

STUDIES
IN THE ARCHAEOLOGY OF THE
NEAR EAST

II: SOME FACTS CONCERNING THE GREAT
PYRAMIDS OF EL-GÎZA AND THEIR ROYAL
CONSTRUCTORS

By

ALAN ROWE, M.A.

SOMETIME LECTURER IN NEAR EASTERN ARCHAEOLOGY IN THE
UNIVERSITY OF MANCHESTER AND FORMERLY DIRECTOR OF THE
GRAECO-ROMAN MUSEUM, ALEXANDRIA, ETC.

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THE present article is written with the intention of assembling certain facts of more general interest concerning the Great Pyramids of El-Gîza and their royal constructors, Cheops, Chephren and Mycerinus, which have been obtained chiefly from excavations and from various publications which are perhaps not generally available.¹ The author has himself carried out researches both among the pyramids in question and at the earlier pyramid site some fifty miles to the south, called Meydûm and established by Huni, grand-father of Cheops. The Great Pyramids are, of course, not at El-Gîza itself, for that small "town" is situated about half way between Cairo and the real site of the monuments, namely, the upper edge of the rock plateau of the desert to the west of the modern metropolis of Egypt. As, however, they are known to the whole world as the "Pyramids of [El-]Gîza",² it would be unwise to give them a new designation. In the interests of the non-Egyptological

¹ Cf. É. Drioton et J. Vandier, *L'Égypte* (1952), pp. 126 f., 195 ff. In the present article I have made much use of the publications of the late Professor G. A. Reisner, the master Egyptological excavator of his time, once my respected chief and my instructor in details of field work. These publications include *Mycerinus* (1931) and *A History of the Giza Necropolis* vol. i (1942), vol. ii (1955). Among other works I have consulted are Porter and Moss, *Topographical Bibliography*, etc., iii (1931), 3 ff.; J. P. Lauer, *Le problème des Pyramides d'Égypte* (1952); and I. E. S. Edwards, *The Pyramids of Egypt* (Penguin, 1955), pp. 85 ff.

² Dr J. D. Latham informs me that the normal spelling in classical Arabic is *Al-Jîza*, meaning the "side" of a valley or of a river bed.

reader transcriptions of the old Egyptian names are given as simply as possible; *ayin* is represented by â.¹

I. GENERAL DESCRIPTION OF THE THREE GREAT PYRAMID COMPLEXES AT EL-GÎZA

Each pyramid complex of the kings buried at El-Gîza consists of: (i) The pyramid itself with its internal burial chamber and an outer entrance in the north face; (ii) A mortuary temple abutting its eastern side; (iii) An enclosing wall around the pyramid; (iv) A long causeway or corridor sloping down riverwards from the mortuary temple to the embalment-and-purification temple in the valley on the lower margin of the desert; (v) Disembarkation quays adjoining the east side of the latter temple; (vi) A subway under the causeway for the cross traffic²; (vii) The small pyramids of the queens; and (viii) Large rock-trenches holding sacred boats of wood.³ The centre of the back wall of the mortuary temple was adjacent to the middle lower part of the eastern face of the king's pyramid containing the so-called "false-door" of granite through which the *ka* or spirit of the monarch was supposed to come forth from his burial chamber in order to partake of the offerings regularly presented to him by the mortuary priests.

A special feature is presented by the Great Sphinx⁴ which lies just to the north-west of the embalment temple of Chephren, builder of the Second Pyramid. This particular Sphinx originally represented the monarch himself in the form

¹ The General Plan illustrating this article was made by Mr. D. A. Woolley, a student in architecture at Manchester University.

² That is to say, under the causeways of Cheops and Chephren. Another subway is below the causeway of the tomb of queen Khenti-kau-es built not far from the embalment-temple of Mycerinus, her supposed father. To the west of the tomb is a rock-cut trench for a sacred boat, and on the east side a small Pyramid-City. The queen was married to User-ka-ef, first king of the Fifth Dynasty (2563-2423 B.C.).

³ No such trenches have yet been found for the Mycerinus complex, but there is no doubt they exist under the desert sand.

⁴ This word is probably derived from the Egyptian *Shesep-ânkh*, "Living-Image [of-the-solar-god]".

of a man-headed lion protecting his own pyramid complex. Later on, about the time of Amenophis II of the Eighteenth Dynasty¹ (1450–1425 ? B.C.), when its original significance was forgotten, the Great Sphinx was identified with the solar-god of Heliopolis Her-em-akhti (“Horus-on-the-Horizon”), known to the Greeks as Harmachis. Between its paws was a pavement, at the inner end of which lay a kind of open temple enclosed by two partitions, through which ran a passage containing a small figure of a recumbent lion facing the Sphinx. In the background were inscribed stelæ of kings Tuthmosis IV of the Eighteenth Dynasty (1504–1450 B.C.)² and Rameses II of the Nineteenth Dynasty (1301–1235 B.C.); a flight of steps led up to the front of the whole monument. In the Græco-Roman era a platform supporting a small altar was erected in front of the Sphinx. To the east of the Sphinx is the contemporary temple belonging to it, and in this connection it must be stated that the building so often in the past referred to as the “Temple of the Sphinx” is really the embalmment-and-purification temple of Chephren. The actual temple of the Sphinx was discovered a little time ago by the Service des Antiquités of the Egyptian Government,³ which also came across the non-Egyptian name by which the Sphinx was known in the Eighteenth Dynasty, namely Herna or Heren, which name appears on stelæ in association with names of a Canaanite colony living in the vicinity at that time.⁴ Not far from the Sphinx is a newly-discovered temple of Amenophis II, a king already referred to before; in it is an enormous stela describing the prowess of the monarch.

¹ Manetho of Sebennytos, an Egyptian priest of Heliopolis, about 300 B.C., divided Egyptian history into thirty dynasties; the earliest one was founded by king Menes, c. 3000 B.C.

