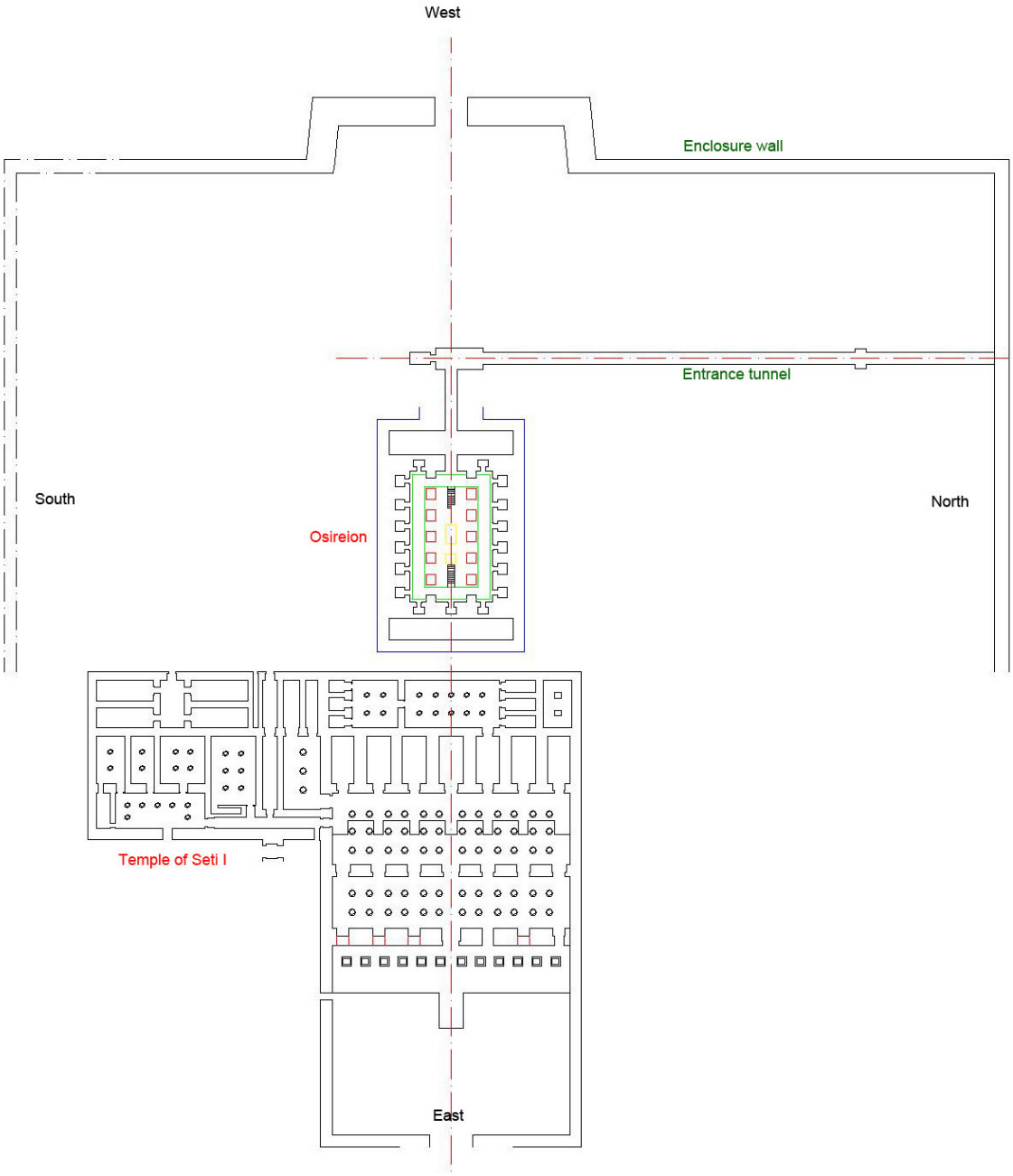
# The Osireion

A Layman's Guide

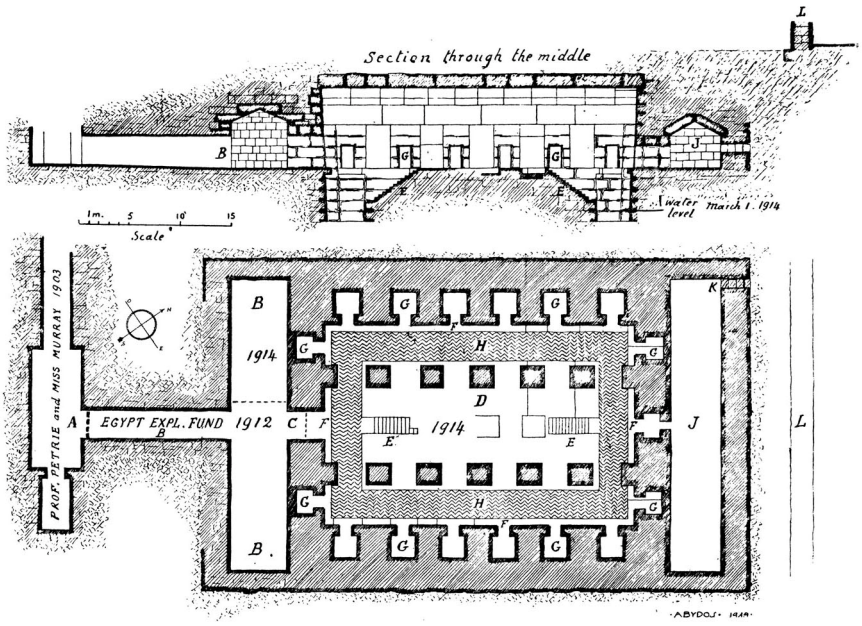
Keith Hamilton 11 October 2018


The image above looking west shows the remains of the Osireion (also called the cenotaph of Seti I). This impressive structure is a marvel of ancient Egyptian engineering and is a subterranean part of the temple complex built by Seti I. Seti I was the 2nd king of the 19th Dynasty, and although chronology is often imprecise, it is thought he ruled from around 1290BC for about 11-15 years. There is evidence in the Osireion, and in the large adjacent Temple that Seti was unable to complete his projects; however what he left was certainly impressive, Peter Clayton states;

*"It was indeed a period of rebirth for Egypt, and during Seti's 13-year reign Egyptian art and culture achieved a maturity and sophistication that were scarcely equalled in later centuries."* (Chronicle of the Pharaohs, Pg 142)




The above image gives a better idea of the Osireion's location in the temple complex; its axis aligns with that of the temple and enclosure wall pylon entrance. Entrance to the Osireion was via a tunnel from the north enclosure wall, this entered a large chamber on the main temple axis; a 90 degree turn to the east down a sloping passage, would lead to the main part of the Osireion (this sloping passage can be seen on the image on page 1, it has a modern arch fitted to protect it).




PLAN OF THE GREAT POOL AND OF THE TOMB OF OSIRIS

A. Descending Passage, Hall and Chamber, discovered by Professor Petrie and Miss M. A. Murray in 1903.
B. Passage and Chamber of Menephtah, discovered by Professor Naville and Mr T. Eric Peet in 1912.
C. Doorway. D. Central Nave. E. Stairs leading to the water.
F. Ledge. G. Cells. H. Water.
J. Tomb of Osiris. K. Hole made by robbers. L. Wall of Seti's Temple.

The plan and section above from Edouard Naville, shows that the Osireion is not orientated to the cardinal points; but for simplicity authors have adapted local methods in relation to the Nile and hence the walls are labelled as per the image on page 2. As to the orientation of the complex, Petrie believed it had a connection to the Royal tombs of the earliest dynasties, he states;

*"When at that period Sety I began to adore the early kings as his ancestors (to give a glamour to the new dynasty), and made some examination of the great group of the Royal Tombs at Abydos, it was but natural that he should found a large chapel or temple for their collective worship, like the temples built in honour of each of the kings of his own age.*

*This temple was accordingly placed on the desert edge, in front of the Royal tombs; a processional way was provided from the back of it out to the tombs; enormous heaps of offering jars accumulated out on the desert where the tomb road led out; and the temple was directed with its axis pointing to a peak of rock close to the Royal tombs, which was covered thickly with offerings. The purpose of the temple is henceforth beyond question."*[1]

In Caulfeild's book, the temple axis was tested[2], and Caulfeild states;

[1] Temple Of The Kings At Abydos, G.Caulfeild, 1902, pg14
[2] Ibid pg 2

*"and a mile and a half to the westward the axis of the temple produced passed over the offering mound just to the south of the royal tombs of the Ist dynasty. We found traces of a sunk causeway leading in this direction, just outside the desert pylon, but failed to find any traces of it further out in the desert; so it was possibly only an approach to the gateway.*

*Here then is another reason for building the temple in such a position, namely, ancestor worship. In one of the temple passages is a list of all the kings, and out in the desert are the tombs of some of them. As a mark of respect the temple was built so that those who were celebrating commemorative services in the sanctuary should face the tombs of the early kings."*

When Petrie and Caulfeild wrote the above, the Osireion was yet to be discovered; in the course of Gaulfeild's work in uncovering the enclosure walls he came across what he calls a gateway, some 28m from the north enclosure wall, he states;

*"The floor of the gate is about 2.5m, below the desert level. The wide part of the gate is 4.45m, and the narrow part 2.75m, across. The narrow part continues in a long passage to the South, approximately parallel to the W.wall, and about 69m long. The passage is lined with sandstone blocks covered with religious inscriptions, not yet unearthed."*[3] (In my image on page 2, Caulfeild's gateway, is the widened part of the entrance tunnel)

Here was the first sign that something else was to be found under the desert sand inside Seti's enclosure.

## The Explorers

Caulfeild's discovery would be followed up by Margaret Murray[4], however, she did not have the resources for the extensive clearance that was required and could only excavate the chambers found at the end of Caulfeild's passage.

We would wait until 1912 and the arrival of Edouard Naville, who had the necessary resources to clear the Osireion over the next two years; this he

[3] Ibid pg 13
[4] The Osireion At Abydos, Margaret Murray 1904

largely did, however, the first world war would curtail his excavations, and so the completion of the work would be left to H.Frankfort who recommenced excavations in 1925 (Naville's plan on page 3, gives the dates of the uncovering of the Osireion up to 1914).

The above are the primary resources on the Osireion; the only work done in more modern times is the work of James Westerman[5], who has worked on the site on and off from 1986 to 2012.

It is to the above resources that this guide is based on; I am also grateful to Olga Kozlova and the Isida project for the use of their images.

## The Entrance Corridor

The discovery of the entrance corridor is linked to the discovery of the enclosure wall. Petrie had noticed some thick masses of crude brick, and thought they might be remnants of mastaba's; Caulfeild excavated the area to find that these masses were in fact a continuous wall, that would later be identified as the temples enclosure wall. With the outline of the enclosure wall uncovered, Petrie noticed a slight long hollow on the surface that ran parallel to the western enclosure wall; he therefore directed Caulfeild to clear it out. This hollow would turn out to be the long entrance corridor that had been filled with largely blown sand and some roman rubbish. Caulfeild was only able to trace its route some 69m south of his gateway, before the close of the season in 1902.

In the next season Margaret Murray would continue the excavations and would discover a brick arch entrance under the northern enclosure wall and the two chambers at the southern end of the entrance corridor; she would also discover the start of the sloping passage. Due to her limited resources, this was as far as she could excavate; major clearance would start some 9 years later under Naville in 1912. Naville would do no further excavation of the entrance corridor; he concentrated on the main structure, starting from the sloping passage discovered by Murray. Total clearance of the entrance corridor would be done by Frankfort in 1925; indeed, one wonders if it would have ever had been fully cleared, if it was not for the urgency of getting a steam engine down to pump the water out of the Osireion.

[5] jameswesterman.org

This operation in introducing the steam engine necessitated the total clearance of the entrance corridor from the enclosure wall to the chamber discovered by Murray (The outside of the north wall to the E-W axis of Osireion is about 123m). As most of the passage was covered with more than 40 feet of wind blown sand, its clearance was a vast expenditure and gamble for Frankfort; he had no idea of the form of the corridors floor and its suitability to introduce the steam engine. Some 500 men and 3½ weeks later, the corridor was cleared. To his delight the stone floor was intact as were most of the walls, which were found to be covered in texts; the west wall had the *'Book of Gates'* and on the east wall *'Book of what is in the Underworld'*.

Thankfully the Antiquities Department took advantage of this clearance and built a roof along its length; though the skylights in this roof appear to be not well designed, as they have allowed water to stain the walls.[6]


In the image above we can see the modern roof, covering the entrance corridor; it leads to Murray's *Great Hall,* which has been left open, to the south of this, under the desert sand is the smaller south chamber (Murray's original test pit broke into the small south chamber first). Originally the corridor and chambers would have been roofed with stone beams, which were robbed in antiquity.

[6] The Osireion Conservation Project, 1996 season. James\westerman.org


Looking into Murray's Great hall, the entrance to the sloping passage is just visible on the east wall of the hall; the centre of this passage being about 123m from the outside of the northern enclosure wall. The walls of this hall were also decorated. Murray's description of the ground;

*"The nature of the desert is that after removing from two to four feet of loose wind blown sand, the hard marl, called gebel by the workmen, comes into view. This is so firmly compacted together that it can be cut like rock.*

*The ancient builders took advantage of this fact, and excavated passages and halls with steeply sloping, almost perpendicular, sides. These were lined and roofed with great blocks of stone, and the hollow at the top filled up with sand; the building was then completely hidden from the outside."*

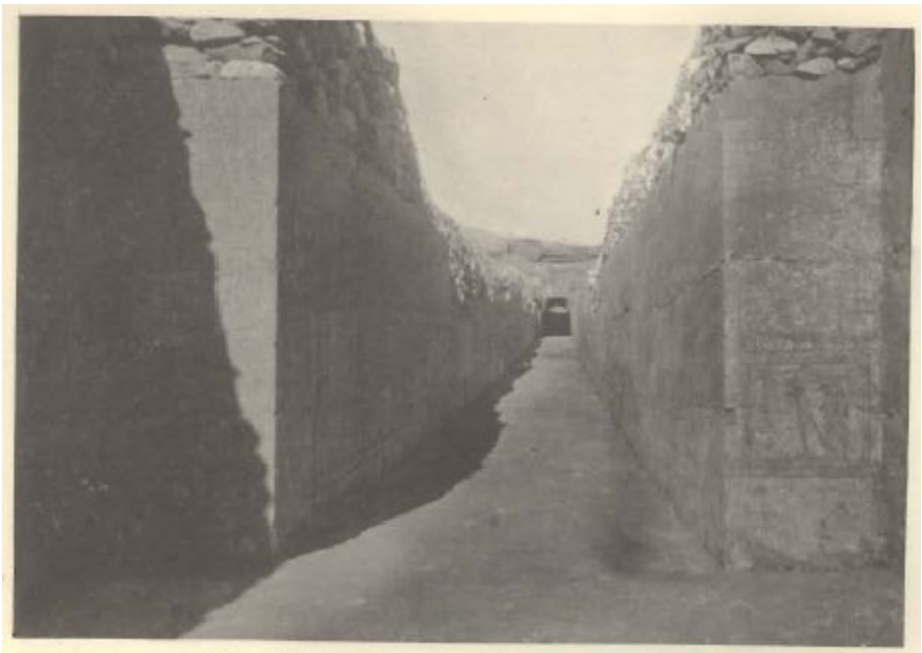
Fig. 1. CHAIN OF BOYS CLEARING THE OSIREION AT ABYDOS.
41 feet deep.

In the above old image,[7] we get a clearer idea of the depth of the construction. In the Preface to Murray's Book, Petrie states that the pavement of the hall was 41 feet under the surface; Murray just states the hall floor as being more than forty feet below the surface of the desert.

[7] Frontispiece, Methods & Aims in Archaeology, Petrie, 1904

2. The clearing of the entrance passage with boys and gravity-railway, looking North

Before and after views from Frankfort's report on the clearance of the entrance corridor, the corridor slopes down to the south by around 10 feet.



1. The Entrance Passage, looking North

1. Temenos Wall and Entrance Arch from outside

This image from Frankfort's report shows the arched entrance to the entrance corridor, which was discovered by Murray. This entrance was found to be mostly blocked, Frankfort states;

*"The actual entrance was an arch in the bottom of the temenos-wall; but when we found it. It was almost completely bricked up; the bricks were stamped with the cartouche of Seti I. We had of course to open it to let the engine through and could now investigate the enigmatic canal."*[8]

In the above image we can see two brick retaining walls, which abut against the enclosure wall, Frankfort reports that they are not bonded to the enclosure wall[9]. Murray's description of this entrance;

*"Just inside the temenos wall, at a depth of about thirty feet, we came upon a vaulted passage of mud bricks which extended thirty-five feet northward,*

[8] Preliminary Report of the Expedition to Abydos, 1925-6, H.Frankfort, pg 160
[9] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 13

*and was then apparently broken, for it was filled with sand. The thirty-five feet brought us to the north face outside the temenos wall, where we sank a large pit with this curious result:-*

*The rock-like gebel, at a distance of about sixty feet from the wall, was cut in a slope like a staircase from the surface of the desert, sloping down towards the wall. Two mud-brick retaining walls had been built across it to hold back the sand. At a distance of fifteen feet from the temenos wall we found a square shaft (of which the wall formed one side), lined with mud bricks, some of which bore the cartouche of Sety I. The vaulted passage, which we had entered from the other side, ended in a small arch in the temenos wall, and its floor was paved with blocks of stone. We reached a depth of over thirty feet, and came to undisturbed basal sand on which the walls rested. In the vaulted passage, the pavement was lifted, but with the same result—undisturbed basal sand. This was during the last days of the excavations, and there was no time to make further research. As to the meaning of this extraordinary shaft I can offer no explanation, nor can I even hazard a guess."*[10]

Strangely, Frankfort in his preliminary report of 1925-6, omits the sloping staircase mentioned by Murray, he merely states;

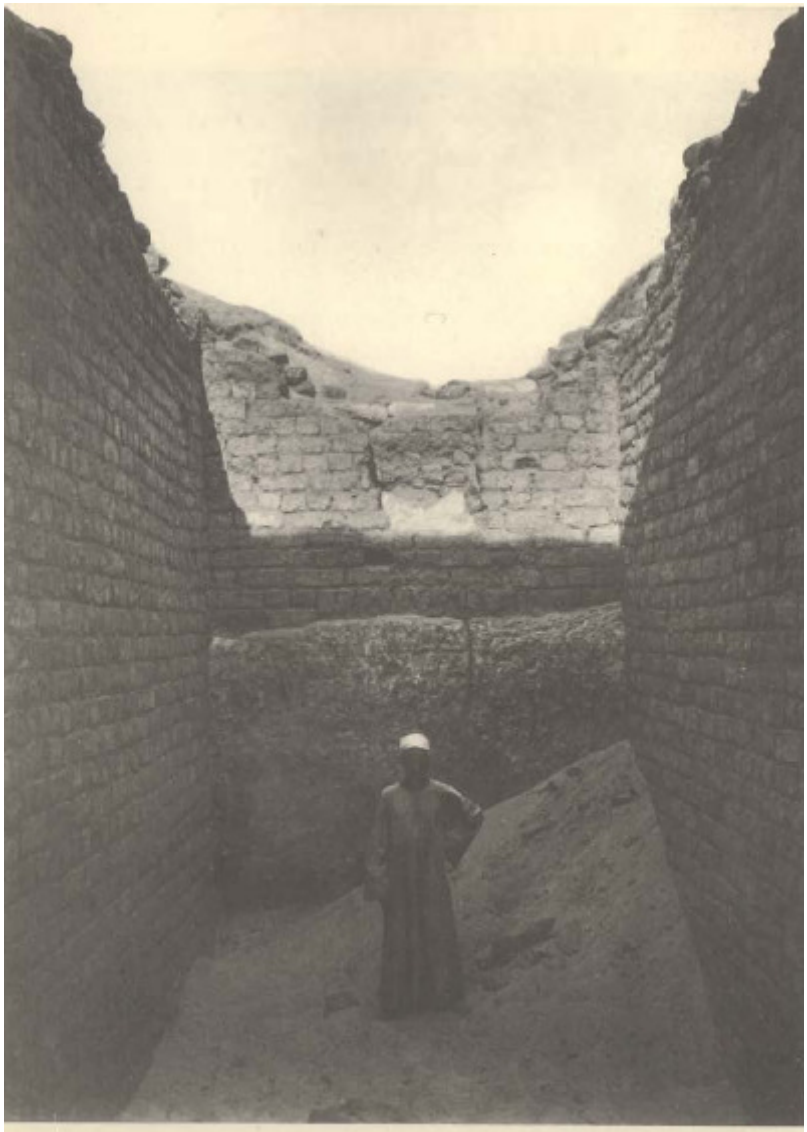
*"Curiously enough the entrance was sooner designed to keep people out than to let them in. There is no gradual slope leading down from the desert, but a large oblong brick shaft, such as we know from ordinary tombs, a significant parallel."*[11]

This he would rectify in his 1933 report, where he reports that at a distance of about 20m from the wall, the marl of the desert was roughly cut into a stepped slope that led to the arched entrance. This would appear to be an access route for workers; however, at some point, the lower end of this staircase was severed some 2m above the entrance pavement, and above this a brick wall was built, that formed the north wall of the brick shaft.

I have found it hard to reconcile the few dimensions of the entrance that Murray and Frankfort provide; for example Frankfort says; *"At about 20 metres from the Temenos-wall the hard marl of the desert is roughly cut into a stepped slope, which at a distance of 8.50m ends in a vertical drop, where*

[10] The Osireion at Abydos, Margaret A. Murray, 1904, pg2
[11] Preliminary Report of the Expedition to Abydos, 1925-6, H.Frankfort, pg 160

*the entrance shaft starts. It is 3.25m wide and 4.70m deep."* Murray gives the start of the stairway as about 60 feet (18.3m close to Frankfort's 20m), however, she calls the shaft square and gives a distance of 15 feet (4.6m) from the wall. Frankfort's Plate 1 also shows the shaft to be oblong, and his figures suggest that it was 8.50m x 3.25m. It's hard to know what Murray was reporting here; was there a dividing wall in this shaft?



1. The Entrance Shaft

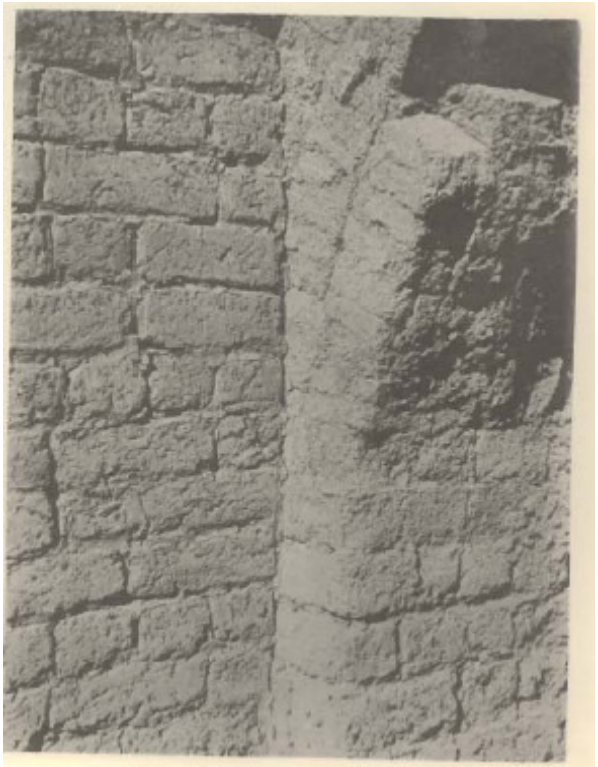
Above we see the oblong entrance shaft, looking north. The bank of marl behind the figure is given as 2m high, with the brick on top being 2.7m high. Frankfort says of the shaft walls; *"Their tops were originally flush with the*

*bottom of the first straight course of bricks above the arch, i.e. 4.70m above the door sill."*[12]

2. The Entrance Arch

Above, also looking north, but looking through the entrance arch. Caulfeild gives the thickness of the north enclosure wall as 3.15m (6 cubits), however this brick vault would continue for a further 32m southwards[13], wherein it becomes a stone lined passage.

[12] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 13
[13] Ibid, pg 14



5. East jamb of Entrance Arch and wall of shaft

Above we see the shaft wall abut against the arch of the enclosure wall. According to Frankfort[14] the east jamb projects by 0.16m and the west by 0.13m, as he gives the shaft as 3.25m wide, the arch width would be 2.96m: he gives the vertical sides of the arch a height of 1.90m, with the centre of the arch 3.10m above the floor; therefore the height of the arch above the supporting side walls is 1.20m, with half passage width being 1.48m.

Frankfort's examination of this arch, lead him to suggest, *"This points to the method of building the arch, which was apparently effected without the use of a wooden mould over which the bricks are laid, but merely with supports at each end of the vault against which the layers leant."* Frankfort also states that the vault was plastered and whitewashed.

