Zahi Hawass

THE TREASURES OF THE PYRAMIDS
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Scene showing the 'Meidum gene',
Egyptian Museum Cairo, Old Kingdom.

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The 'Unfinished' Pyramids of the Fourth Dynasty

by Michel Valloggia

in his journal of the progressive disappearance of the monument: the stones were taken away at a rate of 300 camel-loads per day.

Nowadays, the situation is, fortunately, improved and it is up to the archaeologists who explore a site to protect and restore this universal heritage, and it is imperative that it is transmitted to the generations of the future. Within this context, it falls on the specialists to estimate the original state of a construction at its completion and to determine its condition prior to the injuries of time or human depredations. This being settled, the incomplete state of or the ancient demolition of a building offers excellent analysis opportunities: in both cases, the abandonment of a project or its destruction makes it strangely comparable to a building site. Thus, it is very easy to study the construction procedures that prevailed in times past in the building of these structures.

In this respect, the numerous 'unfinished' pyramids of the Memphite cemetery shed new light on our knowledge of the Fourth Dynasty. It is a great paradox, that this 'Age of Builders,' dazzling in its command of the arts and the virtuosity of its techniques, used writing very parsimoniously in order to spread the originality of its message. Therefore, the historian, who is anxious to closely examine the remote past, is forced to meticulously examine the archaeological remnants. In that way, the 'unfinished' monuments of Abu Rawash, Zawyet al-Aryan, Giza, and Saqqara South, notwithstanding the modesty of their remains, have sometimes led to over-interpretation, despite the lack of information.
The archaeological area of Abu Rawash, at the northern end of the Memphite necropolis, is overlooked by an escarpment eight kilometers north of the pyramids of Giza and 15 kilometers west of Cairo. The mortuary complex of Djedefre, third ruler of the Fourth Dynasty, was built at its top. Excavations were undertaken on the site of this pyramid by the French Institute of Oriental Archaeology from 1900 to 1902. Emile Chassinat discovered remains of a worship settlement, a boat pit, and a great number of statuary fragments, with the name of the king, thus allowing the identification of the owner of the monument. This funerary complex has been mishandled since the Roman period and was in fact used as a quarry up to modern times. This explains why the attempts at historical reconstitutions of the Fourth Dynasty intentionally put the site of Abu Rawash and its owner aside—lack of information. The discovery of royal statues broken in small fragments led Chassinat to suspect a damnatio memoriae, connected with the illegitimacy of power of Djedefre. From this point of view, the transfer of the site of the royal pyramid from Giza to Abu Rawash would have in some way been the expression of a desire for rupture as wished by an usurping pharaoh. Djedefre, whose mother was of Libyan origin, is even supposed to have killed his eldest brother in order to accede to the throne. This royal pyramid has raised numerous questions. Its height, preserved up to 10-12 m, has been compared to the short-lived reign of Djedefre, which according to the Turin Papyrus, lasted only eight years. It was always thought that this pyramid remained unfinished, like the whole mortuary complex, the chapel of which would have been quickly built in mud brick.

This relief map of the area in front of the pyramid of Djedefre was done at the end of March 1901. From the archaeological mission of E. Chassinat.

This head of Djedefre in quartzite, 26.5 cm high and 28.8 long, was found in the boat-shaped cavity at Abu Rawash. Now in the Musée du Louvre, Paris.

This fragment a quartzite statuette of King Djedefre and his wife, Queen Khenutenkai, 28 cm high and 19.5 long. Now in Musée du Louvre, Paris.

This graffito of the name of Djedefre painted with hematite is in the corridor of the king's pyramid at Abu Rawash.
The recently discovered satellite pyramid of Abu Rawash is situated in front of the southeast corner of what remains of the royal pyramid of Djedefre.

Chapter 19

228 bottom right
The cross section of the royal and the satellite pyramids of Abu Rawash.
Since 1995, a joint mission of the University of Geneva and the French Institute, with the cooperation of the Supreme Council of Antiquities, has undertaken new investigations on the site, with the objective of reevaluating the reign of Djedefre. During the first season, thanks to stratigraphically-cut trenches, it was proven that the destruction of the statues traced back to the Roman period, in the second century, a time when the site was occupied. As a matter of fact, the eastern part shows remains testifying a long Roman occupation. This is explained by the strategic position of the site which overlooks a crossroads and offers recovery of construction material. As for the historical point of view, it can now be established that the assumption of a usurpation of the royal power and of a posthumous revenge has to be brushed aside.

