

I. INTRODUCTION

PREHISTORY OF THE EXCAVATION.

After the pyramids and funerary temples of the Fifth Dynasty at Abusir were thoroughly studied and the knowledge of them and a clear picture of the complex of the royal monuments were achieved as a result of the successful excavations of the German Institute under its Director Ludwig Borchardt, the desire became ever more urgent to obtain as well a similarly clear picture of the older pyramid temples of the Fourth Dynasty at Giza.

However, the pyramid field at Giza is terribly damaged. Through the centuries it had been used as a quarry for old Heliopolis and Memphis, for the Roman fortress of Babylon, and for the Arab cities of Fostat and Cairo. Only the pyramids seem to have withstood time in a victorious manner. On the other hand, only barely discernible traces remained of the temples, so that one could not expect to gain a full understanding of the layout of the pyramids at Giza. However, after the publication of the pyramid complex of the Fifth Dynasty, the situation had changed completely.¹ Endowed with these historical architectural experiences one could dare to approach the terribly dilapidated cult temples of Giza.

One particular building from the pyramid times was known already. Following the example of Mariette, the lucky discoverer who excavated its interior between 1853 and 1860, it came to be called the 'Sphinx Temple'. [*Note: what we call today the Valley Temple at Giza was often called 'the Sphinx Temple' prior to the 1930s, because only then did Selim Hassan uncover another temple sitting beside it, and directly in front of the Sphinx, which is today correctly called the Sphinx Temple. However, just to make things unnecessarily confusing, the later expert on the Sphinx Temple, Herbert Ricke, insisted upon calling the Sphinx Temple by the name of 'the Harmachis Temple' because he thought it was for the worship of the god Harmachis, symbolized in his opinion by the Sphinx itself. However, intelligible discussion of these matters is only possible if we stick to the standard terminology!*]

Nobody could be immune to the effect of this edifice, with its simplicity of forms taken to extremes, with the gigantic dimensions of its monoliths, and its precious building material. No ledge, no ornament, no relief, no inscription decorated the walls. Only smooth polished wall surfaces and square pillars of rose granite and a luminescent white alabaster floor! Mariette in his time had not recognised the importance of this building. First Piazzi Smyth and after him Flinders Petrie pointed to the connection between it and the Funerary Temple lying in ruins in front of the Chephren Pyramid.² However, this connection only found an explanation when Borchardt claimed the building as the 'Gate in the Valley' belonging to the funerary monumental complex of Chephren.³

Was this now the type according to which we would have to reconstruct the funerary temples of the Fourth Dynasty? Who would dare to answer this question with an unequivocal yes, considering that one did not even know yet if with the rooms so far revealed, the interior of the Gate building had been completely excavated, whether or not an open hall might still have been positioned before it, as with the Gate temples of Abusir, and where fantastic rumours about the building of its facade were in circulation since Mariette's time. Should the temple itself not have been decorated with richer adornment and reliefs? After all, the private graves of the Fourth Dynasty very often showed relief decorations in many places. And how should we imagine the actual complex of the funerary temples? The size of this Gate building and of the Pyramid implied immensity. Here only a thorough excavation could help. [*Note: from here on, Hölscher's name of Torbau ('Gate Building', or 'Gatehouse') for the Valley Temple will be abandoned, and in translation we shall call the structure by its current name of the Valley Temple.*]

A first attempt to gain clarity about the building of the Valley Temple had already been made at times by the Leipzig Mastaba Excavations at Giza in 1905 under Georg Steindorff. But in doing so, it had soon become evident that with the relatively restricted means available, the task could not be executed. The masses of sand which needed to be shifted were too enormous. After they had created a relatively insignificant gap in front of the southern main entrance, they had to give up the task for the time being.

In the meantime, George Reisner had been privileged to be asked by Harvard University to tackle the Funerary Temple at the foot of the third pyramid. And shortly after that, he found the Gatehouse [*i.e., the Valley Temple of Mycerinus*] belonging to it in the valley. Precious scientific results and rich findings rewarded his careful work stretching over many years. But in relation to architecture, the results left something to be desired. For the funeral monument of Mycerinus was still completely unfinished at the early death of its constructor. Only his successor Shepseskaf finished it superficially in brick, whereby the original project was many times changed and simplified. That is, with regard to our question as to how the funerary temples of the Fourth Dynasty might have looked, the Mycerinus temple could only give us an insufficient answer.