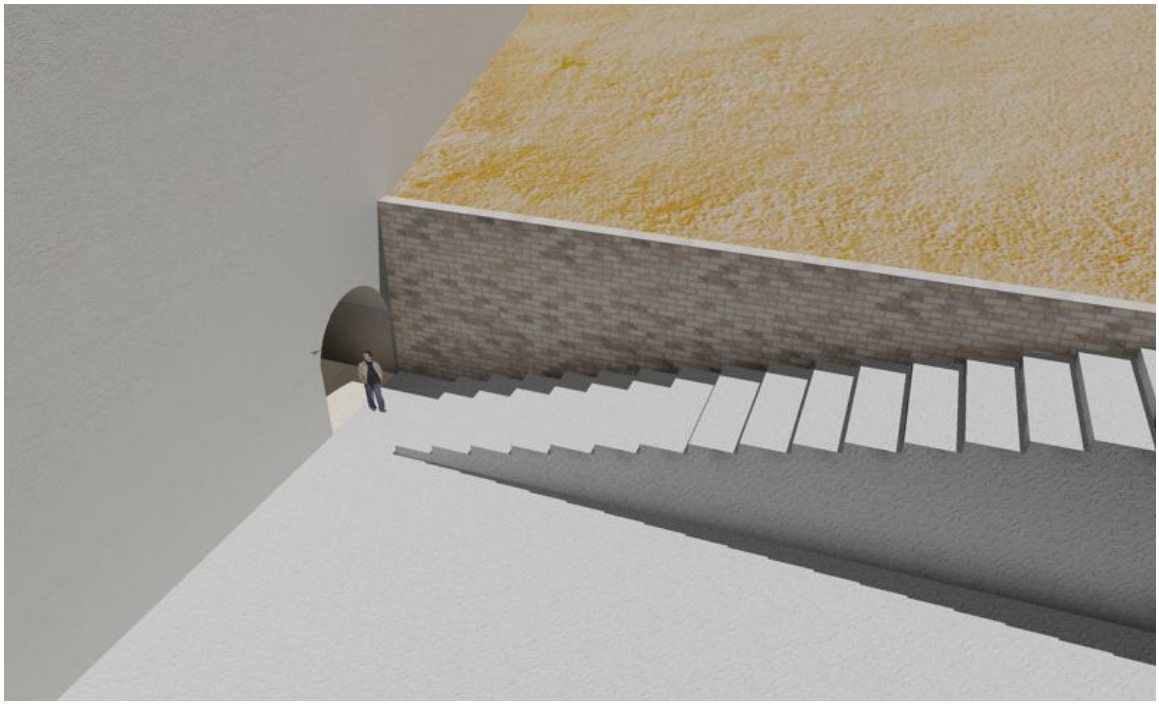
[14] Ibid, pg 13-14

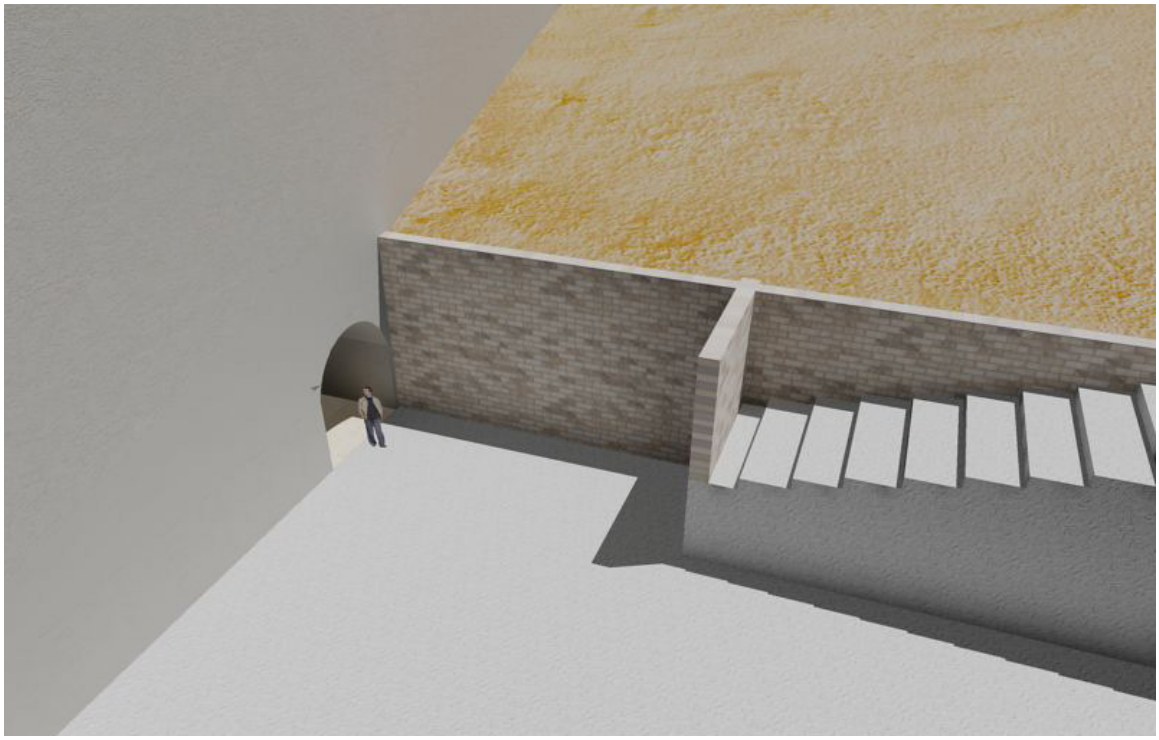
The view today shows the eastern retaining wall to still be in good shape, its top is said to align with the first horizontal course above the arch; Frankfort states that the bricks that make up the shaft and enclosure wall are the same and stamped with Seti's cartouche. The bricks that blocked the entrance were likewise stamped with Seti's name, which I will return to later.

The original height of the enclosure walls is unknown, though Caulfeild says;

*"How high the original wall was we cannot say, but with a foundation of 3m at the narrow parts and of nearly 7m at the pylon projection, it is reasonable to suppose that at least 8m above the present desert level, which is about 1m above the lowest course of bricks."*[15]

[15] Temple of the Kings at Abydos, G.Caulfeild, 1902, pg 12.





The images above with the eastern retaining wall removed; give an idea of how the steps were cut into the marl leading to the entrance. At some stage the steps were no longer required, and according to Frankfort the lower steps were cut away, with the northern wall of the shaft being built on one of the

treads of the remaining steps. There is no detailed description of these rough steps or images; it is not even clear if the steps spanned the full width of the retaining walls, so I have used a bit of artistic licence and created uniform steps the full width of the walls. The thickness of the shaft walls he gives as 0.40m.

It is reasonable to assume, that when the arched entrance was bricked up, that the oblong shaft was filled up to the 4.70m (9 cubits) height of the retaining walls, and above this, possibly a few feet of sand to blend with the natural level of the landscape at that time. If for example a metre of sand was placed on top, then the desert surface would be some 5.70m above the entrance floor. In Murray's time the entrance floor was reached at a depth *of over thirty feet*[16]*,* suggesting that sand had built up over the centuries to a height of over 9m above the entrance floor.

2. The Entrance Passage, looking South

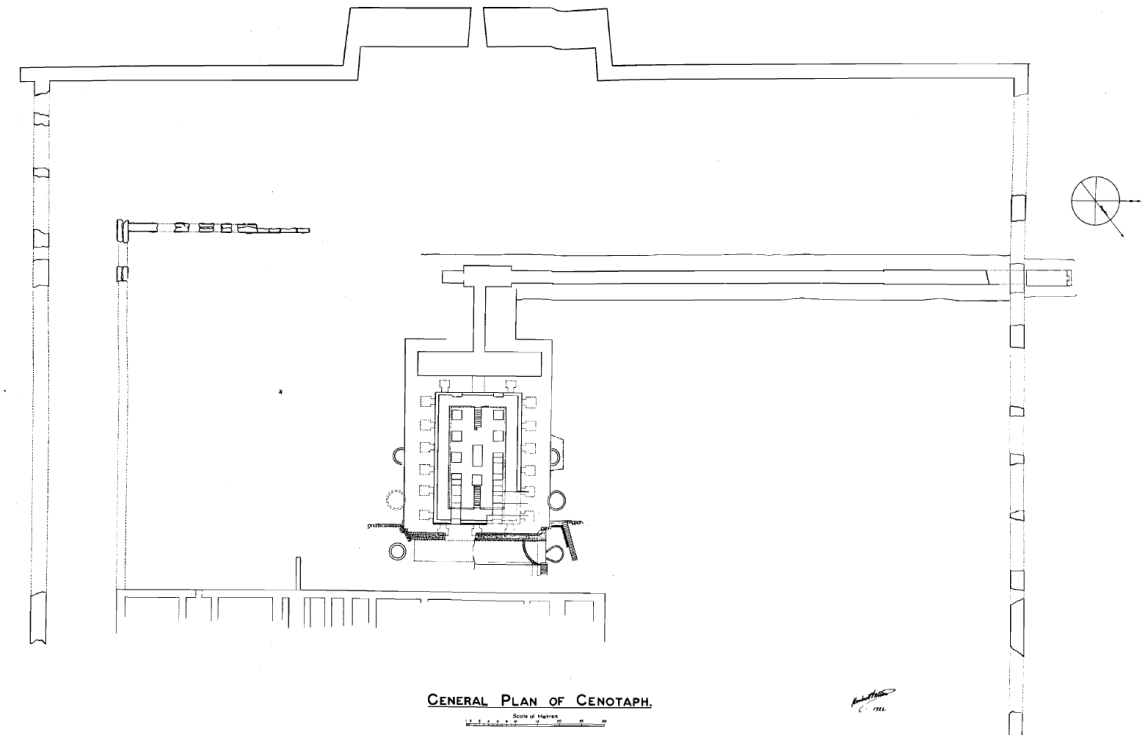
Looking south along the cleared entrance corridor, we can see that most of the brick vault that stretched some 32m southwards has lost its roof. In the distance we can just make out the stone lined portion of the passage that continued to Murray's Great Hall. This junction, were the brick vault meets the stone clad portion of the corridor appears to be Caulfeild's *Gateway,* as he gives its distance as 28m from the north enclosure wall; and as he gives the N.wall as 3.15m thick, the total is 31.15m which agrees closely with Frankfort's 32m.

[16] The Osireion at Abydos, Margaret A. Murray, 1904, pg2

Unfortunately Frankfort provides little information on this junction, other than to say;

*"A brick vault, continuing that of the entrance arch, forms the beginning of the entrance passage for 32m. Then sandstone walls start up, without any transition or door-way, the bricks coming straight up to the stones."*[17]

The stone clad walls, he states as about 0.70m thick, and were cemented on to the marl walls of the cutting; the stone passage he gives as 2.70m (5 cubits) wide and 2.85m high. The width of the brick vault by the door is however wider, being 2.96m and his drawing below appears to show that the brick vault is wider along its entire length. (You will have to zoom in)




This wider portion of the passage may just be an adjustment to allow both portions a similar head height, as both were constructed differently, be it materials and design. The stone portions roof has long been robbed away in antiquity, however in the small southern chamber at the end of the corridor, which is 5 cubits wide, remains of a pitch roof were found. This chamber appeared to have been roofed with monolithic beams, which were cut out triangularly underneath; the surviving beam suggested that it was just over

[17] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 14

1.30m thick, while the cutting was 0.50 deep. Frankfort says, *"It appears most likely that the whole entrance passage has been roofed with beams similar to those used in the small southern room.----- it would also provide an excellent fit with the brick arch, the top of the pitch-roof, as revealed by the south wall of the small chamber, being exactly as high above the floor as the top of the brick vault at the north end of the passage"*[18]

In the image above I have placed beams on the walls of the stone corridor, of the size discovered in the small south chamber. Although Frankfort states that the top of the pitch-roof would be at exactly the same height above the floor as the top of the arch, he has neglected the fact that the walls of the stone portion are higher than the walls of the small south chamber. In the south chamber, he gives the walls as 2.60m high and with the .50m cut in the roofing stone; this provides an apex height of 3.1m, which matches the 3.1m height of the arch. However, he gives the stone walls of the corridor as 2.85m high, and with the .50m cut, this gives us a height of 3.35m.

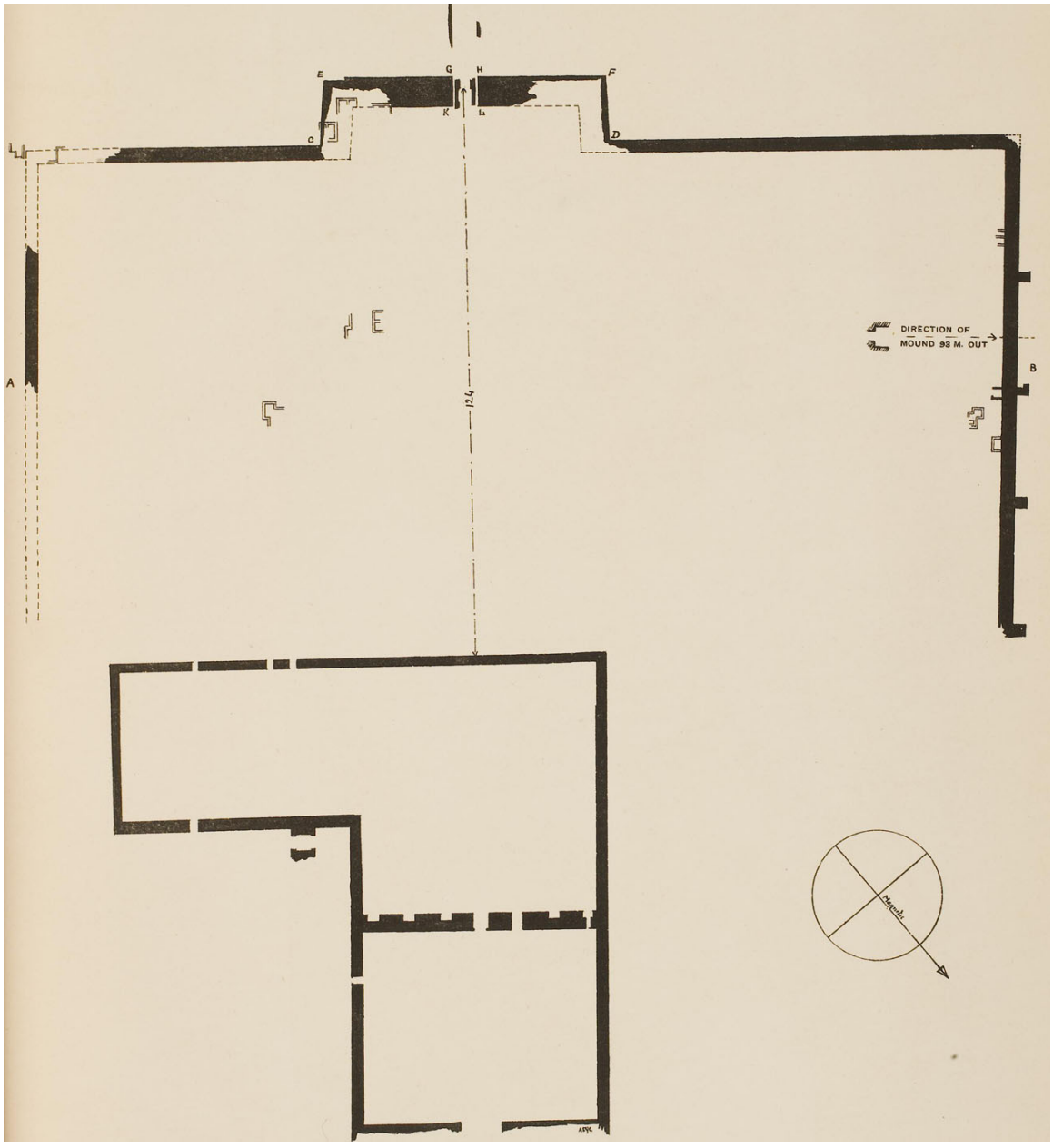
[18] Ibid, pg 15

Looking in the other direction, the larger wall height in the corridor makes the roof tangential to the profile of the arch. If the wall height in the corridor was the same as the small southern chamber, the leading edges of the roofing block would be visible from the brick side.

It seems strange that the entrance corridor has two distinct constructions, why not stone clad the entirety of the passage to the enclosure wall, and omit the 32m of brick vault?

Another issue, is what exactly did Caulfeild find at his so-called Gateway; did something particular attract him to this exact location? The only information he provides is the following; *"In the N.W part of the temenos enclosure we found a gateway, 41m from the W.wall, and 28m from the N. wall. The floor of the gate is about 2.5m below the desert level. The wide part of the gate is 4.45m, and the narrow part 2.75m, across. The narrow part continues in a long passage to the south, approximately parallel to the*

*west wall, and about 69m long. The passage is lined with sandstone blocks covered with religious inscriptions, not yet unearthed."*[19]




Above we have Caulfeild's plan of Seti's complex; the gateway is visible in the N.W corner (at this stage the brick arch in the north enclosure wall was unknown and was only discovered in the following season by Murray. The text by the gateway, *direction of mound 93m out,* refers to large marl heaps, which are probably spoil brought out in excavating the Osireion).

[19] Temple of the Kings at Abydos, G.Caulfeild, 1902, pg 13.

The location of this gateway agrees with Frankfort's location where the stone and brick portions of the entrance passage meet; however, the wider section of the gate he gives as 4.45m, which is at odds with Frankfort's brick passage of 2.96m. The stone part Frankfort gives as 2.70m wide, which is in close agreement with Caulfeild's 2.75m. So what exactly is this 4.45m relating to? It may be the cutting in the marl for the construction of the brick vault: if we take the stone portion at 2.70m and wall block depths of 0.70m we would arrive at a cutting for the stone portion, some 4.1m wide.

Caulfeild's test pit here, suggests that he excavated down to the floor, which one might expect, and he mentions the texts on the walls. However, he says the floor is 2.5m below the desert, which rather suggests that he just excavated down to the top of the walls, as the stone walls of the corridor are 2.85m high! This seems confirmed by him saying *'not yet unearthed'*; further confirmation comes from Murray, who states;

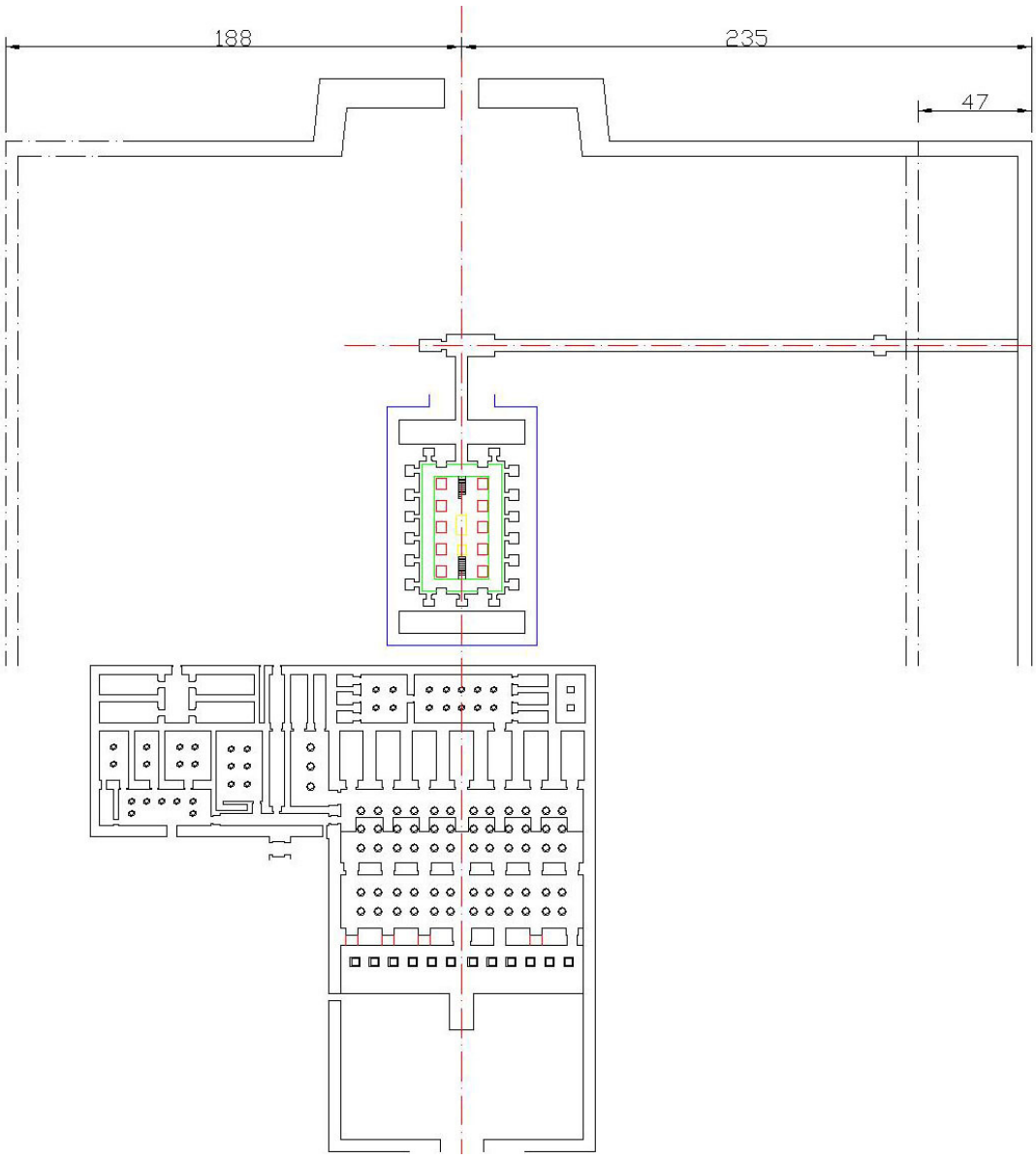
*"In the previous season Mr Caulfeild had partially cleared the long passage within the temenos wall; the passage itself had not been laid bare, but the great mass of sand had been removed, leaving a gigantic furrow like a natural ravine."*[20]

Given Frankfort's statement; "*Then sandstone walls start up, without any transition or door-way, the bricks coming straight up to the stones.",* it would seem strange that Caulfeild did not discover any brick: it would appear that the brick arch had long disappeared (Frankfort stated that the brick vault had collapsed 6m south of the entrance up to the point were the stone corridor began)[21], leaving just the lower walls of the brick corridor adjoining the stone walls, and the vertical height of these were only 1.90m, some 0.95m below the top of the stone walls. Had Caulfeild excavated to the bottom of the stone walls, he could not fail to have noticed the brick construction.

As to the two different constructions of the entrance corridor, its hard to come to any conclusion as to why this might be; certainly there is clear signs that aspects of the Osireion as well as the adjacent temple were not completed and this might be reflected also in the entrance corridor and

[20] The Osireion at Abydos, Margaret A. Murray, 1904, pg 1.
[21] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 32.

enclosure walls. How far had these constructions progressed at the time of Seti's death?




It is well known that the enclosure wall is not symmetrical about the temple axis, but extends further on the northern side. I attempted to recreate the above in cubits from the available data, which is not exactly ideal, especially in the Osireion, were measures are few and we have to rely on scale drawings, were even the thickness of a line can be quite considerable. So the reader should see the above as highly tentative; but it appears to be that the wider northern half of the enclosure wall is one and a quarter times larger than the southern half. I have mirrored the south wall on to the north side,

and we can see how close a symmetrical wall comes to the stone/brick junction of the entrance corridor.

The extension to the north at 47 cubits is exactly ¼ of 188. Frankfort gives the stone/brick junction as 32m from outside of N.wall, or 61cubits (55 from inside, as the wall is 6 cubits wide); therefore the junction would be 8 cubits from a hypothetical symmetrical enclosure wall.

Was some late change of plan decided to extend the N.wall? Such an unexpected change might cause logistic difficulties for the builders (especially given the huge competing demands required from the temple and Seti's numerous other constructions throughout Egypt); the sandstone may have come some considerable distance from the Silsileh quarries 64km north of Aswan. Such short notice may have resulted in a considerable delay as this stone was cut and shipped north; it therefore may have been more expedient to extend the entrance passage in brick. Was an extension planned for the south wall as well? If we look at Frankfort's plan on page 18, we see what appears to be an extension to the south-west corner. There may also have been an inner enclosure wall possibly related to the Osireion, which is also visible on the above plan of Frankfort's. Frankfort states;

*"In arranging the track for the southern gravity-railway we found the stone foundation of a wall which, when followed up by Mr Felton at the end of the season, appeared to connect up with the south-west corner of the temple."*

The next curious thing about the entrance corridor is the previously mentioned texts that appear on the stone walls, who exactly created them? The decorated walls were not finished, the west wall, which had the Book of Gates was sculptured; however, the east wall which incorporated the Book of Caverns was only painted on. Peter Brand states,

*"There is evidence that the decoration of the cenotaph was largely, if not entirely, laid out in the paint under Seti I. Baines has shown that the decoration of the Hall of Barques in the nearby temple was laid out as a polychrome cartoon before it was carved.-------In the reign of Merenptah, most of these designs were converted into sunk relief.-------Although Seti's name has been replaced by that of Merenptah in the reliefs and even in the extant polychrome cartoons in the rooms beyond the sarcophagus chamber,*

*certain iconographic features of these tableaux point to Seti as their author."*[22]

Frankfort stated, *"Evidence as to the date of our building is both copious and consistent: the entrance shaft and vault are built with bricks stamped with the cartouche of Seti I; the extensive texts in the entrance passage and ante-rooms show conspicuously the name of Merenptah; but Professor Borchardt's perspicacity has not been lured by this fact into overlooking the point that once Seti's name has escaped the corrector and occurs, without cartouche, in the text. The text on the west wall of the entrance passage is identical, with a few minor variants, with that which is engraved on Seti's alabaster sarcophagus; and this text again contains Seti's name in one place, without a cartouche."*[23]

When Murray discovered and excavated the two chambers at the end of the entrance passage, she found them decorated with texts; she states,

*"The cartouche of Merenptah appeared in every place where it could be inserted, and we therefore had to consider the possibility of its being his tomb."*[24]

It seems clear therefore, that a lot of the preliminary laying out of the texts was accomplished by Seti, and that these texts were utilised by Merenptah, who only had to sculpt the walls and replace Seti's name with his own; though his workers appeared to have missed Seti's name on two occasions. There are indications that Ramesses II did likewise in the adjacent temple, when he completed Seti's work; though there is no evidence that Ramesses did any work on the Osireion.

Merenptah's involvement with the Osireion raises some questions, not least, how did he gain access when the brick arch appears to have been blocked up by Seti? Frankfort makes no comment on it, other than to question Strabo's access; he states, *Ingress could not be obtained by the arch at the north end of the entrance passage, because we found it still bricked up with Seti's bricks,.."*[25]

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[22] The Monuments of Seti I, Epigraphic, Historical, and Art Historical Analysis. pg 132.
[23] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 23
[24] The Osireion at Abydos, Margaret A. Murray, 1904, pg 2
[25] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 32

But if this logic is good for Strabo, what about Merenptah? Merenptah was Seti's grandson and he ruled after his long lived father Ramesses II, who ruled about 66 years: Merenptah would not be so fortunate and his reign is believed to be a more modest 10 years.