² According to the inscription cut on the stela of Tuthmosis IV, this king, while still a prince, fell asleep one day in the shadow of the Sphinx and dreamt that the god appeared to him commanding him to clear away “the desert sand that encumbered him (i.e. the god).” As soon as Tuthmosis IV ascended the throne he caused the Sphinx to be unearthed.

³ Among the more recent interesting excavations carried out at El-Gîza are those of Selim Hassan. See his *Excavations at Gîza* (1929 onwards).

⁴ Syrian, etc. resin-oil was certainly imported into Egypt during the Fourth to Sixth Dynasties. Cf. my *Catalogue of Egyptian Scarabs, etc., in the Palestine Archaeological Museum* (1936), pp. xv f., 228; Reisner, *Gîza*, ii. p. 75.

Near each great pyramid was also its own "Pyramid City" in which lived members of the family and court of the king, together with the mortuary priests and their assistants associated with the cult of the royal dead. The small pyramid complexes of the queens (see plate) consisted of the pyramid with its burial chamber and a small chapel on the east side; one such pyramid, belonging to the family of Cheops, has a boat-trough cut in the rock near it.

Not far from the Great Pyramid of Cheops, sometimes called the "First Pyramid of [El-]Gîza", are the original groups of rectangular masonry tombs (*mastabas*)¹ laid out by the pyramid builders in regular streets according to unified plans. These tombs were for the minor royal personages and great men of the Fourth Dynasty (2723–2563 B.C.) to which the kings of the three great pyramids belonged, Mycerinus being the constructor of the last or Third Pyramid. Elsewhere on the site and also in the open spaces between these tombs are others mostly ranging in date from the Fourth to the Sixth Dynasties (2723–2263 B.C.)² containing the burials of priests, various officials of the court, and so on. It is impossible within the limits of this article to give all the titles of the persons buried or mentioned in the tombs near the three Great Pyramids. The following classes of priests are met with:

PROPHET (*hem-net̄er*, "Servant-of-the-God"), the highest grade;

PROPHETESS (*hemt-net̄er*);

GOD'S FATHER (*it-net̄er*), a class of elder priests;

LECTOR (*hery-hebt*, "Holder-of-the-Ritual-Book");

ORDINARY PRIEST (*wâb*);

SERVANT OF THE SOUL (*hem-ka*), who tended the funerary cult of private persons;

SMA-PRIEST, concerned with clothing, adorning the god, etc.

¹ *Mastaba* is the Arabic name for a long solid seat, the superstructure of which (in the case of a tomb) is usually oblong in plan, with sides sloping inwards from the base to a flat top. It generally contains two pits leading down from above to the burial chambers in the rock below, the husband being placed in the southern chamber and the wife in the northern one. Some *mastabas*, however, have one pit. On the east, or river, side of the superstructure are offering-niches or a small chapel.

² For Ægypto-Canaanite contacts during this and later periods, including the establishment by Tuthmosis IV (Eighteenth Dynasty) of Canaanites in his mortuary temple enclosure at Thebes, etc., cf. Rowe, *op. cit.* pp. xiv ff. A stela found at El-Gîza, of the same reign, shows the figure of a sphinx with a damaged text referring to Phœnicia (*Djah*).

Many of the priests were attached to the cult of the kings of the pyramids and some to that of much older monarchs, such as Seshem-nefer, the prophet of king Qay-â, last king of the First Dynasty,¹ a prophet who was also "First-Under-the-King" in the palace of king Djed-ef-râ, successor of Cheops. Certain priests held the superior ranks of Inspector or Overseer; one was Overseer of the Linen of the Pyramids of Cheops and Chephren. Another, named Qar, was an Overseer of the Pyramid-Cities of Cheops and Mycerinus, Priest of the Pyramid of Chephren, and also a Gardener of the Saqqâra Pyramid of king Pepi I, Sixth Dynasty, in whose reign he lived.

The Palace Officials included: Secretary ("Overseer of Secrets") of the king; Acquaintance (male or female) of the king; Overseer of the Palace; Usher of the Palace; Overseer of the Garden of the Palace; Overseer of Singers of the Palace; Overseer of Dancers of the Palace; Director of the Dwarf's Wardrobe (dwarfs enjoyed great favour at the court); Hairdresser of the king; Inspector of Manicurists; Physician; Occulist.

Among the other Officials were: Administrator of Ships; Overseer of Canals; Inspector of Scribes of the Treasury; Scribe of the Granary of the Treasury; Overseer of Sculptors; Inspector of Builders; Overseer (or Inspector) of Artisans in the Place of Embalment; Sailor; etc.²

¹ The pharaohs themselves carried out the cult of their royal ancestors. Thus at Abydos, in the Temple of Sety I (1313-1298 B.C.), there is a list of the pharaohs beginning with Menes, the first king, and extending down to Sety I, the names of unimportant or illegitimate rulers being omitted. Above the list is written: "The performance of the prayer for the dead.—May [the god] Ptah-Seker-Osiris, lord of the tomb, who dwells in the Temple of Sety, increase the gifts for the kings of Upper and Lower Egypt—by King Sety I; 1,000 loaves of bread, 1,000 barrels of beer, 1,000 cattle, etc." (here follow the royal names). Cf. Baedeker's, *Egypt* (1902), p. 222.

² For the titles and names of most of the priests and officials at El-Gîza see the above-mentioned publications of Reisner, Porter and Moss, and Selim Hassan, where are also given the names of the members of the royal families of the Great Pyramid period. Incidentally, non-Egyptological librarians may be interested to know that the Library itself was called "House-of-Rolls (or Books)", *Per-Medjat*, and the Scriptorium, "House-of-Life", *Per-Ânkħ*. On the walls of a library in a Ptolemaic temple is inscribed a catalogue of the books, etc. For an account of the library I discovered in the great Serapeum

In the Manchester University Museum are the following stone objects of the Fifth Dynasty found by Professor W. M. F. Petrie at El-Gîza :¹

- (a) Lintel and drum of Nefer-her-en-ptah (" Beautiful-is-the-face-of [the god] Ptah "), ~~A~~ Royal Treasurer of the Granary.
- (b) Altar of Nedjem, an Inspector of Builders.
- (c) Small statue of the man Hi-nefer (good name (?) Ires). Called "Res-he-nofr " by Petrie.