As the ruins in front of the Cheops Pyramid [*Note: of this Funerary Temple of Cheops, only part of a pavement survives.*] also promised very little success,⁴ many questioning glances⁵ were directed towards the Chephren temple, especially since, in view of the Valley Temple, one had to assume that this complex had been totally completed. On the other hand, the appearance and the exploratory excavation of Flinders Petrie revealed that this temple also was in a desolate condition of destruction. Certainly we suspect that into recent times, considerable parts of the temple had still stood upright, because Maspero⁶ tells us that around 1700 [Benoit de] Maillet had still seen four big pillars of the temple erect. However, that was revealed later as an error of Maspero's, because Maillet claims⁷ this not of the temple in front of the second pyramid, but of the one in front of the third pyramid, where the pillars are still standing just like that today.⁸

Nevertheless, a long time would perhaps have passed before someone might have found the courage to attempt the excavation of the funerary monument of Chephren, if not for the fact that the Confidential Royal Councillor Dr. Ernst von Sieglin in Stuttgart, who was already highly meritorious for his research into antiquity, became interested in this important problem and generously granted the means for an archaeological expedition which initially should conduct a more comprehensive investigation of the Chephren temple complex.

THE TASK.

An initial viewing of the excavation area undertaken by Georg Steindorff and Ludwig Borchardt in the autumn of 1908 had concluded that the work had to solve a double task, the excavation of the Funerary Temple and the uncovering of the exterior of the Valley Temple. Furthermore, one had to investigate the pyramid as well as its surrounding walls and auxiliary complexes and to check at the same time what had been published up to then. Finally, one also had to thoroughly clear and measure up the interior of the Valley Temple, of which, even though fifty years had passed since its discovery, no sufficient account was available.

THE LOCATION OF THE EXCAVATION AREA.

In order to be informed about the excavation area, it is best to climb the Pyramid of Chephren⁹ and have a good look around.

If we do this, we find ourselves at the edge of the Libyan Desert, the hilly landscape of which descends fairly steeply down towards the arable land to the northeast. Two sand-filled valleys which empty out like two streams from the highlands of the desert towards the arable flatlands separate from the rest of the mountain range a rock plateau which descends steeply on three sides and connects with the interior of the country behind only on the west. This plateau, which is elevated 40 to 60 metres above the plain, was as if specially created to bear the proudest necropolis of the world.

Three kings of the Fourth Dynasty have here found their resting-place: Cheops, Chephren, and Mycerinus. In addition, there is an unfinished pyramid at the southeastern slope of the plateau. It may well have been begun by Shepseskaf, possibly the son and successor of Mycerinus. [*This is no longer thought to be the case.*]

The most advantageous place had doubtless been chosen by the first king, Cheops. He put his pyramid as close as possible to the steep northeastern slope, which as seen from the arable land below appears like a plinth for the monumental structure.

By now, later on, Chephren wanted to erect a funeral monument here as well, so he had to move further towards the southwest, higher up the plateau.

Whereas the pyramid of his predecessor looked more imposing from the nearby arable land because of its position, the effect of distance¹⁰ of the new pyramid surpassed it, because it lies about 10 metres higher, and as a result of this it appears bigger.

In the same position,¹¹ as the second pyramid relates to the first, the third one (to Mycerinus) is to the second. However, it cannot sustain a comparison with the other two because it is considerably smaller.

The rock plateau on which the Chephren Pyramid stands declines very gradually from the northwest to the southeast. In order to be able to build the pyramid, one had first of all to construct a horizontal surface onto which one could lay out the measurements of the future edifice. For this purpose, the old builders cut away part of the high rock floor towards the north and the west and elevated towards the east the two deep areas by means of massive terrace walls. Further towards the north, west, and south, the old surrounding walls of the pyramids can be recognised. Today, however, they are severely damaged and almost submerged by windblown sand. Only stripes of weathered limestone demarcate the walls lying underneath. On the other side of the western surrounding wall lies a wide courtyard in which the remains of numerous long but narrow rooms can be discerned. Petrie has probably correctly recognised them to be the old workers' barracks.

