

CHAPTER THREE

THE FINDS OF THE INDIVIDUAL PARTS OF THE BUILDING

PRELIMINARY NOTE

In the previous section we attempted to sketch a picture of the whole area of the funerary monument. Now the material upon which the previous description is based shall be put before the expert reader as completely as possible. With the help of the drawings the reader will be able to form an opinion and possibly give different explanations or attempt better reconstructions. At the same time, those details shall be given in this section which would have been going too far in the previous section.

A. THE VALLEY TEMPLE

The Terrace and Its Monuments. At the beginning of the excavations, the Valley Temple was lying up to the height of its outer walls in the sand. In places the sand dunes consisting of windblown sand, remains of old brick buildings (see Section V), and the debris of the Mariette excavations, were over fifteen meters high. In view of such enormous masses of sand, it was impossible for us to free the Valley Temple completely. We had to confine our activity in the main to the eastern side (Figure 21).

Through this excavation we have obtained complete clarity concerning the Valley Temple itself. However, a number of new questions have emerged, for which the answers are still outstanding.

For in front of the Valley Temple there extends an eight meter wide terrace cut out of the rock, of which the upper pavement is missing completely. Two very slightly sloping ramps lead up to it within the axis of the two portals. These ramps have an inclination of only one to three degrees, so that one can hardly decide whether any inclination had even been intentional or not. They also have only been freed for a very short distance, a few meters wide, so that one cannot say anything about its continuation. In front of the terrace, between and outside of the two ramps, the underlying pavement of bedrock lies 60 centimeters deeper. However, it has at a later date been raised up to the edge of the terrace by means of very tightly-packed layered limestone debris. It looks as if, before the completion of the Valley Temple, they had decided against the terrace, and had extended the upper pavement at one and the same height also right across the eastern part. Therefore, one could assume from this a change of the original building plan.

FIGURE 21

Of the monuments which stood in front of the façade of the Valley Temple, only the ground-plan of the lower pavement is discernible. In the middle stood an open pavilion or a chapel of square ground-plan. Its roof rested on four stone pillars. Each of those was about 50 x 50 centimeters thick and had been inserted into the lower pavement by a tenon. In front of the pavilion lies a half-broken limestone threshold, in which one of the two door mortises survives. Two similar thresholds, of which however only feeble remains are visible, lay north and south of the pavilion. Also, on the west side, one of the thresholds may well have lain. On those three sides, however, no door mortises are discernible. It is therefore certain that here an open pavilion stood, resting on four pillars, the front of which was accessible through double doors. Its other sides might possibly have been closed by lattice work.

FIGURE 22

The Ground-plan (Plate XVII) shows still further remaining traces just next to the pillar sockets. However, their significance cannot be made out with certainty.

Of the other monuments which stood in pairs, symmetrical to the portals on the terrace, the ground-plan shapes can be made out clearly, and just around them, the sockets which have been used to shift the blocks (see Chapter IV). According to this (evidence), there were monoliths of 8 meters length and more than 2 meters width. The narrow side facing the entrance is rectangular, the other one is formed in a semi-circle. As [Ludwig] Borchardt noticed initially, this ground-plan shape in the Egyptian language of forms is peculiar to the plinths of recumbent sphinxes, whose rear end lies over the semi-circle, and whose front paws lie on the end which is shaped as a rectangle. This explanation matches so well with what we know otherwise about the architectural style of Chephren's time that we can accept this interpretation as certain: In front of the façade of the Valley Temple lay four sphinxes with their faces turned towards the portals.

FIGURE 23

Next to the southeastern corner of the Valley Temple a piece of limestone upper pavement has been preserved. On it one can see the remaining traces of a wall shape about 2.20 meters wide and stretching towards the south, which probably was made of mud brick. In it lay a double door 1.80 meters wide, the outer side of which faces towards the west. Towards the east lie two round column bases in front, but not exactly symmetrical to the door, rather somewhat shifted towards the south, because the southernmost sphinx interfered with the free development of the entrance. It is very striking that the raised bases have been worked out of the huge pavement slabs. In contrast to such waste of material, one would normally insert the stones serving as column bases one by one into the thin pavement. The interpretation and dating of this gateway lie in obscurity. Certain it is that it belonged to the Old Kingdom, but perhaps only to the Fifth or Sixth Dynasty.