Also in the same Museum are fragments of stucco forming the covering of an arched brick tumulus of the First Dynasty from El-Gîza.² This tumulus recalls the " Upper Egyptian " one of the same period found inside a composite mastaba at Saqqâra.³

In the Boston Museum of Fine Arts is a granite sarcophagus of an important official buried at El-Gîza whose name is Senedjem-ib (good name Inti). He was a Vizier (*taty*), and Overseer of All the Works of Isesi, last king but one of the Fifth Dynasty. In an inscription in the forecourt of Senedjem-ib's tomb his son recalls that the king had ordered an endowment be made for the tomb in question. The son says : " I made [it] for him in only one year and three months ", while he was in a temporary resting place in a certain Saqqâra Necropolis—" Isesi-is-Beautiful." We are further informed that the sarcophagus itself was brought on a ferry-boat from opposite Tura (where the stone was quarried and fashioned), on the east bank of the Nile, to a site at the edge of the area of the Pyramid of Cheops.

of Alexandria see BULLETIN, xxxix (1956-57), pp. 488, 511 f. A certain Seshem-nefer, whose tomb is at El-Giza, was a director of the two thrones in the " House-of-Life " (Porter and Moss, op. cit. iii, p. 44). The two thrones are, of course, the Throne for Upper Egypt and the Throne for Lower Egypt. This fact perhaps indicates that the " House-of-Life " referred to was divided into two sections, one containing the scripts, etc., for the south and the other those for the north. For a teacher of a later " House of Life " cf. P. E. Newberry, *Scarab-Shaped Seals* (Cairo, 1907), no. 36065.

¹ Petrie, *Gizeh and Rifeh* (1907), pp. 8 f. Cf. Porter and Moss, op. cit. iii, p. 64.

² Petrie, op. cit. pp. 3 f., Pl. V E.

³ Cf. BULLETIN, xliii (1960-61), 491, n. 1. Also W. B. Emery, *Archaeology of Egypt* (Pelican), p. 152, fig. 90. (Cosmetic Propaganda). Late Dyn. I

The inscription is accompanied by a relief showing the transport of the sarcophagus down the river; the boat is named "The great boat, 'Mighty-is-Isesi'."¹

Among the ruins of the later mastabas at El-Gîza Reisner discovered a slab of stone from a wall scene in a chapel of a tomb of an unknown man of the Sixth Dynasty (2423–2263 B.C.), on which is recorded details of the burial of a dog beloved of a certain king of the period. The dog, which was called Âbutiyu, was the "guard of his majesty", and the unknown man must have been the keeper of the dog. Here is the funerary inscription of the animal: "The dog which was the guard of his majesty. Âbutiyu is his name. His majesty ordered that he be buried ceremonially, that he be given a coffin from the royal treasury, fine linen in great quantity, and incense. His majesty also gave perfumed ointment, and ordered that a tomb be built for him by gangs of masons. His majesty did this for him in order that he [the dog] might be honoured before the great god."² As a matter of fact, during the Old and Middle Kingdoms (3000–c. 2000 B.C.) some of the kings and high functionaries had represented on their funerary stelæ their favourite dogs, without doubt in the hope that these animals would live again in the Other World. The remains of a dog were actually found in the tomb of queen Her-neit (reign of Udimu, fifth king of the First Dynasty) at Saqqâra.³ Throughout the centuries man has mourned for the loss of pet animals and it is not out of place to recall a certain inscription of the Roman period lamenting the passing away of a favourite female dog which died while giving birth to puppies.⁴

It must be stated emphatically that the El-Gîza pyramids as a whole were designed as royal *tombs*, the larger ones for kings

¹ For the tomb see Porter and Moss, *op. cit.* iii, pp. 35 f.; Reisner, *Giza*, ii. pp. 56 f.

² Cf. *Bulletin of the Museum of Fine Arts*, Boston, xxxiv (1936), pp. 96 ff.

³ See the *Illustrated London News* (June 2, 1956), p. 648.

⁴ As an indication of the Egyptian regard for poor people, animals, and birds, may be quoted the following inscription on a monument of about 600 B.C.: "I gave bread to the hungry, water to the thirsty, clothing to the naked; I gave food to the ibis, the hawk, the cat, and the jackal" (J. H. Breasted, *Ancient Records of Egypt* (1906), i. p. 126 n.).

and the smaller ones for queens,¹ and also that all the fanciful theories which have been evolved about the greatest of this type—that of Cheops—in more or less recent times, theories which regard it as a kind of register of national events, and so forth, are nothing else than nonsense. The theories fall to the ground, *ab initio*, mainly due to the circumstance that their misguided but well-intentioned propounders base their “results” on a unit of their own manufacture which they are pleased to call the “pyramid inch”. No such measure existed in ancient Egypt.

As a matter of fact the old Egyptian unit for measurements was nothing more than the cubit of about 20.6 inches (523 millimetres), divided into 7 palm-breadths or 28 finger-breadths. The chief multiple of the cubit was the rod of 100 cubits,² which was the length, for instance, of boats of Syrian red wood and cedar built for Sneferu, father of Cheops. The cubit is the unit which alone is painted in red both on the walls of the weight-relieving chambers over the uppermost actual burial chamber of the Great Pyramid of Cheops, and elsewhere in the Necropolis. It was the custom to lay out buildings in round numbers of cubits and in this connection it may be mentioned that the pyramid of Cheops was nominally 280 cubits high and 440 cubits long at each side of the base (a proportion of 7 to 11); the actual burial chamber is 20 cubits in length by 10 cubits in width.