Further towards the west, the wavelike hills of the desert, the heights and their glassy hard limestone glistening in the sun, stretch between the hills into softly undulating sandy valleys.

Towards the north and northeast one's glance wanders over the wide field of graves, stretching behind the Cheops Pyramid but also in front and on both sides of it. Nowhere does one recognise so clearly as from our high vantage point the regular street patterns in which the house-like mastabas are grouped. Closely around the Cheops Pyramid the graves of the royal family are clustered: the three small pyramids of the royal women in the southeast, and the mastabas of the princes at the south side.

Separated by a ravine from the area of the Cheops Pyramid lies our excavation field. At the exit of this ravine, in the valley, almost in the axis of the Chephren Pyramid, rises up the Great Sphinx which is now almost completely submerged in sand. It consists of a rock the form of which by its nature suggests that of a supine lion. By artificial shaping it has then been created as the symbol of the royal majesty, the resting lion with the head of the pharaoh.

To the southeast of it one recognises the so-called Sphinx Temple [*what we now call the Valley Temple, the actual Sphinx Temple of today having been still entirely covered with sand and later structures at this time and wholly unknown*] suffocated by the besieging mass of sand, the Valley Temple, part of the funerary monument of Chephren. Today we know that between this and the Funerary Temple a covered causeway existed. And now we also recognise the tongue of rock gently drawn downwards in a soft decline towards the Valley Temple, which formerly had carried this Causeway. Of this itself, hardly a stone remains.

Not even its course can be clearly discerned except from a high standpoint, because the back of the rock is completely shot through with later shaft graves.

Nature then came very much to the aid of the builders in that it supplied them with a natural ascension to the temple and to the pyramid. With this it relieved them of the effort needed to transport the material to construct difficult and costly foundations, as had been necessary for instance for the Cheops Pyramid¹² and the Abusir pyramids.

Directly in front of the pyramid lie the ruins of the Funerary Temple, where our work was meant to begin.

South of the Great Sphinx, beyond the Causeway, a place can be recognised where during the beginning of our activity, an excavation was undertaken by Count Galearza and directed by the officials of the Egyptian Antiquities Service, Ahmed Bey Kamal and G. [Georges] Daressy,¹³ during which the grave of a royal mother, perhaps the mother of Chephren, came to light.

With a short glance to the sandy lowland and the Arab cemetery in the southeast, and the rock slopes rising behind, towards the unfinished pyramid of Shepseskaf, and on to the funerary complex of Mycerinus, this preliminary orientation shall be completed. There is the area where under the expert direction of George Reisner, extensive American excavations have been undertaken for the past several years.

THE FUNERARY MONUMENT OF CHEPHREN IN EARLIER TIMES

The information which has been transmitted to us by authors of antiquity concerning the Chephren Pyramid is very scanty, consisting of much myth and very little tangible data. After all, the Greeks and Romans were able to see little more than what there was to be seen before the commencement of our own work. The pyramid chambers were not accessible, the casing had been badly damaged on the outside, the temple had been completely destroyed, the entrance had disappeared, and the Valley Temple was probably hidden under deep sand.

Herodotus could only say¹⁴ that the base length of the second pyramid was forty feet less than that of the first, and that its base was encased with granite. Strangely enough, he does not mention the Sphinx at all, even though it is almost certain that in those days it was lying almost completely free and that this image of the sun god Harmachis was an object of veneration at that time. Strabo said¹⁵ that two of the pyramids were counted among the Seven Wonders of the World. Pliny reported¹⁶ that the Sphinx had been taken for the funerary monument of the king Harmais [*a Latin corruption of the Greek name of the Egyptian god Harmachis*]. Finally, one reads in Diodorus Siculus¹⁷ that there exists an ascent to the peak of the second pyramid which was cut into the casing.

The Valley Temple itself is mentioned nowhere. Strabo on the other hand mentions that:¹⁸ ‘There is at Heliopolis as well as at Memphis an edifice or building of many columns of a barbaric construction, because apart from the size and quantity and number of columns, it does not contain anything graceful, nor does it contain any inscriptions.’ In Lucian we read: ‘In ancient times there were temples in Egypt without relief images.’¹⁹ [*Another translation of what Lucian said is given by Herbert Strong: ‘Originally the temples of the Egyptians possessed no images.’*²⁰] This characterisation could refer to a building of a style similar to that of the Valley Temple, as Perrot and Chipiez have already remarked.²¹ It would not have been our Valley Temple itself, because, as has been explained in Section Five, by that time it most likely was completely buried.