Further to the east on the terrace which slopes downwards here, stands a large limestone basin, the bottom of which has been cut out of the rock under-

pavement, while its upper part has been hollowed out of a limestone block. Perhaps this basin stood somewhere in connection with the abovementioned gateway.

One can assume that the four sphinxes and the pavilion with the king's statue did not stand unprotected outside the walls, but that rather the terrace lay inside an enclosed courtyard.¹ However, we have certainly not found any traces of walls next to the Valley Temple, whose sides, on the other hand, have not been freed from the sand with the exception of the already mentioned mudbrick wall at the southeastern corner. In any case, there are still many riddles in the vicinity of the Valley Temple awaiting solution. And if one day one may try to approach the question more nearly, if and how the valley temples stood in connection with the royal residences, one might perhaps start to dig there where one has now been stopped. In the attempt at reconstruction in Plate One, one has not touched on these unsolved questions.

THE EXTERIOR FACES. The Valley Temple is built on a rock, the surface of which has been prepared to take the wall structure or the upper pavement. Right around the foot of the building ran a drainage pavement about 75 centimeters wide – now ripped out -, perhaps of granite.

On the eastern face, of the granite cladding most of the stones of the first course of masonry are standing, 2.1 meters high throughout. The cornerstone of the southern entrance is for instance 3.9 x 1.7 x 2.15 meters in size and therefore weighs about 38,000 kilograms. One stone in the middle of the façade is 5.45 meters long and weighs about 42,000 kilograms.² Towards the top, the façade consisted of granite blocks of somewhat smaller measurements. The layers and distribution of joins for the most part can still be seen on the core masonry (Plate VIII). The fact that they were granite blocks can be seen by the clamp holes which served to shift them (see Chapter Four). One can only be in doubt about the form and the material of the uppermost ledge. The comparison with the upper [Funerary] temple leads us to infer the usual semi-circular profile which like the covering of the Statue Court would have been constructed of granite.

The height of the façade would have been not much more than what the core masonry still shows today, which is about 12.5 to 13 meters, or 24 to 25 Egyptian cubits. The slope can be measured exactly to 1:7, that is, to the height of one cubit and one palm rebound, or as about 82°.

The core masonry of the Valley Temple is visible along the whole façade. It consists of blocks of yellowish nummulitic limestone, as can be found everywhere in this area, of quite enormous measurements (Plate VIII). Along the eastern façade lie blocks which measure 50 to 60 cubic meters, and therefore around 150,000 kilograms. And such blocks have also been shifted to considerable heights.

The destroyed granite façade in the time of the new Kingdom was covered over with a mudbrick wall, and in this process the doors were covered over. After examining them closely, we have removed these brick buildings and made

the doors accessible again. We will be discussing these brick buildings in more detail in Chapter Five.

THE INTERIOR SPACES. The doors in the main entrances were of huge dimensions. And the lower mortises which still exist on both doors are correspondingly huge (Figure 24). The construction is in principle the same as with all doors of the Old Kingdom³ (Figure 10). The mortise is only distinguished in details here. The high-standing rim is missing, which in later examples runs around the hole, in order to prevent sand from slipping into it, because that way a strong friction would ensue and therefore it would wear out. At the bottom of this triangular hole a smoothly polished step bearing had been inserted, which is now missing, however (see Figure 24, at *d*). According to the door constructions to be discussed later, we have to think of them as consisting of quartzlike amphibolites. In the doorstep one notices a flat, round prepared groove (*f*) which was evidently made because the back of the door had been scraping when opening and closing.