The story of the evolution of the true pyramid with smooth sides from the stepped pyramid (inaugurated by Sneferu) is referred to in my article in the BULLETIN, xliii (1960-61), 490 f. Generally speaking the pyramids were built by the aid of inclined ramps which were removed when the building was completed. The most recent scientific article on this subject is by Dows Dunham, Curator Emeritus of Egyptian Art, Boston Fine Arts Museum.³ Most of the stone is of local origin (nummulitic limestone), but the finer blocks used for casing and other

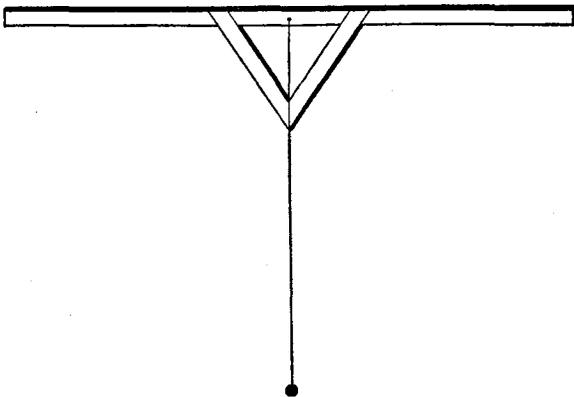
¹ The pyramid itself also eventually became a symbol of the sun-god and in the solar sanctuary at Heliopolis there was a pyramidal stone, of which that surmounting the obelisks in the Fifth Dynasty sun-temples at Abûsir, south of El-Gîza, was evidently a reproduction. Actually an obelisk is nothing more than a shaft supporting a small pyramid (pyramidion) on its top, the pyramid being the sacred part of the object.

² The rod equals 171 ft. 8 in. (52.3 metres).

³ “Building a Pyramid”, in *Archaeology*, 9, no. 3 (Autumn 1956), pp. 159 ff.

purposes came from the Tura quarries on the opposite or eastern side of the Nile. The red and black granite employed in various places, especially in the pyramid of Chephren and the pyramid of Mycerinus, was brought down the river from Aswân (Syene).

While working in the great El-Gîza Necropolis I noticed that the system of levelling the structures was carried out by means of painting on the faces of the walls a series of red horizontal lines each divided from one another by a space of a cubit.* The base line was called *neferu* ("zero"), and the horizontal lines above it were successively numbered "One cubit above *neferu*", "Two cubits above *neferu*", and so forth. An inverted triangle painted near the numbers apparently represents part of the instrument used for establishing the base line. This, I suggest, consisted of a rather long piece of straight wood with a small triangle of the same material fixed about its centre. To establish the base line the object (which would have had a cord with pendant bob, the former tied to the centre of the *base* of the triangle as shown in the figure) would then be held against the



Suggested Pyramid Levelling Instrument. Wood with Bob attached by Cord.
(Based on details painted in red in the Necropolis.)

face of the lowest row of masonry with the apex of the triangle downwards. When the cord was touching the apex the top of the instrument was of course in a level position. By sighting along the beam the mason was able to establish other points on the base line, all of which were then indicated by bases of the triangles which we see painted on the blocks. The points would

x of Petrie. Memoria 1892; Pl. VIII (levels below *neferu*); p. 37

be then connected by a fine line, a guiding string being employed for the purpose. As an indication of the accuracy obtained by the builders of the Cheops pyramid, an examination by modern methods of the levels of various points on the pavement visible around the monument shows absolutely a true plane, but the whole plane slopes about $\frac{3}{5}$ of an inch (15 millimetres) up from the N.W. to the S.E. corner. How far the pavement runs under the pyramid is uncertain, but the body of the pyramid there is certainly a core of rock. J. H. Cole, of the Survey of Egypt, carried out a survey of the base of this pyramid in 1924, with the following amazing results :

Side	Length		Azimuth
	Inches	Metres	
North	9065.1	230.253	89° 57' 32"
South	9073.0	230.454	89° 58' 03"
East	9070.5	230.391	359° 54' 30"
West	9069.2	230.357	359° 57' 45" ¹

During the time I was with the Harvard-Boston Expedition in 1924 I chanced to visit the weight-relieving chambers over the actual funerary chamber in the Great Pyramid and as a result collected a number of important inscriptions in red paint which the builders of the pyramid had left behind them. These inscriptions, already observed but previously not properly understood by scholars, give the names of the various crews of workmen who built the pyramid and it is these names and others which I collected elsewhere in the El-Gîza Fourth Dynasty Necropolis² that enables us to understand how the pyramid workmen,

¹ Cf. R. Engelbach, *Introduction to Egyptian Archaeology* (1946), pp. 118 f. Summing up Cole's results Engelbach writes: "The difference between the longest sides (each side being nominally 440 cubits or about 230 metres) was just under 20 centimetres, the maximum error from the right-angle was $3\frac{1}{2}$ minutes of arc, and the orientation less than 2' 30" from true north." Edwards (op. cit. pp. 209 ff.) suggests that the builders of the pyramid used a simple method of determining what they believed to be true north, that is to say "by sighting on a star in the northern heavens and bisecting the angle formed by its rising position, the position from which the observation was made and its setting position". He recalls that Petrie's survey showed that the mean error of the east and west sides of the pyramid of Chephren was c. 5' 26" west of north, of the pyramid of Mycerinus c. 14' 3" east of north, and of the Mejdûm pyramid (Huni + Sneferu) 24' 25" west of north.

