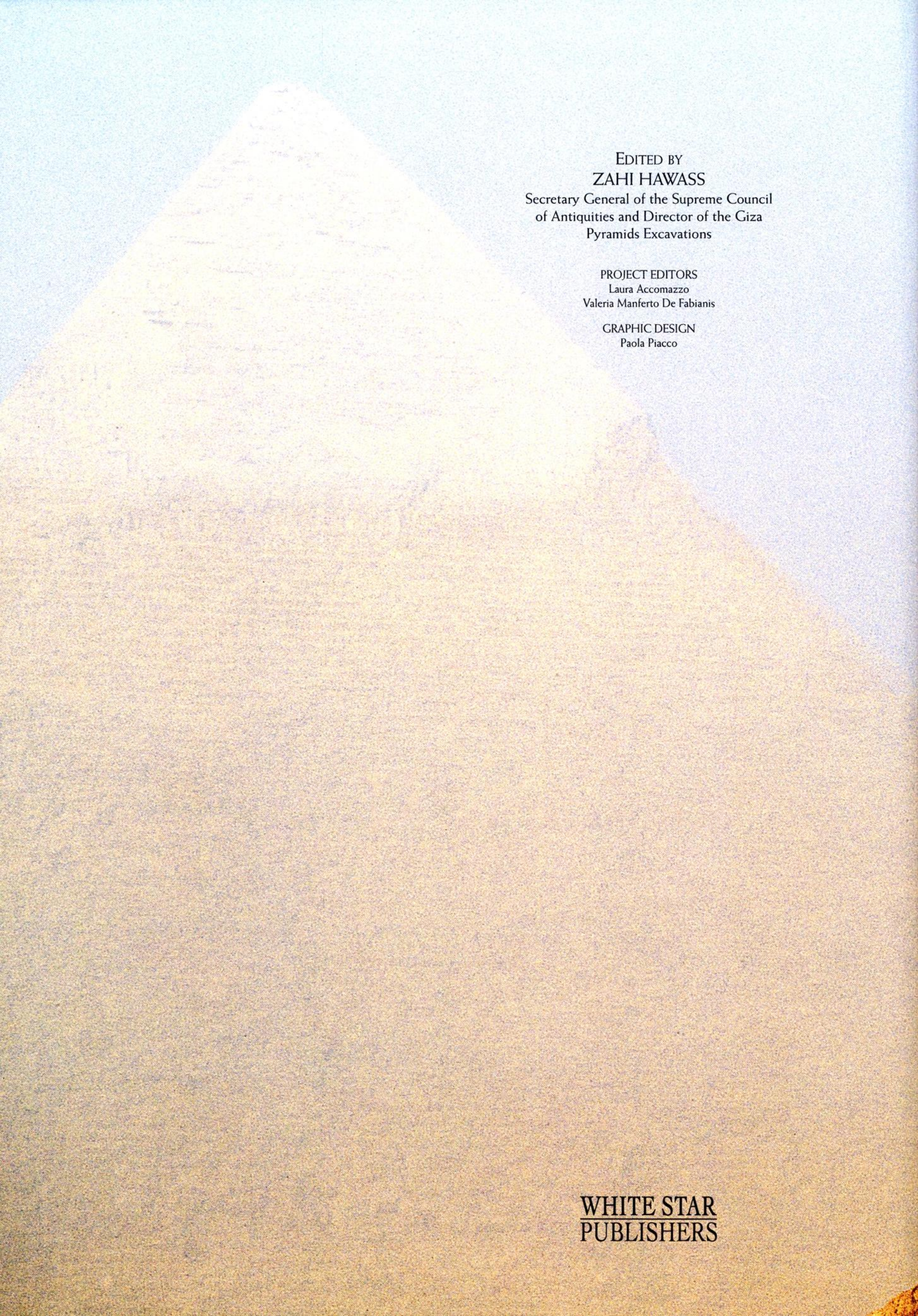


An aerial photograph of the Great Pyramids of Giza in Egypt. The pyramids are constructed from dark, weathered stone blocks, showing significant erosion and some missing sections. The Great Pyramid of Giza is the largest, followed by the Pyramid of Khafre and the Pyramid of Menkaure. In the background, a dense urban area with numerous buildings is visible under a clear blue sky. The foreground shows the desert landscape with some smaller structures and debris.

ZAHÍ HAWASS

# THE TREASURES OF THE PYRAMIDS





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# THE TREASURES OF THE PYRAMIDS







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Scene showing the 'Meidum geese',  
Egyptian Museum Cairo, Old  
Kingdom.

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# The Sphinx

by Mark Lehner

## HOW OLD IS THE SPHINX? WHO BUILT IT AND WHY?

The Sphinx of Giza has inspired a wealth of speculation about its age. Popular writers have proposed that the Sphinx is a remnant of an advanced civilization, mostly lost to archaeology, and that it dates thousands of years older than the Fourth Dynasty pharaoh, Khafre, who built the Second Pyramid at Giza around 2500 BC. Most Egyptologists accept that Khafre had the Sphinx created as part of his pyramid complex; however, recently it has been argued that Khufu built the Sphinx.

The Sphinx is the first truly colossal royal sculpture in ancient Egypt, 72.55 m long and 20.22 m tall. Other larger-than-life-size statues preceded it, but none of them come close to the scale of the Sphinx. The human head is on a scale of about 30:1 and the lion body is of the smaller scale of 22:1. Except for a sphinx head of the pharaoh Djedefre, now in the Louvre, and one small limestone sphinx, both from Abu Rawash, the Giza Sphinx is the earliest complete Sphinx to wear the distinctive royal *nemes* scarf.

The Sphinx is the single instance of colossal sculpture carved in the round directly out of the

natural rock (Ramesses II's colossi at Abu Simbel come close, but they are more high relief than sculpture in the round).

The fabric of the Sphinx, the limestone bedrock of what geologists call the Muqqatam Formation, originated fifty million years ago from sediments deposited at the bottom of sea waters that engulfed northeast Africa in the Middle Eocene period. An embankment formed along what is now the north-northwest side of the plateau. Nummulites packed the embankment. Each of these small, disk-shaped fossils, named after the Latin word for 'coin,' were once the shells of extinct planktonic organisms. They range in size from a lentil to an American quarter or fifty-cent Euro coin. A shoal and coral reef grew over the southern slope of the embankment. As the sea retreated northward, a shallow lagoon formed above what is now the south-southeast part of the plateau. Carbonate mud deposited in the lagoon petrified into the layers from which the ancient builders, fifty million years later, yet 4,500 years before our time, quarried their limestone blocks. They hauled them from quarries dug into the low southern zone, up the slope, to build the pyramids on the northeast-southwest diagonal of the embankment.

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*The Sphinx gazes east. The pleats on the headdress, cosmetic eye and eyebrow bands, mouth, and ear are in original relief. The nose and lower ear are broken, eyes pecked. There is a sharp break under chin where the beard would have extended.*

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*Napoleon's savants measure the Sphinx in 1798. From a sketch by Dominique-Vivant Denon. At the time, sand covered the Sphinx to the top of its back.*





# The Sphinx

The layers that originated as an Eocene lagoon at the bottom of the southeastern slope of the Muqqatam Formation were ideal for quarrying the large blocks that the Fourth Dynasty builders used in the pyramids and temples of Giza. The layers alternated between hard and soft, which allowed the quarrymen to cut the softer clay-like layers and extract the intervening harder layers in blocks of various sizes.