FIGURE 24

Of technical interest then are the bolt holes, which had been intended for the single door. The reconstruction in Plate XI shows the two heavy metal, probably copper, bolts, which had been arranged on top of each other at a distance of 83 centimeters and probably connected by a crosspiece. It was a matter of putting these bolts in such a manner into the granite wall that when the door was leaning against the doorstep, they could be pulled forward, whereby the door was locked, but that they still could not be torn out completely, but were totally connected with the wall. One has solved this task in the following manner: one arranged the granite wall in such a manner that just above each bolt-hole a horizontal ledge groove (*Lagerfuge*) was put (at the northern main entrance), or right next to the bolt-hole a vertical upright joint (at the southern main entrance). Now one was drilling from the outside a matching bolt-hole of 6.5 centimeters diameter and about 17 centimeters depth into the granite. Then one would hollow out, before the next stone would be shifted, into the neighbouring groove, an elongated hollow into which one could put the bolt together with its stop. Now one would push the bolt to the front right through the drilled hole, as the bolt was supplied with a stop which was stronger than the drill-hole, this made it impossible to rip it out completely. It only now remained to prevent the bolt completely disappearing into the hole when pushing it backwards. That is why the back part of the hole was blocked by a stone patch!⁴

So far things are quite clear. But in addition, there are yet other construction details which we have not been able to interpret any longer. At the northern entrance are three wall plug holes in the shape of swallow-tails (Plate XI, b). It cannot be discounted that at the southern entrance, in the square block now missing, just such holes were located. There is a remnant of a hole cut out (c) into which the horizontal part of the double-bolt may have been fitted. Finally, at (d), in the pavement of both entrances there are holes which could have been intended for a flush bolt of a door (*Kantenriegel*).⁵

In the high entrance rooms, I found at the west side at the very top, niches of five cubits and three cubits width and depth each, which were evidently meant for statues. In the floors of both niches, stones were ripped out and then passage-type holes were dug into the core masonry. Probably it was suspected that under the feet of the royal statues treasures must have lain, and this was then searched for.⁶ We cleared out the northern one of these holes and explored it precisely and determined that it had a connection with the outside. It was completely filled with blown sand.

In the southern entrance lay the fragments of a great ape of black granite. The largest piece of it had been lying in this place already before our excavation. The other pieces we found partly in the ascending passage [*Aufweg* – an invented word, not clear!! evidently not a reference to the *Aufgang*], partly in the debris outside, in front of the façade of the Valley Temple. In the anteroom we have to pay attention to the shaft worked into the floor, the so-called ‘Well’, in which according to Mariette the famous Chephren statue was found. It is 2.20 metres long and 1.15 metres wide, of not quite rectangular shape, and lies at an angle to the line of the wall, and asymmetrical in the anteroom. It is, year in and year out, filled with water at a changing level. This shaft is not part of the old construction layout, but has been worked into it afterwards. This is evident from the fact that the shape of the hole is adapted to the outline of the remaining alabaster slabs of the floor, so that one protruding corner of the alabaster is indicated in the rock wall of the hole below. This shaft would have been ideal for us, to give us the most important information about the history of the Valley Temple, if we would have had precise communication about the condition in which it was found and which objects had been found in it. But Mariette speaks in his unfortunately quite imprecise excavation reports only of the Chephren Statue. Of the other finds, he mentions neither their position nor the circumstances of their discovery. For the explanation, we therefore can only rely on today’s examination.

Evidently, the ‘Well’ is an excavation shaft which had been intruded while the Valley Temple had been inaccessible and perhaps already buried in sand. One should not object that the high groundwater level excludes this interpretation, because in those days the groundwater level lay considerably lower.⁷ Later this grave will then have been plundered by robbers and the Valley Temple will have been completely ransacked for treasures. During this process, the statues found in the room may have been pushed head over the heels into the empty shaft. However, at what times the construction of the shaft and its plundering and the wanton destruction of the statues took place remains an unanswered question.

In the pillared hall, the direction of the axis of the Valley Temple was measured as being 94° east of magnetic north on March 1, 1910. All pillars with the exception of two are of a square base. Only in those places (Plate XII) where on one pillar two horizontal and one vertical architraves had to be fitted together, the bases have been made elongated. The pillars are regular, two or otherwise 3 cubits thick (respectively 1.05 and 1.58 metres). Evidently they are, as we also will see later in the upper [Funerary] temple, inserted and fixed by their lower ends into the floor. Those which are standing in the transept of the room are forty cm higher than those in the nave. This has to do with the roof

construction and the admission of light. The architraves have been connected with each other on their surfaces by strong brackets in the shape of swallowtails. In the same way, a bracketing of the undersides has taken place, through which at the same time the positions of the architraves on the pillars were secured. The shape of these brackets on the underside are shown in Figure 26. The lower tenon probably only was meant to assure that the bracket was kept in place while the architraves were being fitted. The brackets were probably of copper and had a weight each of about 20 to 25 kilos. They therefore represented a considerable value. Therefore it was these which the destroyers of the building were particularly aiming at retrieving. Everywhere they struck off the corners of the architraves or pillars in order to get to the copper. (See Plates X and XII.) And as a result of this, several architraves crashed down. Mariette then, instead of leaving them lying where they were or putting them back, blasted them to bits using gunpowder and removed the fragments.