² Published by Reisner, *Mycerinus*, pp. 273 ff., Pls. XI, XII.

including quarrymen, etc., were divided into groups, based on the crews of boats. The MAIN GANG which, in the case of a pyramid and of a royal boat, had the name of the reigning pharaoh included in its title. For instance, in the case of the Great Pyramid, we meet with the crews "Cheops-is-the-Purifier-of-Upper-and-Lower-Egypt" (*Her-medjedu-wâb-tawy*), "Cheops-Excites-Love" (*Khufu-smeru*), "The-White-Crown-of-Cheops-is-Powerful" (*Hedjet-Khnum-Khufu-sekhet*), and in that of the Third Pyramid "Mycerinus-is-Drunk" (*Men-kau-râ-tekhu*) and "Mycerinus-Excites-Love" (*Men-kau-râ-smeru*). Each Main Gang was itself divided into WATCHES, named after parts of the boat, that is to say "Port", "Starboard", "Bow", "Stern" and "Hold". In turn, each WATCH consisted of smaller gangs bearing, in the case of Mycerinus, such names as "Antelope Gang", "Ibis Gang", and so forth, all probably village names in origin. Reisner has estimated that at the pyramids there were 800-1,000 men to each Main Gang, 200-250 to each Watch, and 10-50 to each sub-gang of the Watch. There exists in the Pontifical Biblical Institute, Jerusalem, a hardened copper axe-head found in 1911 near the Roman Bridge, mouth of the River Adonis (Nahr Ibrahîm), Syria, in 1911. This object¹ belonged to an ancient Egyptian boat-crew which went to Syria for cedar etc. (cf. II Chron. ii. 16) and must have been accidentally dropped overboard. It bears the incised inscription: "The [boat]-crew 'The-Two-Falcons-of-Gold²-are-pacified'; 'Port' [watch]; 'Foundation' [sub-gang]." The "Two-Falcons" is normally a circumlocution for the reconciled enemy-gods Horus and Seth.³ There is actually in the El-Gîza Necropolis the tomb of a certain Idu, who was "Overseer-of-the-House-of-Cedarwood".⁴

¹ Cf. my *Catalogue of Egyptian Scarabs. . . . Palestine Archaeological Museum*, pp. 283 ff., Pl. XXXVI for a complete description.

² Kings Cheops, Sahu-râ of Fifth Dynasty, Mer-en-râ of Sixth Dynasty, and the shadowy monarch Shairu of the Fourth Dynasty all employed "Two-Falcons-of-Gold" as part of their titulary. In the El-Gîza mastaba of Djed-ef-her is a Main Gang of the time of Cheops called "Two-Falcons-of-Gold *rekhu*". Reisner, *Giza*, ii, p. 8.

³ See A. H. Gardiner, *Egyptian Grammar* (1957), p. 73.

⁴ Cf. Porter and Moss, *op. cit.* iii. p. 41. Date, early Sixth Dynasty.

It was not until the time of the Fifth Dynasty, actually in the reign of Unis, the last king, that long mortuary texts were placed inside pyramids and this was at Saqqâra; these are the so-called "Pyramid Texts", some of which contain prayers for the protection of the pyramid and its mortuary temple. Compare Utterances 600 and 601 on behalf of Pepi II, fifth king of the Sixth Dynasty: "O Atum, put thy protection upon Pepi, upon this his pyramid, (upon) this temple of Pepi. O Great Ennead who are in Heliopolis, make Pepi endure; make this pyramid of Pepi endure, and this his temple, for ever and ever, as the name of Atum, chief of the Great Ennead, endures."¹ Before the Pyramid Texts came into being the older monarchs seem to have relied largely on the physical protection of the mighty structures to guard their dead.

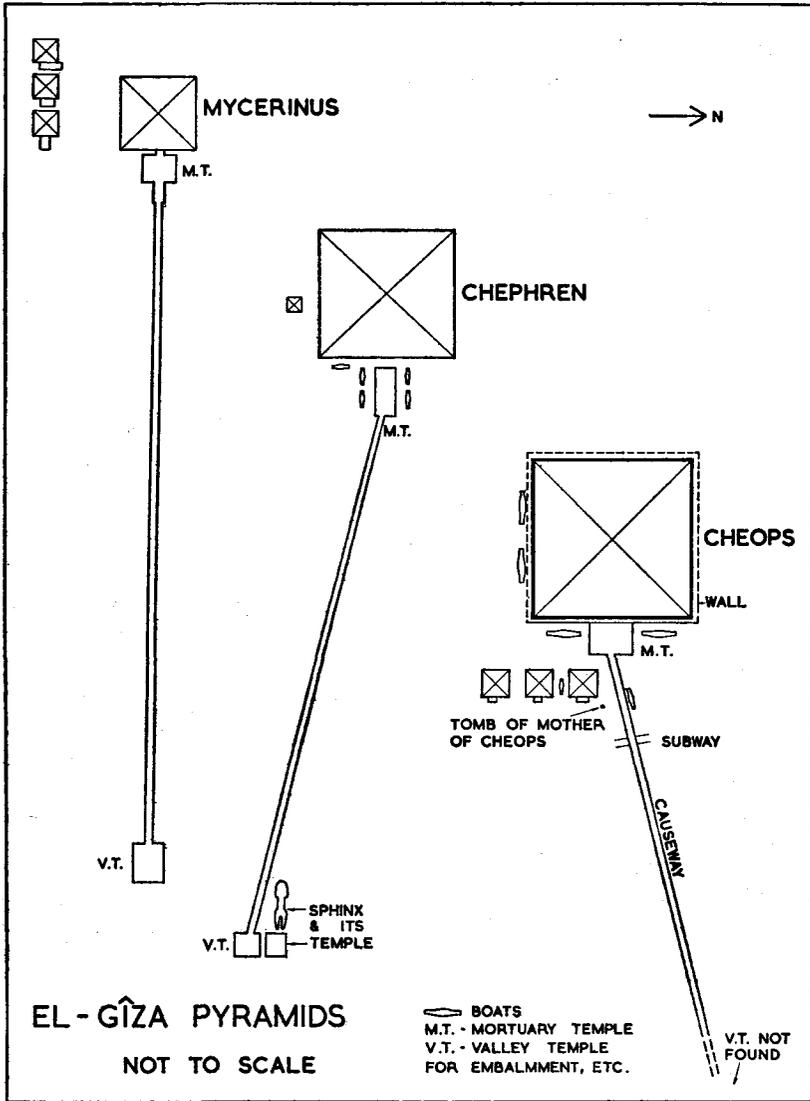
The pyramids on the various sites seem to have remained more or less inviolate until the fall of the Sixth Dynasty when a period of upheaval arose in the land covering the Seventh-Tenth Dynasties (c. 2263–2070 B.C.), generally known as the First Intermediate Period. A literary work composed about this period (an existing copy dates from the Nineteenth Dynasty, 1314–1200 B.C.) laments that "nobles and kings are being dragged from their tombs and pyramids" and states that "what the pyramid concealed is become empty"; referring to past tranquil times it adds: "it is . . . good when the hand of men build pyramids." One interesting statement in the work is: "Forsooth, the river is as blood."² Compare the turning of the waters of the river of Egypt into blood by Moses. Ex. vii. 19–21.