They carved the Sphinx out of the very lowest of these layers in the Muqqatam Formation. They trenched out a deep, U-shaped ditch that isolated a huge rectangular bedrock block for carving the Sphinx. The ditch opens to the east where they had already cut out a broad terrace (Terrace I) from the hard and brittle reef limestone. On the south end of this terrace the builders constructed Khafre's valley temple from huge blocks of limestone weighing many tons. On the north end, immediately below the Sphinx's outstretched paws, they built the Sphinx temple, also from huge limestone blocks that they quarried very nearby.

The bedrock body of the Sphinx became a standing section of the deeper limestone layers of the Giza Plateau (restoration work of the 1980s now conceals much of the bedrock body). The lowest stratum of the Sphinx is the hard brittle rock of the reef (Member I). Since all the geological layers slope about three degrees from northwest to southeast, they are higher at the rump of the Sphinx and lower at the front paws. The surface of Member I has not appreciably weathered compared to the layers above it. Tool marks and small cuttings left by the original Sphinx builders still show in the Member I surface on the floor of the Sphinx and on the north side of the Sphinx ditch.

Most of the Sphinx's lion body and the south wall and the upper part of the ditch were carved in Member II, seven layers that are soft near the bottom, becoming progressively harder near the top, but that generally alternate hard and soft. The head and neck

are composed of Member III. The neck is carved in the base of Member III, softer than the upper part from which the head is sculpted. Member III is good building stone and that is why the ancient Egyptians probably quarried most of it away in the area around the Sphinx. The durability of Member III is also why the details of the face are so well preserved after thousands of years, while the bedrock surface of the lion body has been ravaged by weathering.

The Fourth Dynasty builders seem to have been good geologists in their own right. They carefully reserved the good building stone of Member III for the head, which would be the most vulnerable part of the statue. They accommodated the softer and fissured rock of Member II in the massive lion body. They utilized the solid bed of Member I as the base of their colossal sculpture.

## THE QUARRY CONSTRUCTION SEQUENCE

It is not a new idea that the Fourth Dynasty builders created the Sphinx, Khafre's valley temple, and the Sphinx temple as one continuous project. As early as 1910, when the Sphinx temple was still buried under 15 meters of debris, Uvo Hölscher, the excavator of Khafre's pyramid temples, already perceived that the Sphinx and valley temple were built concurrently. He came to this conclusion from the obvious similarity of the colossal core blocks of Khafre's temple walls to the bedrock layers showing in the upper part of the Sphinx. The limestone blocks formed the cores of the massive walls that the builders sheathed with red granite from Aswan. When the Swiss architect-Egyptologist Herbert Ricke carried out a detailed study of the Sphinx temple between 1967 and 1970, he suggested that the Fourth Dynasty builders worked on it along with the Sphinx and Khafre's valley temple as part of the same quarry and construction process. The limestone core blocks in the Sphinx temple are so big that they can have three

or more geological layers running through them. These layers are very similar to the layers running through the body of the Sphinx.

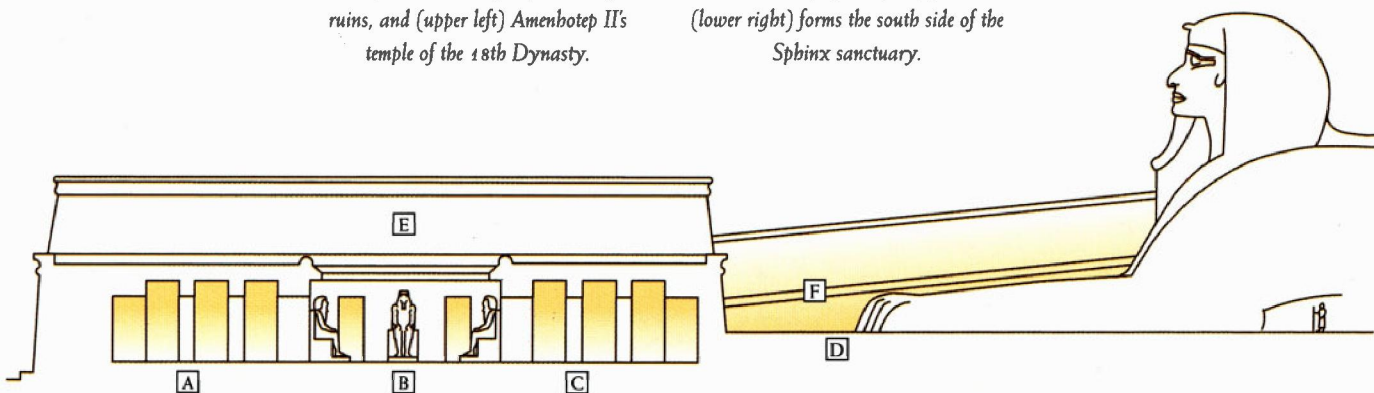
In 1980, Thomas Aigner, a geologist from the University of Tübingen, did a detailed study of the geological layers in the Sphinx, the surrounding ditch, more distant quarries at Giza, and each of the 173 core blocks in the Sphinx temple. As part of the Sphinx Project of the American Research Center in Egypt (ARCE), Aigner noted the qualities of the stone in each layer, including the fossilized life forms. The petrified sea ecology of fifty million years ago includes sponges, oysters, bivalves, urchins, sharks' teeth, and corals in life position. With such geological clues, Aigner's study supports what Hölscher and Ricke suspected.

The Fourth Dynasty builders created the Sphinx, Khafre's valley temple, and the Sphinx temple as a continuous architectural landscaping project (see map). When they quarried out the U-shaped ditch around an elongated block of bedrock from which they carved the Sphinx, they took the stone away in huge blocks that they used to form the cores of the walls of the temples. The builders used the blocks that they quarried from the upper layers of rock, corresponding to those of the Sphinx head and possibly higher, to build Khafre's valley temple. These blocks are less layered and more homogeneous, like the layers at the top of the Sphinx's chest, neck, and head. As they quarried deeper and created the Sphinx ditch, they dragged the blocks directly east to build the Sphinx temple. Most of these stones have a characteristic yellow band running through them, just like the layers around chest and shoulder height on the Sphinx. In fact, the geological layers run continuously through adjacent but separate blocks around much of the temple. As they hauled stone away from the Sphinx quarry and down to Terrace I for making the temple, there was not a lot of opportunity to mix up blocks weighing up to 100 tons!

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The Sphinx sanctuary, Sphinx temple ruins, and (upper left) Amenhotep II's temple of the 18th Dynasty.

The causeway of Khafre's pyramid (lower right) forms the south side of the Sphinx sanctuary.



### RECONSTRUCTED PROFILE OF THE SPHINX AND SPHINX TEMPLE

- A EASTERN SANCTUARY
- B STATUES AROUND OPEN COURT
- C WESTERN SANCTUARY
- D HIGHER TERRACE OF SPHINX
- E TALLER KHAFRE VALLEY TEMPLE TO SOUTH
- F WALLS OF KHAFRE'S CAUSEWAY ALONG SOUTH SIDE OF SPHINX DITCH