It would seem therefore, that Merenptah took an unusual interest in the subterranean Osireion some 66 years after Seti bricked up the arch. If Merenptah had used this entrance, might not he have used bricks with his own name on it? So how did he gain access? I suggest that he may have used Caulfeild's gateway as his access point. Petrie directed Caulfeild to clear out the hollow that he noticed: Caulfeild gives no clue as to his start point in this endeavour, but I suggest that he may have started at the hollows lowest point and thus came across the gateway.

Caulfeild states that the floor of his gate was 2.5m below the desert surface; however this floor appears to be the top of the corridors walls; with the walls being 2.85m high the desert surface would be 5.35m (17.5 feet) from the corridor floor at this location. Compare this depth with the following from Murray;

*"Just inside the temenos wall, at a depth of about thirty feet* (9.14m), *we came upon a vaulted passage of mud bricks which extended thirty five feet(10.66m) northward, and was then apparently broken, for it was filled with sand."*[26]

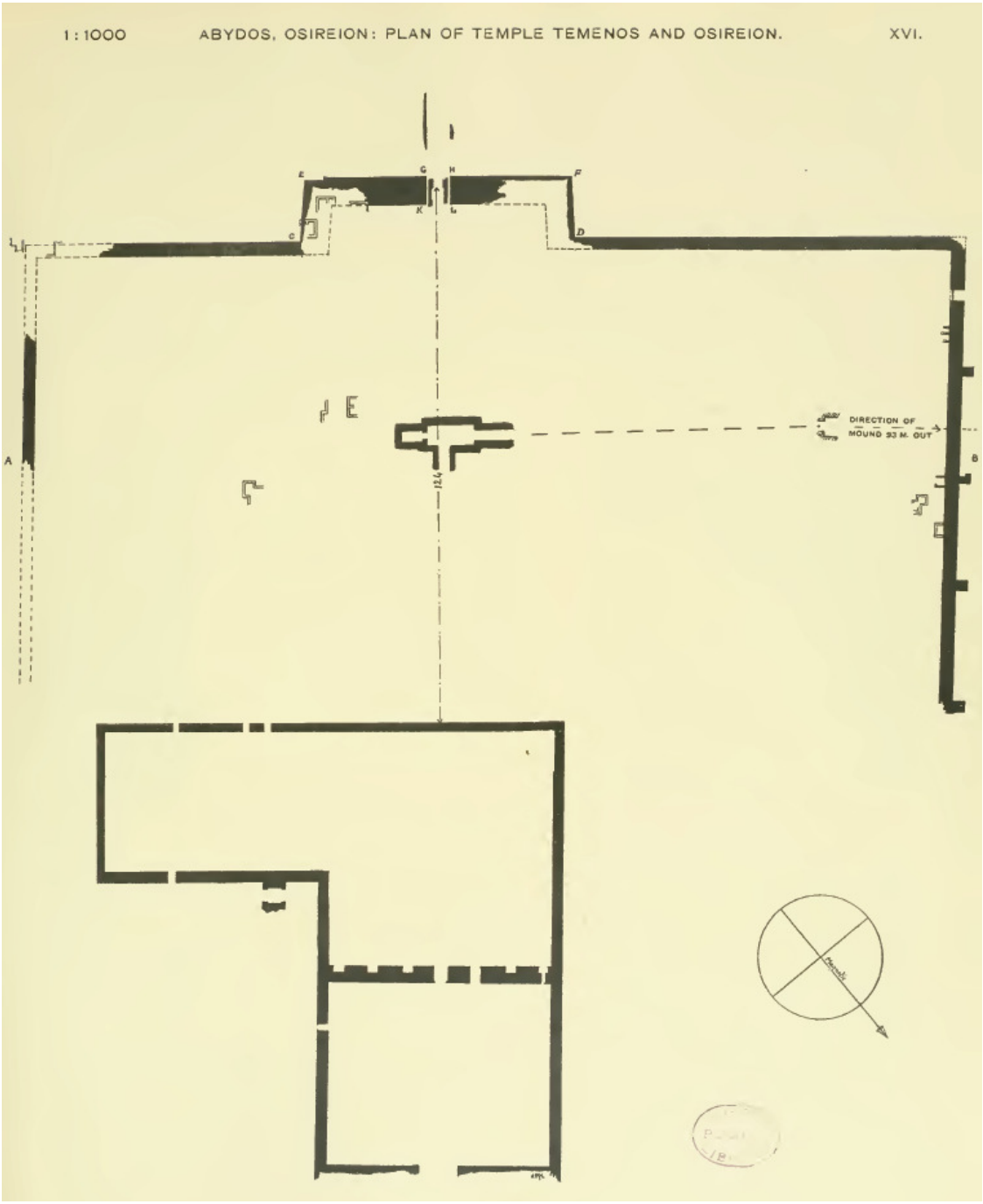
This 10.66m was to the outside of the wall, minus wall thickness of 3.15m, leaves us with 7.50m of intact vault. Frankfort would state, *"The brick vault had, however, collapsed from about six metres south of the entrance up to the point where the stone-work starts, and here persons may have entered the building."*[27] (This vault may have degraded further in the intervening 21 years, between Murray and Frankfort)

It might be indeed the case that Merenptah created an entrance close to Caulfeild's gateway. With the entrance arch bricked up and the shaft backfilled; it would just be as easy for Merenptah to create a new entrance closer to the stone portion of the corridor.

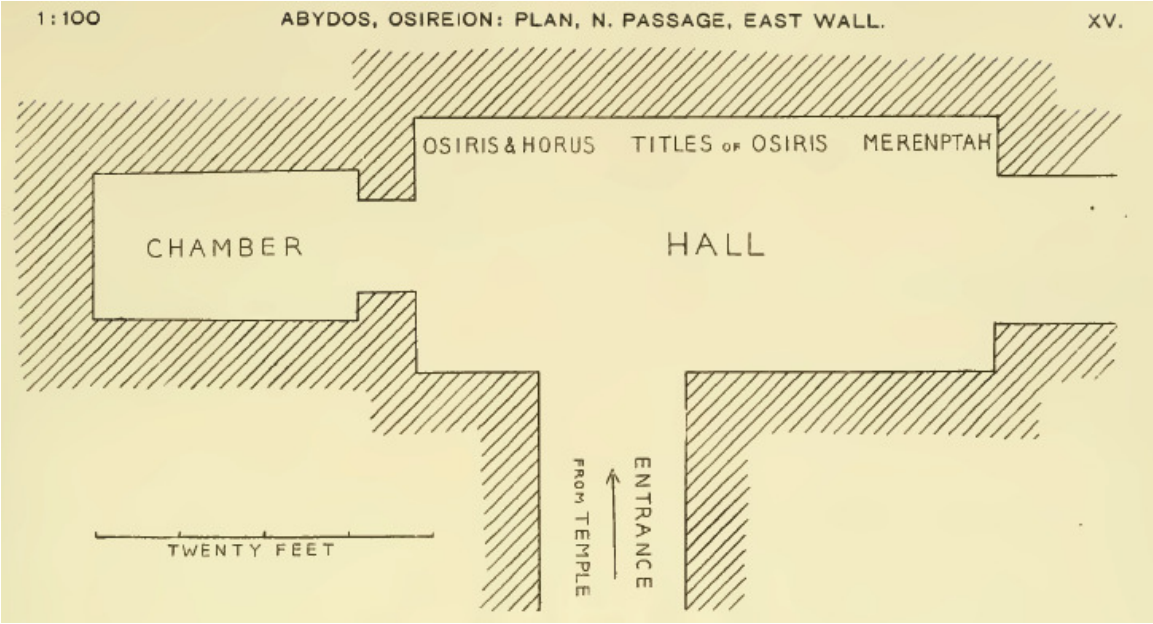
[26] The Osireion at Abydos, Margaret A. Murray, 1904, pg 2
[27] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 32

## Murray's Great Hall & South Chamber

Murray's first deep pit along the line of the entrance corridor was a lucky strike; here she would break into the smaller southern chamber, then into the Great Hall, and finally part of the sloping passage.



Above we have Murray's plan of what was known of the Osireion by 1904 (this plan is a modified copy of Caulfeild's, see pg 21, showing the location of the chambers)



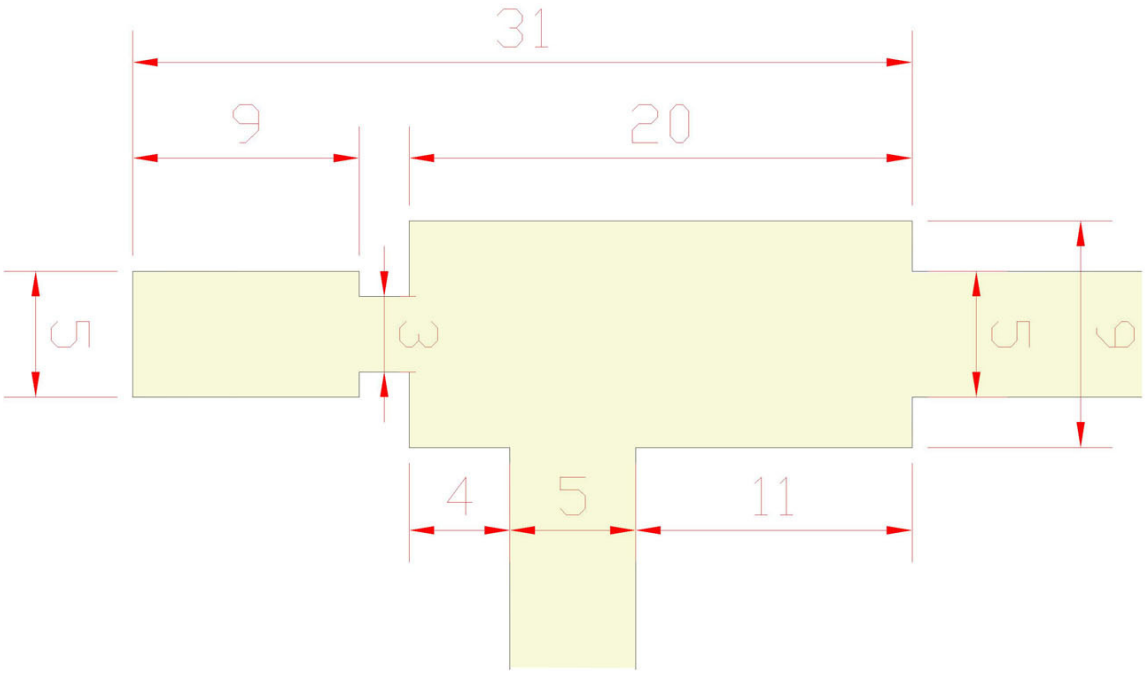

Above we have Murray's plan of the chambers found at the end of the entrance corridor (entrance from right, bottom entrance is the sloping passage). According to Murray the small southern chamber was sculptured with the 168th chapter of the Book of the Dead. This chapter we are told *is "devoted to the worship of the gods of the twelve Qererts by the king"*. As to the term 'Qerert', she says;

*"The word Qerert in its literal sense is a Cavern, but it may here be taken, perhaps, to mean a Division of the night."*[28]

The Great Hall was found to have various scenes on its north, west and south walls, the east wall had been quarried away in antiquity. Murray states that the floor of the hall was more than 40 feet (Petrie's 41 feet equates to 12.5m) below the desert, this suggests a fall of some 10-11 feet (6 cubits) at the corridor end compared to the arched entrance. If we take our reference level as the top of the entrance shaft retaining walls, which are 4.70m (9 cubits) high, then the hall floor is around 15 cubits (7.86m) below the top of these walls. Apart from the scale drawing above, the only dimensions Murray

[28] The Osireion at Abydos, Margaret A. Murray, 1904, pg 3

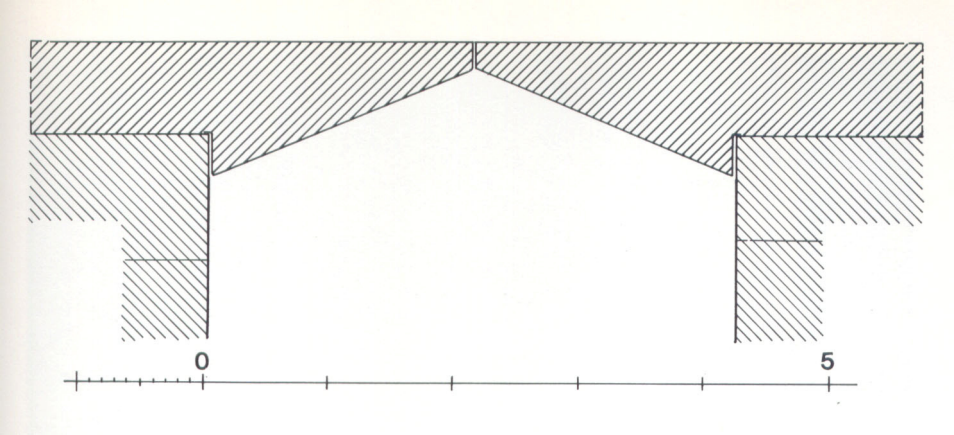
provides of the Great Hall are 15 feet (4.57m) wide, 34 feet (10.36m) long, and 17 feet (5.18m) high. Frankfort gives 4.75m x 10.50m x 4.40m high for the hall: for the southern chamber he gives 4.75m x 2.60m x 2.60m high at the walls; and 3.15m high in the middle of the south wall, were remnants of a roofing stone was found.




As one can see there are clear inconsistencies between the authors, the greatest divergence being the Great hall wall height of 5.18m versus 4.40m. Sadly we have no detailed and reliable surveys of the Osireion, just a few questionable measures and scale drawings; for example a glance of Naville's drawing on page 3, and you would be correct in asking, were exactly is the sloping passage? So I would ask the reader to treat any cubit reconstructions I make as highly tentative, pending a more modern survey.

The above plan in cubits is my best guess of the chambers layout; the length of the southern chamber is equal to the width of the great hall. The height of the southern chamber seems to be a wall height of 5 cubits, with the middle being a cubit higher, for a total of 6 cubits, which would match the brick entrance arch. Though there is evidence that the southern chamber was spanned by monolithic stones, cut out in the shape of a V, we have no evidence of how the greater width of the Hall was spanned.

For this, my best guess would be the roof of the so-called sarcophagus chamber (see chamber J on Naville's plan on page 3); this chamber is also 9 cubits wide: the other large transverse chamber is wider at 10 cubits.



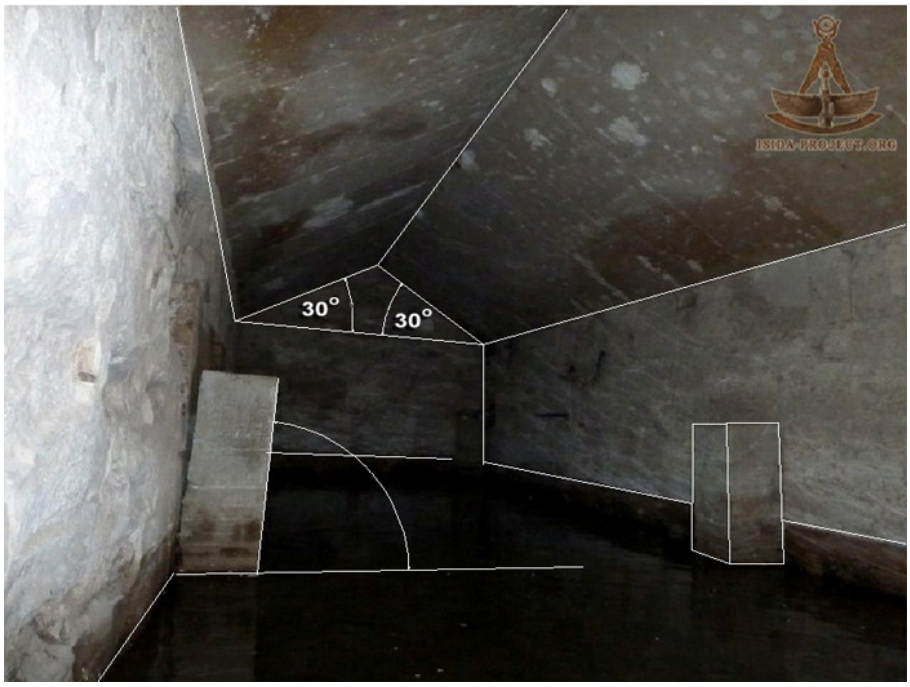

In the image above by Dieter Arnold, he describes this roof;

*"Also in the Osireion of Seti I, a kind of pitch roof was created, covering the 4.75 meter wide sarcophagus chamber, consisting of two beams pushed together against the center and cut out into the shape of a triangle. The blocks were 1.18 meters high and had a notch at the lower edge to prevent them from being turned downward."*[29]

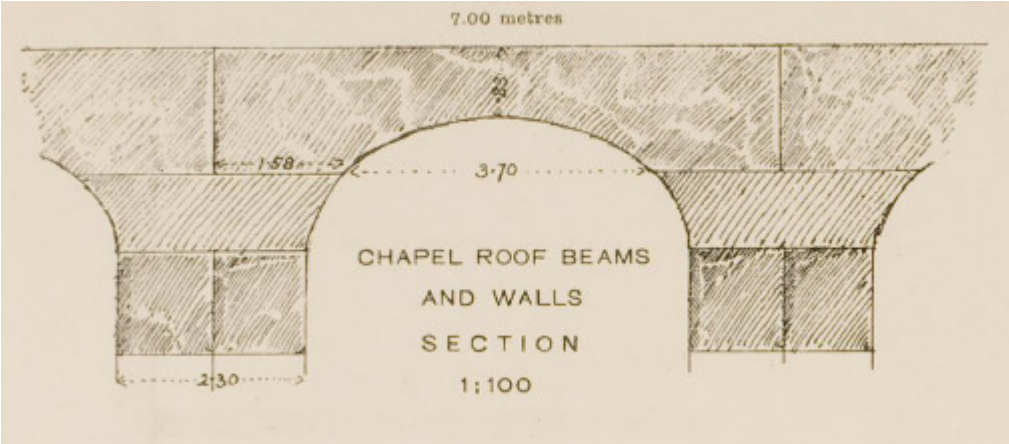
The drawing above by Arnold, suggests a roof angle of about 22 degrees, however, Frankfort's scale drawings suggest an angle closer to 30 degrees for the sarcophagus chamber, which seems confirmed by the Isida project during their investigations. For the roof of the south chamber, based on the apex being one cubit higher than the side walls, the angle would be around 22 degrees; this is just a further example of the confusion that makes study of the Osireion so frustrating.

This confusion is compounded by Frankfort's dimensions for the sarcophagus chamber, *"It is 27.15m by 4.75m, and 2.50m high at the wall, 4.45m to the top of the roof".*[30] If we followed these dimensions the roof would display an angle over 39 degrees! Clearly something is wrong, and I suspect an error in his wall height of 2.50m, as his scale drawing suggests that it is higher.

[29] Building in Egypt, Pharaonic Stone Masonry, 1991, pg 191
[30] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 21

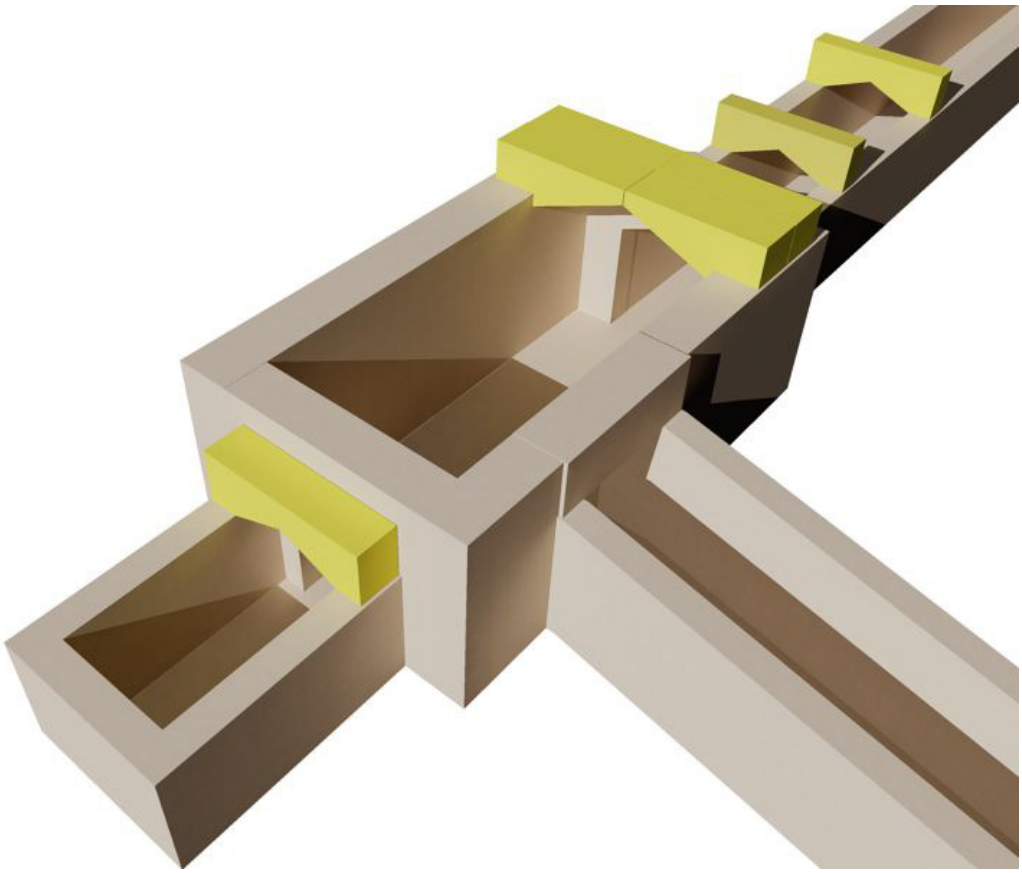



This image from the Isida project of the sarcophagus chamber suggests an angle closer to 30 degrees. Frankfort's drawing also suggests 30 degrees. A 9 cubit wide chamber, with walls 6 cubits high, with the apex height a further 2.5cubits, would provide an angle of 29 degrees.



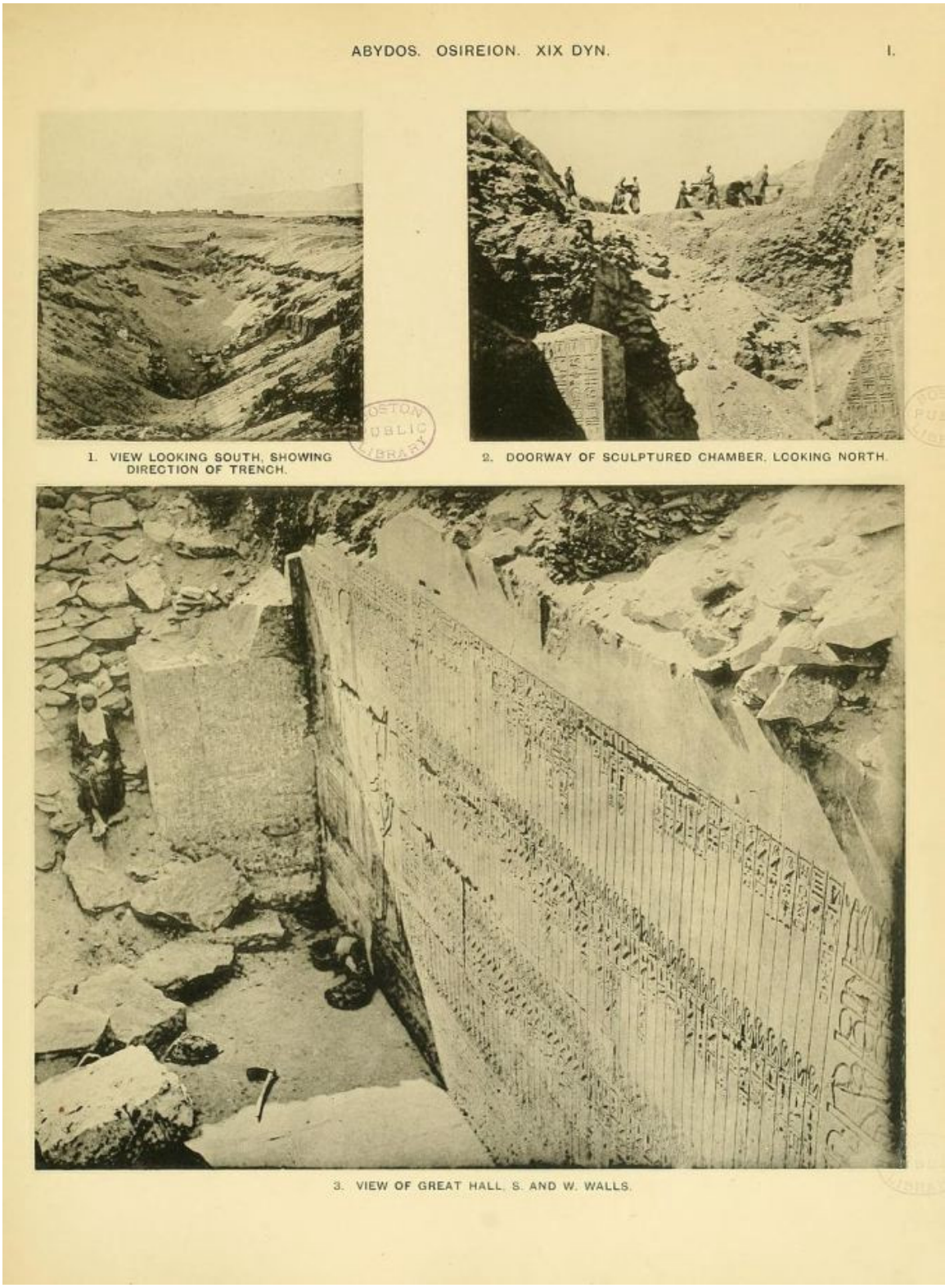

Above we have Caulfeild's section[31] of one of the chapel roofs in Seti's temple; I include this to demonstrate that as well as cutting a V profile out of monolithic blocks, they were also capable of cutting an arch profile.