During the Fourth Dynasty, when the kings of the pyramids of El-Gîza were living, the state god was Râ, a solar deity, while

¹ Cf. G. A. Mercer, *The Pyramid Texts* (1952); J. P. Lauer, *op. cit.*, pp. 203 ff.

² See Gardiner, *op. cit.* p. 93; A. Erman, *Literature of the Ancient Egyptians* (1927). I suggest that the reference is to a partial staining of the waters by the blood of rival factions whose bodies were thrown into the river. An inscription of the Twelfth Dynasty (2000–1785 B.C.) says: "There is no tomb for him who rebels against his majesty—his body is thrown into the water" while another of the Twenty-Second Dynasty (950–730) B.C. affirms that "The doer of evil is thrown into the harbour". For references see my article in *Annales du Service*, xl (1940), 5.

the chief mortuary god of the Necropolis was Anubis whose emblem was a jackal. Other contemporary deities met with in the local inscriptions are Horus, a solar-god in the form of a



falcon ; Ptah, the artisan-god of Memphis ; Thoth, the ibis-headed scribe of the gods ; and Khnum, tutelary deity of the First Cataract whose name forms part of the pharaonic name of Cheops, *Khnum-khufu* (" Khnum : He-protects-me "). Among

the chief goddesses were Hathor of the Sycamore Tree; Neith "Lady-of-Sais", and, finally, Heqet, whose emblem was a frog. Osiris, the great mortuary god and judge of the dead, is not mentioned in the texts before the time of king Unis, although a certain emblem (the *djed*-column)¹ generally sacred to the god in later times has been found in a tomb dating from the First Dynasty.

All the pharaohs of the Fourth Dynasty built pyramids, that is to say with the exception of the last one, Shepses-ka-ef, who erected a tomb at Saqqâra in the form of a ^{a/}great rectangular sarcophagus on a pedestal. Its name was "Shepses-ka-ef-is-cool", or similar. The Arabs call it *Maṣṭabat Fir'awn*, "Pharaoh's Mastaba".

1 Pyramid of

Fourth Dynasty Pharaohs in Order of Succession

	<i>Pyramid Name</i>	<i>Pyramid Site</i>
1. SNEFERU ("He [the god] makes-me-beautiful").	"Sneferu-is-shining"	Dahshûr ²
2. CHEOPS (= <i>Khnum-khufu</i> : "Khnum: He-protects-me").	"Cheops-is-one-who-belongs-to-the-horizon" ³	El-Gîza
3. DJED-EF-RÂ ("He-endures, (namely)-Râ").	"Djed-ef-râ-is-above (or on-high)"	Abu Râwash
4. CHEPHREN (= <i>Khâ-ef-râ</i> : "He-shines gloriously, (namely)-Râ").	"Chephren-is-great"	El-Gîza
5. MYCERINUS (= <i>Men-kau-râ</i> : "The-ka-of-Râ-are abiding").	"Mycerinus-is-divine"	El-Gîza
6. SHEPSES-KA-EF ("His-ka-is-splendid"). ⁴		

The list of kings of the Fourth Dynasty as given by Manetho includes other names.⁵ Brief details of the families of the six

¹ The object represents a bundle of stalks tied together (Gardiner, op. cit. p. 502, No. 11).

² Sneferu had two pyramids on this site. Cf. BULLETIN, xliii (1960-61), 484 n. 1. The northern one, in which he was buried, was as named before; the southern one, rhomboidal, discarded because of faults in the masonry, was called "The-Southern-Pyramid: 'Sneferu-is-shining'".

³ Cf. the statement "King Sehetep-ib-râ (Amen-em-hat I) has gone to the horizon", i.e. has died (Gardiner, op. cit. p. 246).

⁴ Professor H. W. Fairman has kindly given me assistance in the translations of the names of some of the pharaohs and pyramids referred to in this list.