In the Middle Ages, and in modern times, many travellers have left us notices about the pyramids.²² However, since in those days one was able to see even less than could be seen by the authors in Greek and Roman times, there is very little of interest to be gained from these notices.

For instance, what the Arabic writers report is mostly pure legend and fantasy. The most important of what we can find out from them is that the small pyramids of Giza – in other words, the satellite pyramids of the funerary precincts of Cheops, Chephren, and Mycerinus, were destroyed at the end of the twelfth century AD by the eunuch Karakus under the aegis of Saladin. He used the stones to build the Citadel of Cairo, the city wall and the bridges at Giza.²³ We also hear about several not unimportant communications which concur with today’s findings, about the opening of the interior of the Cheops Pyramid which took place under the Caliph Mamun (813-833), the son of Harun er-Raschid, during the occasion of a visit to Egypt.

Only after the scientific rediscovery of Egypt at the beginning of the last [19th] century did investigations about our area of excavations become prevalent.

In 1818 Belzoni sought to discover the entrance of the Chephren Pyramid,²⁴ which at that time was not open. To begin with, he cleared a part of the lower underlying pavement between the temple and the pyramid. The damage in the pyramid yard which we found in front of the axis of the pyramid appeared to be traces left from these futile efforts. Then he turned to the north side, where he found the entry which had evidently been forced in Arabic or even earlier times. The way into the interior, however, also led through such loosely-compacted masonry, that he was afraid that his workers might become buried by the collapsing masses of stone. He was therefore forced to give up this approach and to search for the real or true old entrance passage. After he had observed that in the first pyramid the entrance does not lie exactly on the axis but was somewhat shifted towards the east, he found it there also in a similar location. The opening on the 2nd of March 1818 was immortalized by him in an inscription above the entrance. The sloping passage was filled with large stones and debris. Below, the portcullis was still in situ. After prolonged efforts they succeeded in raising it high enough so that they were able to crawl through the passage. The discoverer now entered a horizontal passage which led directly to the burial chamber. Here also the forced passage through which the grave-robbers had formerly entered also terminated. Belzoni tells us that the burial chamber once

had a painted ceiling. On the walls he found a great many scribblings done with charcoal amongst which there was on the western side an Arabic inscription.²⁵ The sarcophagus was still in its place, the cover was broken and partly shifted to one side. Remains of cattle bones, debris, and earth were lying inside.

Then he penetrated through the descending passage, which was partly filled with rocks and rubble, down to the lower burial chamber. There he saw on the walls primitive inscriptions which he thought were Coptic. He then followed the passageway ascending northwards and noticed that there the portcullis was not in situ, and that the passage was lined with blocks. After he had convinced himself that this passage only led to the outside, he gave up the pointless attempt to open this blocked entrance.

We can actually only speak of scientific investigations of our excavation area from the time of [John] Perring and [Colonel Howard] Vyse, who worked here in the years 1837 and 1838. They undertook a new and precise examination of the second pyramid always in the thought that still further chambers might be contained within, which had not been found up to then. First of all, they reassured themselves that the lower passage which had not been opened by Belzoni really led into the open, by clearing the lower entrance in the pavement of the pyramid yard. Then Perring thought that he needed to search for the opening of the other passages in the floor of the upper burial chamber. He thus terribly destroyed the floor of the chamber and also moved the sarcophagus from its place.²⁶ And all in vain! Apart from this, one has to have undivided admiration for the scientific investigations and surveys of these two researchers, especially for the plans done by Perring of the entire pyramid field, as well as of the individual buildings, which have retained their value up till now, and have also been used by us extensively.