[31] Temple of the Kings at Abydos, G.Caulfeild, 1902, plate XXIV



Above is how the roofing may have looked like, along the entrance corridor and the two chambers. The smaller width of the corridor and southern chamber appeared to have been spanned with monolithic sandstone blocks, whose undersides have been cut out in the shape of a V; the wider hall may have been spanned with two pieces like the sarcophagus chamber.

No clues were left as to the roofing solution of the sloping passage; we only have a surviving lintel stone. Today this passage has been roofed over by a modern arch, built during Naville's time.




Images form Murray's 1904 report

*Modern views of the Great Hall; the scene on the west wall of the entrance corridor as drawn by Murray*

*Modern view of entrance corridor entering into Great Hall, the modern arch that protects the sloping passage is visible on right*

## The Sloping Passage

First discovered by Murray, she says; *"Here our hopes rose high, for the entrance to the passage had an enormous roofing stone still in position; but we soon found that it was the only one that remained, the rest of the roof having suffered the same fate as the other parts of the building. I was able to copy only a very small portion of the inscriptions; for although we cleared the passage to the floor, two days of high winds silted it up to the level of the roof."*[32]

Some 9 years later Naville would continue were Murray had stopped, he states; *"In 1912 we had cleared the passage, the door of which had been discovered by Miss Murray in 1902-03; we had found that it sloped gently, that its walls were covered with inscriptions from the Book of the Dead, and that it was about forty-five feet* (13.7m) *in length"*[33]

[32] The Osireion at Abydos, Margaret A. Murray, 1904, pg 2
[33] Excavations at Abydos, The Great Pool and the Tomb of Osiris, JEA Vol 1, pg 160

In this early image looking east we can see Murray's *enormous roofing stone,* spanning the entrance to the sloping passage, which is found in the east wall of the Great Hall. Just behind this large lintel stone, we can see the start of the construction of the modern arch that now protects this passage.

The Beginning of the Work: January 1914.



As this later image shows, the modern arch was completed by 1914. Murray reports that the north side of the sloping passage was inscribed with the 99th chapter of the Book of the Dead, with the south wall having the 17th chapter. As for the lintel stone she states;

*"The lintel or roofing stone, which still remains in position, was painted in black on a grey ground. It was probably the intention of the builders to engrave the hieroglyphs, but it was left, like the east side of the North passage, merely sketched in.*

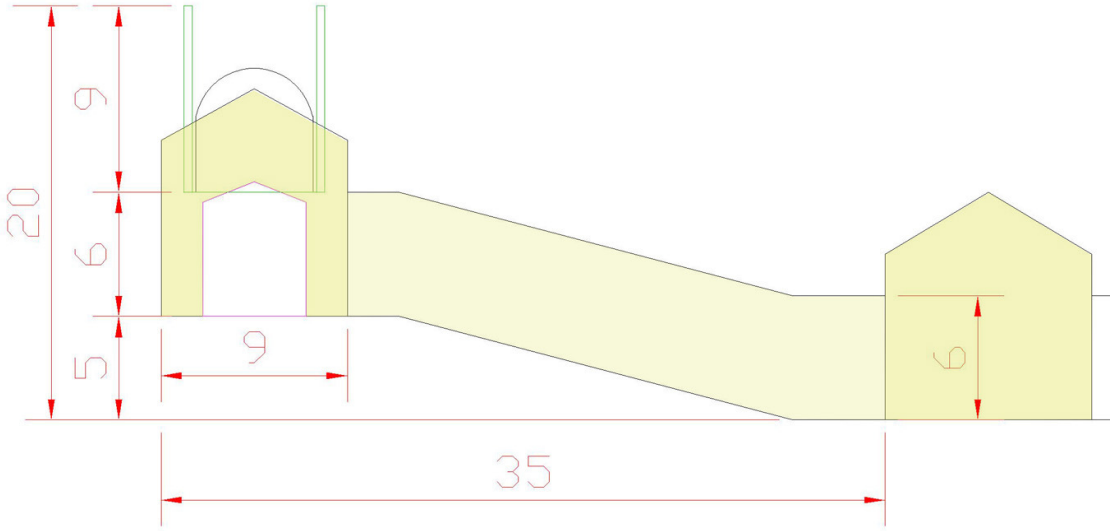
*The names, which are determined with the sign of a star, are those of the decans, and are interesting as none have hitherto been found of the time of Merenptah. The earliest known are in the tomb of Sety I, and in the Ramesseum of the reign of Rameses II; these now continue the consecutive series for another reign.*

*The whole roof of the passage was probably covered with the names of stars, and possibly with astronomical data, of which not a vestige remains except this one small section."*[34]

[34] The Osireion at Abydos, Margaret A. Murray, 1904, pg 22

Frankfort suggests an astronomical scheme on the fragments of the roofing block found in the small southern chamber, he says; *"The roof was apparently of yellow sandstone, and seems to have displayed the cartouches of Merenptah in bands surrounded with the names of stars, as a few stray fragments would suggest."*[35]

Frankfort provides a bit more detail on the sloping passage. *"The sloping passage measures 14m by 2.60 by 3.05 (height). It slopes down towards the east at an angle of about 15°. It starts, however, with a horizontal piece of 1.20m and ends also with a horizontal piece of 2.40."* Frankfort also reports traces of a doorway at the eastern end of the passage; however, he provides no drawings of this passage other than a portion of it, in his sectional drawing of the Osireion.

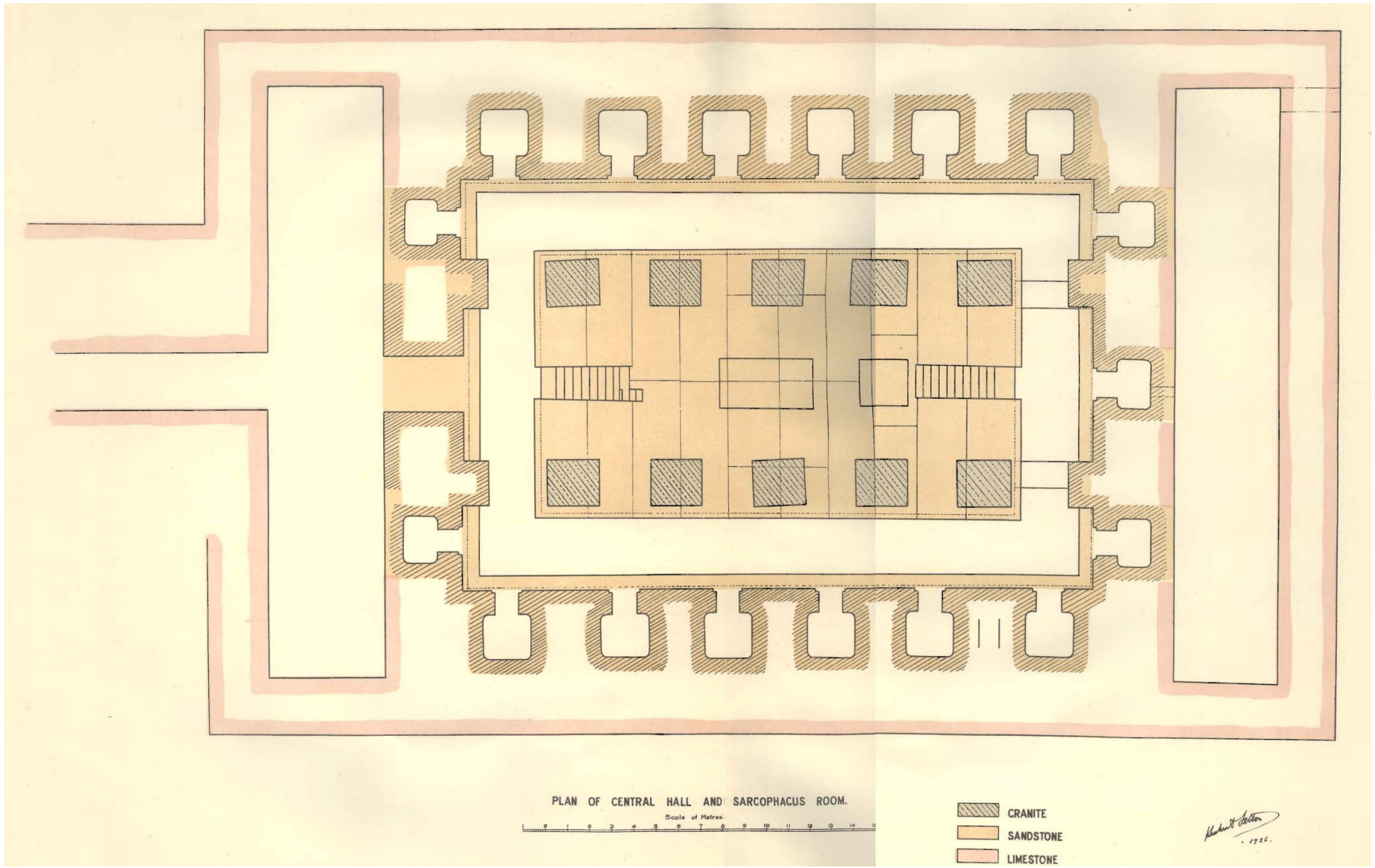



Based on Frankfort's details a possible cubit solution is as above. The top of the entrance shaft retaining walls to the end of the sloping passage could be 20 cubits (10.48m based on a cubit of 20.63 inches). The incline of the entrance corridor of 6 cubits might match the height of the sloping passage, with the floor of the great hall being 5 cubits above the floor of the first transverse hall.

In the next two pages we have the two scale drawings that Frankfort provides of the Osireion. These were created by Mr Felton, who also provided most of the photographs in Frankfort's report.

[35] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 15


THE CENOTAPH OF SETI. I.
SECTION THROUCH SARCOPHAGUS ROOM, CENTRAL HALL,
TRANSVERSAL ROOM, AND PART OF PASSACE.
Scale of Metres
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
CRANITE
SANDSTONE
LIMESTONE


PLAN OF CENTRAL HALL AND SARCOPHACUS ROOM.
Scale of Metres
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
CRANITE
SANDSTONE
LIMESTONE
1926.

In Felton's drawings, he provides a key to the types of stone used in the Osireion; though reading through the reports there is sometimes inconsistency on what stone types were used. In the side elevation, we can see the end of the sloping passage enter into the first transversal hall; in the top right corner is a partial section of Seti's temple, which gives a good indication of the close proximity to the Osireion.

## The First Transversal Hall

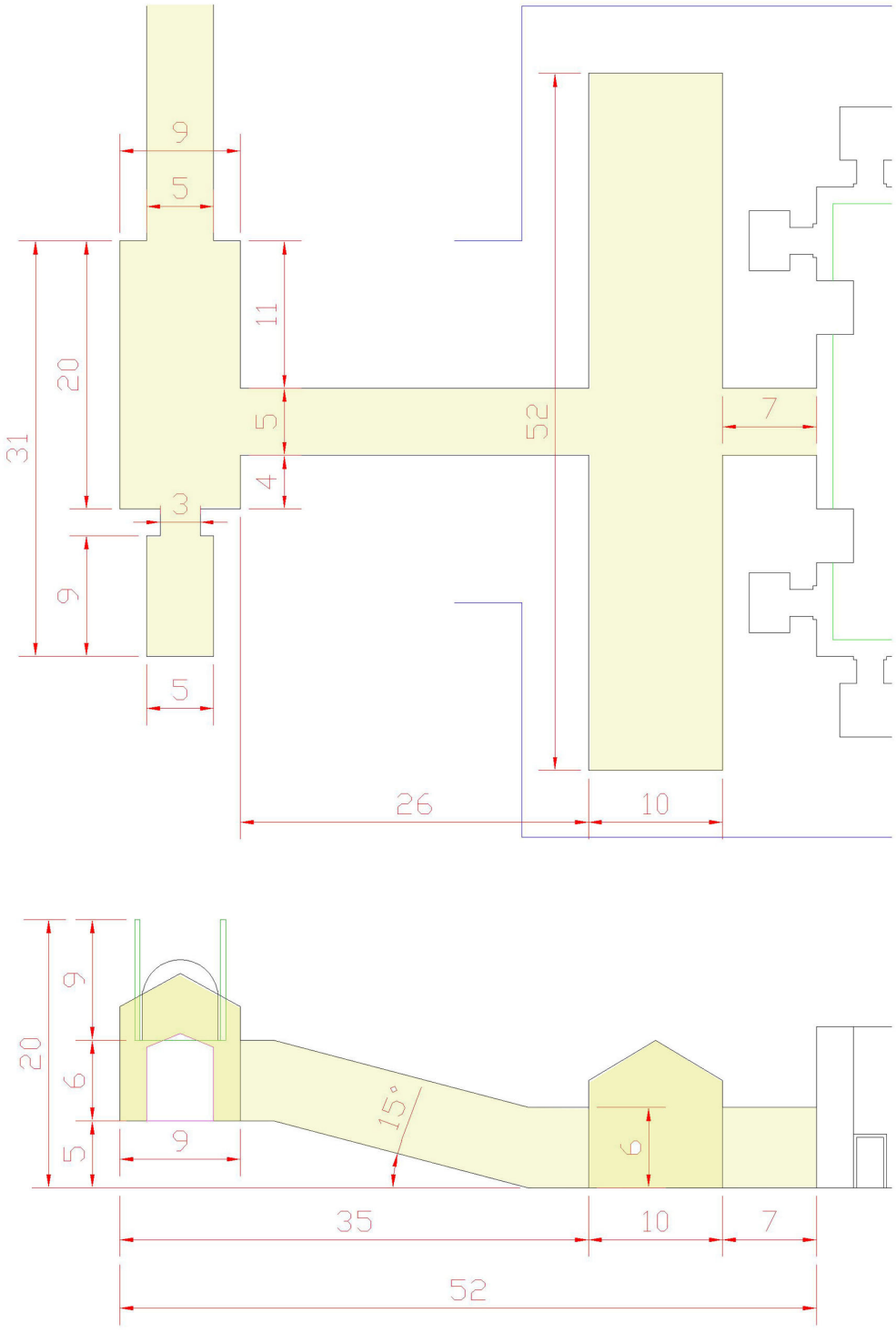
Frankfort states; *"The Transversal Room measures 27.15m by 5.25m, with a height of 4.65m in the middle. The mantle of rough white limestone which envelops the building as a whole surrounds the Transversal Room entirely, forming actually its north and south walls, while the east and west walls are faced with yellow sandstone; but limestone is used again inside the east wall, i.e. between the yellow sandstone facing of the Transversal Room and the red sandstone of the central hall."*[36]

As to the form of the roof, only a part of a roofing block was found in the north-east corner; though Frankfort thought that the roof may have been similar to that found in the so-called sarcophagus chamber. On this one remaining roofing stone, Frankfort states;

*"The one remaining roofing-stone in the north-east corner of the Transversal Room shows faint traces of the head of a figure of Nut with arms outstretched towards the earth, a ship sailing forth and swimmers, such as are shown in the tomb of Ramses IV (Lefebure, III, Pl.27). The background is painted red, with darker red spots."*

On the doorway leading from the transverse hall to the Central Hall, small fragments of texts from the Book of the Dead were preserved; the doorway to the central hall he gives as 3.65m long. The height Frankfort gives of 4.65m, like in the sarcophagus chamber appears to not agree with the scale drawing; I suspect it may be 8 cubits high at the wall. The apex height above the wall may have been 3.0 cubits; this would give an angle of just under 31 degrees. The First hall is wider and higher than the second hall, the width is a cubit more giving us a width of 10 cubits, and both halls appear to have the same length of 52 cubits. In the next page a possible cubit solution is given.

[36] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 16




Possible cubit scheme for first transverse hall, 52 x 10 cubits; this 52 cubits is also the distance from the west wall of Murray's hall to the west wall of the Central Hall.

In the image above, looking north we can just about make out the surviving roofing stone in the north-east corner; the end of the sloping passage is visible in the middle of the west wall. During clearing of the Central hall, large blocks were transported by Frankfort's workers into the hall for storage.

This image provides a clearer view of the sloping passage and the modern arch.


Today's view of the First Transverse Hall; the large stones transported from the Central Hall are still intact, and sadly surrounded by weeds. The surviving roofing stone is still visible.

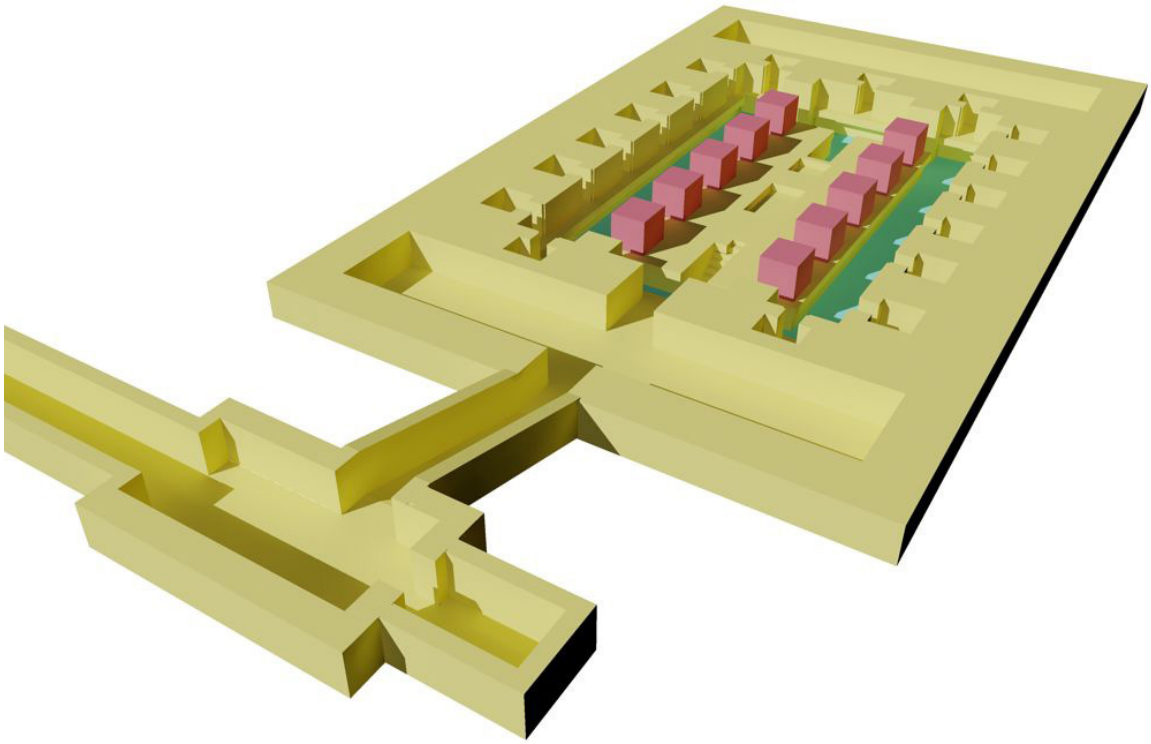

In this image, viewed in the same direction, but zoomed out, we can see the 3.65m (7 cubits) thick wall that separates the First Transverse Hall, from the large Central Hall.

## The Central Hall

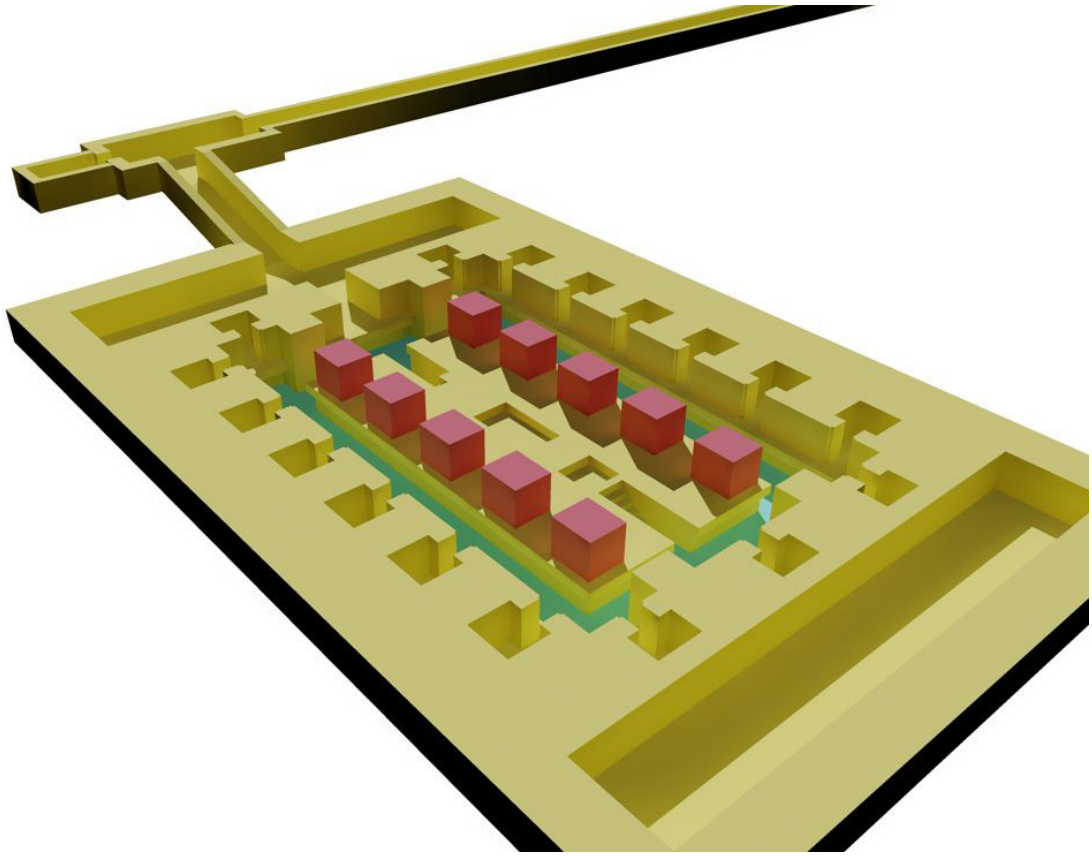
The Central Hall is the heart of the Osireion, and a marvel of ancient Egyptian engineering; no expense seems to have been spared in its creation. It is a large rectangular structure, built with a mixture of limestone and sandstone; the walls and central island are made of sandstone, and behind the walls the structure is completed in limestone (Mr Felton's drawings on pages 39&40 give an indication). The last stone type is to be found in the large pillars, their beams and roofing stones, which are all of granite.

When one enters the Central Hall, through the doorway leading out of the first transverse hall, you come to a halt, courtesy of a moat that surrounds the central island. You will find yourself standing on a ledge that can be seen to run around the central hall; this ledge Frankfort gives as 0.60m wide and 0.53 thick. However, you cannot use this ledge as a path to gain access to the 17 cells that surround the island, as you are prohibited by large piers to your

left and right. These piers, like the granite pillars, were to support the roofing beams. In front of you, you will see a set of steps that descend some 3.15m, below the surface of the island; on the east side of the island, a similar set of steps is to be found. In the middle of the island are found two recesses cut into the floor.



I have made the above model to give a rough idea of the layout of the Osireion (I have sliced the Osireion at the roof height of the cells, and adjusted Murray's chambers to the same height). We have two lines of five granite pillars on the island, and between the spaces of the pillars we have six cells on the north and south walls; on the east wall we have 3 cells, and two cells on the west wall. The doorway into the Central Hall takes the position of what would be the middle cell found on the east wall; there is no grand doorway into the second transverse hall, instead the hall appears to have been concealed, as a breach in the back wall of the east walls middle cell, gives access to the hall.



In the view above we can see the middle cell in the east wall more clearly; a breach was made in the back wall of this cell, in order to gain access to the 2nd transverse hall. Frankfort provides the following on the cells:

*"On each of the long sides of the Hall there are six cells; two more are on the west, and three on the east side. They measure 1.98 by 2.15 by a height of 2.00m. They are entirely bare, and obviously not finished. The doorways were meant to be surrounded by a pylon-shaped door-frame, worked out in relief when the stones were finally dressed. This is shown on the southern wall. Inside the cutting into which the door (which would open outwards) was to be fitted, there are in the two upper corners hollows to take the pin of the door-leaves, which could thus be lifted into their place."*[37]

This is the only information Frankfort supplies on the cells; Naville would state, *"These cells are over six feet high, about six feet wide and deep, and had doors, probably of wood, of one leaf, which turned in two holes still*

[37] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 17

*visible in the stonework."*[38] He would also say; *"and are all alike in the red stone casing, though their ceilings are sometimes in limestone."*

Apart from the inconsistency between the authors in measures and door leaves; there appear to be other issues, for if we look at Naville's and Frankfort's plans, they clearly show that the east and west cells are not as deep as the north and south cells. They could have elected to make these cells the same depth, and increase the thickness of the partition walls between the Central Hall and Transverse Halls; but instead have elected to keep the partition walls at 3.65m (7 cubits) thick, and reduced the depth of the cells. No measurements are given by the authors for the doorway, rebate, pylon decoration etc, so we are pretty much in the dark on the design scheme for these cells.


In this image we can see some of the partially dressed south wall; this is the most damaged wall in the Central Hall, but it allows us a glimpse into the dressed walls of the cell (we do not know if Frankfort's measures are from a dressed or undressed cell). We can see part of the rebate around the door and part of the pylon decoration that surrounds the door. Also visible is the core

[38] Excavations at Abydos, The Great Pool and the Tomb of Osiris, JEA Vol 1, pg 24

limestone behind the sandstone walls; note also how the builders have created a slight batter to the walls (Fenton's drawing on page 39 also shows this batter present on the dressed east wall): this feature is not recorded or measured in the reports. Also visible in the image is the ledge that travels around the Hall; a similar undercut ledge is also to be seen on the island.