The places where the statues had stood are clearly discernible in the pavement (Plate XII). Because the bases of the statues had been inserted about 10 cm into the pavement, they left clear and unmistakable traces of their bases (Figure 27). At the base under the statues they did not of course use any precious alabaster pavement either, but raw limestone. On the whole, there were 23 statues, all of them pretty much of the same size. They were standing 10 to 20 cm away from the wall and had an average base of 110 x 60 cm.

Characteristic of the care with which, during the times of Mariette, the Valley Temple was excavated [*Hölscher is being sarcastic here*], it appears that these pedestal holes were never noted, let alone ever cleaned out. We collected here six baskets full of statue fragments, mostly of alabaster. And that is not only pieces of pedestals, but also parts of limbs. In the hole within the axis of the room was found, for instance, an enchanting head of a uraeus (see Section 6). One can see from this that the statues had been smashed in their places and not taken away as booty. It may appear rather striking that by far the greatest number of all the statue fragments found here were of alabaster. This may well be connected with the fact that alabaster was much easier to smash than, for instance, diorite. Diorite statues therefore have been found fairly well preserved. But alabaster statues have not.

The magazines are accessible via a small double door, the same type of doors as are found in many instances in the anteroom and in the Ascending Passage. They shall be looked at together here. The relatively small lower mortises are constructed in the same fashion as the big ones on the main portals. However, the bearing stones (*Lagersteine*) which are missing there, are still partially present here. They are rectangular stones of about 15 cm square and 10 cm high. They consist of a quartz-like amphibolite, quite probably the hardest building material which has ever been used in Egypt.⁸

As can be seen in Figure 28, the bearing stone has been inserted before the threshold was put into place. And the threshold in turn was put in place earlier than the doorjamb. Originally all bearing stones had been polished evenly. Some of them show today the flat round indentation which was caused by

rubbing, probably because there was constantly sand in the mortise; others are preserved without any kind of traces of wear.

The upper mortises are unfortunately nowhere preserved undamaged. The actual bearing for the pivot is missing everywhere. It consisted of a vertically bored stone of the same amphibolite that had been inserted into the lintel.⁹ Please note in Figures 29 and 30 the meaningful way in which this stone was inserted into a swallowtail formed groove and thus prevented from falling out. The stones were inserted before the lintel was put in place similar to the way we have observed them on the lower bearing stones.

The boring through of the bearing stones protrudes a little way into the granite lintel in order to give the tenon more room to move. In the two depicted examples (Figure 29 and 30), the upper one has been produced with a normal rock drill and the one below has been produced with a cylinder drill. See more detail in Section 4.

Evidently the wooden door wings were put in before the copper sheathing was fixed, because otherwise one could have lifted out the doors as easily as one had put them in.

In the magazines the alabaster floor has been ripped out except for a few slabs. The rock base shows through. The walls consist in their lower parts of granite, and above that, are made of alabaster. The dividing floor has been constructed of granite slabs of obviously irregular thickness. The one of the southernmost chamber consists of a monolith which is at least 4.2 metres long, at least 2 metres wide, and 0.75 metres thick.

Directly behind the entrance door is found, in the southern wall, a hole through which one can climb as into a cave, into a room in the interior of the core masonry. Towards its other side [the South] the room had an exit into the open which, however, was sealed with stones and is hidden from the outside beneath sand. In this hole it is said that inferior mummies were found.¹⁰ Evidently, it was broken into from the outside, either by treasure hunters or by people who wanted to deposit corpses here. We have examined the hole carefully, and found that it is caused only by the destruction and offers nothing of interest. Therefore we have not entered it into the ground plan.¹¹

The Ascending Passage to the Funerary Temple begins directly at the Pillared Hall (see Plates X and XII). It leads from here on already in a straight line towards the door of the temple, that is, that the lowest part of the Causeway thus lies within the Valley Temple. Its slope measures here about 1:6, that is considerably more than that of the actual Causeway, which has a slope of only about 1:11. It is striking, furthermore, that the part lying within the Valley Temple has a greater elevation than at its end [he is commenting on the slope, not the absolute altitude].