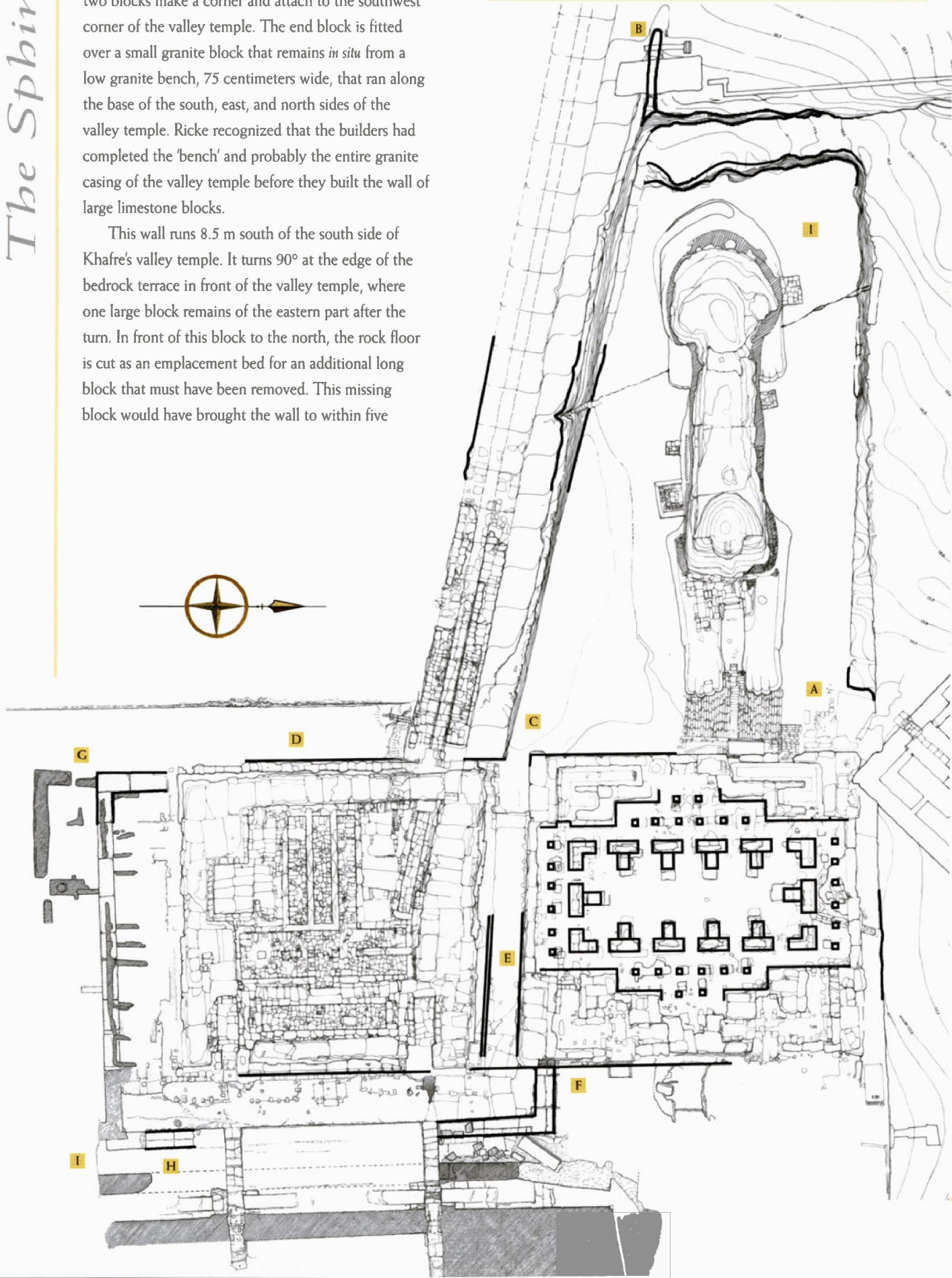
# WHICH CAME FIRST? KHAFRE'S VALLEY TEMPLE OR THE SPHINX TEMPLE?

There is striking and clear evidence that the Fourth Dynasty builders made Khafre's valley temple before the Sphinx temple. In 1970, Herbert Ricke already noted this sequence, by pointing to an early enclosure wall around the valley temple.

A low wall composed of a single course of locally quarried, monolithic limestone blocks runs parallel to the south side of the valley temple. At the western end, two blocks make a corner and attach to the southwest corner of the valley temple. The end block is fitted over a small granite block that remains *in situ* from a low granite bench, 75 centimeters wide, that ran along the base of the south, east, and north sides of the valley temple. Ricke recognized that the builders had completed the 'bench' and probably the entire granite casing of the valley temple before they built the wall of large limestone blocks.

This wall runs 8.5 m south of the south side of Khafre's valley temple. It turns 90° at the edge of the bedrock terrace in front of the valley temple, where one large block remains of the eastern part after the turn. In front of this block to the north, the rock floor is cut as an emplacement bed for an additional long block that must have been removed. This missing block would have brought the wall to within five

MAP OF THE SPHINX, SPHINX TEMPLE, AND KHAFRE VALLEY TEMPLE			
A	QUARRY WORK ABANDONED IN SPHINX DITCH	TEMPLE AND SOUTH WALL OF SPHINX TEMPLE PARALLEL	
B	CHANNEL IN UPPER SOUTH-WEST CORNER OF SPHINX DITCH	F	SPHINX TEMPLE SOUTHEAST CORNER BUILT OVER TRACK OF OLD NORTHERN ENCLOSURE WALL OF VALLEY TEMPLE
C	KHAFRE'S CAUSEWAY FORMS SOUTH SIDE OF SPHINX DITCH	G	SOUTHERN ENCLOSURE WALL OF VALLEY TEMPLE
D	WESTERN SIDES OF KHAFRE'S VALLEY TEMPLE AND SPHINX TEMPLE ALIGN	H	VALLEY TEMPLE ENCLOSURE WALL
E	NORTH WALL OF VALLEY	I	EMPLACEMENT FOR BLOCKS



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The Sphinx sits as guardian at the eastern base of the Giza Necropolis, as part of Khafre's valley temple complex. Pyramids of Khufu (right) and Menkaure (left).





meters of the southern entrance ramp of the valley temple.

In front of the opposite, northeast, corner of the valley temple, the foundation track of a similar wall is sunk into the bedrock. This northern wall also ran parallel to the valley temple and was 8.5 m north of the north wall. Exactly like the wall on the south, the track on the north is close to 2.6 m (five cubits) wide. And just like the wall on the south, the foundation cutting of the wall on the north shows that it turned a corner to run along the front edge of the terrace in front of the valley temple. Like the southern arrangement, the wall on the north stopped five meters from the northern stone entrance ramp. The northern wall also attached to the back end of the temple, six meters east of the northwest corner. As on the south, this connection is marked by a single granite block

remaining of the bench along the base of the valley temple.

The northern and southern walls once formed an enclosure, like two arms, attached to the back western corners of Khafre's valley temple and reached out to enclose the front eastern corners, leaving a wide space for the approach ramps and front terrace. However, the Fourth Dynasty builders removed most of the wall to the north, leaving only its track cut into the rock floor.

They removed the northern enclosure wall of Khafre's valley temple to build the south wall of the Sphinx temple directly over the path. Ricke pointed to one block of the northern enclosure wall still in its track because the builders incorporated it into the core of the southeast corner of the Sphinx temple. This block is very close in size and shape to the blocks of the valley temple's southern enclosure wall.

On top of all the other relationships that tie the Sphinx and Sphinx temple to the final phases of building Khafre's valley complex (see map and list), the path of the missing northern enclosure wall makes it as certain as we can be that Khafre's builders:

- completed Khafre's valley temple with its granite casing;
- built the northern and southern enclosure walls;
- removed the northern wall;
- built the Sphinx Temple where the northern wall had been;
- used huge blocks from the Sphinx quarry for the Sphinx temple walls.

Who made the Sphinx? The facts of the bedrock, the monumental architecture, and the quarry-construction history at the Sphinx precinct point to Khafre as the Sphinx builder.