In this image, we can see how far the builders managed to dress the south wall (this undressed cell is the 4$^{th}$ from the east wall). We can also see how some of the stones are large single monoliths that span the distance between two cells. In the south wall they appear to have dressed half the length of the wall; this is a lot more than what was achieved on the north wall.


In the cell above (SE corner) we can make out the pylon decoration that surrounds the door; note also how the ledge stops against the stone pier, left side of picture.


In comparison to the largely destroyed south wall, the north wall (looking west) is remarkably intact, though largely undressed. The walls of the Central hall are made of six courses, and as can be seen above, some are quite large.


Looking into the north-east corner, we can see a few of the surviving roofing beams still in place. Here they have started to dress the walls down from the top and have stopped dressing midway through the fourth course.

It is probably apt to do a quick photo tour of the Great Hall, to give the reader a clearer impression.


Looking west, from atop the east wall, we can see the sloping passage entering the First Transverse hall, and from here, the doorway that leads into the Central Hall. The water level when the picture was taken prevents us from seeing the steps on the island. The two recesses on the island are given by Frankfort[39] as 2.13m square (4 cubits) for the smaller one in the foreground, and the larger one is given as 4.27m by 2.23m (possibly double the size of the first (8 x 4 cubits). The depth of both is given as 0.52m (1 cubit)

In the previous image that showed the surviving roofing beams, their tops can be seen in the bottom right corner of the above image. These rest on the granite architraves that rest on the granite pillars of the island and the sandstone piers attached to the east and west wall of the Central Hall.

[39] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 17


Looking into the north-west corner, we can see the doorway from the First Transverse Hall; the doorway itself is spanned by three large lintel stones: above this would be two further courses, likely robbed in antiquity. The badly damaged ledge abuts up against one of the sandstone piers.


Looking through the doorway, we can see the end of the sloping passage in the west wall of the First Transverse Hall; the other sandstone pier of the west wall can be seen on left.


In this earlier image before the gardeners arrived, we can see how one lintel was dressed underneath, in order it would appear, to compensate for its laying on a slightly lower course.


Looking north, we can see the start of the steps, note also the bosses left on the sandstone blocks. On the steps, Frankfort states;

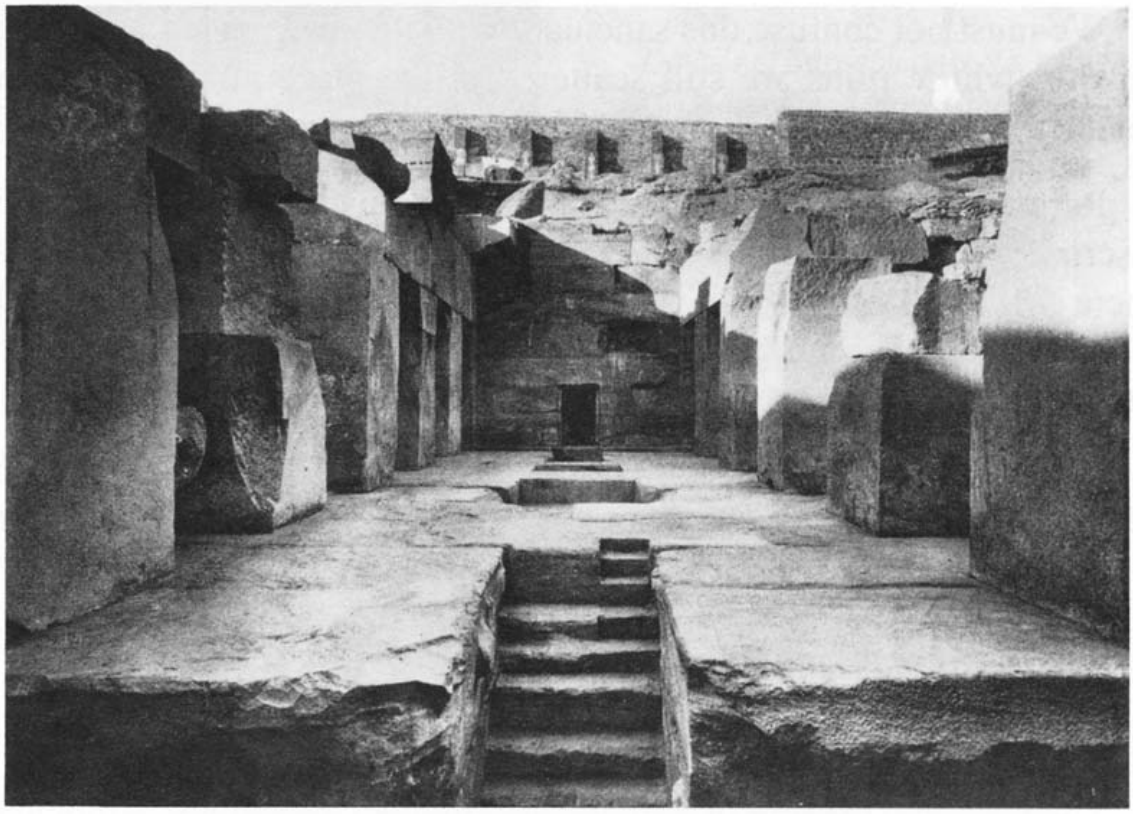
*"These steps are as little finished as the rest of the island; in fact, it seems that there was no time to cut all the steps on the west, and the two at the top were merely indicated by a removal of the stone over about a third of the breadth which they were ultimately to have. For these steps are all cut into the blocks of the island. They are uneven, and on an average 0.20 to 0.25m deep and wide. The eastern bottom step is, however, 0.90m, the western 0.65m wide."*[40]

The granite pillars that support the granite architraves are not all monoliths, seven are, but three are made of two pieces.

[40] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 17

In this early image, we can see the eastern steps of the Island. From Felton's scale drawings they appear to descend about 6 cubits (3.15m)[41], width maybe 3 cubits.

[41] Ibid, pg 17



This early image shows the incomplete western steps; the wall in the far background is Seti's temple.

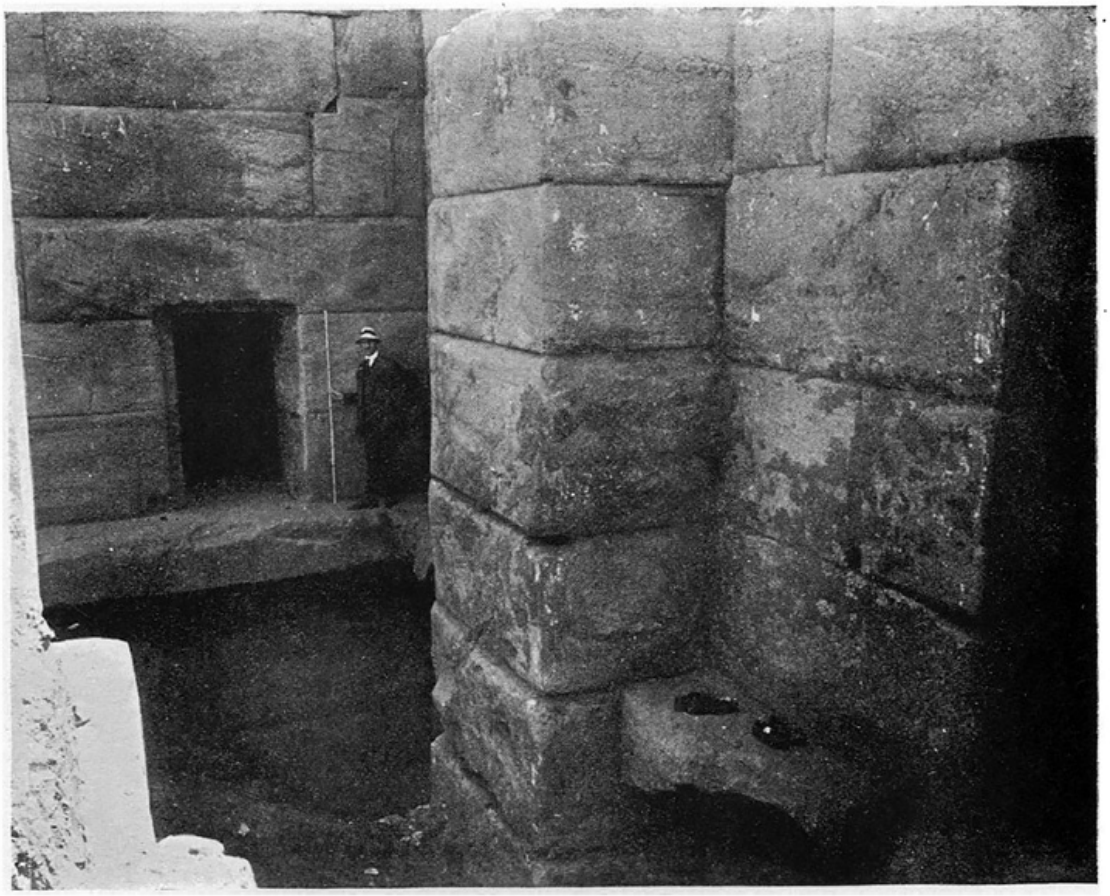
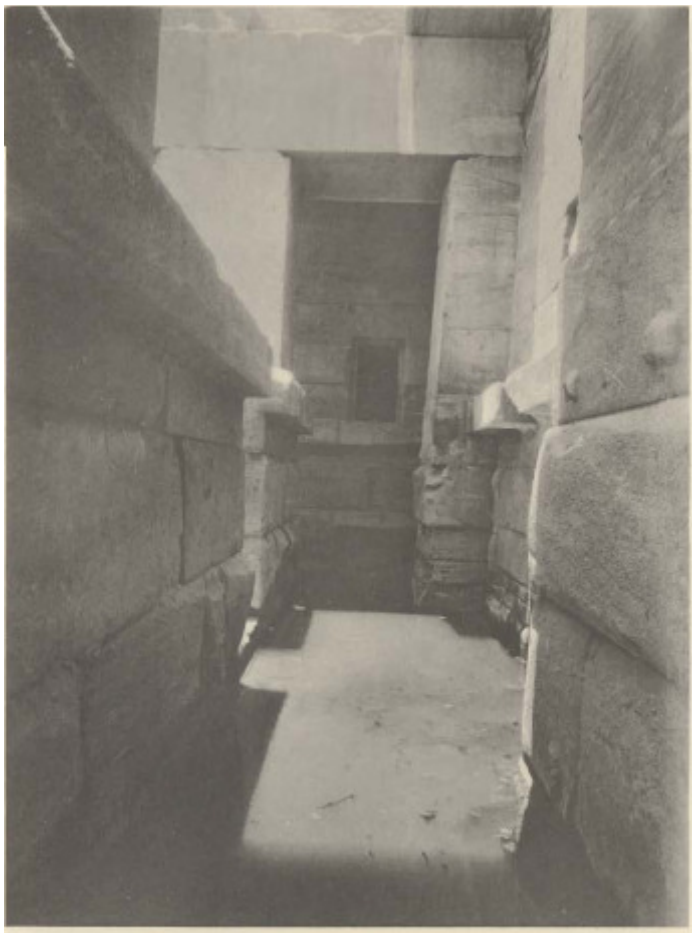


**Fig. 1. The South-West corner of the Great Pool: shewing cyclopean walls.**

From Naville's report we get a clearer view of the ledge, which appears to be a cubit thick (doorway from First Transverse Hall is on right) Frankfort's description;

*"The Central Hall consists of an island surrounded by a channel. The walls are provided with a ledge which projects above the channel, but which is interrupted on the east and west sides by piers carrying the architraves. Thus the ledge does not provide a means of communication through the Hall. It is 0.60m wide and 0.53m thick, and is worked out of the actual blocks of which the walls are constructed; these are about 1.00m wide, of varying length and all of red sandstone."*[42]

[42] Ibid, pg 16



1. East side of Canal in Central Hall looking North

In this view we can see a similar ledge that has been made on the sandstone island; on these blocks Frankfort states,

*"All these blocks are still covered with the pit-marks with which they left the quarries, and often still retain the bosses which were intended to facilitate their handling."*[43]

Frankfort provides no measures for the island ledge; but from Felton's drawing they appear to be also a cubit thick, though not as wide as the ledge that runs along the walls. Also of note in the above image is the batter present on the dressed east wall; clearly visible when you compare the eastern pier with its adjacent granite pillar.

[43] Ibid 17

During my research I came across many articles that suggested that the Osireion is a much older structure, such as the 4th dynasty; however, there is no evidence that I have seen to suggest such a scenario. Instead we have clear evidence that Seti I built the Osireion. For example, sandstone was not a major staple for the Old Kingdom stone mason's; Dieter Arnold states:

*"Limestone and sandstone were the great building stones of ancient Egypt. Limestone was typically used for constructions dating from the Third Dynasty to the Middle Kingdom and the early New Kingdom. Sandstone began to be used in the Eleventh Dynasty but became a common building stone from the Eighteenth Dynasty on."*[44]

The strongest evidence for Seti's involvement must come from the granite dovetails that connected the wall masonry blocks together; Caulfield mentions them in his report on the temple, *"All the principal walls and beams were tied together with dovetailed ties of granite or ebony, and are invariably tied longitudinally, never transversely."*[45]

Naville in his own report would comment on the fine sandstone blocks of the Osireion; *"These very fine blocks are joined together by beautiful dovetails made of black granite."*[46]

Later Frankfort would ask the question; *"The dovetails which connect the blocks of the temple-walls bear the cartouche of the builder. Would that also be the case with those of the "Osireion"?*[47]

Frankfort would look at the damaged walls of the Osireion in the hope of finding one of these dovetails, and found a black granite dovetail still in position, above the doorway that leads to the Central Hall. On removal of this dovetail he found the prenomen of Seti I inscribed on its lower surface. Due to its location being quite high on the wall, Frankfort thought it not conclusive and carried on his search. He says;

*"I consequently looked for confirmation of our find and noticed another dovetail, which could just be seen where in the backing wall one of the blocks had accidentally flaked off. It was in the third course from the top,*

[44] Building in Egypt, Pharaonic Stone Masonry 1991, pg 27
[45] Temple of the Kings at Abydos, G.Caulfeild, 1902, pg 11
[46] Excavations at Abydos, JEA vol 1, pg 160
[47] Preliminary report of the expedition to Abydos, H.Frankfort 1925-6, pg 158

*where the granite roofing slabs were still in position, and where the granite architrave was worked into the fabric of the quartzite-sandstone backing wall, a spot where the building is so well preserved that there can have been no tampering with the dovetails. We erected a scaffolding, chiselled away about half an inch of the broken surface, and could both see and feel a deeply cut cartouche. So no doubt remained. The hidden stones had at last revealed the founder."*[48]

*Granite dovetail inscribed with the cartouche of Seti I*
*(Found above doorway to Central Hall)*

*Close-up of dovetails position in north-east corner*

[48] Preliminary report of the expedition to Abydos, H.Frankfort 1925-6, pg 158

*Image from Frankfort's report pointing to the location of the dovetail*

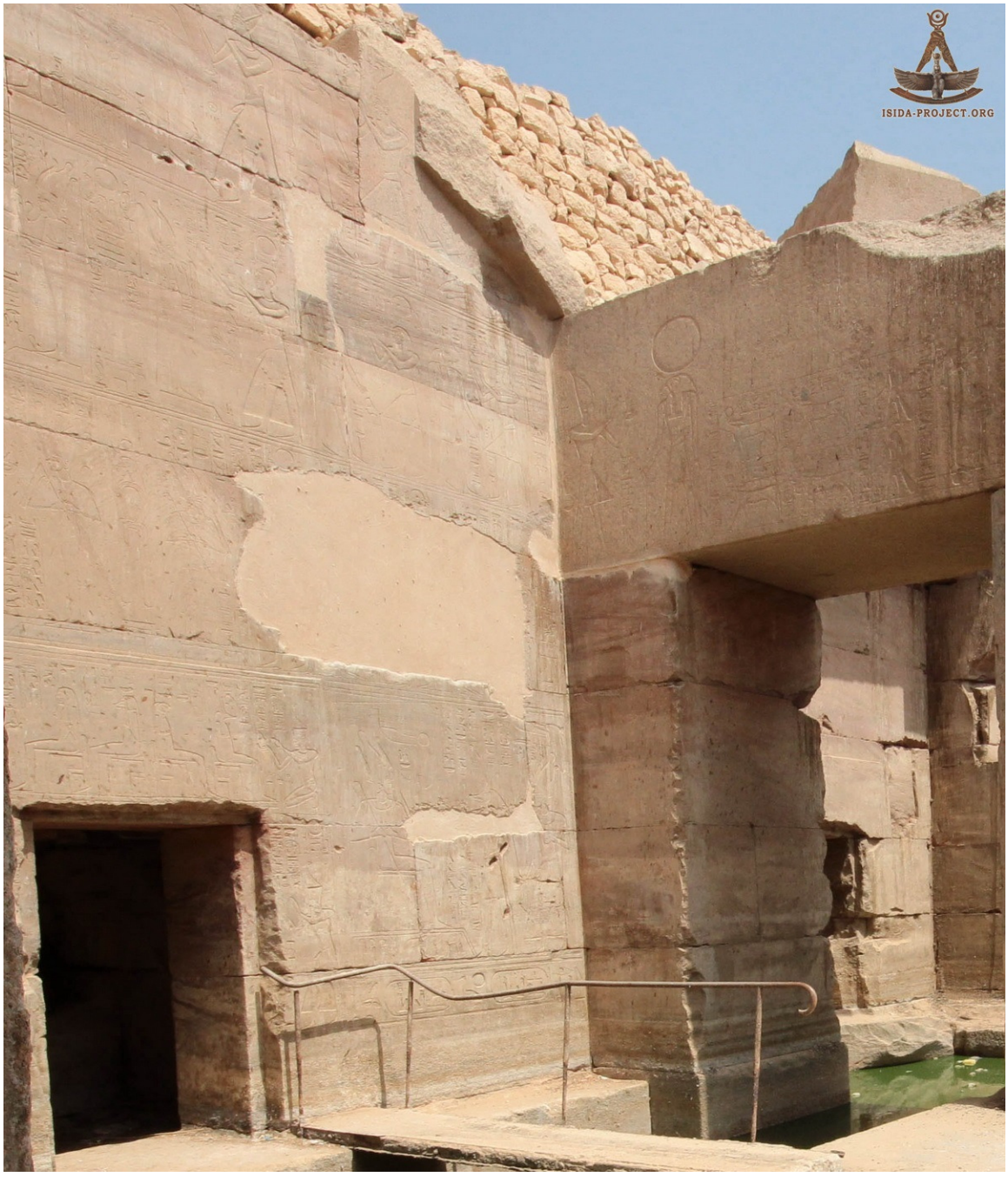

In the modern view above we can see the damaged block, third course down from the top, which contains the granite dovetail described by Frankfort.

Proponents of an earlier construction would prefer to believe the following statement by Naville:

*"I have no hesitation in putting the date of its erection to the time of the Old Empire, the IVth Dynasty, when the temple of the Sphinx was built, and perhaps even earlier. It is not impossible that this is the oldest Egyptian building, of large proportions, which has been preserved."*[49]

However, it must be kept in mind that Naville's excavations were cut short by the First World War, and had he been able to complete his excavations, he may have come to the same conclusions as Frankfort. Further, these were early days for the new discipline of Egyptology, while Naville was busy excavating the Osireion, Barsanti was busy destroying the Great Pit at Zawiyet el-Aryan.

[49] Excavations at Abydos, JEA vol 1, pg 166




Dressing of the walls was not well advanced, most of the east wall above, was dressed and about half of the south wall, with a small area started in the NE corner. We can see above how Merenptah has started to sculpture part of the east wall and the granite architrave, and in some areas, outline sketches in red ink are still visible.


Above we are looking at the decorated east wall, between the piers that the granite architraves rest on. In the top left we see the angled end of the roofing beam resting on top of the granite architrave; the other end of the roofing beam rests on top of the north wall. This is the only surviving intact roofing beam in the Central Hall (two other partial beams reside next to it and span the north east corner, as can be seen in Frankfort's photo on page 64). In the top right corner of the image above we can see the angled remnants of the opposing roofing beam, also visible in previous image.

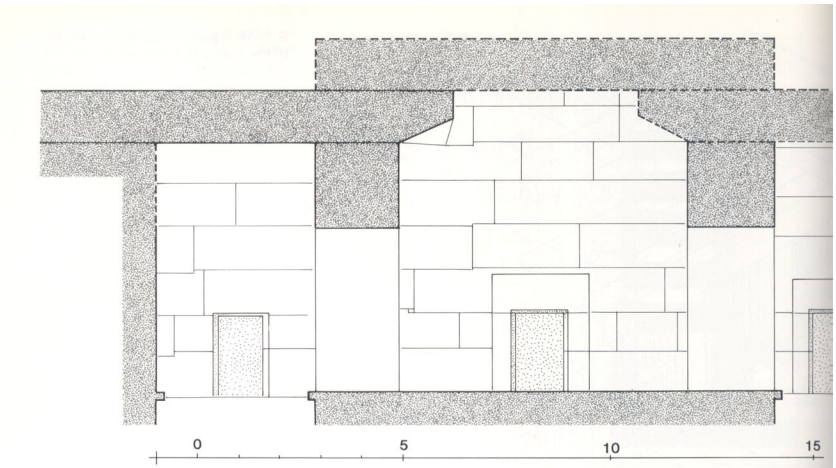



Fig. 4.116 Section through the center of the Osireion of Sety I at Abydos.

Above we have a section of the Central Hall roof, by Dieter Arnold[50]. The roof was entirely made of granite; the angled roofing beams rested on top of the walls and architraves, and a further beam was believed to be placed on top of these to span the central portion of the Central Hall. As to the dimensions of the surviving roofing beams, Frankfort states:

*"Their exact length cannot be given, for they disappear on the north side underneath the limestone casing-blocks, which thus appear not merely to have surrounded the building but actually to have covered it as well. The roofing slabs are 10m long, while they are from 2.50 to 2.70m broad and 1.60 thick."*

These are huge beams, which dwarf the beams above the king's chamber in the Great Pyramid. If we take a beam at 10 x 2.7 x 1.6m, we have a beam of 43.2 cubic metres; the density of granite is about 2690kg a cubic metre, which gives us a total weight of around 116 metric tonnes! Indeed it may be more as the images suggest that the end beams against the east wall, actually appear to make up a small portion of the east wall, depth unknown. The following images will hopefully make this clear.

[50] Building in Egypt, Pharaonic Stone Masonry 1991, pg 186


Above I have coloured in the ends of what I think are all part of the roofing beams. They appear to have been fitted with some of the beam resting on the east wall as well as the architraves; then the sloping profile was cut into the beams leaving a small portion that was incorporated into the east wall.


A closer view of the intact roofing beam

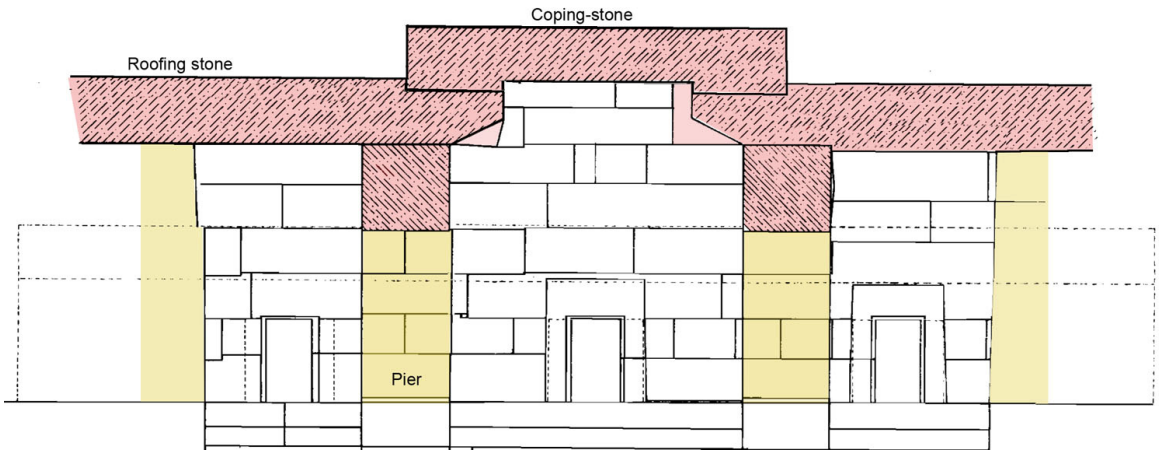

In this view we have a closer look at the broken sloping end of the opposing roofing beam, and again it appears that the broken remnant is part of the same block which is partially decorated with texts. The rubble wall prevents us from gauging the depth of these blocks into the east wall. However, we can see the broken fragments of the roofing stone, overhanging the east wall, and at the south end of this stone, we can see the core stones of the south wall, built against it.

The granite architraves appear from the drawings to be 4 cubits high (2.1m), using this as a scale it would appear that this roofing stone is close to being 10.0m long.


Here we can see how a portion of the intact roofing stone, has a dressed upper portion; this appears to be a dressed pad that any coping-stone would rest on. Note also how the decorated east wall extends beyond this dressed pad; this suggests that any coping stone fitted may have been dressed underneath like we see in the entrance corridor lintel (see page 56); as it seems unlikely that they would obscure this decoration (Further, if this dressing and decoration are solely the work of Merenptah, then clearly the coping-stone must have been undercut to allow access for his decoration). Note also, far left, the remnant of the next roofing stone, and that it appears taller; the next image will hopefully clarify things.


Here we can see all three roofing stones that span the north east corner, the intact stone with the sloping edge is on the right. The other two stones show clear marks where there ends have been removed by stone robbers; a noticeable drop in the upper surface of the stone, suggests that these two stones also had dressed support pads for coping-stones, albeit at a higher level than the intact pad. This need not be a concern, as this higher level may mean that there was no need to dress the underneath of the coping stone in order to maintain ceiling level.