The 'Porter's Room' is today, apart from the magazines, the only room which gives a rather unblemished impression; only its alabaster floor is largely ripped out. The ceiling consists of a single granite block (Figure 13).

The ramp to the roof had a slope of about 7:2. This cannot be measured precisely because the floor slabs are missing. In any case, it was considerably steeper than the ramp in the Sahu-Re Temple, which measured 7:1. Our ramp will have had, as well as that one, horizontal grooves which were meant to prevent feet from slipping.

The working out of the roof is completely clear. On extensive parts of the southern half of the roof, the lowest strata of the outer walls clad in limestone are preserved (Plate IX). They show the same slope as the walls of the Valley Temple on the outer sides, i.e., 1:7. Between them, the roof steps down in four terrace levels, of which the lowest lies on the right and left of the ceiling of the nave of the Pillared Hall. Only the southern part of the lowest terrace level is completely intact. Here big white limestone slabs form the upper pavement. They were cut [and fitted] so closely that no water could penetrate into the grooves (between them). And wherever the grooves had not become sharp enough, they had been mended with smaller stones.¹² Under these limestone slabs then lie the granite beams of the magazine ceiling. The whole ceiling is around 1.2 metres thick.

On the pavement of the roof, a flat groove from east to west runs into a drain channel, which is led through the western outer wall. On the southern half of the roof, which we have focused on so far, the actual channel has been ripped out. However, on the corresponding part of the northern half, it is completely intact (Figures 32 and 33). It is made from red-brown sandstone, from Gebel achmar, as it was preferably used for drainage purposes.¹³ These two channels were supposed to drain all of the precipitation of the Valley Temple, for which however its diameter of only 18x11 cm seems somewhat narrow. We have not attempted to free the outer outlet of the channel because we were convinced that the rainspout which one should assume here as well as the façade covering had been ripped out. Such a rainspout of red granite is lying in front of the façade of the Valley temple (Figure 34). It may well come from the southern half of the roof.¹⁴

The rainwater falling onto the upper roof terraces ran in steps onto the lower platforms and collected at the bottom. Between the individual terraces were found small ramps over which the water streamed downwards. These ramps were framed by low parapets which also served as steps. Such a ramp has been well preserved on the southern half of the roof (Figure 35); of another one, the outline traces can be seen. Remarkably, next to each of these rain ramps lies a circular hole in the pavement. Apparently, it has some relationship to the ramp, without our being able to explain its purpose.

The only place where figuring out the roof is not quite certain lies towards the northwest, where the slanted cover of the Ascending Passage protrudes out of the roof. It is superfluous to elaborate further about this because in the drawings (Plates IX, X, and XII), the photograph as well as our reconstruction has been given.

We still must give particular attention to the illumination of the interior rooms, partly because they are decisive for the development of the height of the

different rooms, and then also because the Valley Temple is the only¹⁵ edifice from the Old Kingdom in which we are able to study such questions.

The simplest way to design a window is to cut slanted slits halfway into the wall at the top, and halfway into the ceiling beams, and lead them upwards and out. The Pillared Hall is illuminated with 14 such slit windows (Plate IX). One can see that such windows can only be designed if the ceiling of the room to be illuminated is lying higher than the vicinity. Therefore, for instance, in the transept of the Pillared Hall, windows lie towards the west, but not towards the east. None of these slit windows is completely preserved, because the granite ceiling beams are missing everywhere. One sees only the lower parts of the windows (Figure 36), namely those slanting cuts in the upper granite cladding stones of the wall, as well as the alabaster sill beds (*Sohlebaenke*), or where these are missing, the outlines (*Ausarbeitungen*) of them.

We are not quite clear about the question of the illumination of the anteroom. Either it did not have any windows at all, in other words it had to rely on indirect illumination through the entrance rooms, or it had on narrow sides doubly bent light shafts. Here in the anteroom just those two stones of the granite cladding are missing into which the outlets of such shafts must have been indicated.