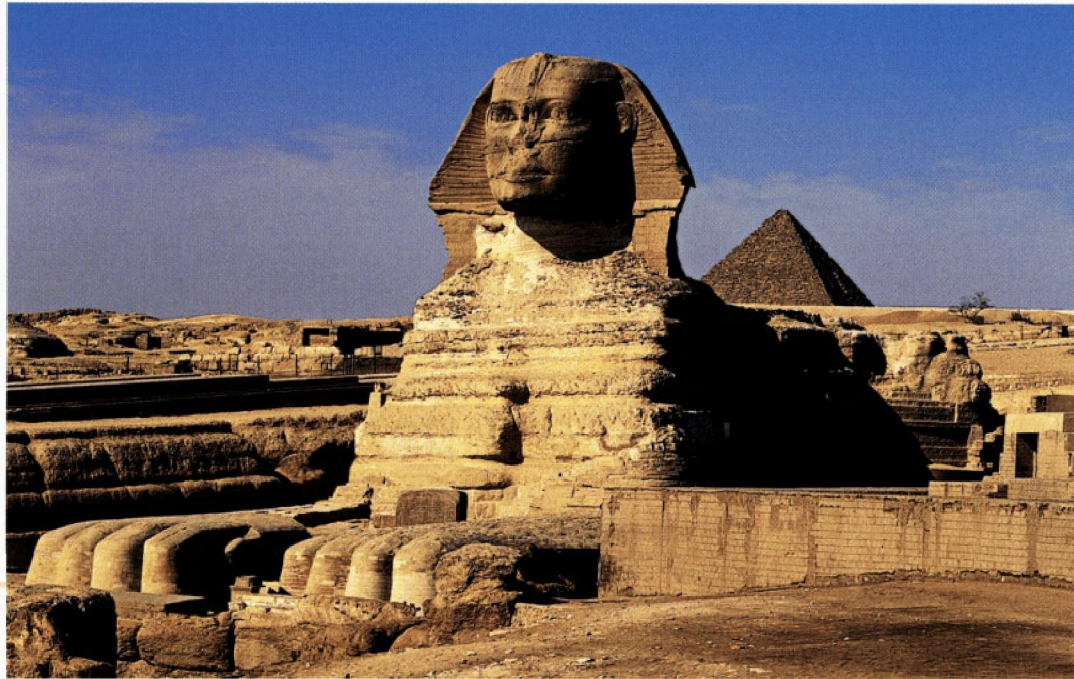
# The Sphinx

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The granite 'Dream Stela' of the 18th Dynasty pharaoh Thutmose IV sits in the Sphinx's embrace. The stela is what remains of a chapel between the paws where kings were ordained by a revitalized Sphinx already more than a millennium old.

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Bedrock layers in alternating hard-soft sequence comprise the Member II stone of the Sphinx's body (before covering by recent restoration work). The head is a harder stone of Member III, with gaps from erosion filled in by 1926 restoration work.



## WHAT DID THE SPHINX MEAN?

By the middle of the Fourth Dynasty, a trend toward gigantic stone architecture had been underway for nearly a century, as expressed by the pyramid superstructure of the royal tomb, the focus of a temple complex designed to merge the king with the power of the sun god. Khafre took the trend toward gigantism further. He began using limestone core blocks weighing hundreds of tons in his temples. His craftsmen fashioned more than fifty-eight, and perhaps as many as one to two hundred, statues of hard stone; twenty-two of these were at least three times life size. The largest statue of all, the Great Sphinx, would remain unique for its size and for the fact that it was hewn directly from the living rock.

Given its immensity, it is surprising that the Sphinx appears suddenly without much precedent. Its form, in better proportions, remained a classic image of kingship down to the close of antiquity. But preceding it, there was no continuum of lion figures that become more human in the face; first the eyes and nose, then the ears, and finally the mane gives way to the *nemes* scarf. Such half-sphinxes exist, but as far as we know, they do not represent a developmental step toward the *nemes*-coiffed Sphinx. Rather, the complete form appears all at once as the Giza Sphinx, even though the detached Djedefre head in the Louvre may suggest that the form had been executed in stone a few years earlier. The Giza Sphinx therefore, may be a prototype. It is an excellent example of the ability of ancient Egyptian designers to come up with new

combinations of 'formal visual culture.'

Its sheer size must have conveyed tremendous importance and, like the gigantic serpent in the ancient Egyptian fantasy, the *Shipwrecked Sailor*, otherworldliness. The fact this earliest super-colossal image of the king was a mixed form, animal and human, is also significant. In mixed forms it is the head that conveys the essential identity, and with the *nemes* scarf, this must be the king. But in its attachment to the lion body there is, as Henry Fischer put it, "a suggestion of shape-shifting, of metamorphosis, that is appropriate to the king who is, uniquely, the link between mankind and the gods, and stands constantly on the threshold of these two worlds."

Alan Gardiner suggested that the Egyptian phrase, *shesep ankb Atum*, 'Living Image of Atum,' which was associated with sphinxes in later times, signified the pharaoh in the form of the primeval sun and creator god. *Shesep ankb* as a word for statue, perhaps of a particular kind, is known from the Old Kingdom. Fischer suggested that it derives from *shesep*, 'to receive.' Fischer goes on to say that a statue is "one who receives" offerings and other ministrations." Both primeval creator and recipient of offerings fit the Great Sphinx and its temple.

Hewn from living rock, the Giza Sphinx is an apt symbol for the god Atum (or the king as Atum), particularly in Atum's aspect of a chthonic creator god. James Allen points out that Atum's name means 'completed one,' and that the entire physical world came forth from Atum as the 'primeval mass.' An obscure notion in the Pyramid Texts, Coffin Texts, and Book of the Dead has it that the lion was

the earliest form to emerge from the primeval mass within the primeval waters. Karol Myśliwiec pointed to an association between the birth of Atum and the lion—that Atum appeared on earth as a lion. The idea is expressed in the association between Atum and Ruti, the double lion god who is somewhat like a cell that has doubled its elements and begun to divide, before the actual split has occurred. The double lion also alludes to Shu and Tefnut, the first differentiation of Atum's being. But Ruti says 'I am the double lion, older than Atum,' so appearing even before the actual birth of the next primordial generation.

We cannot be certain that the Fourth Dynasty Egyptians thought of the Sphinx as an image of Atum. But even if the Sphinx was an image of the king, according to the Pyramid Texts, kingship descended from Atum, through Shu, Geb, and Osiris to Horus, thus the reigning king. The pyramid was more assuredly associated with Atum in Atum's capacity of the primeval mound and the *benben* stone, sacred icon of Heliopolis. So the Sphinx, hewn from the living rock, could have been associated with Atum as the primeval king in lion form, emergent from the formless mass, the royal head rising just above the earthy pit.

It would be perverse to think the Sphinx and the temple immediately in front of it were not connected, especially since they were part of the same quarry-construction sequence. The Sphinx temple suggests a cult that had something to do with the solar cycle, which would include Atum and the sun in its other phases—Khepri, the rising sun; Re, at its zenith; and Atum, its setting.



The Sphinx temple had an open central court surrounded by ten colossal statues of Khafre against piers. The court is an almost exact copy of that in Khafre's pyramid temple, but here there were ten instead of twelve statues. This is yet another link between the Sphinx and Khafre. A covered colonnade whose roof was supported by twenty-four square granite pillars surrounded the court. Two sanctuaries, one on the east and another on the west, aligned on the center axis of the temple at the far back of recessed bays. Herbert Ricke understood the arrangement as symbolic of the sun's circuit, the eastern sanctuary for the rising sun (*Khepri*), the western for the setting sun (*Atum*), with each colonnade pillar symbolizing one of the twenty-four hours of the day and night.

Working at the Sphinx over the seasons, I was intrigued to discover that the east-west axis of the temple aligns, over the Sphinx's shoulder, with the sun's setting point at the south foot of Khafre's pyramid on both the vernal and autumnal equinox. This alignment is yet another element tying the Sphinx to Khafre's pyramid complex. If the temple had been completed, at the equinoxes, the sun would have passed over the western colonnade, across the court and into the eastern sanctuary. As the sun sets (*Atum*), the silhouettes of the Sphinx and Khafre's pyramid merge.