The remains of these three stones, suggests that the coping stones rested only on the dressed support pads of the roofing stones, and from the images the pads appear to go half way across the granite architraves. Therefore any coping-stones would appear to be half supported by the architrave and the roofing stone. I have amended Arnold's drawing, showing a possible alternative roofing arrangement; obviously a closer inspection would be required, as there is only so much one can observe from photographs.



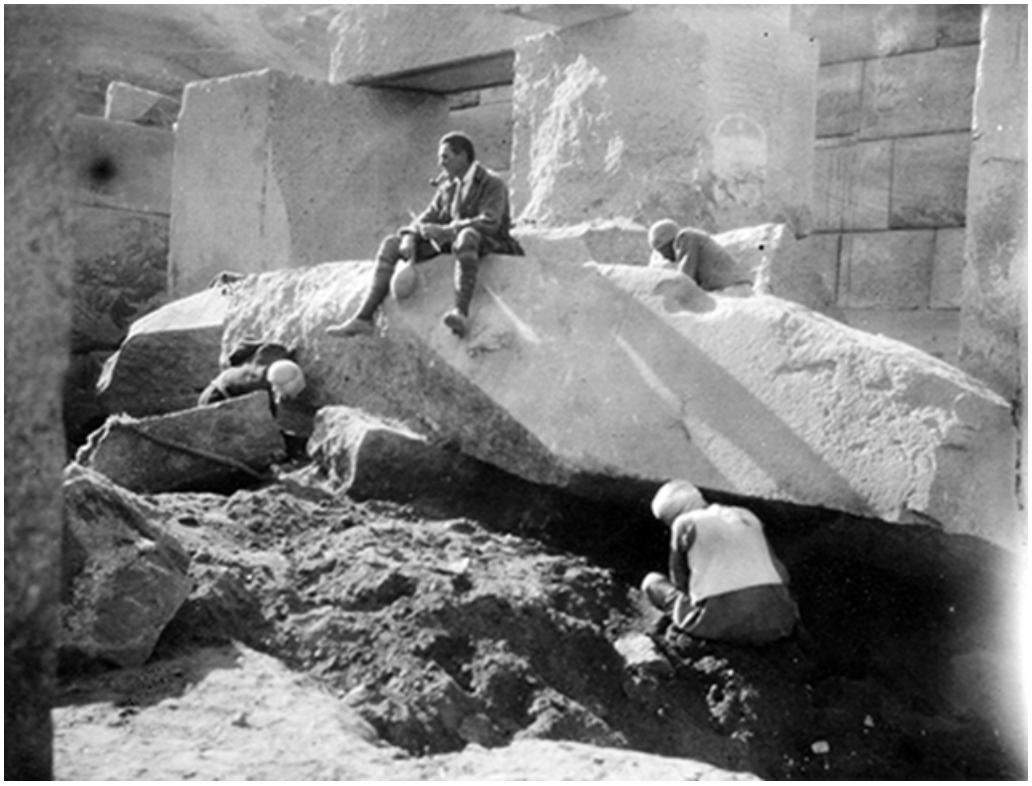

Above is my solution to the first three roofing stones against the east wall of the Central Hall. The granite architraves are shown resting on the sandstone piers, with the roofing stones resting on the architraves and the north and south walls of the Central Hall. The two roofing stones against the east wall appear to extend into the east wall and bonded with it (the first coping-stone, likewise, may have extended into the east wall). From Felton's scale drawings, the centres of the granite piers are approximately 9m apart, which gives a rough idea of the length of the coping stones; still an impressive piece of engineering. The remaining coping-stones may not have been undercut as the higher support pads of the neighbouring roofing stones, could compensate and keep the underside of the coping-stones on the same plane.

Frankfort commented on a large piece of granite, badly damaged about 6.50m long, which he found in the Central Hall; though not conclusive, he thought it may have been one of the coping-stones. He noted how it was less broad and thick than the roofing stones. If this was a coping-stone, a length of 6.50m would only be supported by the projecting parts of the roofing beams, as the spacing between the granite pillars according to Felton's drawings is 6.80m (13 cubits). The pillars are longer on their north/south sides than the east/west sides, 2.35 to 2.38m by 2.09 to 2.12m (4.5 x 4.0 cubits)[51]

Felton also tells us that the surviving roofing stone projects over the central aisle by 1.20m: as I suspect the support pad took half the north-south width of the pillar, say 1.10m, the support pad would be some 2.3m N-S. This

[51] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 18

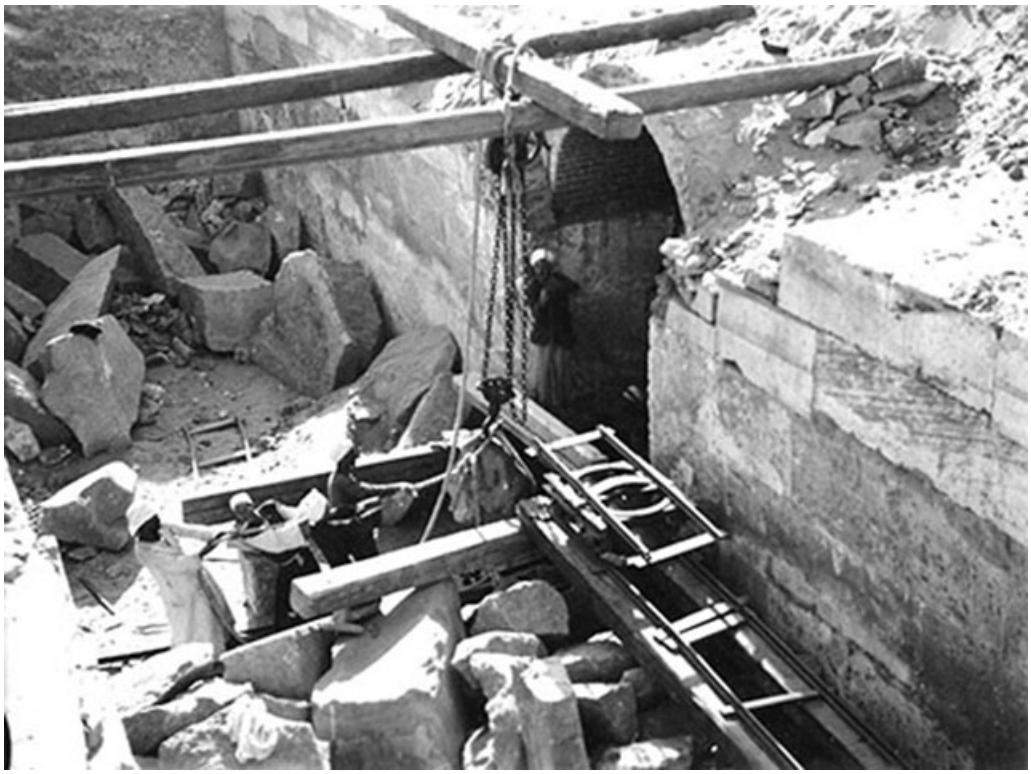
would leave us with some 6.7m to the end of the opposing support pad; close to the 6.5m Frankfort gives for his block. It is possible therefore that the stone robbers fractured this coping stone at the end of its supporting pad, and allowed the longer portion to crash down into the hall, were it could be further broken up. This stone of Frankfort's I assume was moved with many others into the First Transverse Hall, were it may still reside amongst the weeds. A closer inspection of its ends might show clear fracture traces on one end only.



*This early image above shows Frankfort's 6.5m stone*

1. Removal of Coping-stone from Central Hall

*Further image of Frankfort's coping stone*



*The stones that encumbered the Central hall, were transported into the First Transverse Hall*

This image gives an indication of the large blocks that had to be cleared from the Central Hall. The top edge of the large block in the foreground, shows the clear marks, were it is thought wedges were driven in by the stone robbers to fracture the stone; such marks are abundant.


In this image, we can see the fractured remains of the roofing stone, which is next to the three surviving stones that still span the north-east corner. Underneath we have a clear line that shows the limit of the dressing in the upper parts of the north wall.


In this image, we can see in the background, the fractured end of the roofing stone in the previous image, and in front of this, we appear to have a displaced fragment of the same roofing stone. It overlaps the architrave, when we might expect the sloping profile of the easternmost stone. It may have been moved during the activities of the stone robbers; pushed forward, when we might expect it to be more aligned with its neighbours (a closer inspection would be required).

In the right foreground, the broken remnants of the surviving southern roofing stone (compare to image on page 70) are visible, which appears to bond into the east wall an unknown depth.

We may never know the true finishing state of the Osireion roof, parts of it may have been undressed like we see in the walls; but I feel it is more probable that the all the beams were installed, as it's hard to imagine Merenptah returning to decorate an incomplete subterranean structure.

When the violation of the Osireion first started is difficult to establish, though the reports do suggest a roman and Coptic presence.

*A close-up view of the decoration on top of the east wall*

The next item to discuss in the Central Hall is to be found further down this wall. During the clearing of blocks and debris that had fallen into the eastern channel Frankfort found a pair of beams connecting the island to the east wall (the outline of these beams can be seen running from the east wall piers, in Fenton's drawing on page 40). The tops of these beams were 4.15m below the ledge that surrounds the canal: the beams themselves he gives as 1.10m thick and 1.25m wide. He would call these thrust-beams, he states;

*"The Beams come underneath the fourth course of stones in the island. Their purpose is evidently to add rigidity to the fabric of the Central Hall. The two groups of units which carry the colossal weight of the granite roof, namely the piers and the pillars, would, but for the beams, be without any bondage for over a height of 12 metres; for this is probably, as we shall see, the distance between the architraves and the foundations. A slight*

*resettlement of the soil might thus result in serious dislocation, as a consequence of sideways pressure; for there were no parts equal to the strain if the island with its pillars on the one hand, and the piers on the other, remained disconnected over so great a distance. These thrust-beams were therefore built in, at about one third of the height above the foundations."*[52]

In discussing the provenance of the Osireion to Seti, he states;

*"The granite pillars, furthermore, are founded upon an island which is entirely built of red sandstone, differing neither in size nor in the characteristics of its blocks from the walls in which the dovetails are found, and actually linked to that wall by a thrust-beam of red sandstone of the same nature. Here again it is therefore impossible to separate the sandstone from the granite work."*[53]

This provenance can be further added to, by a relatively new science that can help in dating structures. Surface Luminescence dating, was carried out on two samples from the Osireion: the author's state,

*"Thus the age of both samples are compatible with the archaeological age attribution of XIX dynasty…"*[54]

Unfortunately Frankfort was unable to determine if thrust-beams were to be found on the west side of the island, He states, *"similar beams, one must surmise, are to be found on the west side of the canal."*

I asked James Westerman if in the course of his excavations, he had come across the western thrust-beams? He reports that he did not encounter them, but he could not say definitely that they do not exist.

[52] Ibid, page 19
[53] Ibid page 24
[54] Mediterranean Archaeology and Archaeometry, Vol 13, No 3, page 112

The full extent of debris clearance in Frankfort's report is not clear, in the image above; much can be seen lying in the canal towards the north-west corner (compare to the image on page 57). Probing for thrust-beams on the western side is a difficult task, the murky water along with possible submerged blocks and debris, do not make for an easy task.

When it comes to the foundations of the Central hall, the situation appears complex. Frankfort took soundings through the part of the canal that they had excavated; this was from the east walls southern pier to the north wall. Frankfort states;

*"The water stood about four metres below the ledge, but we could nowhere reach the end of the walls of the canal when we pushed the probing stick* (5m long) *down at a slant; the walls appeared everywhere to descend below the lowest point we could reach in this way. When, on the other hand, the stick was pressed down vertically, we found everywhere that at a certain depth – 7.80m below the ledge – the water acted with particular force upon the stick, and in fact pressed it upwards, spouting up after it when it was withdrawn. Some of the villagers whom we employed, who were experienced in the making of wells, knew these phenomena well, and recognised the hard layer at once as the "gebel moiya" a more or less impermeable stratum, to*

*which they go down when they have to found the walls of their sàkiyah pits."*[55]

Frankfort suggested that this may have been the foundation level. In 2004, in the same eastern part of the canal, James Westerman reports,

*"In 2004 the channel on the eastern side of the central island of the Osireion was probed. During this probing the physical limit of the probe was reached at 8.4 meters (27.5 ft.) below the level of the floor of the central island without reaching the foundation level of the structure*."[56]

In 2007, Westerman made a further attempt on the eastern channel, he states;

*"In order to more effectively probe in the eastern channel of the Osireion Mr.Westerman had brought a 5/8" (1.59 cm) diameter tile probing rod kit which had the potential to measure up to 40 ft. (12.2 m) in depth. Using this probe he was able to reach 34 ft. (10.4 m) below the level of the central island. At this depth the probe became lodged due to the cohesive force of the silt in the channel which surrounded the probe. The probe did not feel as if it had hit a solid foundation layer at this depth. It was not possible to probe to a greater depth using the manual equipment."*

In the same report, the mystery literally deepens further; due to the physical limitations of the manual probing, Dr Shelton Alexander of Pennsylvania State University used seismic testing equipment. The results of this testing suggested that the foundation level of the Osireion was approximately 15m (49.2 feet)! The report also states;

*"Using the seismic equipment Dr. Alexander was able to determine that the "high degree of variability of signal levels and waveforms as the sources [shock impulses] are moved only short distances on the Osireion surface strongly indicates that the interior of the Osireion is highly heterogeneous, not a solid block of material." This means that there are apparently some sort of voids or cavities in the interior of the island."*

At the end of the report, the following observation is made;

[55] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 19
[56] Explorers Club, Flag 71 Report, Osireion Research Project, May 2007. See www.jameswesterman.org

*"Another issue raised by the 15 meter depth of the Osireion central island is just how old is this part of the building? It is my opinion that the Osireion is resting on a very firm foundation as it truly has stood the test of time. The central island is perfectly flat and the massive granite columns are still perfectly in plumb. In order to lay such a firm foundation it is my opinion that the water was diverted in antiquity by the builders. According to geologist Bahay Issawi, studies have shown that the Nile river bed has risen approximately 15 meters over the past six thousand years. If the water level in the Nile Valley was 15 meters lower during the time of the laying of the foundation of the Osireion, that could mean that the possible time of the construction of its core foundation was between five and six thousand years ago. This could make it among the oldest if not* ***the*** *oldest stone building in the world. The core structure of the Osireion was probably added onto and modified over its useful life."*

In his report, Frankfort tried to tie in ancient Nile levels, with his 7.8m foundation level; he states:

*"The consideration that it was necessary for so exceptionally ponderous a structure to find a hard layer to support the foundations will perhaps have carried little weight with architects whose flimsy foundation-works are notorious; incidentally this was the first compact layer to be met in going down. Anyhow, the assumption that on this layer the walls of the channel rest is well in keeping with the fact that we could not reach the end of these walls with our long probing stick. And moreover, if we accept the ordinary figures for the difference in Nile-levels between Seti's time and our own, viz 1.00m per thousand years, we find that on our assumption the water would at its highest have stood about level with the lowest steps of the stairs which descend from the island, while at its lowest it would just have enabled the builders to lay the foundations in the dry stratum, which we must no doubt assume they did*."(See footnote below)

[1] At present the water at High Nile stands about the ledge in the building, and the average difference between the levels of the water-table at High Nile and Low Nile in the district is about 4·00–6·00 m. (FERRAR, *The Movements of the Subsoil-water in Upper Egypt*, Pl. XXVII, C, and p. 59, table v.) In Seti's time the levels would be 3·25 m. lower than to-day.

Clearly we have a complex puzzle regarding these foundations and the hydrology of the site. Frankfort suggests 1.00m per thousand years, whereas the more modern report suggests 1.00m per 400 years. I feel that it will take serious investment in resources to solve this mystery.

The water we find in the Osireion is another mystery that Westerman is trying to solve; on his website he says;

*"But what about the water itself? I have determined through research that water flowing into the Osireion is different from ambient water at this location. The Osireion's water has a different chemical composition and isotropic profile. Why?*

*The water is under pressure and flows into the Osireion as though it were being forced up through rock like a geyser, but water is not reaching the Osireion through bedrock. What is propelling it?*

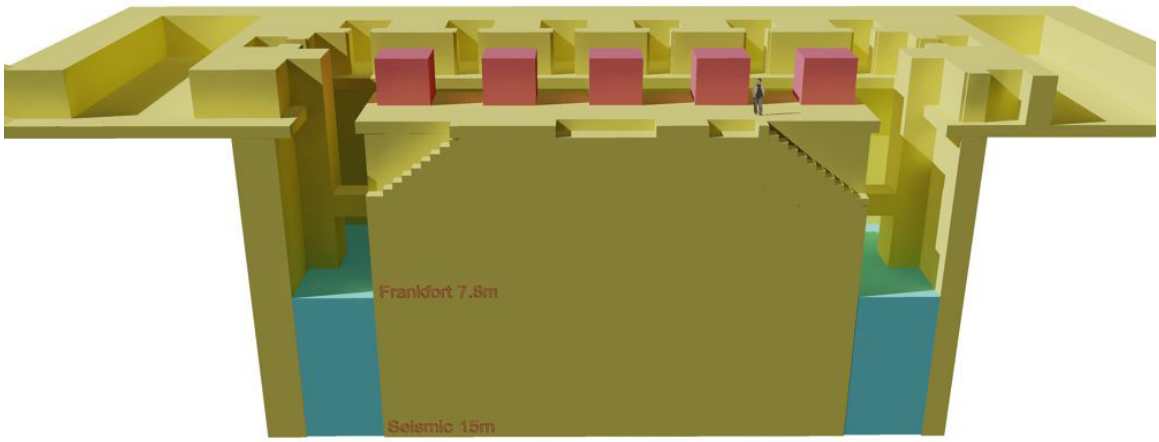
*My research so far indicates that the water in the Osireion is unique, it is not coming from the local aquifer or from the Nile River several miles away. Further scientific investigation will help me determine where its coming from."*

A geological survey carried out by Dr James Brooks and Dr Bahay Issawi, suggested, *"That the source of groundwater within the Osireion is not directly due to the Nile itself, but to an aquifer of 'fossil water' within the Qena sand, dating from c. 10,000 – 5,000 B.P., and which drains from the east side of the Western Desert towards the Nile Valley."* They also say, *"That the level of water within this aquifer is unpredictable."*

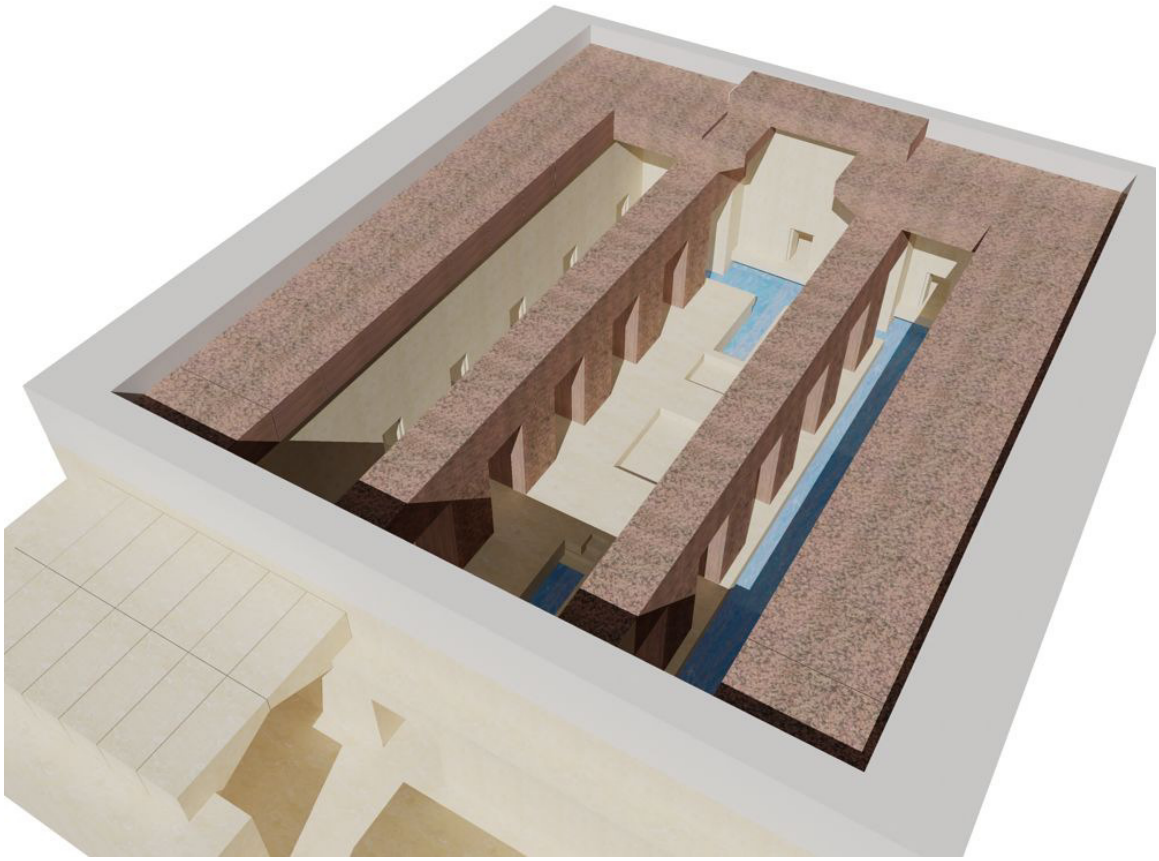
On the influence of the Nile, they say, *"It should, however, be noted that particularly high Nile levels can impose themselves on top of the local aquifer, thus bringing into play a second variable in the potential height of groundwater within the Osireion."* They also comment on Frankfort's description of the 'Gebel Moiya'; *"It is possible that this layer corresponds to the conglomerate forming a capping to the aquifer-containing Qena Sands."*[57]

For those wishing more information regarding the water and the Osireion, I would recommend James Westerman's website, where he provides a comprehensive database.

[57] Seti I/Osireion project, Report of the season January 1992. See www.jameswesterman.org




I have made a section of the island above to give the reader a rough idea of the possible foundation depth of the Osireion. The water level I have set at Frankfort's 7.8m, and above this you can make out the thrust-beams that attach the island to the piers; though we have no confirmation that thrust-beams exist on the west side.



Above I have created a rough overview of the Central Hall, with the granite

beams cut away. The limestone outer wall of the Osireion extends beyond the roofing stones (see Felton's drawing page 39), the top of this wall appears to be 2.6m (5 cubits) above the top of the architraves. It may have been intended that the thinner coping-stones would have their top surfaces roughly inline with the top of this limestone wall. Frankfort reports on the unknown length of the roofing stones as some were covered in limestone masonry; so it may have been intentional to fill the entire space between the coping-stones and the outer limestone walls with masonry, in order to provide a flat surface.

Above this flat surface we may have seen something like observed above the roof of the Second Transverse Hall. Here Frankfort reports *"a layer of black compact clay about 0.50m thick, well stamped down and covered again with a layer of limestone chips"*[58] This he believed was to provide a watertight roof for the chamber below.

Whether the roof of the Central Hall was completed, is not known; Frankfort had reservations on its completion due to apparent non completion of tree pits that were built against the outer northern limestone wall. He states;

*"However, allowing for the activities of the stone-plunderers, and those of three different expeditions which excavated at intervals, it is impossible to be very definite about the state of completion in which the building was left by Seti or Merenptah; it seems likely, however, that all the passages and rooms and part of the Central Hall had been roofed over".*[59]

Into this discussion we need to take into account the building sequence of the Osireion. Given its very close proximity to the Temple, might we expect the Osireion to be started at its east end first, so as not to delay temple construction? The roofing beams may have been slid on from west to east, but would an already built First Transverse Hall be in existence at this time? Why would Merenptah return some 60 years later to decorate an incomplete structure? Certainly a more detailed exploration of the site would be needed to help provide a clearer picture of construction sequence. For example, Frankfort mentions;

[58] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 10
[59] Ibid, pg 13

*"Only in the middle of the north wall of the Central Hall the marl recedes, and it seems that here a causeway over 12 metres wide was cut, along which the stones for the building were brought down. In our already overcrowded season there was no opportunity to investigate this point further, as again a large quantity of loose sand would have to be removed for the purpose"*[60]

Likewise, on the subject of the tree pits, Frankfort states;

*"We found six of these, namely, two on the north, east and south sides respectively of the Central Hall; farther towards the west there seemed to be none, but some uncertainty remains on this point, as there were such masses of rubbish on that side that a decisive investigation would have entailed more labour and expense than I felt entitled to put into it."*[61]

Certainly, much more remains to be explored at the Osireion; but I fear the huge expense, means that further excavation is very unlikely.

[60] Ibid, pg 9
[61] Ibid pg 11


Before we leave the Central Hall, an unusual feature was found by James Westerman in the north side of the square recess. In his 2013 report[62] he shows 2 pictures with a rod of what appears to be over 1.0m long inserted into this hole; the hole itself appears to follow a true north direction. I am very grateful to James for the use of his images.