The first examination of the pyramid itself shows that its dimensions were near those of Menkaure: 106.20 meters square, with a height of 66.0 m (with a slope of 51°57'). The base of the pyramid of Djedefre revealed a foundation bed with a slope of 12°, becoming horizontal little by little on the angles of the tetrahedron. This apparatus, running around the whole pyramid, prevented it from sliding toward the outermost of the backing stones and of the cloak of the inselberg, which forms the nucleus of the pyramid (44 percent of the total volume of the tetrahedron).

The inside of this ‘open pyramid’ offered a T-shaped plan, including a north to south slope and a large pit designated for the royal tomb. The destruction of the superstructure of the pyramid caused huge monoliths to fall, thus the reason why the excavators at the beginning of the twentieth century were unable to clear the substructures and to proceed to the burial chamber. In order to remove these huge blocks it was recently necessary to build a causeway allowing access and room for the work of a mobile crane operating from the top of the funerary pit. Hematite-painted graffiti by quarrymen, with the name of the king as well as a mention of the first year of his reign, were found in situ in the descending corridor. This should be the evidence that work on the royal pyramid started right away after the accession to the throne of a new pharaoh. Nevertheless, the discovery of numerous architectonic fragments bearing the name of a wabet (‘tomb’) allowed the location of the mortuary tomb and its theoretical reconstruction.
Within the perspective of completing the information resulting from the exploration of the surroundings of the pyramid, clearing on the east and south sides of the tetrahedron has been undertaken. These investigations already show that the five interdependent structures can be put into connection with the mortuary temple. On the northeast side, an access opened on a dry-stone inner enclosure assigned to workshops and habitations. Here the keeping in stock of goods and places for light shelters suggest bakery and brewery fittings. On the southern side, an esplanade was surrounded by buildings on each of its three sides. Their function has not yet been defined.

On the west side of this courtyard, there was a chapel intended for the near relations of the king. This building was next to another construction that had a boat-pit in its basement. It has been observed that this boat was quite similar to that of Khufu, which was discovered in 1954 and is now exhibited in Giza. At Abu Rawash the cutting of the rock clearly shows that the boat had its prow to the south, in accordance with the antique tradition of the Egyptians who oriented themselves to the source of the Nile. Close by to the west, there was the mortuary chapel of the king with a clay seal impression. This seal, which belonged to an official attached to the royal cult, contains the mention of the name of the pyramid in the phrase, "The Director of the Firmament of Djedefre." Finally, the interior court of the upper temple, built right next to the east side of the pyramid, was in close connection with each of these constructions.

Continuing excavations in April 2002, to the south of the royal pyramid, led to the clearing of a small, square satellite pyramid, measuring 10.5 m on each side. This new tetrahedron was equally aligned with the cardinal points and the axis of the mortuary temple, and in its substructures there was a tomb dug in hypogeum style. Its shaft contained a broken sarcophagus, in front of which was a niche prepared for canopic vessels. This tomb has been plundered since antiquity, nevertheless it surrendered a large deep bowl in alabaster with the name of Horus Medjedu ('the good shooter')—King Khufu (Khufu), a canopic vessel with its sealing, and a lot of ceramics. The whole lot of this material is typologically close to the furniture discovered in the past at Giza in the tomb of Queen Hetepheres I, mother of Khufu.

Previously, this new satellite structure could first have suggested the presence of a cult pyramid, however its substructure ordering speaks rather for a queen's pyramid. Last but not least, the name of Khufu on an alabaster vessel suggests a direct relationship with the owner of the monument, namely one of the daughters of the constructor of the Great Pyramid, Hetepheres II or Khentetenkai. The monument itself seems finally to translate the evolution of a project imagined as a cult pyramid and later on transformed into a feminine burial.

With regard to the royal mortuary complex, considered globally, the clearing of the inner enclosures surrounding both pyramids and the presence of this satellite building clearly prove that the king's pyramid had been completed prior to the setting of these adventitious elements. Consequently, the conclusion presents itself: this new inquiry on the site establishes that the pyramid of Djedefre at Abu Rawash should no longer be considered an unfinished monument that has been abandoned in the course of its construction.
The unfinished pyramid of Zawyet al-Aryan, known as the 'Great Pit,' belonging to the successor of Djedefre, King Baka, is located six kilometers south of Giza. The site was excavated by A. Barsanti between 1905 and 1912 but the First World War and the death of the excavator put an untimely end to this exploration. Subsequently, sand re-covered these remains which were uncovered for the last time in 1954 for the occasion of a full-length film by Howard Hawks, *Land of the Pharaohs.*