The builders positioned the Sphinx temple on Terrace I, 2.5 m lower than the floor of the Sphinx (Terrace II). This made an altar in the open court, which was paved with white alabaster, ideal for the presentations of offerings as the Sphinx looked down from above the western colonnade. It is impossible to say whether the Sphinx is the sun god *receiving*, or the king as Horus, presenting the offerings. (Some later sphinxes have outstretched hands holding offering jars.)

Surely, the Sphinx relates to an advancement of the royal sun cult in the Fourth Dynasty. It was in the reign of Djedefre, who ruled briefly between Khufu and Khafre, that pharaohs adapted the title, 'Son of Re.' As Horus, the presenter of offerings, the Sphinx might represent a sublimation of kingly power to a higher deity. At the same time, it would be hard for anyone familiar with ancient Egyptian thought not to

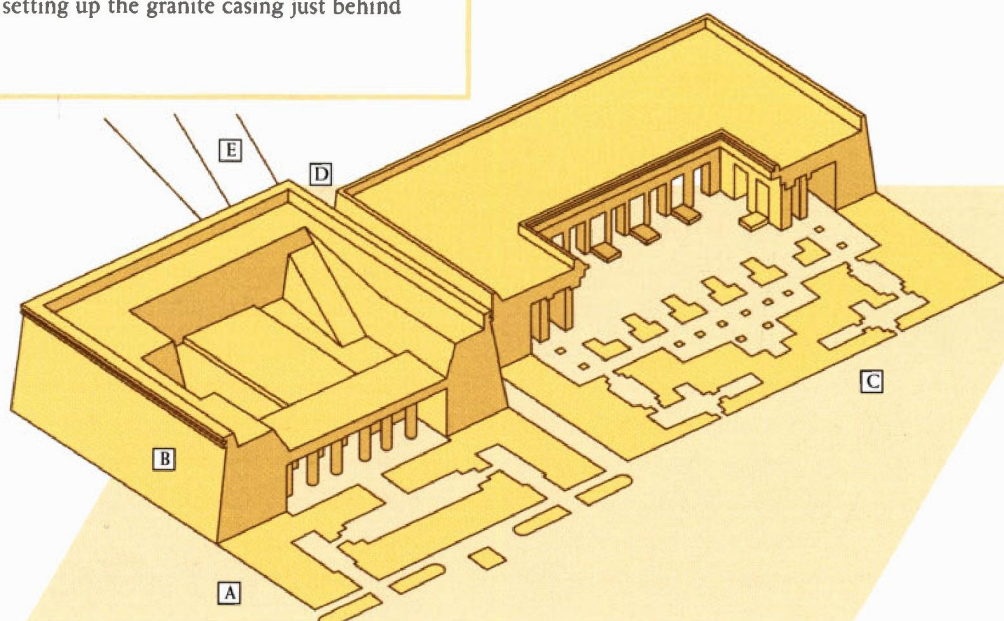
admit that the Sphinx could have been both the king as Horus, presenting offerings to the sun god, and at the same time, identified with the sun god.

Finally, its designers must have intended an apotropaic role for the Great Sphinx, that is, to avert evil. Situated at the very entrance to the sacred necropolis, alongside Khafre's causeway, the Sphinx must have been a repellent to dangerous forces, like the sphinxes and griffins in the relief decorations of the valley temple of Sahure's Fifth Dynasty pyramid or the lower causeway of Pepy II's Sixth Dynasty pyramid.

## SPHINX AND TEMPLE: AN UNFINISHED ROYAL PROJECT

It is a striking fact that from the hundreds of Old Kingdom tombs at Giza, Egyptologists cannot recognize any titles of priests or priestesses that clearly belong to the Sphinx temple. It is very possible that service was never activated because the builders left the temple unfinished. Although someone stripped the Sphinx temple of its granite casing and alabaster flooring in antiquity, anyone visiting the temple today can see the seats or emplacements for individual blocks at the base of the walls where the builders had finished covering the gigantic limestone core blocks with red granite casing. (It was easier to trim away the softer limestone than the hard granite in adjusting each block.) Since the builders only made sockets and cuttings at the time that they set up the granite pillars, statues, and casing blocks, these features track how much of the temple they had finished.

Ricke believed that they had completed the interior of the temple. They were just about to begin on the exterior when they quit the job. Their sockets for the granite wall casing stop just outside the entrance doorways. The builders an left extra stock of stone protruding from the huge core blocks forming the front corner hubs of the temple. At the base of the exterior northeast corner, channels in the bedrock show exactly where a team stopped leveling the floor in advance of the crew that was setting up the granite casing just behind them.



- A KHAFRE'S VALLEY TEMPLE
- B SOUTHERN ENCLOSURE WALL AS RICKE RECONSTRUCTED
- C SPHINX TEMPLE
- D NORTH LEDGE OF TERRACE I

- (SPHINX TEMPLE) AND SPHINX DITCH (TERRACE II)
- E KHAFRE'S CAUSEWAY CONNECTING VALLEY TEMPLE AND UPPER PYRAMID TEMPLE





181 bottom left

View to the northwest across the open court of the Sphinx temple. The pyramids of Khufu (right) and Khafre (left) frame the Sphinx's head like the two mountains flanking the sun disk in the hieroglyph for 'horizon.'

181 bottom right

This view to southeast clearly shows the Sphinx temple court. Colossal royal statues once fronted the limestone cores of piers that were originally clad in granite.



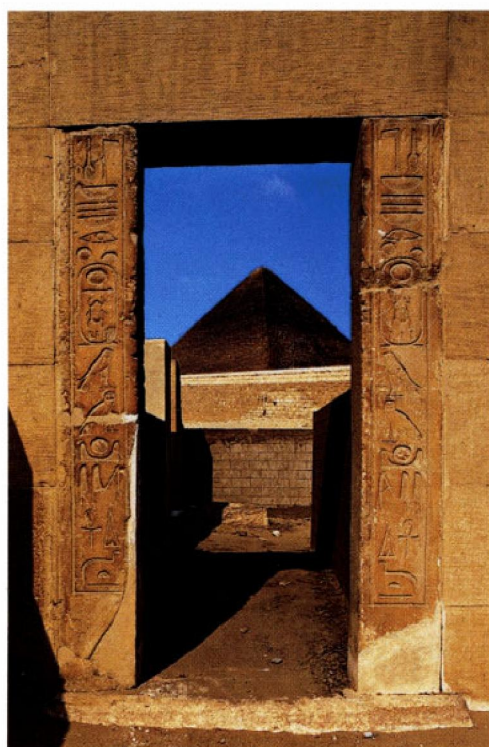
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Aerial view looking down into Khafre's valley temple, with the Sphinx temple and the Sphinx sanctuary from the east.



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The limestone doorframe from Amenhotep II's temple frames Khufu's pyramid. The glyphs name the Sphinx 'Horus in the Horizon.' Note the 'horizon' hieroglyph is the sun disk between two mountains.



182 bottom

Limestone door jamb in the 18th Dynasty temple of Amenhotep II, with the plumed cartouches of the Nineteenth Dynasty pharaoh Merenptah.