The Prussian expedition under [Karl Richard] Lepsius has, with its extensive activities in other areas, been less able to concern itself with the pyramids. The groundplan of the pyramid fields of Giza drawn by Erbkam,²⁷ on the other hand, shows a further improvement on Perring's, and has been unsurpassed up till today. Several valuable notices are found in the first text volume of the *Denkmäler*.²⁸

The Sphinx was initially cleared in modern times by [Captain J.-B., or Giambattista] Caviglia in 1816. He found there, probably stemming from Roman times, terraced steps which led from the east towards the Sphinx, as well as the smaller temple between the paws of the colossus and the memorial stela which Thutmosis IV had erected in the 15th century BC as a memorial to the fact that he had freed the Sphinx from the suffocating desert sand.²⁹ Later on, Perring and Vyse in particular have continued these investigations.

Matters entered a new phase when [Auguste] Mariette tried from the year 1853 onwards to find the grave of the king, Harmachis, which had been mentioned by Pliny,³⁰ within the Sphinx. On this occasion he accidentally hit upon the Valley Temple. He began to clear it from the top. As a result of the huge masses of sand that needed to be dealt with he found himself forced to

approach his patrons the Duke of Luynes and the French Government with ever renewed demands for money. He reports this himself [in French]:³¹

‘The temple discovered is now up to four fifths cleared. We still haven’t found anything in this temple. But in a temple which is filled up by sand bit by bit to the ceiling there is no reason why the objects which it contains might not float and somehow find themselves trapped between two layers. All the work which has been done up to now is for the purpose of recovering the monuments on the ancient floor. Let us be courageous and go on to the bottom and since we want to reap a harvest, let’s have the patience to wait until the final push!’

But these requests were in vain. The excavations were stopped even though he had reached a level only one metre above ground level. Only the announcement of the 1860 visit of the Empress Eugènie gave the Egyptian Government the incentive to resume the interrupted work at their cost.

Mariette reports: ‘Much later a lucky chance put into my hands the means to resume, under the order of Said Pasha, the work which four years earlier I had had to abandon. Within a few days the ground level was reached and the statue of Chephren formed the nucleus of the riches which are today collected in the Museum of Boulaq [now the Cairo Museum]. But for the lack of a few hundred francs, the statue of Chephren would today be instead in the Museum of the Louvre. ... This temple had been absolutely unknown until then. The plan of Wilkinson marks this spot with these words: “pits unopened”.’

Concerning the external walls uncleared by him, he says:

‘Seen from the outside, the temple must present itself under the aspect of an enormous cube of masonry constructed with gigantic blocks of greyish limestone. The three stelae of Thutmosis IV and of Rameses II represent the Sphinx resting upon a similar cube, which cannot be the temple that we are describing. This cube on the three stelae is ornamented with long prismatic grooves in the style of the Old Kingdom. It is not unreasonable to suppose that the temple itself had received this decoration on the outside and that seen from afar it must have reminded one in its enormous proportions of these facades of a style so original, of which the sarcophagus of Khufu-Ankh in the Museum of Boulaq [Cairo] offers a perfect example. ...’³²

This supposition resulted in it being firmly believed in many places that the facades were ornamented as described above.

Regarding the access to the building, he remarks that only a single small door in the corner was visible. From this statement we can trace the many suppositions that the Valley Temple had only one door, lying unsymmetrical to the axis.³³

According to Mariette’s account, during his works the following were found:

1. The statue of an ape [*doubtless a baboon symbolizing the god Thoth*] on the base of which was supposed to be found the remains of an inscription.
2. Small limestone stelae venerating the Sphinx as Harmachis
3. The famous Chephren statue which had fallen head-downwards into the well.
4. Another Chephren statue of serpentine,³⁴ damaged, but with the head intact.
5. Fragments of eight other statues, five of them with Chephren inscriptions.
6. Chin and mouth of a fine colossal statue of alabaster, the mouth being about 15 cm. long.

Specific accounts of the condition of the interior of the Valley Temple during this clearance, from which one could deduce its later usage and history, are unfortunately completely missing [*from Mariette's account*]. Equally unclear are the circumstances of the discovery of the different statues and stelae. Mariette says only, concerning the one best-preserved statue of Chephren, that it had been found in the well. Nowadays, however, one hears everywhere the tale that all the royal statues were found lying in there,³⁵ which was hardly possible, as so many statues could hardly have found space in that hole.³⁶ Most of all, the information is missing as to where those pieces stemming from later times (the ape and the stelae) were found. Unfortunately, the necessary care in the clearing of the building has also been lacking. It can also be established³⁷ that those granite architraves which are now missing had crashed down at that time into the interior. As Mariette was unable to put them back into their place, in 1869 he ordered them to be destroyed by soldiers with gunpowder and then cleared away. One can still find in the vicinity today some of these granite pieces with modern holes made for explosives.