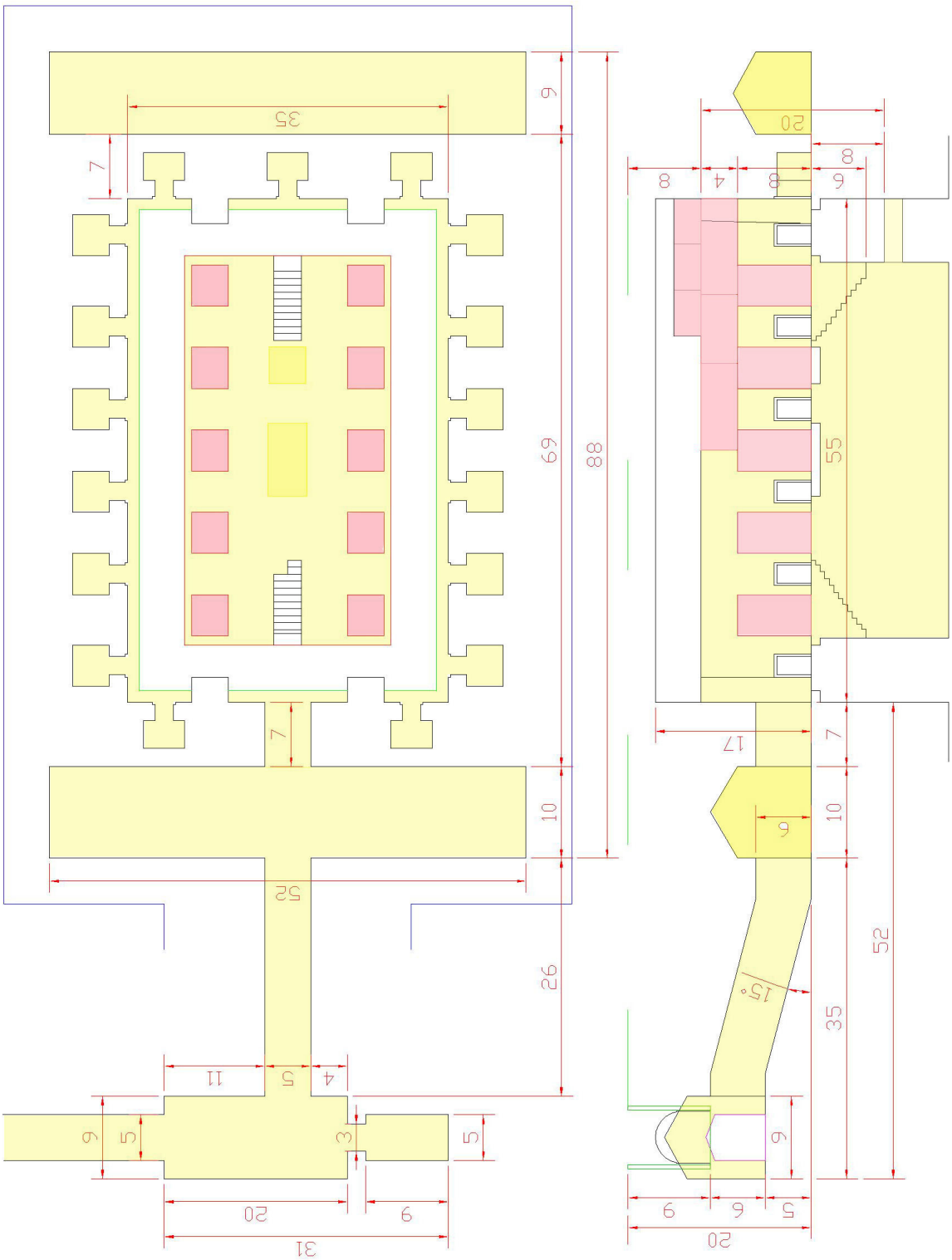

In communication with James, he is confident that the hole is man made as it penetrates into two separate blocks. He also poses the following questions,

[62] 2013 Report 001.pdf, see database at www.jameswesterman.org

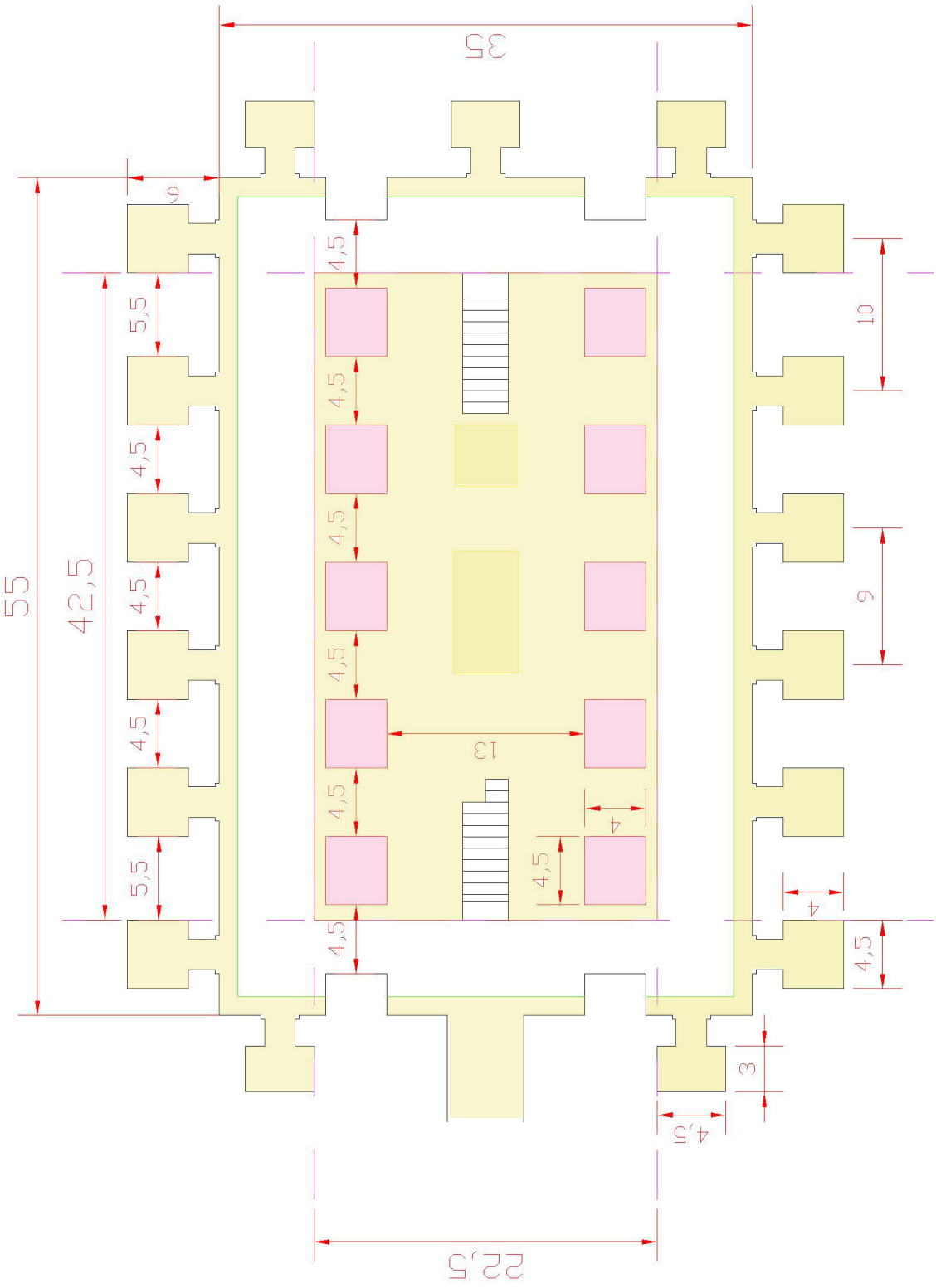
how were they able to drill such a hole in such a confined space? Why did they make it in the first place, for what purpose? And does it lead down into the central island? Another perplexing question he raises, is why previous explorers had missed this feature? The photo's from Frankfort's expedition show how clean they left the island, and they obviously cleared down to the bottom of these recesses, which are a cubit deep (.52m). James reports that when he found the hole, that it was completely clear with no muck in it.


This close up image gives a better view of the hole; James has done some experiments, such as placing a burning paper near the hole to see if a draft was produced, but there was no draw. It may be that the hole is blocked further down by compacted debris over the years; a long endoscope camera might help here. It is hard to imagine the ancient Egyptians drilling this hole in situ, but rather that the two stones were pre-drilled before assembly on the island; whatever, it is a curious feature, definitely worthy of more research.

In the next two pages, I have attempted to reconstruct the plans for the Osireion in Egyptian cubits; though these are highly tentative, pending an accurate survey of the site.




*Possible cubit scheme for the Osireion*

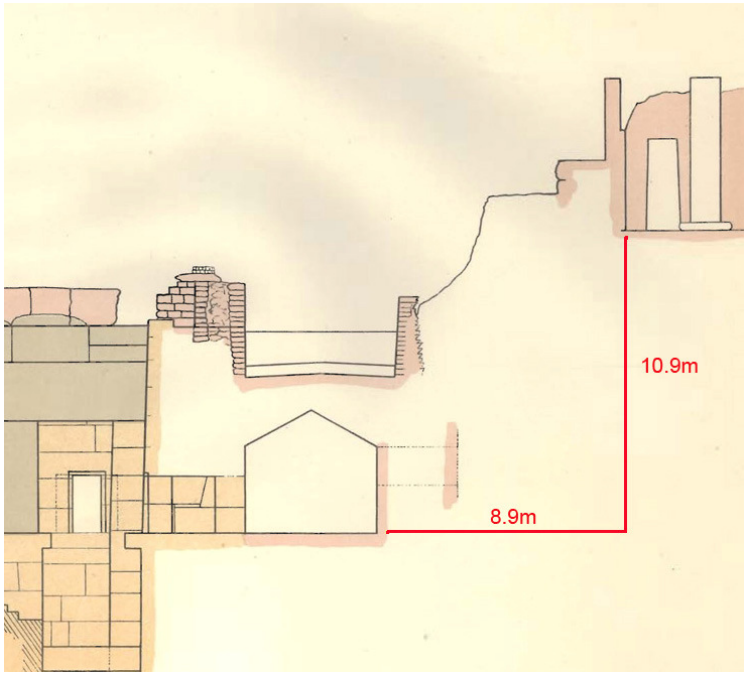



*Possible cubit scheme for island and cells*

In the diagram of the island, I have taken the cells of the north and south walls to have the same footprint as the granite pillars, 4 x 4.5 cubits (the cells in the east & west walls appear to be a cubit less deep). The four middle cells of the north and south walls appear to have centres 9 cubits apart, however, the end cells of these walls have their centres extended to 10 cubits. The walls of the corner cells appear to determine the limits for the island, 22.5 x 42.5 cubits; the ledge at the base of the walls may have been intended to be 1.25 cubits, leaving the canal width between the ledges as 5 cubits.

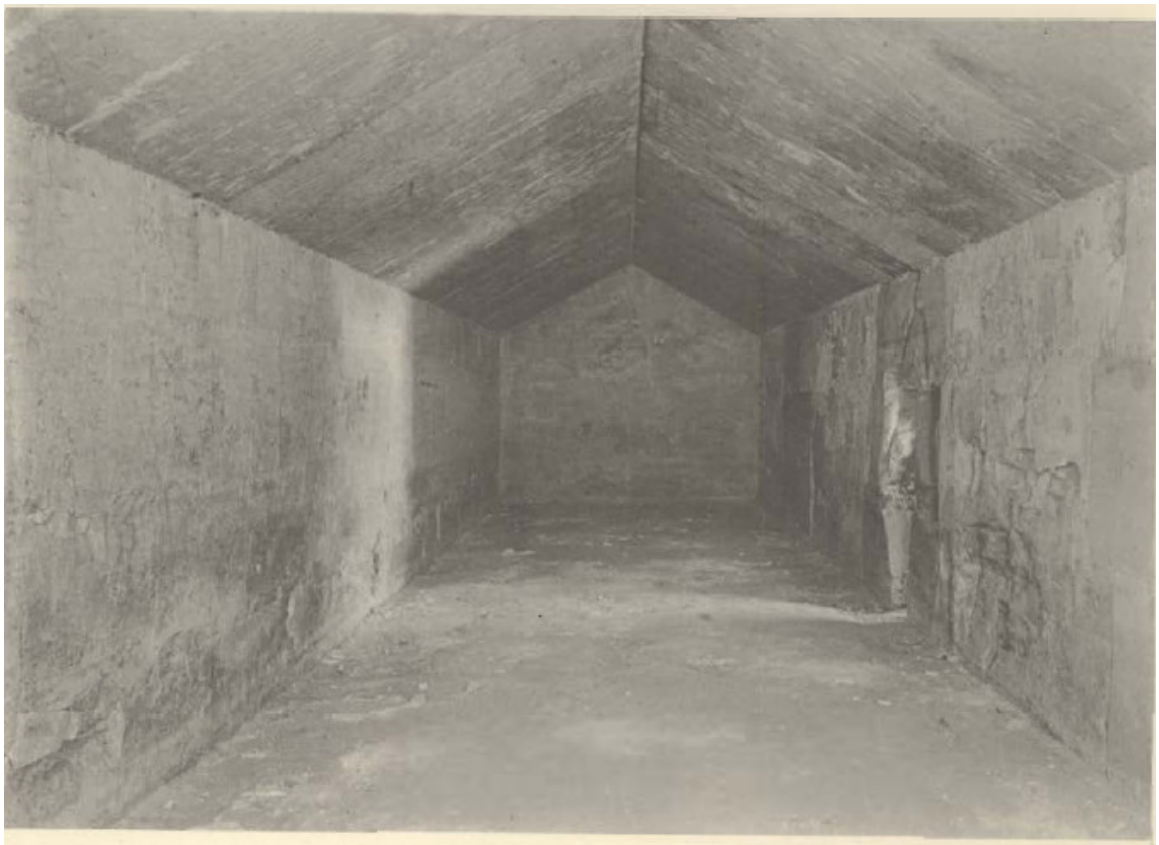
As previously mentioned this is all tentative, and more detailed surveying of the site is required in order to recover the designer's intents; any survey will also have to allow for the many undressed surfaces, though the dressed walls of the east side and southern cells might make a good guide.

## The Second Transverse Hall




By scale rule from Felton's drawing, the above gives an idea how close Seti's temple is to the Osireion. Frankfort states; *"The Cenotaph lies immediately behind the temple, its eastern wall being 6.00m to the west of the western temple-wall."* This would appear to be the distance between the retaining wall above the hall and the exterior temple wall. At about 5m west

of the first retaining wall another parallel wall was found, with both these walls believed to have been built on top of the long walls of the Hall. As previously mentioned between these walls compact clay was laid down.



1. The Sarcophagus Room, looking South

In this view from Frankfort's report, we can see light coming in from the broken entrance on the right. This entrance is the broken back wall of the middle cell in the east wall of the Central Hall. When Naville entered the chamber in 1914 he stated;

*"This chamber is perfectly preserved, but there was much moisture and even mud on the floor. Its ceiling is pointed, being composed of slabs leaning against each other. It is covered with sculptures in low relief bearing the cartouche of Seti I.....The inscriptions are in the style of a calendar, and may refer to the rising of some star. The other representations are, as far as I could judge, clearly funerary, like those found in the tombs of the kings. This seems to show that the chamber was the tomb of Osiris, in which his head was supposed to be preserved."*[63]

[63] JEA Vol 1, Excavations at Abydos, pg 164

Like in so many parts of the Osireion, the decoration of this Hall was incomplete. The relief's in this chamber appear to have been undertaken by Seti and interrupted by his death; some 60 years later Merenptah would usurp Seti's cartouches in the entrance corridor, though there is no indication of him doing any amendments in this hall (Merenptah himself would become a victim of this practice[64])

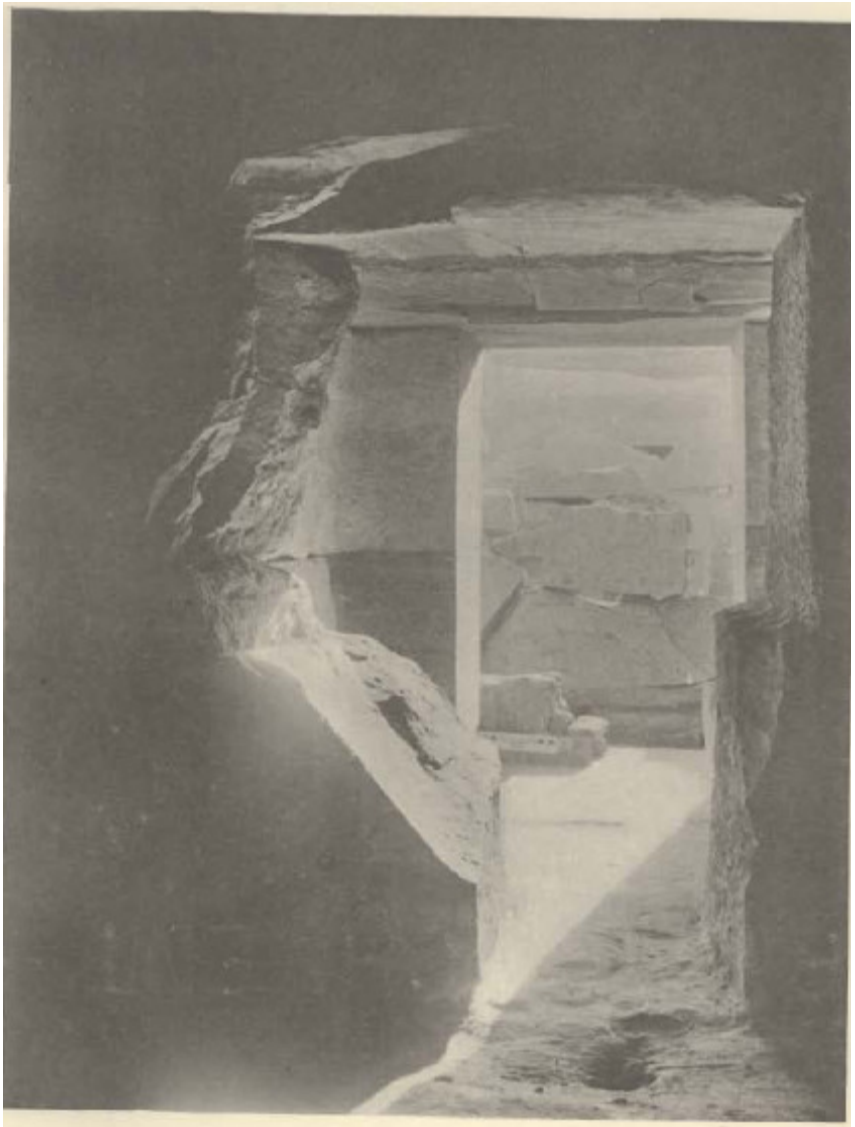
This hall Frankfort would call his *'sarcophagus chamber',* He states;

*"but our room is, in fact, itself nothing but one enormous sarcophagus. Its shape recalls e.g. the sarcophagus rooms in the pyramids of Saqqarah, but suggests that it was, most probably, not meant to have an entrance at all, and in any case had none which would allow a sarcophagus to pass. Furthermore, the texts sculptured on its roof suggest that it replaced the sarcophagus."*[65]

Frankfort appears not to offer an explanation for the larger western Transverse Hall; both are the same length and appear to have the same roof construction, though the western hall is wider and taller than the eastern hall. Frankfort gives his sarcophagus chamber as 27.15 by 4.75m (West Hall he gives as 27.15 by 5.25m); 2.50m high at the wall, and 4.45m to the top of the roof. If we used Frankfort's dimensions for his sarcophagus chamber, we obtain a roof angle of 40 degrees, which appears excessive; further his wall height of 2.50m is at odds with Felton's scale drawing which suggests a wall height of 3.1m (6 cubits). A chamber 9 cubits wide, 6 cubits at the wall, with an apex of 8.5 cubits (4.45m), provides an angle just over 29 degrees.

These transverse halls require further scrutiny to determine their true dimensions, taking into account Arnolds reconstruction of the roofs as shown in his drawing (page 30), which in effect provides us with two wall heights; one being the sloping profile that meets the wall surface, and the top of the wall itself that receives the roofing beams.

[64] Usurped Cartouches of Merenptah at karnak and luxor, Peter Brand, see www.academia.edu
[65] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 26-27



2. Looking from Sarcophagus Room into Central Hall

Here we see the broken rear wall of the central cell, which provides access to the hall. It appears that this is the only entrance into this hall, and seems to have been constructed in order that the entrance be concealed. This is suggested by the large lintel stone above the rear wall of this cell, which is larger than the other cells either side of it[66]. It is possible that an irregular doorway was made here for access, and then blocked up with sizeable stones in order to disguise this entrance, with the large lintel above the doorway providing ample support for the wall above.

[66] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 22


Here we get a better idea of the lintel that lies across this broken entrance into the hall; the lintel may extend higher as we have to take into account the cut out in the roofing blocks. The walls of the hall are largely limestone, though we have patches of sandstone on the west wall, which are the back walls of the cells; the roofing beams are all of sandstone.


In this image with the entrance on our right, we can see the sandstone roof against the white limestone of the walls. In the chamber we see some blocks of limestone leaning against the walls, and an excavation into the wall opposite the entrance; compare this image from Frankfort's on page 93, were these features are absent. I have no information on when this was done.


In this image looking north, entrance on our left, we can see some of the sandstone in the wall that also forms part of the rear wall of the cell that is south of the entrance.


In this image, still looking north, with the entrance behind us, we can see some of the sandstone that forms the rear wall of the cell north of the entrance. Also, just visible in the north-east corner we can see a breach in the east wall (these are drawn in Fenton's drawings, see pages 39 & 40).

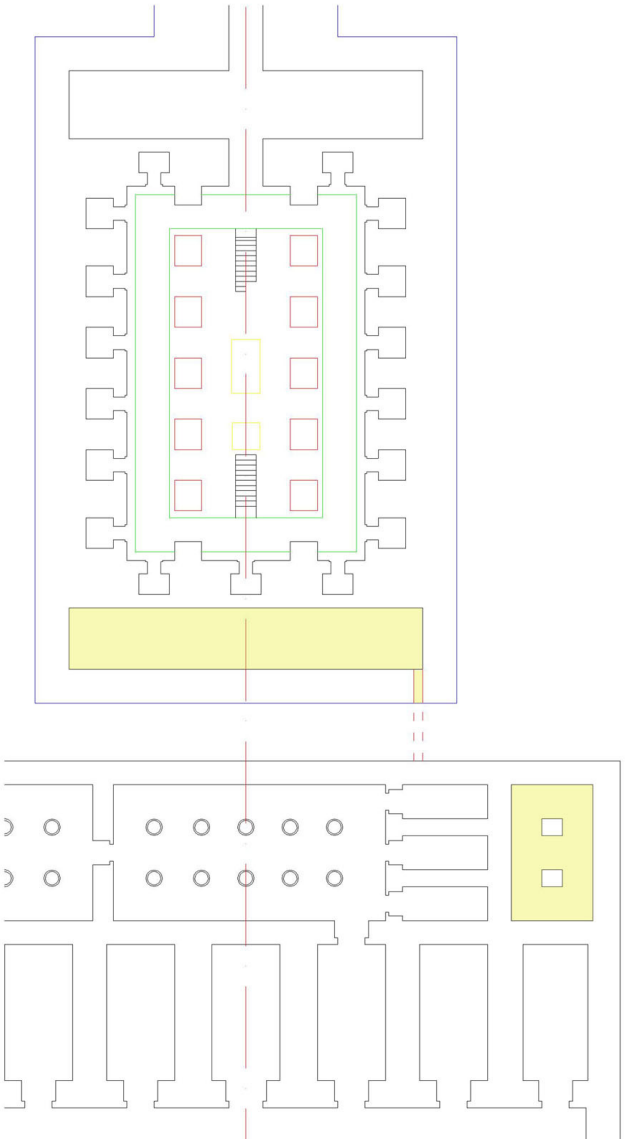
When Naville entered this chamber in 1914, he stated;

*"It was quite empty except for a heap of sand in the north-eastern corner. When this sand was cleared away we found that it came from a hole dug there, evidently by robbers, as is the case in many tombs in Egypt."*[67]

Frankfort, would later add; *"In the northern end of the east wall of the Sarcophagus Room a hole was broken. This was done from the inside of the room, for below it the scratched line is still visible which outlined where the stone was to be taken away. The hole is about 1.60m above ground and about 0.70m high and wide. It passes through the wall and the outer limestone casing of the building, to a total depth of 2.80m, and ends in sand which comes pouring down when one attempts to remove it. It was apparently made by treasure hunters; and the reason why they chose this*

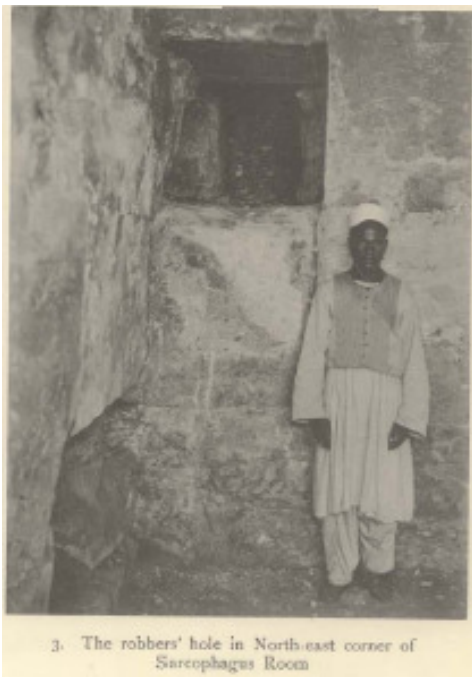
[67] JEA Vol 1, Excavations at Abydos, pg 164

*point is not difficult to guess, for in the direction of the hole which they made they would come exactly underneath the remarkable two-storied "room" in the north-west corner of the Seti temple to which there is no entrance at all. It does credit to the exact observation of these ancient robbers that they realized the correspondence. But their attempt to find a subterranean entrance and a treasure had to be given up, for the whole sand-bed upon which the Temple is built came pouring on to them."*[68]



Whatever the merits of Frankfort's suggestion above; I can only add that the tunnel appears not to be exact, as shown by the image above; I have highlighted the room in the north-west corner of the temple that Frankfort mentions, along with the floor and tunnel of the sarcophagus chamber.

[68] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 22



3. The robbers' hole in North-east corner of Sarcophagus Room

*Tunnel entrance*


*Some of the fine relief on the sandstone ceiling*

Among these fine relief's Frankfort reports Decan tables and cosmographical texts on the western side of the roof; also found on the ceiling was what appears to be instructions for a shadow clock.