## TOOLS OF THE SPHINX BUILDERS

There is also clear and definite evidence that Khafre's builders had not finished carving out the Sphinx ditch. By cutting the temple terrace lower than the Sphinx floor, the builders left a tall vertical bedrock ledge that forms a corridor with the north wall of the Sphinx temple (see map). On the east end, the ledge runs under the modern road that comes down from the Great Pyramid. To the west, the ledge forms the north side of the Sphinx ditch, but here the quarrymen did not finish cutting the line. The point at which they stopped is just opposite the Sphinx's left (north) forepaw and below the entrance of the Eighteenth Dynasty mud-brick temple of Amenhotep II, built 1,100 years after Khafre when the Sphinx temple was buried. From here to the back of the Sphinx ditch, the unfinished part is a rock shelf of decreasing width. Behind the Sphinx, the workmen were nowhere near finishing the outline of the ditch. When they stopped work, they left a huge massif of hard Member I rock jutting out to within a few meters from the rear of the Sphinx.

In 1978 a project directed by Zahi Hawass cleared off the top of the ledge along the north side of the Sphinx and discovered rectangular humps, depressions, and channels. This kind of pattern is found in many places at Giza where work was left unfinished. The ancient quarrymen removed bedrock by channeling to isolate humps that they would then knock away with heavy hammer stones. Very compact sand and gypsum, removed with small pick hammers, filled the channels and depressions. Embedded in the fill were fragments of pottery, including half of a common Fourth Dynasty jar used for beer or water, and hammer stones, one of which still had copper flecks on the percussion end where it was used to strike a chisel. The Sphinx builders must have abandoned these tools when they stopped work while cutting the north side of the Sphinx ditch.

The 1978 project found more evidence of the Sphinx builders in a small mound of debris in the northeast corner of the Sphinx ditch. Left by previous excavators, this mound supports the southwest corner of the Eighteenth Dynasty temple of Amenhotep II where it juts out over the north ledge of the Sphinx ditch and over the northwest corner of the Sphinx temple. Three large, limestone core blocks lie at the base of the mound where the Sphinx builders seem to have abandoned them while they were dragging the blocks over to complete the work on the northwest corner of the Sphinx temple. One block rested upon debris containing numerous pieces of Fourth Dynasty

pottery. The other two rested on a layer of desert clay, *tafla*, that the builders used as a lubricant for dragging blocks and sledges. Just under the clay layer, cuttings in the rock floor were used as sockets for thick wooden levers used to maneuver the ends of the blocks.

This little archaeological tableau, preserved under the Eighteenth Dynasty temple, is the tail-end of the quarry-construction process that created the Sphinx and the stone temples immediately to the east. These preserved 'frozen moments' in the ancient building project add to the conclusion that the builders walked off the job before finishing the Sphinx ditch and temple. The Sphinx and its temple were the last major project of Khafre's pyramid complex.

## THE SPHINX AT THE END OF KHAFRE'S REIGN

If the Sphinx temple and Khafre's valley temple had been excavated according to modern archaeological standards, we would know far more about the state in which the builders left the site. Unfortunately, the large-scale clearing and the poor recording left us scant stratigraphic clues about the temple's history. I am convinced, though, that the complete archaeological tableau would have shown that the Sphinx temple was the last major item, left unfinished at the end of Khafre's reign. It is even possible that the builders left the whole interior of the Sphinx temple filled with the construction debris. Centuries later, those who systematically stripped the Sphinx temple of its granite casing and colossal statues must have turned over the construction embankments and debris that the original builders left inside the temple. Ricke thought there had been two periods of stone-robbing in Khafre's valley complex, the first in the Twelfth Dynasty reign of Amenemhet I when the Sphinx temple interior was stripped, and the second when the granite was removed from the valley temple exterior, possibly in the Eighteenth Dynasty.

The fact that the builders left the Sphinx ditch and the Sphinx temple unfinished is itself suggestive that they were the last items under construction in the reign of Khafre. Would Khafre have erected his beautifully finished valley temple smack beside the unfinished Sphinx temple and its messy construction yard without cleaning it up? No, the general picture we have been able to salvage from the large-scale expeditions that cleared out the Sphinx and the two temples suggests that all three monuments originated from the same long-term project.



## STATE OF THE STATUE IN THE FOURTH DYNASTY

In what condition did the Sphinx builders leave the Sphinx itself? The relief-carved features we see today on the head—the body of the royal cobra on the forehead, the stripes of the headdress, eyes, eyebrows, and mouth—are those left in the natural rock of Member III by the original Sphinx builders.

The Sphinx builders also completed the mass and general contours of the lion body in bedrock. The bedrock body weathered in an undulating pattern of recessed softer layers and protruding harder geological layers of Member II. However, with all the recesses filled in, there would be a complete lion body. The 1926 restoration under Emile Baraize, and the work of the Egyptian Antiquities Organization ([EAO], now the Supreme Council of Antiquities [SCA]), in the 1980s exposed parts of the original bedrock body of the Sphinx, carved out of Member I, which weathers relatively little. Although the surface of the Member I bedrock is rough and gnarled, the toes of the north hind paw and front paws have relief-carved claws. Such details suggest that, like the head, the sculptors finished the paws in the natural rock without a coating of masonry. On the other hand, when Baraize, and again recently the EAO restoration team, treated the south hind paw, they found an enormous gap in the natural rock (part of what we call the Major Fissure that cuts through the entire Sphinx). The greater part of this paw was built almost entirely of large masonry blocks. However, the bottom of the toes are finished, each with a claw in the sound rock of Member I, which here rises only a couple of feet above the Sphinx floor.

Would the Sphinx builders have left serious gaps in the left hind paw and the fissure cutting through the body without filling or covering the flaws with masonry? It is possible that some of the larger blocks encasing the lower parts of the Sphinx may represent the beginning of a Fourth Dynasty casing that masked these flaws. It is also possible that the Sphinx builders

never got around to masking these flaws, considering the evidence that they quit before completing work on the sides of the ditch and on the temple. The details of the claws suggest that when they stopped work, the builders did not intend to finish the lion body with a casing of fine limestone, as they did they with *mastaba* tombs and pyramids.

## SPHINX BEARD

Captain Giovanni Battista Caviglia, a Genoese merchant turned Giza explorer, found several fragments of the beard at the base of the chest in 1817, the earliest recorded modern excavation of the Sphinx. The fragments were part of a long, braided 'divine beard,' curled at the end, such as gods and deified kings wore, as opposed to the short square beard sported by statues of living kings. Egyptologists have questioned whether the beard was original to the Sphinx or a later addition. Relief-carved figures of a kneeling pharaoh offering up a gold collar toward the Sphinx's chin once adorned both sides of the flat limestone that connected the outward thrusting beard to the Sphinx chest. The figures are certainly New Kingdom in style (1550–1070 BC).

One of these connecting pieces is lost, but an examination of the other, in the Egyptian Museum in Cairo, shows that it is like a broad plate, only about 30 centimeters thick, with the backside roughed up to assist a bonding with gypsum mortar. So the beard seems to be a later addition. On the other hand, the limestone of the beard fragments seems to match the natural limestone layers of the monument's chest and neck, as though the beard was once carved from the natural rock like the rest of the Sphinx. It is possible that the beard was originally carved from the bedrock along with the Sphinx head, that it had detached, fallen, and broken to pieces. During a later restoration, the pieces that connected to the chest were recut as thin slabs and worked on the backside for reattaching them.

Another feature that suggests the divine beard may be original is the prominent boss or bump formed in the bedrock near the bottom center of the Sphinx's chest. The boss only makes sense as a support for a long divine beard. The sculptors could not extend the thin supporting plate below the curl all the way to the base of the chest, nor could they simply leave the beard and its plate suspended. Both options would have left the beard even more fragile. So they left a thicker column of natural rock from the bottom of the beard down to the base of the chest. Once again, the study of the beard suggests that the original Sphinx sculptors did attempt to finish their work in the natural rock.

It appears certain that where bedrock was sound enough, at the head, the north hind paw, and the bottoms of the other paws for example, the Sphinx builders did finish the sculpture in the natural rock. They probably intended to fill in flaws, like the Major Fissure. They may have intended and begun to build over weaker rock with a casing.