The entrance rooms without doubt had no windows. The light streaming through the opened doors had to suffice. The magazines and the 'Porter's Room' were too low for the insertion of direct illumination via window slits. There were therefore slit openings under the ceilings designed for them similar to the windows and guided vertically into channels of approximately 60 x 60 cm cross section extending towards the top. These channels themselves bend horizontally at the top and end in the outer wall of the roof court opening just like windows (Figure 38). It is clear that such doubly-bent channels are hardly useful to let light fall in, even if the inside has been covered with well-reflecting alabaster, as has been done here. The effect will be more one of ventilation than of illumination. Therefore we want to define these shafts, in contrast to windows, as ventilation shafts. Four of this kind existed, that is, three in the magazines, and one in the 'Porter's Room', all of them still well preserved.

Both types of openings, as one has well observed, are designed in such a way that no precipitation could get into them. To this purpose the exterior exit was always lying in an almost vertical plane and with a lower edge a little over the roof.

B. The Causeway

Measured on a slope, the Causeway between the Valley Temple and the Funerary Temple measures 494.6 metres in length. So the difference in height over this distance is 45.8 metres. The Causeway also has a gradient of 5° 17' or almost 1:11.¹⁶ The horizontal length of the Causeway is calculated therefore as 492.47 metres. The difference in height between the threshold of the door of the temple [the Funerary Temple] and the pavement of the Pillared Hall in the

Valley Temple has been measured to be 49.605 metres. The direction of the Causeway is 106° 20' east of magnetic north as measured on March 1, 1910.

Of the wall masonry of the covered Causeway, only one large piece survives, still standing close to the Valley Temple. Apart from this, it has everywhere been carried off, mostly down to the under-pavement, which consists partly of the bedrock and partly of foundation blocks of yellow or white limestone.

Alongside and right next to the former ascending path [*Aufweg*], after its destruction in Persian times, shaft graves were constructed, which partly were intruded through the foundation (of the Causeway).

The walls of the Causeway are at its base 3.13 metres thick, which is about 6 cubits. They are sloped on the outside and vertical on the inside; that proves, according to the Egyptian law of style, that the Causeway must have been covered. The slope of the outer sides was measured to be 6 cm per metre. Probably it should measure 2 fingers backward slope per cubit height, which is 7 cm per one metre. The wall consists of layers of white Mokattam stone of an average 35 cm height. The layers do not lie horizontal, but ascending, though not at the same angle as the slope of the Causeway. The inner sides of the passage are encased at the base up to a height of about 3 cubits with upright-standing plinths of the same material. So that they cannot fall out, they have been bracketed together by means of [*durch*] the base-course lying above and below (Plate X). The walls have been left without any decoration – unless one would like to regard the delimitation of a pedestal as a first attempt to structure the wall surface as a decoration. We were not able to find any traces of pigment.

On the outside, similarly to the Ne-User-Re and Sahu-Re Temples, the covered path has been separated aesthetically also through a foundation terrace from the embankment on which it has been constructed. At the bottom of the Valley Temple, where we had been digging, this foundation was badly damaged. In contrast, at the upper end, where the Causeway touches the wall of the temple [the Funerary Temple], the cross-profile of the foundation terrace is clearly discernible on the granite foundation surviving there.

We had to reconstruct the height and cladding of the Causeway according to our own judgement. It was finished off with the usual half-round profile. Stones of such a profile are lying round in great numbers at the upper end of the Causeway. They could of course just as well come from the temple as from the Causeway.

The upper pavement of the pathway is well preserved at the bottom next to the Valley Temple. Also, the granite channel which is there led through the southern wall [*of the Causeway, not the temple*] and was intended to catch the rivulets of water running down the pathway and lead them to the outside. We can conclude from the existence of this channel that the passage had skylights.¹⁷ For where else could rainwater have got into the passage?

