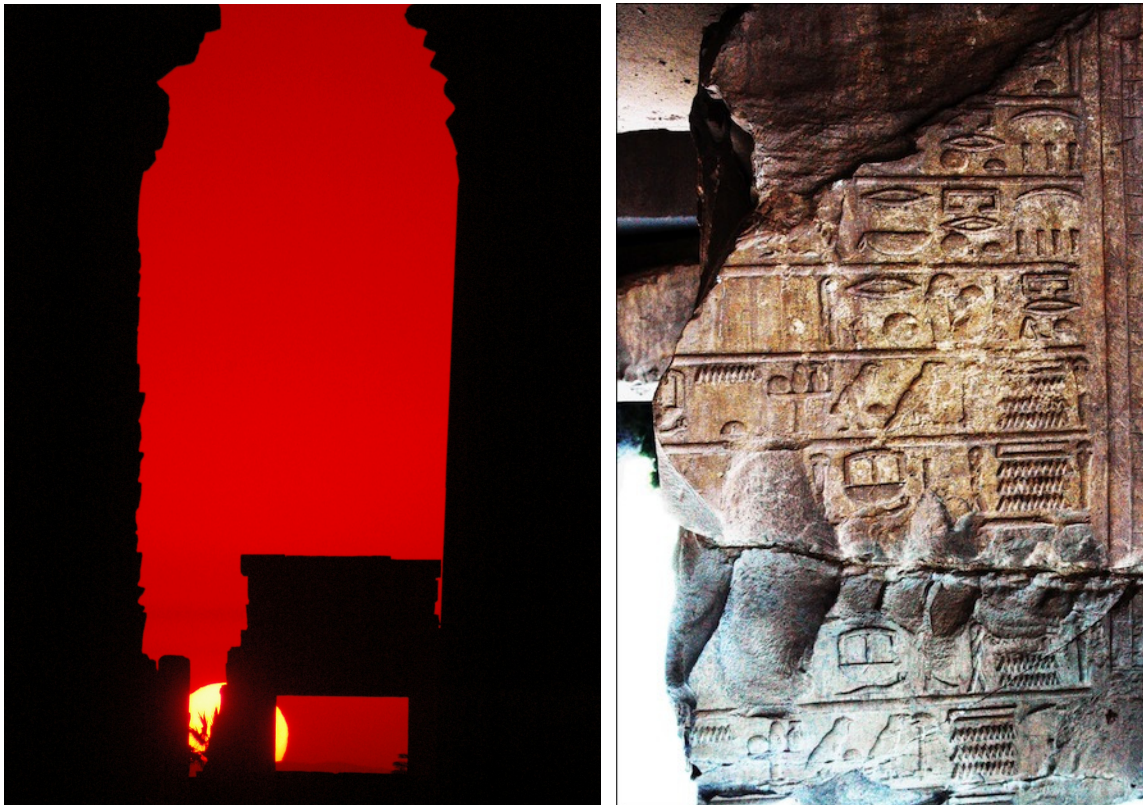
*Inventory of the remains:* The most important temples in relation to astronomy are the temple of Amun itself, the temple of Ra-Horakhty, the temple of Amun-who-hear-the-Prayers, the High-room of the Sun and the temples of Khonsu and Ptah, with their pylons, obelisks, courts, halls and inner chambers. The site includes an open-air museum containing the reconstructed White Chapel of Senuseret I and Red Chapel of Hatshepsut (not on their original sites), as well as some isolated fragments of festival lists dating to earliest periods of the temple. The wall decoration of temples and chapels includes many representations of the stretching of the cord ceremony.

*History of the site:* The first archaeological remains on the site of Karnak are dated to the 11th Dynasty (reign of Intef II, c. 2050 BC). The first temple was erected by Senuseret I a few decades later and the sanctuary was successively enlarged by several kings from the New Kingdom onwards. The site was sacked by the Assyrians during the reign of Taharqa but further constructions were added during the Late and Ptolemaic Periods.

*Cultural and symbolic dimension:* Since the earliest construction by Senuseret I, if not before, the temple was aligned upon winter solstice sunrise. Initially, it may also have been deliberately aligned upon sunrise on New Year's Eve, which coincided with the solstice at the beginning of the Middle Kingdom. The fact that the temple enclosure is located at the only place where the solstitial line is perpendicular to the course of the river suggests that the location was deliberately selected, and that the cosmic symbolism extended to the landscape as a whole. When new temples and chapels were added, these followed the same axis and kept the original orientation, producing hierophanies that reinforced this symbolism, as did various wall texts and decorations.