On the surface, Barsanti found the remains of a huge rectangular enclosure of 465 x 420 m; and in the middle of it, there was probably a pyramid of a square of 210 m. However, only a few foundation blocks, dug out of the substructure, seem to have been put against the nucleus of the pyramid. Inside the pyramid, from the center of the north side, a long sloping passage of 106 x 6 m leads down into the rock with two slopes separated by a horizontal landing, down to 24.5 m. As in the substructure of Abu Rawash, this descending passage leads to a deep pit (27.0 x 11.7 m). In the west part of its approximately 4.5 m thick foundation, which is paved with granite and limestone blocks, an oval sarcophagus with its cover in red granite was found. This tub, hidden in antiquity by a thick clay layer, was entirely covered by a limestone pavement. The sarcophagus was empty and it obviously never held the intended owner.

This funerary complex is short in documentation and therefore remains enigmatic, as much as for the historian as for the archaeologist. The traces of painted inscriptions on the blocks show the mark of a royal cartouche variously assigned to several kings of the Third Dynasty. However, a few archaeological indices speak in favor of a Fourth Dynasty construction. The size of the blocks used, unknown previous to Khufu, the embedding of the sarcophagus within the pavement, which reminds one of the pyramid of Khafre, and finally the similarity of the plan with the substructure of Abu Rawash, are in accordance with the habit of inscribing the royal names within a cartouche from the Fourth Dynasty onwards. Furthermore, the discovery by Barsanti of a schist tablet with the name of King Djedefre in a workers settlement of the 'Great Pit' establishes a likely historical link. In these conditions, the discovery of the name of Baka, eldest son of Djedefre, seems to be a possible identification with the owner of the pyramid of Zawyet al-Aryan. Thus the incomplete state of the superstructure work is confirmed by the clay protection and the pavement put on top of the sarcophagus in the substructure. This could well indicate the completion of a stage in the work or the renunciation of the final project.

Be that as it may, new investigations in the field are absolutely necessary, especially as this archaeological area is now threatened by the extension of the southwest Ring Road of Cairo and the unavoidable urbanization which will follow in this region.
Unfinished Pyramids

Reconstruction of the funerary complex of Shepseskaf (Mastabat Farau) in South Saqqara by H. Riche.

Plan and section of the funerary complex of Shepseskaf (Mastabat Faraun) by V. Maragioglio and C. Rinaldi.

Calcite head of king Shepseskaf, 28.5 cm high, now in the Museum of Fine Arts of Boston.

Plan and sections of the infrastructures of Mastabat Faraun by G. Loccaro, after the work of J.-Ph. Lauer.

This aerial view of Mastabat Faraun gives evidence to the rounded shape of the structure, typical of coffin covers.

Chapter 19
THE GIANT MASTABA
OF SHEPSESKAF
(THE MASTABAT FARAUN)

The funerary complex of Shepseskaf, penultimate king of the Fourth Dynasty, is set up in the southern part of Saqqara, halfway between the Step Pyramid of Djoser and the site of Dahshur, and is known by the name of Mastabat Faraun ('bench of the pharaoh') due to its present aspect. The monument was partly explored by A. Mariette in 1858, and investigations were left unpublished until the work of G. Jequier in 1924-25. Previously, J. Perring had noticed the huge dimensions, 95.0 m long by 67.0 m broad, with a height of 18.0 m. The peculiar shape of its superstructure has been identified by R. Lepsius: he thought of a huge sarcophagus with a vaulted top between vertical ends. The clearing undertaken by Jequier confirmed this identification and revealed the presence of a huge foundation platform on which this edifice has been built. At the beginning, its shape was that of sloped faces encased with fine limestone and granite for a bottom course.

In the substructure, the plan of the burial chamber is in the form of a T, like the pyramid of Abu Rawash. After the descending corridor there is a horizontal corridor, followed by three portcullis slots and a passage to an antechamber opening west on the burial chamber. However, the architect added a series of five small rooms opening onto the antechamber in a southeast direction. They were obviously magazines for the royal mortuary furniture.

The general organization of this plan shows an important innovation in the general concept of the plan of the burial chamber of the pyramids, this was systematically taken over and applied to the pyramids of the Fifth and Sixth Dynasties, from the time of Djedkare Isesi.

In the construction of the substructure, Jequier observed that the burial chamber, which had been entirely built in granite, had been built in the open air. At the end of his work, the architect covered the whole underground building with a first limestone masonry envelope. As for the final shape in form of a huge sarcophagus, it was realized in a second phase covering the first one. This style of construction, from its origin, clearly shows that this project differed entirely from the traditionally applied system of building pyramids.