The next scientific material about our excavation area is given by Flinders Petrie, who carried out a new measurement of the pyramids in 1881 and 1882. His acute observational abilities, and the precision of his measurements, have made his publications extraordinarily valuable for us.³⁸ In the upper [funerary] temple he has only scratched the surface, whereby pieces of statues and such like have been collected. But then he cleared the upper part of the Causeway and with that finally proved the connection between the funerary temple and the Valley Temple, which Piazzi Smyth had already previously suggested. He also gives a good description and a rather accurate ground plan of the Valley Temple. He dedicated careful study to the surrounding walls of the pyramid and the workers' barracks. His accounts are so detailed that we only need to give them a superficial verification.

Further works in our excavation area have not become public. In addition it should only be mentioned that [Ludwig] Borchardt had several baskets full of statue pieces and splinters collected from the surface several years ago, which are now stored in the Berlin Museum.

We have already mentioned that in 1905 during the occasion of the Leipzig mastaba excavations they did not complete the attempt to clear the southern entrance of the Valley Temple because of a lack of funds.

STATE PRIOR TO THE EXCAVATION

We now want to summarize briefly in what condition we found the funerary monuments of Chephren at the beginning of our work.

Of the Valley Temple, only the interior had been excavated. The two entrance rooms were only partially cleared. Mud walls and modern walls made of broken stones, with which they tried to hold back the pressure of the sand from the outside, obstructed the exits.

In the columned hall the windblown sand had already accumulated up to a height of one metre, so that one had to clear thoroughly here to begin with. One must doubt that this had ever been done properly before. At any rate, no one had ever paid attention to the holes in the pavement where the statues had once stood.

Of the exterior of the Valley Temple, nothing had been cleared. The lower end of the Causeway where the limestone walls are almost completely preserved must have been cleared without anyone ever recognising properly the importance of this part of the building.³⁹

The upper end of the Causeway, the foundation of which Petrie had already cleared once, was again hidden under fresh windblown sand.

The massive core blocks of masonry of the funerary temple rose high above the rubble. They had always been noticed by visitors. Also here, the traces of Petrie's excavations were recognisable. Beside it, a fragment of the granite casing of the eastern face may have been visible. The more destroyed parts of the temple, that is, the courtyard and the parts of the building towards the west, were on the other hand totally unknown. They were lying under a layer of rubble of about 1.4 metres height. Because of the protecting pyramid beside it, and also because of its high position [on the plateau], it was not so exposed to the wind, and so not much windblown sand had accumulated there. Most likely Petrie, and perhaps also commissioned or freelance antiquities thieves, have probed here, but without the slightest scientific results.

Round about the pyramid were deposited enormous rubble heaps, resulting from the breaking off of the pyramid casing. They reached in part a height of almost ten metres about the pavement of the temple yard.

Nothing was yet known about the interior surrounding wall of the pyramid. The exterior surrounding wall, on the other hand, was still clearly visible under the sand. Equally, the workers' houses were showing. The places where Petrie had been digging there were clearly indicated as gentle indentations in the sand.

Of the Queen's Pyramid, only a vague very flat rubble heap could be seen, in the middle of which some prominent great limestone blocks rose up.

We have not touched the interior of the pyramid, but we have left it in the same state in which we found it and as it has lain since Perring's investigations, which is now already over 70 years ago.

¹ Borchardt, *Grabdenkmal des Königs Ne-user-re; Grabdenkmal des Königs Nefer-ir-ke-re and Grabdenkmal des Königs Sahu-re*, J. C. Hinrichs, 1907, 1909, 1910, hereinafter referred to in references in abbreviated form as Ne-user-re, Nefer-ir-ke-re, and Sahu-re.

² Flinders Petrie, *The Pyramids and Temples of Gizeh* [London, 1883, first and fuller edition], pp. 128 and 153.

³ Compare Borchardt *Das Re-Heiligtum des Königs Ne-Woser-Re* I, p. 25; from now on referred to only in abbreviated form as 'Re-Heiligtum'.