At the northwest rear haunch, the SCA restoration work exposed, under more recent casing-stone veneer, very large blocks of fine limestone that appear to be set into some kind of gap in the bedrock-core body of the Sphinx. Unless we get better exposures of the lower part of the Sphinx-core body, there is just not enough evidence to answer conclusively whether the Fourth Dynasty builders began, or how far along they had progressed, filling in and building up with masonry the weak spots in their massive sculpture. It is clear that, as they did with so many other royal monuments, the builders simply stopped work shortly after the king's death to turn their attention to the monuments planned for his successor.

Again, it was most likely Khafre's, not Khufu's, builders who left the Sphinx almost, but not quite, finished. They stopped work when Menkaure, the new king, came to the throne. In fact, he wasn't able to finish his own pyramid complex, located away to the south at Giza.



183 bottom  
Fragments of the Sphinx's beard found by Caviglia in 1816. The upper piece is in the Egyptian Museum, Cairo. The lower piece is a cast from original now in the British Museum.



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*The Great Sphinx looking west. In 1816, Caviglia found a horned limestone table on the granite altar. The granite stela of Thutmose IV remains from a royal chapel at the base of the Sphinx's chest.*



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*The Stela of Thutmose IV tells a story of the Sphinx speaking to the prince in a dream. As king, Thutmose makes offerings to the Sphinx shown high on a pedestal. The slab is a lintel from Khafre's pyramid temple.*

## ANCIENT RESTORATIONS OF THE SPHINX

It was probably the Eighteenth Dynasty pharaoh, Thutmose IV, who undertook the oldest restoration of the Sphinx, about 1,100 years after Khafre. His craftsmen covered the body with large limestone casing slabs (Phase I). By this time, the surface of the core body formed from Member II bedrock had eroded drastically into a profile of deep recesses and rounded protrusions, as indicated by the fact that Phase I fills in the recesses. Large chunks of natural rock were about to fall off the Sphinx. At the upper part of the rump and at the Sphinx's rear left haunch, huge boulders of bedrock had detached from the Sphinx body in ancient times and were held in position by the Phase I restoration slabs.

Another major restoration of the Sphinx, most probably, in the Twenty-sixth Dynasty, *ca.* 664–525 BC (Phase II), filled in patches or covered the Phase I cladding. The limestone used in Phase II is the same fine-grained, homogeneous limestone employed in the first restoration. Phase III, of Greco-Roman date (332 BC–395 AD) patched and replaced parts of the Phase I and II veneer using small blocks of white, relatively soft and friable limestone.

## THE CHAPEL OF THE SPHINX

Prior to the recent restorations, we could trace the Phase I cladding from the rump all the way to the front of the Sphinx where it wraps around both of the Sphinx's shoulders. A wide gap at the center of the chest corresponds to the remains of a small open-air chapel tucked between the forepaws. Thutmose IV erected the centerpiece of this chapel, a granite stela, 3.6 meter tall and weighing 15 tons. Thutmose IV was the son of Amenhotep II, who built a mud-brick temple dedicated to the Sphinx as the god Horemakhet, 'Horus in the Horizon,' at the northeast corner of the Sphinx ditch. Ramesses II placed smaller stelae, that show him worshipping the Sphinx, on the

side walls of the chapel. Much of the chapel was stripped away soon after Caviglia first cleared it in 1817. The two Ramesses stelae were taken to the Louvre. What remains today are the lower part of the south wall and the granite stela of Thutmose IV.

The 'Dream Stela' is named for the hieroglyphic story it tells. Thutmose was a prince, but apparently not the crown prince, when he went on a hunting expedition in the vicinity of Giza. Thutmose calls the Sphinx "this very great statue of Khepri," the god of the rising sun; and *Khepri-Ra-Atum*, that is, the sun god in all its aspects—rising, zenith, and setting. Thutmose also calls the Sphinx *Horemakhet*, 'Horus-in-the-Horizon,' as do the inscriptions on Amenhotep II's temple, and on numerous smaller New Kingdom stelae of private persons.

Toward noon, Thutmose slept in shadow of the Sphinx. The Sphinx appeared to the prince in a dream and offered him the throne in exchange for clearing the sand from the godly body, which had fallen into a ruinous state. Thutmose did clear the sand, and did indeed become king in the year 1401 BC. At the top of the stela, he etched a double scene of himself giving offerings and libations to the Sphinx, dated to the first year of his reign.

## NEW KINGDOM RENAISSANCE

The evidence allows us to recreate a picture of the Sphinx as a restored national monument in the fifteenth century BC. A statue of a standing king may have stood against the chest of the Sphinx. A large block of masonry behind the Dream Stele would have been the base. Salt's drawings of Caviglia's excavations show a stack of stones against the Sphinx—possibly a back support for the statue. Several of the smaller New Kingdom stelae that Selim Hassan found near the Sphinx depict a royal statue at the chest of the Sphinx. One of these stelae labels the statue with the name of Amenhotep II.

Statues of animal-form deities with a king striding forth from the chest of the god are well known in the

early New Kingdom. The arrangement symbolized the god's protection of, and merger with, the king. In fact, the inscription on the side plates of the Sphinx beard read, "life and protection [of the Sphinx] around and behind him [i.e., the king]."

A complete Phase I reconstruction of the Sphinx in the Eighteenth Dynasty fits with the picture of the site that emerges from the major excavations of the Sphinx from 1925–38. The documentation includes the unpublished Baraize photographs and notes of Pierre Lacau, Director General of the Antiquities Service, and Selim Hassan's published record of his excavations from 1936–38. Numerous stelae, votive falcons, and small sphinxes attest to a robust cult of the Sphinx as the god Horemakhet ('Horus in the Horizon'), an amalgamation of the primeval sun god and Horus, god of kingship. This rich evidence of attention paid the Sphinx is in marked contrast to the cultic silence about the monument in the Fourth Dynasty. Princes at the administrative capital, Memphis, and newly ascended kings, recorded their homage to the Sphinx. Amenhotep II, Thutmose IV, and Ramesses II dedicated stelae to the Sphinx in the first year of their reigns.

The New Kingdom inscriptions call the Sphinx enclosure *Setepet*, 'The Chosen,' or 'Select.' The Sphinx had become an image of ancient authority that could ordain and confirm the privileged position of princes and kings. The New Kingdom administration of Memphis built terraces, enclosures, rest houses, and temples as a kind of royal national park upon and around the ruins of Khafre's Fourth Dynasty stone temples.

Amenhotep II's temple in the northeast corner of the Sphinx ditch was only a part of this arrangement. Thutmose IV covered the sides of the Sphinx ditch with massive mud-brick walls, more than eight meters tall, that encircled the Sphinx like a giant cartouche and held back the sea of sand. Baraize removed most of this covering in 1926, but he left a section along the north ledge of the Sphinx ditch. When Selim Hassan continued excavations in 1936, he removed







more of these walls, and recorded the fact that some of the bricks were stamped with the name of Thutmose IV. A broad viewing platform and stairway fronted the Sphinx, the first and lowest of several platforms, each with shrines and podiums, built one on top of another, until the latest in the Roman Period. A royal villa was attached to the front of Khafre's valley temple. Tutankhamen built a kind of rest house in back of the valley temple that Ramesses II took over, superimposing his name over those of Tutankhamen and his queen, Ankhesamen, on the doorway. In addition to the massive enclosure walls around the Sphinx ditch, Thutmose IV built a bastioned wall forming an enclosure that encompassed a much wider area around the Sphinx.