⁵ Reisner, *Mycerinus*, p. 244.

legitimate kings following Huni, last king of the Third Dynasty, who was the father of Hetep-heres I (wife of Sneferu and mother of Cheops), are as follows :

1. SNEFERU. Son of Huni by a minor queen ; married Hetep-heres I. Father of Cheops.
2. CHEOPS. Son of Sneferu and queen Hetep-heres I. Father of Djed-ef-Râ and Chephren.
3. DJED-EF-RÂ. Son of Cheops.
4. CHEPHREN. Son of Cheops. Married his full sister, Khâ-merer-nebti I.
5. MYCERINUS. Son of Chephren and queen Khâ-merer-nebti I. Married his full sister, Khâ-merer-nebti II.
6. SHEPSES-KA-EF. Son of Mycerinus.¹

Professor Breasted has well stated that the period “ during which the Fourth Dynasty maintained its power was a period of unprecedented splendour in the history of the Nile Valley people, and . . . the monuments of the time were on a scale of grandeur which was never later eclipsed. It reached its climactic point in Khufu, and probably after a slight decline in the reign of Khafre, Menkure was no longer able to command the closely centralized power which the family had so successfully maintained up to that time. It passed away, leaving the group of . . . pyramids at Gizeh as an imperishable witness of its greatness and powers.”²

II. THE PYRAMID COMPLEX OF CHEOPS

The Great Pyramid has a base area of nearly thirteen acres. Its height was originally about 481 feet. It is certain that although the base and height were made according to a single homogeneous plan the interior arrangements were altered as the reign progressed. In the original design the burial chamber was placed underground in the rock in accordance with the custom obtaining in tombs of the earlier periods. The first alteration carried out was to discard the underground chamber and build another inside the superstructure of masonry, the latter being erroneously sometimes called the “ Queen’s Chamber ”. The final alteration was made by abandoning the “ Queen’s Chamber ” and building another over it, the so-called “ King’s

¹ Op. cit. p. 239.

² *A History of Egypt* (1927), p. 121.

Chamber", in which the actual burial was made. The lower part or case of the plain red granite sarcophagus of Cheops is still in position. The five weight-relieving chambers, now inhabited by foul-smelling bats, are difficult of access; they are not open to the public, and are reached by means of placing the foot of a long ladder on the floor at the top of the main Ascending Gallery leading to the "King's Chamber". The mortuary temple was of red granite, with open courtyard, square pillars and basalt pavement.¹ On each side of the temple is a great trough excavated in the rock which once contained wooden boats representing either the boats of Upper and Lower Egypt or even the day and the night boat of the sun. A little further to the east, and parallel with that part of the causeway (all originally covered in), is still another boat trough, which possibly may have contained a replica of the funerary boat in which the body of Cheops was ferried on the waters of the Nile to the disembarkation quays east of the embalmment temple. Two other troughs, actually containing boats of wood, have recently been discovered on the southern side of the pyramid. The three small pyramids, each with its temple on its eastern side, seen in our General Plan, were made for three queens, the northernmost one (with its boat) for Merytyetes,² chief queen of Cheops, the middle one for an unknown queen,³ and the southernmost one for Henutsen, another wife of the king. In the Twenty-First Dynasty (1085-950 B.C.) Henutsen was identified with Isis and called "Mistress of the Pyramids", a new temple being then built against her pyramid.

In February 1925, while I was Chief Assistant of the Joint Expedition of Harvard University and Boston Fine Arts Museum, and in charge of the Expedition during the temporary absence in America of the director, Dr. Reisner, the Expedition came across

¹ For this temple and other parts of the complex to the east of the great pyramid see the reconstruction by Alan Sorrell (the artist) and myself in *The Illustrated London News* (5 June 1954), pp. 956 f. The embalmment temple has not yet been found, but the following three were among its known officials: [Holder] of the Gold Seal of Cheops, [Keeper] of the Gates, and Secretary (Reisner, *Giza*, ii. pp. 48 ff.)

² Cf. Reisner, *Giza*, ii. p. 6.

³ She is wrongly called the "daughter of Cheops" in Herodotus, ii 126.

the famous secret tomb of Hetep-heres I ("May-her-face-be-happy"), the mother of Cheops, situated not far from the pyramid of queen Merytyetes.¹

III. THE PYRAMID COMPLEX OF CHEPHREN

The pyramid itself is the second one in size at El-Gîza, and originally measured $707\frac{3}{4}$ feet at each side of the base and was 471 feet high. As it stands, the great monument of limestone, having its two foundation courses of red granite, small pyramid for the queen on the south side, mortuary temple, causeway, and embalmment temple, give the best idea to-day of what a pyramid complex of the Fourth Dynasty looked like. The sphinx and its temple have already been mentioned before. The red granite sarcophagus is sunk in the floor of the burial chamber in the pyramid up to the level of its lid. An inscription of a certain Mey, an overseer of building works in Heliopolis under the Nineteenth Dynasty (1314-1200 B.C.), which is cut in the face of a quarry to the north of the pyramid, seems to indicate that Chephren's mortuary temple was partly destroyed by that official and its stone used for constructing new buildings elsewhere. To the west of the pyramid are the remains either of storage-magazines or of quarters of the workmen who built the complex. Near the east face of the pyramid are rough-cut troughs for boats reminding one of similar troughs near the pyramid of Cheops.² Reisner points out that the primitive appearance of the embalmment temple of Chephren is due not to its early date but to the fact that the sculptors of the period had not yet fully mastered the carving of reliefs in red granite. On the other hand they had overcome every difficulty in sculpture in the round and had "brought the statues of the king to the greatest perfection ever attained in hard

¹ Described in detail in Reisner, *op. cit.* ii. In the *Manchester Guardian*, 18 January, 1960, there appears a report made by Dr. Selim Hassan of the Egyptian Antiquities Department to the effect that the antiquities from the tomb of Hetep-heres "form one of the most magnificent collections in the world. They surpass the fabulous treasures of Tutankhamen as far as their historical, scientific and technical value is concerned. They represent the biggest discovery of this early period—about 2,000 years before the reign of Tutankhamen."

² Cf. J. P. Lauer, in *Annales du Service*, xlvi (1941), Pl. LXVIII.

stone". In the latter connection may be mentioned the beautiful diorite statue of Chephren now in the Egyptian Museum, Cairo.