⁴ In the year 1904 [Ernesto] Schiaparelli, during his mastaba excavations, had also been digging in the temple of the Cheops Pyramid and on that occasion had brought to light a basalt pavement. However, nothing is known of any further results of this excavation. [Note: Professor Ernesto Schiaparelli of Turin University abandoned his excavations and turned over his concession to George Reisner, of the USA.]

⁵ Unfortunately, nothing is known just yet about the architectural results of the French excavations at Abu Rouash.

⁶ *Egyptian History of Art*, German edition, p. 549.

⁷ [L'Abbé Jean Baptiste] Le Mascrier, *Description de l'Égypte contenant plusieurs remarques curieuses sur la géographie etc. de ce pays, composée sur les Mémoires de M. [Benoit] de Maillet* (Paris, 1735).

⁸ Also at the time of [Richard] Pococke, the temple remnants had surely been preserved better than at the beginning of the excavations; see [The Rt. Rev. Richard] Pococke, *Description of the East*, Vol. I, p. 46, London, 1743 [*A Description of the East and Several Other Countries*, 2 vols., London, 1743-5], and the note in [Alfred] Wiedemann's *Ägyptischer Geschichte*, Supplement, p. 16, which does not correspond with it.

⁹ The Pyramid of Chephren lies 13.5 km southwest from the Citadel of Cairo, 20° 59' north latitude and 31° 81/2' east of the Greenwich meridian.

¹⁰ The first pyramid was, according to Petrie, originally 146.59 metres high, the second was however only 143.50 metres high. The first pyramid is therefore 3.09 metres taller. The latter, however, according to Perring, lies 10.11 metres higher, so that its tip surpasses the former by 7.02 metres. Today the difference in height is considerably greater, because the tip of the first pyramid is much more damaged than that of the second.

¹¹ Petrie gives in his *Pyramids and Temples of Gizeh* [*op. cit.*], p. 125, a triangulation of the pyramid field. According to this, the positions of the three pyramids are in a relationship to each other which has been calculated as follows:

	Distance	Direction
From the tip of the 1 st pyramid to the 2 nd	486.87 m	43° 22' 52"
From the tip of the 1 st pyramid to the 3 rd	936.17 m	37° 51' 6"
From the tip of the 2 nd pyramid to the 3 rd	453.95 m	34° 10' 11"

Thereby it has been selected as the starting direction of the mean north south axis [azimuth] of the first and second pyramids, which is supposed to deviate by approximately 5' east from true north.

¹² Herodotus, Book II, 124, says that the erection of the ascending path to the Cheops Pyramid cost just as much labour as that of the whole pyramid; this however seems to be exaggerated.