[A section from pages 56-7, referring to Figures 47 and 48:]

In the middle of the courtyard (c-d, 7) on the underlying bedrock we can discern a square area as an imprint. Perhaps an altar may have stood here, which on the other hand would be contrary to the prevailing custom in the Fifth Dynasty according to which the altar stands in the rear right corner of the courtyard.¹⁸

The rainwater which collected in the court during a heavy downpour had to be prevented from flowing into the surrounding passage or even into the cult rooms. Therefore the floor of the surrounding passage and of the cult rooms lies about 5 cm higher than the pavement of the courtyard. From the courtyard itself, however, the water had to be diverted. A granite channel served for this purpose (Figure 47), which collected the water in the middle of the southern side of the courtyard (e-f, 7), then ran under the pavement and led with a downhill gradient [*mit Gefälle*] through the outer wall. On the outside we found the end of the channel again at quite a depth in the lower pavement (Figure 48). However, whether that was the original end, whether the water after that point was supposed to sink into the earth, or whether originally a continuation of the channel or a basin had been intended, could no longer be established in the ruins.

In the north side of the outer wall (a-b, 7) lies a breach in the foundation blocks, which is patched with granite stones. Is it possible that they tried initially to lead out the courtyard drainage in this unsuitable location?

In the under-pavement, that is to say, in the bedrock of the courtyard, between the statue holes, can be seen groups of many circular holes (Figure 68), which, when we found them, were sealed with stone chips or gypsum. These are the places where the wooden scaffolding had stood which was used to erect the statues (see Section IV). Similar holes, but in less obvious groups, can be found in many places.

¹ Just such a courtyard has appeared only recently in front of the Valley Temple of Mycerinus.

² It is therefore about twice as heavy as the heaviest pillar in the Pillared Hall and weighs as much as three double-carriages of a train, of which each can be loaded with 15,000 kilograms.

³ See Borchardt, *Re-Heiligtum*, p. 66, Figure 52, and [Borchardt] *Ne-user-re*, p. 59, Figure 39.

⁴ Compare with this the much less solid construction in the Sahu-re Temple [at Abusir], [see:] Borchardt, *Sahu-re*, Vol. I, pp. 38 and 59.

⁵ It is also conceivable that the holes b and d together, just as in the case of the Sahu-re Temple, were used to fix a metal track, the purpose of which has still not been explained by this.

⁶ The same idea appears also to have been the cause of the senseless destruction of the rock foundations of individual statue chambers in the actual Funerary Temple (see page 58). Also in the Valley Temple of the Mycerinus Temple there was digging under the statues.

⁷ See [Ludwig] Borchardt, *Re-Heiligtum*, page 7 foot note 2, and *Ne-User-Re*, page 34.

⁸ Professor Dr. Rinne in Leipzig was kind enough to examine a stone sample of this in a rock slice [.02-.03 mm thickness]. He remarks concerning this that it is probably an example of a metamorphic rock, the hardness of which, derived from its components of quartz and hornblende, lies between 6 and 7.

⁹ Petrie has seen an upper bed stone in situ, see p. 175 [and Plate XIV, 7 and 8] of his *Pyramids and Temples of Gizeh*, 1st edition, London, 1883. [This shows a borehole in the Valley Temple also and mentions the tough horneblende.] We have only found numerous fragments of them (Plate XIV). In the private graves of the Old Kingdom such bearings are usually made of hard wood; compare von Bissing, *Mastabas of the Gemnikai*, page 1, and L. D. Textband I, page 181.

¹⁰ See Petrie, *ibid.*, page 130.

¹¹ It is found in Petrie, *ibid.*, Plate 6.

¹² What is used here only as a makeshift became by New Kingdom times a matter of principle for temple roofs.

¹³ For instance, [Ludwig] Borchardt, *Ne-User-Re*, page 62.

¹⁴ A rainspout of exactly the same form and the same material from the Temple of the Onnos Pyramid is in the Cairo Museum.

¹⁵ Only in mastabas do we find similar solutions for windows.

¹⁶ The gradient of the Causeway of Sahu-Re is 1:14, that is approximately 4°5' (see [Borchardt,] *Sahu-Re*, Vol. I, p. 39); the one of Ne-User-Re is 4°30' (see [Borchardt,] *Ne-User-Re*, p. 44).

¹⁷ Compare [Borchardt,] *Ne-User-Re*, p. 13.

¹⁸ See *Sahu-Re*, p. 15; *Nefer-ir-ke-re*, p. 7; *Ne-User-Re*, p. 15.