*Authenticity and integrity:* In common with many Egyptian sites, Karnak has undergone extensive reconstruction and restoration. However, none of this has altered the cosmic symbolism connected with the orientation and location of the original temple and the successive additions, except for the Red and White Chapels, which have been removed from their original contexts.

*Generalities:* The documentation about the temple of Karnak is very extensive. Much has been written about its cosmic symbolism.



**Fig. 8.2.1. Left:** Winter solstice sunrise at Karnak, showing the alignment hierophany as it appears today and the precision of the original alignment in c. 2000 BC, when the winter solstice sun rose about one solar diameter further to the right. **Right:** A feast calendar discovered at the temple of Karnak, one of the other significant astronomical connections apart from the temple alignments. Photographs © Juan Belmonte

## Present site management

*Present use:* Karnak is one of the most important tourist attractions in Egypt, already recognised on the World Heritage List as part of the ensemble of ‘Ancient Thebes with its Necropolis’, listed in 1979 under criteria (i), (iii) and (iv). Hundreds of people visit the site every day and attend the light and sound spectacle offered on site every night. Most of the complex is accessible. The SCA authorities have permitted small New Age groups to hold ceremonies in some of the smaller and more isolated shrines of the complex, such as the temple of Ptah.

*Protection:* The SCA own and administer the site in the name of the Egyptian government. The whole enclosure of Karnak is fenced and protected by various Egyptian security agencies. There is now a large buffer zone in the surroundings with a huge plaza between the temple and the Nile.

*State of conservation:* Karnak is well preserved. The SCA continually undertakes excavations and restoration work in different parts of the huge enclosure.

*Context and environment:* The temple of Karnak was the nucleus of the ancient city of Thebes for many generations. When Thebes was the capital of the country, Karnak was its apex. It is located in the flood plain and its gigantic walls were also effective as protection against the rising waters. The present environment has changed little (although the centre of the new city of Luxor is farther south) and the view is still spectacular from the sanctuary looking west across the river to the Theban hills.

*Archaeological/historical/heritage research:* Egyptian and European missions continue to carry out excavations and restoration work at Karnak, and there is no prospect of an end to such work. Heritage research at the site is mandatory since it forms part of the larger grouping of Ancient Thebes monuments within the existing World Heritage Site. On the other hand, the astronomical alignment of the site is recognised by just a small group of specialists and in this sense the situation is very different from other Egyptian sites such as Abu Simbel.

*Main threats or potential threats to the site:* The water table is the main problem at Karnak, in common with several other Egyptian sites. The foundations of some sectors of the temple, such as the Great Hypostyle Hall, have had to be reinforced with injections of concrete and the accumulation of salts in the stones in the walls may adversely affect the decorations and inscriptions. The Egyptian authorities are well aware of the problem and are working to counteract the potential threats.

*Management:* Karnak follows the general management plan of the World Heritage Site of 'Ancient Thebes with its Necropolis'. It is already a major attraction for mass tourism, without the need of additional outreach or propaganda. Conferences and seminars are regularly held in Luxor where professional scholars of all over the world present their latest discoveries.

---

## Case Study 8.3: The Temple of Hathor at Dandara, Egypt

---

### Presentation and analysis of the site

*Geographical position:* The enclosure of the temple of Dandara is located in the province of Qena, Egypt, close to the city of Qena (capital of the province), in the west bank across the river from the city centre.

*Location:* Latitude 26° 9' 55" N, longitude 32° 39' 23" E. Elevation 75m above mean sea level.

*General description:* The Dandara complex is one of the best-preserved temple enclosures in Egypt. Its huge temenos wall contains two monumental gates enclosing the main temple dedicated to the goddess Hathor, the small temple of Isis, two mammisi and a ruined Coptic church.

*Inventory of the remains:* Two of the buildings at Dandara are important in relation to astronomy: the temple of Isis, orientated (presumably deliberately) upon the rising position of Sopdet (Sirius), one of the celestial manifestations of Isis, and the temple of Hathor. This fact that the latter is oriented astronomically is established by the various stretching-of-the-cord ceremonies and related texts engraved on its walls. The decorations also include various feast calendars, the famous circular Zodiac in the ceiling of a small chapel (a replica, the original now being in the Louvre Museum in Paris) and a second Zodiac on the ceiling of the hypostyle hall.

*History of the site:* The temple at Dandara includes the remains of constructions by Old, Middle and New Kingdom pharaohs. For example, the temple of Isis shows evidence of early foundations with slightly different orientations. However, most of what is seen today is the work of the Ptolemaic rulers and the first Roman emperors. The circular Zodiac apparently dates to the reign of Ptolemy XII or perhaps to that of his daughter Cleopatra VII (c. 50 BC) while the astronomical decorations on the ceiling of the hypostyle hall were apparently created during the reign of Tiberius or even later.