- ¹³ G. [Georges] Daressy, in *Annales du Service des Antiquités*, Vo. X, p. 41.
- ¹⁴ Herodotus, Book II, 125 [*sic*]. [This is erroneous, the correct reference being 127.]
- ¹⁵ Strabo, Book XVII, 808. [Chapter 1, Section 33. The reference '808' is the Casaubon numbering.]
- ¹⁶ Pliny, *Natural History*, Book XXXVI, 17, 1: 'Harmain regem in ea [the Sphinx] conditum et volunt invectam videri; est autem saxo naturali elaborata.' [Other editions of the Latin text have said the king's name was Amasis, but Harmais tends to be accepted now, as a Latin corruption of the Greek name Harmachis.] [*Translator's note*: My old friend the late Professor D. E. Eichholz was the translator of this book of Pliny's *Natural History* for the Loeb Library (1971), and the text which he used differs from the above by adding the word *putant*: 'Harmain regem putant in ea conditum et volunt invectam videri; est autem saxe naturali elaborata.' His translation of the whole passage was: 'In front of them [the pyramids] is the Sphinx, which deserves to be described even more than they, and yet the Egyptians have passed it over in silence. The inhabitants of the region regard it as a deity. They are of the opinion that a King Harmais is buried inside it and try to make out that it was brought to the spot; it is in fact carefully fashioned from the native rock.' Eichholz very sensibly points out the similarity of this name to Harmachis. See Pliny, *Natural History*, Volume Ten, translated by D. E. Eichholz, Loeb Classical Library, Harvard University Press, USA, 1971, pp. 60-1.]
- ¹⁷ [Diodorus Siculus, *The Library of History*,] Book I, Chapter 63. [This statement has been edited out of modern editions of Diodorus, such as that of the Loeb Library edition. However, this statement was accepted as a genuine sentence of Diodorus by the meticulous scholars W. W. How and J. Wells in their seminal work *A Commentary on Herodotus*, 2 vols., Clarendon Press, Oxford, 1912, Vol. I, p. 230. There, when commenting on Book II, 127, of Herodotus (see Footnote 14 above), they state: 'Diodorus (I, 64) [*note that this is a correction to Hölscher's reference given as I, 63*] tells us there was an *anabasis* ['a way up'] up one side of this pyramid.']
- ¹⁸ Book XVIII, 128 [*sic*]: '... oiden echei charien, oide graphikon.' [This reference is erroneous, as there is no Book XVIII of Strabo, and Hölscher means Book XVII, Chapter 1, Section 28, the true Casaubon numbering being 804/5. The numbering '128' is incomprehensible.]
- ¹⁹ [Lucian], 'On the Syrian Goddess', Section 3: 'azoanoi neoi'.
- ²⁰ Garstang, John, ed., *The Syrian Goddess*, trans. By Herbert A. Strong, Constable, London, 1913, p. 43. Garstang, who annotated the translation extensively, makes no comment on this sentence.
- ²¹ *Art of Antiquity*, Vol. I, Egypt, p. 311. [This reference is to the German edition of what in English was published in 2 vols. as Georges Perrot and Charles Chipiez, *A History of Art in Ancient Egypt*, Chapman and Hall, London, 1883.]
- ²² Vyse, [Colonel Howard, *Operations Carried on at the Pyramids of Gizeh in 1837*, 3 vols., London,] Vol. II. This is where they have mainly been compiled. Compare also the essay 'The Wisdom of the Pyramids' ('Pyramiden-Weisheit') by A. Wiedemann in *Globus*, Vol. LXIII, Number 14, Braunschweig, 1893.
- ²³ A great number of testimonies about the pyramids have been compiled by the Arab historian Makrizi (1364-1442) in his great work concerning the geography and history of Egypt. A new translation of the chapter on the pyramids by Emil Gräfe in the 5th Volume of the *Leipziger Semitischen Studien* (Leipzig, 1911).
- ²⁴ From Vyse, *op. cit.*, Vol. II, pp. 294 ff.
- ²⁵ See Section Five.
- ²⁶ Vyse, *op. cit.*, vol. I, p. 196, and Vol. II, p. 99.
- ²⁷ [Karl Richard] Lepsius, *Denkmäler aus Ägypten und Äthiopien*, Abtheilung 1, p. 14.
- ²⁸ *Ibid.*
- ²⁹ See [James Henry] Breasted, *Ancient Records of Egypt* [5 vols., reprinted by Histories & Mysteries of Man Ltd., London, 1988], Vol. II, Section 810 ff. where the more important literature is also listed.
- ³⁰ See Note 16 above.
- ³¹ Auguste Mariette, *Sérapeum de Memphis*, ed. by G. Maspero, pp. 91 ff.
- ³² See [Auguste] Mariette, *Questions, etc.* in the *Comptes Rendus*, 1877, pp. 427-473.
- ³³ For example, even in [Ludwig] Borchardt's article in *Zeitschrift für Gesch. d. Architektur*, Third Year, Vol. 4, p. 68.
- ³⁴ Actually, it is a greenish metamorphic slate.
- ³⁵ For example, *Bibliothèque Égyptologique*, XVIII (*Oeuvres de Auguste Mariette*), CVIII, and Bäder, *Ägypten*, 1906, p. 126.
- ³⁶ The provenance seems to have been stated correctly only by Petrie in *The History of Egypt*, Vol. I, p. 51.
- ³⁷ [Flinders] Petrie, *Pyramids and Temples of Gizeh*, *op. cit.*, p. 130.
- ³⁸ *Ibid.*

³⁹ The fact that covered causeways ascend from the valley to the funerary temple was only established at Abusir. See [Ludwig] Borchardt, *Ne-user-re*, p. 13.