The incompleteness of the rough-casting and buffing work in the burial chamber, in association with the total lack of furniture pieces, led Jequier to admit that Shepseskaf had never been buried in the tomb he had ordered for himself.

One of the major problems that remains unexplained is the shape of this amazing superstructure in form of a sarcophagus. For what reasons was the choice of a pyramid left aside here? According to Jequier, this new architectural choice proceeded from an opposition to the Heliopolitan dogma. The adoption of a tetrahedron, as well as the insertion of the name of Re within the royal cartouches of this dynasty, actually emphasized the great influence of the solar cult on the royalty. The new shape of this superstructure would thus have indicated a reservation of the king with respect to the Heliopolitan priesthood. However, it could as well have shown some ties to Lower Egypt and to the archaic sanctuaries of Buto, the hieroglyphic writing of which keeps up the symbolic form that can be seen in the royal sarcophagi of the Middle Kingdom. Finally, let us underline the fact that the incompleteness of the archaeological excavation, namely that of the valley temple and of the causeway, does not, at the present time, allow a complete assessment of this mortuary complex.
THE TOMB OF KHENTKAUS AT GIZA

Queen Mother Khentkaus, a relative of Khufu through her father, Prince Hordjedef, is an enigmatic character from the end of the Fourth Dynasty. Thanks to the Westcar papyrus, she is considered to be the mother of the first rulers of the Fifth Dynasty; however, up to now, the name of her royal husband is unknown. Furthermore, contrary to the customs of this ancient period, the location of Khentkaus's tomb, within the central field of Giza, is not associated to any royal pyramid.

Nevertheless, this monument, in the past considered by R. Vyse and J. Perring to be an unfinished pyramid, was also called 'the fourth pyramid of Giza.' Selim Hassan, the excavator of the site, proved that this atypical building did not show a pyramidal shape. More recently, V. Maragioglio and C. Rinaldi, in their architectural study of the Memphite pyramids, came to the conclusion that the superstructure of this tomb had been executed in two distinct stages. In the first phase, there was work on the limestone core resembling a mastaba (43.7 x 45.8 m), which was cleared and its south side ornamented by a niched decoration. Around this core, the quarrymen had lowered the soil level by about 10 meters. Later on, it could be that a constructed volume about eight meters high had been added onto the first structure. This new shape built on the aforesaid plateau looked like a huge sarcophagus, like Mastabat Faraun. It is precisely because of the similarity of these superstructures that a great number of historians suggested that Khentkaus could well have been Shepseskaf's wife.

During the second phase of construction the whole volume was encased in limestone. A chapel was constructed to the east and was found to be cut within the rock above the burial itself. There are three chambers which were decorated in the past according to the wall fragments discovered by the excavator. A short sloping passage leads down from the offering room to the burial chamber constructed in granite. On the outside, an enclosure surrounded the funerary complex, in its southwest corner was a boat pit and on the opposite side was a rectangular basin with a flight of steps.

In this monument, the causeway with its exceptional right angle doesn't seem to have been associated with a valley temple, as is the case of the royal complexes of that period. On the other hand, quite early, a series of houses, arranged in a linear settlement and meant for the funerary priests of Khentkaus were built on the basis of an extremely precise town-planning scheme.

This monument, in its conception and most original setting, seems to illustrate the final stage of development of the Fourth Dynasty cemetery at Giza. Actually, the funerary complexes of the following dynasty, including in their layout a solar temple, were set south, in the Abusir necropolis.

Having reached the end of this short presentation of the 'unfinished' pyramids of the Fourth Dynasty, it can be shown that despite the huge amount of archaeological work already accomplished, our present knowledge of the royal monuments of that time is limited. If ups and downs have shaped the picture of buildings abandoned in the course of their carrying out or partly demolished over time, it is now up to the archaeologists to re-examine these ancient files in the light of actual progress. The development of the methods of investigation in the field, comparison with preserved monuments, and, last but not least, analysis of new historical data allow unquestionable progress as shown by the recent excavations on the funerary complex of King Djedefre at Abu Rawash. In the future, new surveys of the sites of Zawyet al-Aryan, of Mastabat Faraun, and of Giza should open the way to innovative interpretations, thus allowing a historical re-evaluation of a period which incurred the admiration of the ancient Egyptians and still fascinates, owing to its perfection, the specialists as much as the modern visitors to the Nile Valley.
This aerial view clearly shows the superstructure of the tomb of Queen Khentkaus, with its two levels.

This section of the superstructure shows the inferior level dug into the local limestone, while the upper level has been built. The drawing also shows the room of the chapel for the offerings and the entrance.