Emerging from their rest houses over by Khafre's old valley temple, royalty descended a stairway to the broad viewing platform that covered the Sphinx temple. After ritual stops at shrines and podiums, another stairway led down into the heart of the cult—the small chapel at the chest of the giant statue. Standing there, a newly ascended king like Thutmose or Ramesses might feel that he could trace his descent back to far more ancient kings like Khufu and Khafre,

indeed, back to the primeval god king, Horus in the Horizon, whose image towered above him.

As they restored, or completed, the Sphinx, the New Kingdom pharaohs quarried stone from Khafre's pyramid complex. The foundations of an Eighteenth Dynasty royal villa built onto the front of Khafre's valley temple rested on the bottom course of granite casing. The rest of the casing might well have been stripped not long before the villa was founded. Granite casing blocks, probably from Khafre's pyramid, have been found in the New Kingdom Ptah temple at Memphis. The Overseer of Works for Ramesses II, May, etched his name into the rock walls beside the northwest corner of Khafre's pyramid. In 1909, Uvo Hölscher found a New Kingdom mud-brick ramp on the south side of Khafre's mortuary temple that was probably used for hauling away its granite pillars and sheathing.

The 15-ton Dream Stela of Thutmose IV is itself a reused lintel from a doorway in one of Khafre's temples. Anyone who looks at the lintels still intact in Khafre's valley temple cannot doubt this. The back of the Dream Stela has the same ledge that forms the top of the door frame, and the same two sockets and

pivot-holes for a standard Egyptian double-leaf swinging door. The bottom turning sockets of such doors were set into the thresholds, and cut right into the bedrock floor of the temples. By measuring the space between these, we can determine where Thutmose got the lintel. The space between the sockets on the back of the stelae only fit three doors in Khafre's mortuary temple, one being the entrance to that temple from the causeway.

This suggests an explanation for the similarity of the Phase I Sphinx restoration blocks to Old Kingdom masonry. The range of thickness of the Phase I slabs very closely match those slabs that form the walls of Khafre's causeway. Only a small part of these original walls are left near the exit of the causeway from the valley temple. It is very possible that Thutmose had his workmen utilize Khafre's causeway blocks to restore the Sphinx. After they had worked their way up the causeway taking blocks for the Sphinx, Thutmose had them drag the lintel from the mortuary temple down between the forepaws, where he erected it to inscribe the story of his selection by the Sphinx for the throne of Egypt.





## CONCLUSION

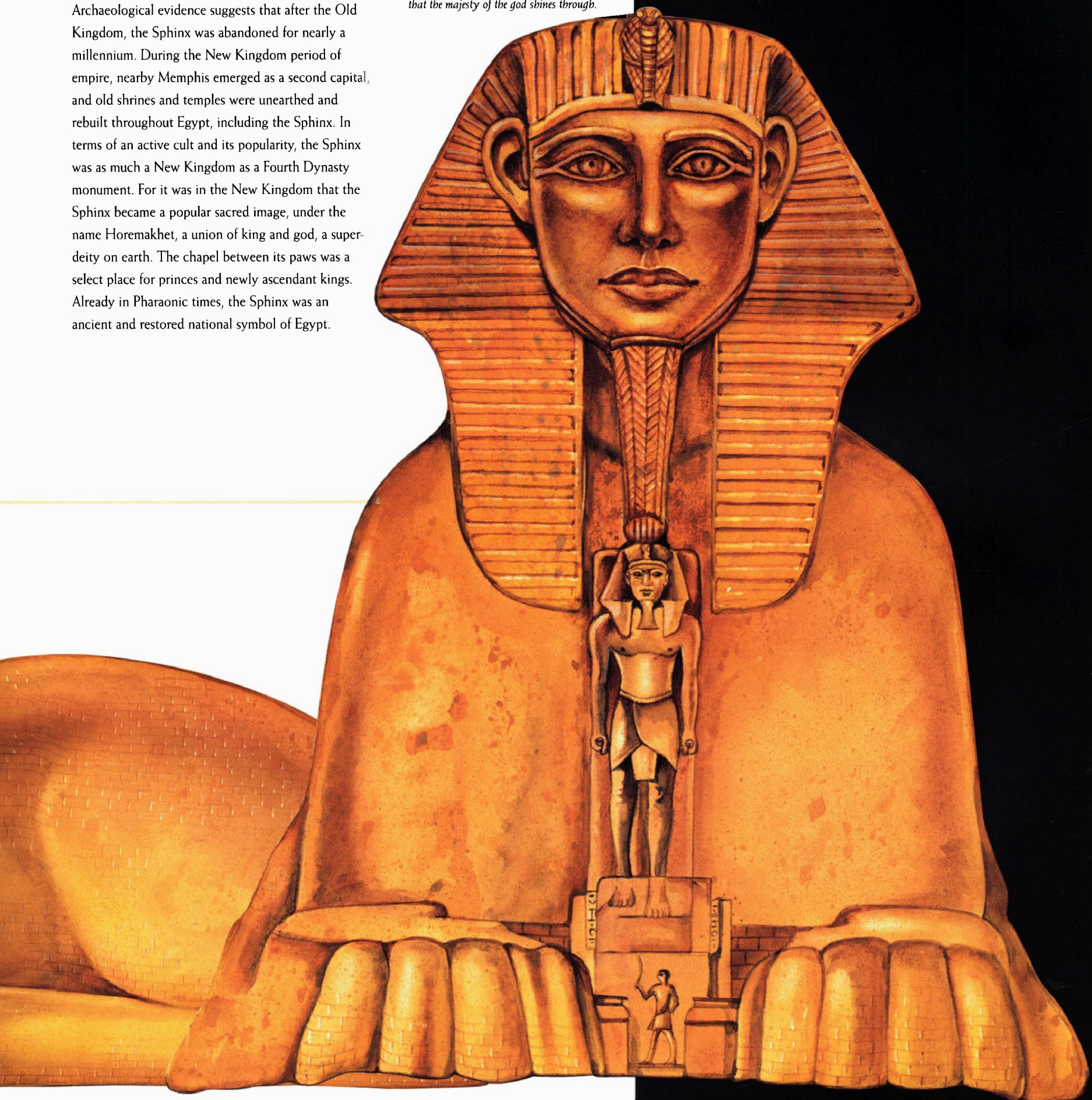
After they erected and modified the valley temple of Khafre's pyramid, the Fourth Dynasty builders created the Sphinx and the temple in front of it as a continuation of the same quarry-construction project. In spite of the gigantic size and grand new concept of the Sphinx, they did not finish the temple, and so religious services never began in the Fourth Dynasty. Archaeological evidence suggests that after the Old Kingdom, the Sphinx was abandoned for nearly a millennium. During the New Kingdom period of empire, nearby Memphis emerged as a second capital, and old shrines and temples were unearthed and rebuilt throughout Egypt, including the Sphinx. In terms of an active cult and its popularity, the Sphinx was as much a New Kingdom as a Fourth Dynasty monument. For it was in the New Kingdom that the Sphinx became a popular sacred image, under the name Horemakhet, a union of king and god, a super-deity on earth. The chapel between its paws was a select place for princes and newly ascendant kings. Already in Pharaonic times, the Sphinx was an ancient and restored national symbol of Egypt.

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*The revitalized and restored Sphinx of the New Kingdom. The royal statue against the chest might have been Amenhotep II.*

188-189

*The battered face of time. The nose has been snapped off, the eyes pecked, and the beard cleaved from the chin. Erosion has revealed the original geological bedding, but the hard bedrock of the head has preserved enough detail that the majesty of the god shines through.*













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### THE ROYAL BOATS AT GIZA

Text by Zahi Hawass

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### THE TOMBS OF THE HIGH

#### OFFICIALS AT GIZA

Text by Peter Der Manuelian

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