IV. THE PYRAMID COMPLEX OF MYCERINUS

This pyramid, the third one in size at El-Gîza, was once 356½ feet long at each side at the base and was 218 feet high. As was the case with the Cheops pyramid and indeed with that of Chephren, the Mycerinus pyramid had alterations and additions made in its original design (cf. BULLETIN, xliii, 488, n. 2). During the Twenty-Sixth Dynasty (663-525 B.C.) further alterations took place and the king's magnificent stone sarcophagus was placed in a new underground chamber of granite. At the same time a wooden coffin was specially constructed, parts of the lid of which are now in the British Museum. A free translation of the inscription on the lid¹ reads: "Hail Osiris, king of Upper and Lower Egypt, Mycerinus, living for ever, born of heaven, conceived of Nut (the sky-goddess), heir of Geb (the earth-god). . . . Thy mother Nut spreadeth herself over thee in her name of 'Mystery-of-Heaven', and she has made thee to exist as a god to thy foes, O King of Upper and Lower Egypt, Mycerinus, living for ever." The lower part of the pyramid was cased in red granite, while the mortuary temple, like the pyramid, constructed mainly of limestone, was intended to be cased with black and red granite blocks. The embalmment temple of Mycerinus, constructed of brick, was discovered by Reisner and provided some very beautiful slate statues portraying the king accompanied by various deities, such as those of the nomes or provinces of the Hare, Jackal, Thebes, and Diospolis Parva (the modern Hîw). Each statue group formed a triad of the king, the goddess Hathor and the nome deity.² On the south side of the pyramid are three small pyramids belonging to queens of the royal family; each had a temple on its east side, and a burial chamber below ground. The small pyramid at the east seems to have been made for Khâ-merer-nebti II, chief wife of Mycerinus. One interesting event concerning Mycerinus is recorded in the

¹ Based on an extract from the old Pyramid Texts.

² Reisner, *Mycerinus*, pp. 34 ff.

El-Gîza tomb of Debehen, a palace official. It seems that one day the king was upon the road to the works of the Necropolis in order to inspect the making of his pyramid, when he happened to notice that Debehen's rock-cut tomb was unfinished; and so he considerably ordered a detail of fifty men from his own pyramid to complete the tomb. The workmen also made a portrait statue of the official.¹ The tomb is now sometimes used as a small mosque or praying place and is regarded as the sepulchre of a certain Sheikh Sîdi Hamed Samân.

APPENDIX

(a) Brief accounts both of the development of the true pyramid from the stepped pyramid (which for the first time took place in the reign of Sneferu, father of Cheops) and of stepped mastabas (which began in the First Dynasty) are given in BULLETIN, xliii (1960-61), pp. 488 ff.

(b) Arranged in geographical order from north to south pyramids in Egypt existed on the following sites²: Tell Atrîb, Abu Rawâsh, El-Gîza, Zâwyet el-Aryân, Abusîr, Saqqâra, Dahshûr, Mazghûna, El-Lisht, Meydûm, Hawâra, El-Lâhûn, El-Deir el-Bahari, Western Thebes, and El-Kôlah, (near El-Kâb). With the exception of Tell Atrîb (= Athribis) in the Delta³ and of El-Kôlah on the east side of the Nile⁴ all these sites are on the western side of the river. The Ethiopian kings of the Egyptian Twenty-Fifth Dynasty (751-656 B.C.), that is to say Piankhi, Shabaka, Shabataka, Taharqa⁵ and Tanutamun, were buried in pyramids at Nûri and Kuri in the Sudân.⁶

¹ Op. cit. pp. 257 f.

² For the known names of the rulers and of their pyramids see Edwards, op. cit. pp. 243 f.

³ The pyramid at Tell Atrîb, of brick, and of unknown date and owner, no longer exists. It was found by Napoleon's great scientific expedition to Egypt. Cf. my article in *Annales du Service*, xxxviii (1938), p. 524.

⁴ For the interesting Third Dynasty pyramid at El-Kôlah see BULLETIN, xliii (1960-61), p. 489.

⁵ He is the "Tirhakah king of Ethiopia" of 2 Kings. xix. 9, who helped Hezekiah of Judah to repel the Assyrians. While with the Harvard-Boston expedition in 1923, during our excavations in the frontier fortress of Semna in the Northern Sudân (built by Senusret III, 1887-1850 B.C.), I was much interested to see the name of Taharqa deeply engraved on a fallen lintel.

⁶ For the pyramids of these Ethiopian kings see Edwards, pp. 201 ff., and fig. 30 (map).

ADDENDA TO Studies in the Archaeology of the N.E., II.
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Compare.

- 101 W.S. Smith, Art & Architecture of Ancient Egypt (Penguin History of Art) 1958, Pl. 71. Causeways, "Valley Temples" and Quays of the Nomarchs Wah-ka I and Ibu at Qaw. Dyn. XII. Cf. also Fig. 37 (Pepy II).
- 105 & fn. 3. W.B. Emery, Archaic Egypt (Pelican-paper backed), n.d., p. 152, Fig. 90 "Isometric projection". Arched tumulus. Late Dyn. I.
- 108 W.M.F. Petrie, Medum, 1892, Pl. VIII. Details of levels below zero (neferu). Mastaba 17. Dyn. IV. Cf. p. 37, notes by Griffith on neferu of king Sbekemsaf's pyramid (Thebes).
- 114 E.L.B. Terrace, in Bull. Museum of Fine Arts, Boston, LIX, No. 316, p. 45. It seems possible that Hemyunu - (cf. Porter and Moss., Top. Bibl., III, p. 26) was the administrator for the construction of the Great Pyramid. 1961
- 115 W.S. Smith, op. cit., p. 54. Reconstruction of the Mortuary Temple of the Great Pyramid.
- 117 ^{T emue,} ^t Op. cit., p. 41. The significance of the statue triads from the Mycerinus Valley Temple, "may lie in Hathor's association with the nome figures as a fertility goddess, to ensure the provision from the nomes of rich & food offerings for the king in after-life".

A.R.

^{P.S.} These Addenda were left out of my article because they are mainly of interest to archaeologists ^{and} not ~~the~~ the general readers.

A.R.