## The purpose of the Osireion

Frankfort saw the Osireion as a Cenotaph and discusses some of the similarities between the Osireion and the royal tombs at Thebes[69]. However, he admits the Central Hall was unparalleled in the royal necropolis, and suggested that the reason for its existence was related to its location in Abydos, where Osiris himself was believed to be buried. He says,

*"May we go one step farther and assume that its exceptional features originate from an attempt to imitate the actual burial of the god?"*

The central island is seen as the Primeval Hill with a double set of steps; upon this hill Osiris was enthroned or entombed. The recesses on the island he suggests as possibly holding a shrine with Canopic jars, with the oblong recess holding a sarcophagus.

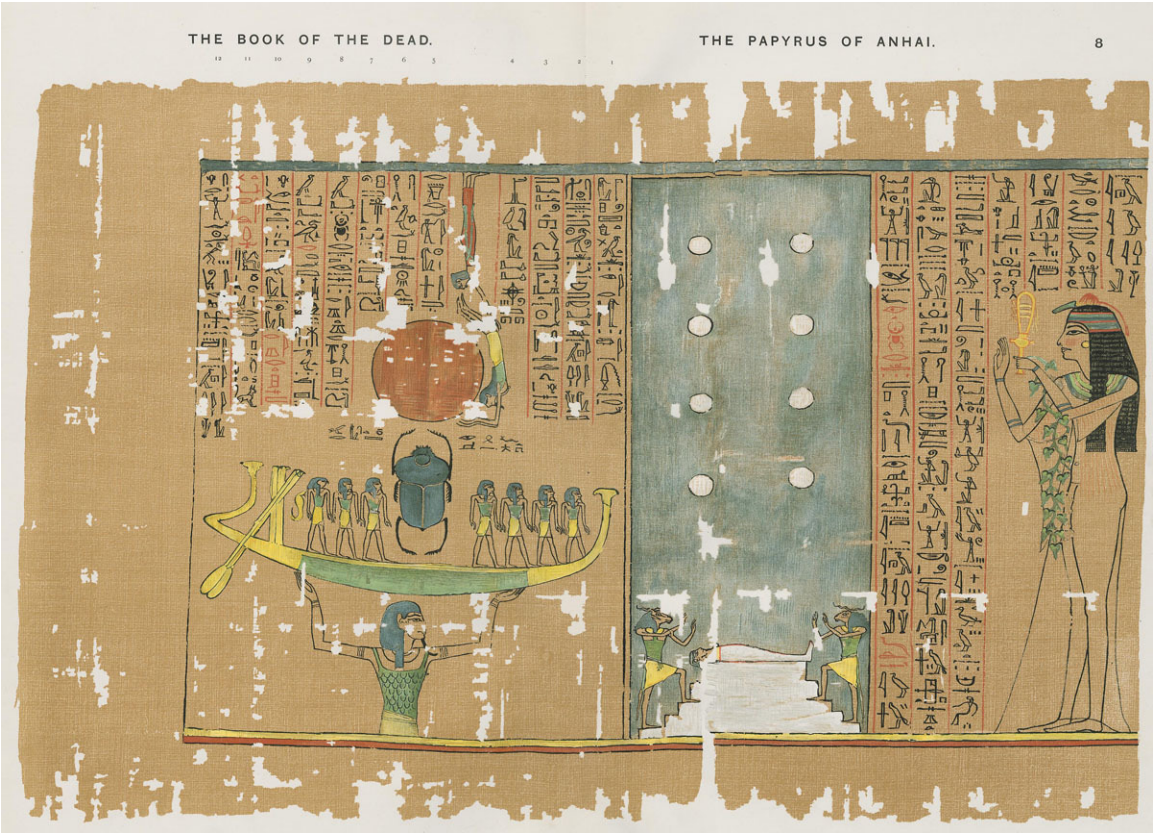
The waters that surrounded the island, he connects to Osiris; he says;

*"Thus, the rise and fall of the water round the island in connection with that of the Nile will no doubt have been observed, and will have been brought into connection with Osiris, who as a chthonic god was supposed to be drowned every year in the water of the inundation, out of which, the earth, and thus the god, rose again."*

Frankfort would see two places where the dead body was supposed to be laid, one was the sarcophagus chamber and the second was on the central island. For my own part, I am not convinced that the sarcophagus chamber was intended for a burial; we have two very long transverse halls that to me are very unusual. Indeed, when I first saw them, the first thing that came into my mind was boat sheds that I used to walk past as a kid. To me the heart of the Osireion is the Central Hall, but either side we have these strange long halls; I suggest therefore that these chambers were built to hold boats, be it physically or symbolically. The western hall would hold the night boat (Mesektet) and in the eastern hall the day boat (Mandjet) and between these

[69] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pgs 25 to 31

barques, the netherworld books; the book of gates/caverns would be played out in the Central Hall.



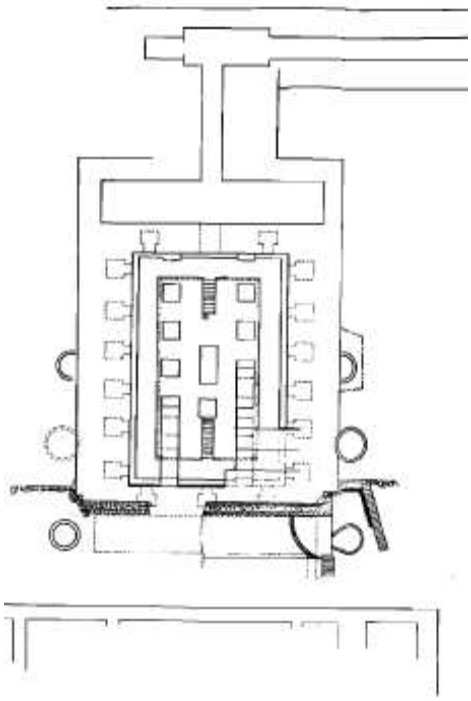

From the papyrus of Annai we can see Osiris on a platform of double steps in a pillared hall, surrounded by water.

## The Tree Pits

Built along the exterior north and south walls of the Osireion, six circular and semicircular tree pits were discovered; though more might be found further west. Roughly 4m in diameter, Frankfort states;

*"The two on the east stood up to the present-day ground level, about 2.00m above the western retaining wall. They are entirely filled with black earth; the most northerly had sagged and collapsed in the course of the excavation. Lumps of black clay were packed round it, as we have seen, perhaps to support it while the buttress of the retaining wall was built. The walls of these pits consist merely of large rough flakes of limestone, packed together without mortar to a thickness of about half a metre. Obviously such a*

*structure could not stand by itself; and, indeed, our excavation of the most westerly pit on the north side shows that inside the tree-pit the layers of white limestone chips, which are so conspicuous outside it, did not occur. It follows that these pits were built up together with the main walls, and left open to receive the black earth. The soil which was packed round the flimsy walls of the pits each time a tier of blocks was completed in the main wall kept it up well enough."*[70]

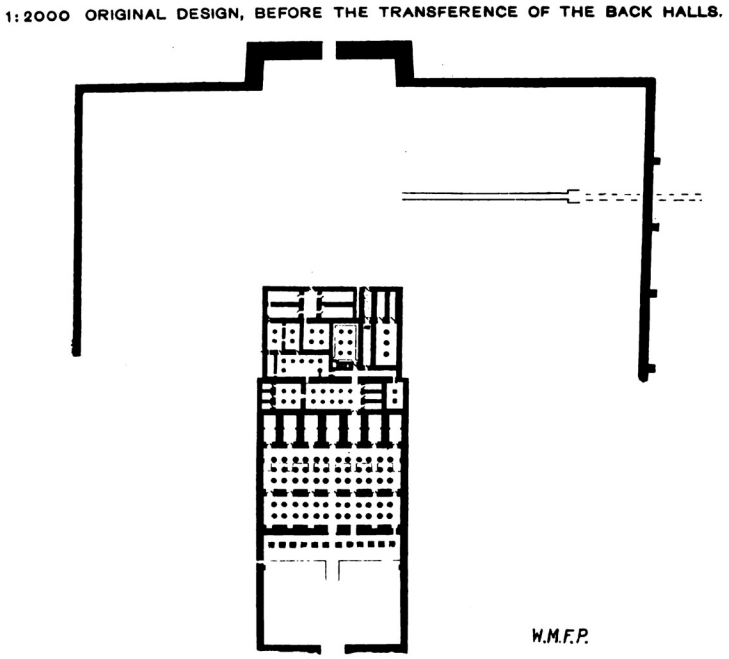


Mr. Felton's drawing of 1926 shows the location of the six tree pits; more may be located further west. Frankfort, in his report, used the surviving condition of these tree pits to suggest that the roofing of the Osireion had not been completed[71]; as the two pits at the east end had been carried up much higher, than the others. However, the eastern tree pits are to be located in the better preserved east end, were we find the surviving roofing beams and intact east wall; these intact pits have been spared the destruction which surely must have been visited on the more western pits as the stone robbers went about their business. He himself, states that the two pits to the south side and the western pit to the north *"are too badly damaged to show the level they reached"*.

[70] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 10-11
[71] Ibid, pg 11-12

In one of these semicircular tree pits Frankfort excavated some 50 feet (15m), and was stopped from going further by water; nothing was found except for two fragments of 19th dynasty pottery.[72] Frankfort excavated the southernmost pit and found fragments of coniferous wood and tamarisk.[73]

## Petrie's Annex




The unsymmetrical plan of Seti's temple was a concern to Petrie, who created the drawing above to demonstrate its original plan, he states;

*"When we see the projection of the west wall of the Temenos, exactly behind the main body of the temple, and of the same width as that, it is plain that the south annex is an afterthought, a variation on the original plan; presumably therefore the temple was to have been carried on farther back, and, instead of that , the required halls and chambers were added at the side."*[74]

[72] Prliminary report of the expedition to Abydos 1925-6, pg 158
[73] Ibid, pg 159
[74] The temple of the Kings at Abydos, G.Caulfeild, 1902, pg 14

The south annex appears to be the original plan of the back part of the temple simply stuck on at the side, with a minimum of alteration. The connections are as follow :—

(1.) The breadth is very nearly that of the true temple, within little more than the walls ; and a slight diminution of the breadth at the back of a temple is familiar elsewhere.

(2.) The continuation of the long processional way through the Osiris chapel would have led straight into the processional chamber of the barques.

(3.) The existing doorway into the south-east court of the annex would fall just into the corner of the back hall of the temple.

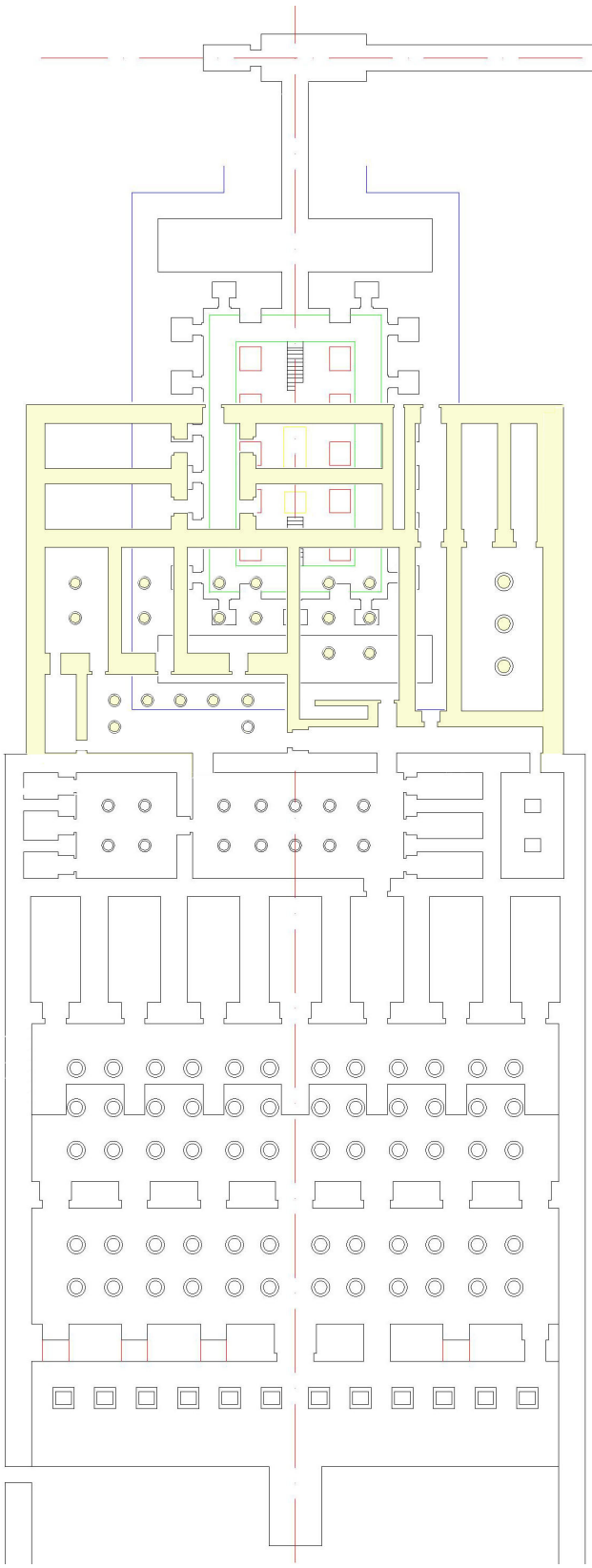
(4.) The unexplained chamber without any opening at the N.W. corner of the temple would be led into by the corridor of kings, by the existing door out of the N.E. corner of that corridor.

(5.) Even the gateway built on outside of the corridor of the Kings falls exactly into the place of the front of the chapels in the back hall of the temple.

Thus the whole plan might be put on to the back of the temple, with every point of the structure falling exactly into place, the processional way leading straight from the hall where the procession was marshalled, and the back way out to the Royal Tombs closely in line with it. Above all, this explains the strange dumb chambers at the N.W. corner ; they were left useless and inaccessible because the plan was altered.

Petrie would list some logical reasons for the relocation of his annex above, and certainly some of these ideas are attractive. Though we must remember that when Petrie wrote this in 1902, the Osireion had yet to be discovered. All that was known at the time was traces of the entrance corridor, as shown in Petrie's drawing. Would he still support his idea had he known that the Osireion would lay under his annex plan, we may never know.

That said, I would not dismiss Petrie's suggestion; could it have been the intention of the builders to build on top of the Osireion? Could it be the case that the bold vision of building such an impressive subterranean structure as the Osireion, ran into severe problems and delays? Did such delays necessitate the relocation of the annex to the south and the introduction of the tree pits?



In the image above I have updated Petrie's plan by overlaying the highlighted annex over the Osireion. Clearly the tree pits could not be part of

this scheme, and if this was the original plan to build over the Osireion, could the Osireion support this annex? The Osireion is extremely well built and I for one would not bet against it. Given the depth that Frankfort excavated one of these tree pits, it would suggest that if the annex was originally to be built over the Osireion, that this idea may have been abandoned early. It could be the case that temple construction had advanced to such a stage, that when problems arose with the Osireion, they had little choice but to locate the annex to the south, creating the L-shaped temple that concerns some people.

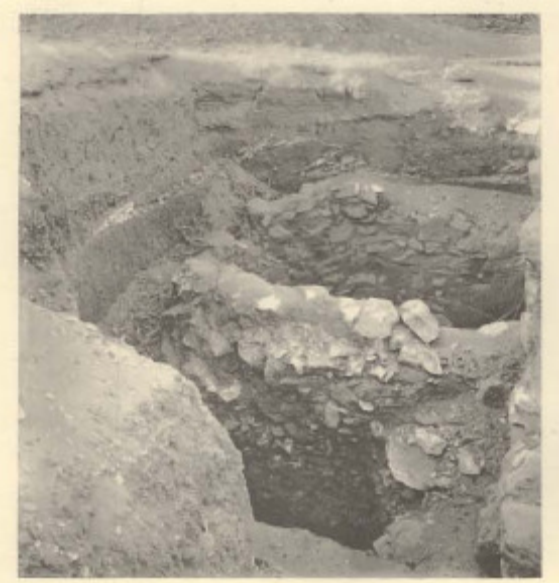
I can see why Petrie brought forward this idea, as it tends to give the annex a better flow and provide an entrance for the rooms in the north-west corner of the temple; no doorway was found for this room.

Those who advocate that the Osireion pre-dates Seti, have used the location of the annex as evidence that the Osireion is a much earlier structure. They suggest that when Seti built his temple, he accidentally came across the buried Osireion, and therefore he had little choice but to create the L-shaped temple.

Frankfort would comment on Petrie's original plan for the annex, he states;

*"The 'Original Plan' which this hypothesis would accept is little in keeping with that found in other temples in Egypt. We never find an important group of rooms, such as the "slaughtering Hall" and the "Hall of the Barques," interposed between the chapel and the back wall of the temple; if there are any rooms at all they are few and secondary, such as magazines for cult objects. That the rooms which actually form the western section of the temple were meant to occupy that innermost position from the beginning is, moreover, probable from the fact that they seem of a particularly sacred character, some of the Osiris mysteries being displayed in their reliefs. It seems hardly likely that a "processional way" led through them, as is assumed in Professor Petrie's reconstruction of the plan on one main axis. Obviously our objections to that reconstruction are based upon analogies which are not entirely safe, because the Abydos temple is in any case abnormal in that it possesses seven chapels in a row. This very arrangement, however, may explain why it was necessary to build the southern wing, because the rooms which are situated in that wing find elsewhere- in Seti's own temple in Gurnah, for instance—a place on either side of the chapel. In any case, whatever views one may hold of the original plan of the temple,*

*the matter is too uncertain to justify us in invoking as its explanation the existence of an earlier building on the site of the Cenotaph, for there is not a single fragment found on the site, nor a feature in the building, to support that claim. We shall see that the very character of the edifice makes such an assumption highly improbable. Its purpose was of a purely personal nature: to provide an Osirian burial-place for its builder. This excludes rather than implies the existence of a predecessor, just as it excludes any further development once the building was closed after its owner's death."*[75]



2. Middle tree-pit against North-wall of Cenotaph

## The Conduit

The existence of a possible conduit that might be connected to the Osireion, and passing under the Seti temple, has yet to be proved, and awaits further excavation. In an article by Osman Rostem, in 1950, he states;

*"Some twenty five years ago Mr. E. Baraize, engineer of the Department of Antiquities, excavating in the second court of the temple revealed the fact that the temple was partly built on solid rock and partly on debris filling a deep ditch which was hewn out of the rock, for an obscure reason, in the central area (nearly the middle third of the width) all along the axis. This very unhomogeneous soil on which the temple was built was the cause of the*

[75] The Cenotaph of Seti I at Abydos, Vol 1, 1933, pg 24-25

*subsidence, of the central part resting on the compressible filling of the ditch."*[76]

By the term 'Rock' I assume he means the hard marl described by Murray. In 1943 new irrigation works in the district, resulted in a higher water table and endangering parts of the temple built over this filling. Rostem states;

*"In the Osireion, where the central hall was designed to resemble an island surrounded by water, the water rose about one metre above its normal level inundating parts which should be dry. The eastern wall of the sarcophagus room is built in limestone of poor quality which turned pasty under the action of the water"*[77]

In order to remedy this situation the Irrigation Department constructed a drain around the temple and pumped out the extra subsoil water, while the Antiquities Department underpinned some of the pillars in the temple. The narrow space between the Temple's west wall and the Osireion, was protected by Abdel Salam who sunk 22 concrete caisson's down to a depth of some 14m.

Rostem reports that; *"The increase in the height and quantity of the subsoil water renders digging again very expensive and useless and Abdel Salam, to study the nature of the soil on which the temple was built, adopted the method of boring with tubes in making his soundings. Since the axis of the ancient trench coincides with that of the temple and the Osireion, suggesting that if any construction exits in the trench it will probably lie on that axis, Abdel Salam decided to put down his borings in a series of points along that line. The soil brought up by boring at a point in the first court was a mixture of debris, sand and mud. At a depth of about 10 metres fragments of limestone came up indicating a layer 60 cms thick, then came a very thin layer of mud and again limestone for another 60 cms. The tube then dropped in a void 90 cms deep to encounter a third layer of limestone 40 cms thick with sand and mud underneath it. It is evident that a kind of construction existed at that depth; presumably a conduit 90 cms deep with a roof consisting of two courses of limestone and a bed of the same kind of stone"*[78]

[76] A.S.A.E, 1950, pg 67
[77] Ibid, pg 68
[78] Ibid pg 70

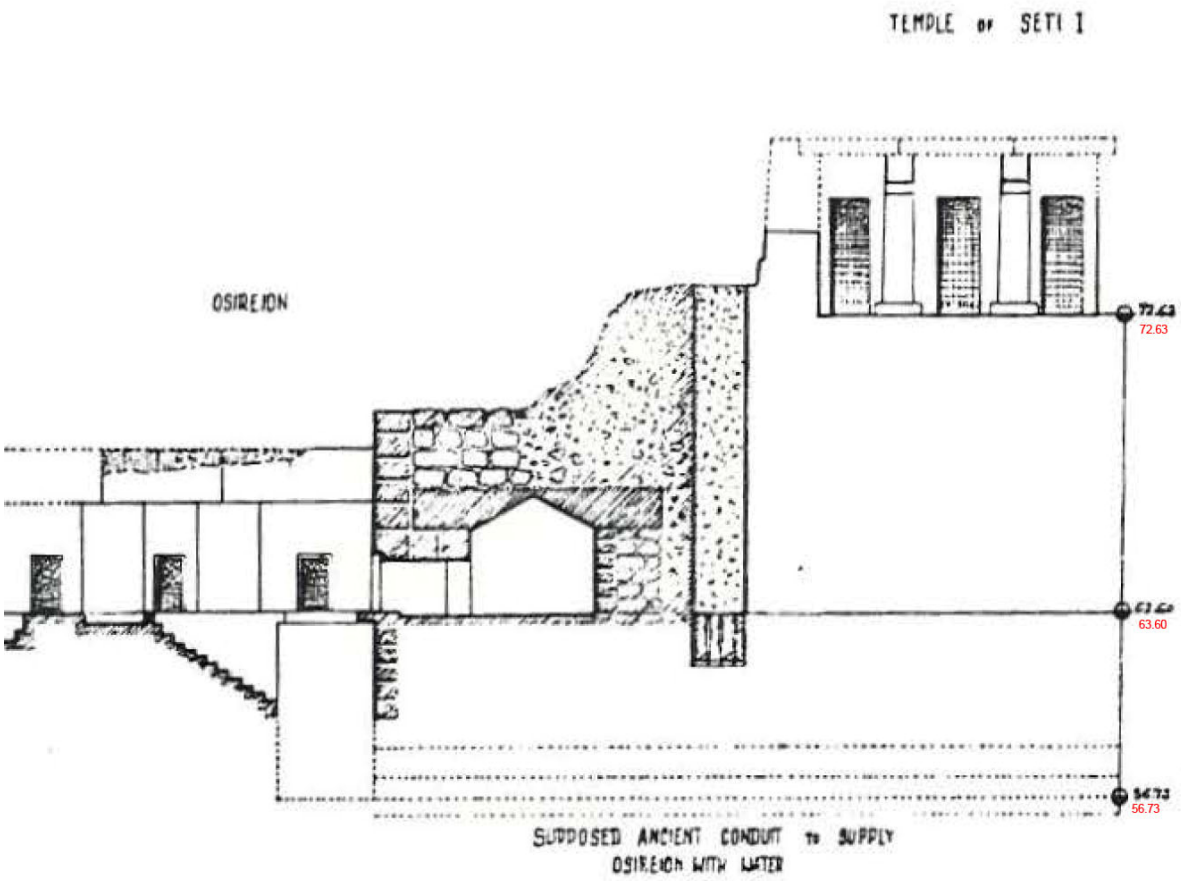
Rostem further reports that *"A series of borings put down in the plantations west of the antiquities zone gave negative results until in one lying on the axis granite fragments were brought up from a depth of about 7 metres. Granite was also found at about the same depth in another boring near the last one but on a line perpendicular to the axis. As no natural bed of this stone can possibly exist in this neighbourhood there can be no doubt that this granite was transported here for constructional purposes. These facts suggest that the ancients had excavated the central ditch in the rock to build an underground conduit at its bottom to conduct Nile water from a canal to the Osireion. If this is the case the canal-end of the conduit will probably be built in granite. Strabo mentions "a canal which leads to this place (Abydos) from the great river."*[79]

Rostem reports that the borings were primarily to study the nature of the soil, and that the work was temporally stopped. He hints that a series of further borings would be made along the axis to confirm the existence of the conduit; however, I have not come across any article that suggests that these borings were done.

In 1992 the Seti I/Osireion project[80] attempted to test the existence of the conduit using ground penetrating radar; however, the soil conditions they encountered, *"made it impossible to detect anything below two to three metres in the areas surveyed, well above the likely depth of the hypothesized conduit."* Rostem mentioned the conduit bringing water into the Osireion, the 1992 reports an alternative. "*However, it may also be that the conduit was designed to take water from the Osireion in order to maintain an even water level within the Osireion channel; this postulation would fit well with the possibility discussed above that the source of groundwater within the Osireion is a natural aquifer whose movements are unpredictable."*

This may be more likely, as James Westerman's 2007 report[81] suggests that the water into the Osireion flows from west to east; such that the water level in the Osireion was found to be 1m higher than the well in the first court of Seti's temple.

[79] Ibid, pg 70
[80] See 1992 report, 002 pdf, at www.jameswesterman.org
[81] See 2007 report 001 pdf at www.jameswesterman.org




This section from Rostem's 1950 article, shows the 14m deep caisson's between the Osireion and the temple. Also visible is the theoretical conduit; I have highlighted the levels in red as it is hard to make out the print. The temple floor to the second transverse hall floor is 10.03m (compare to the Image on page 92, which highlights the problems of using scale drawings). To my knowledge, no further investigations have been carried out as to whether this conduit exists.

## Concluding Remarks

Seti I, comes across as a prodigious builder and restorer; here was a king that appears to stamp his authority and enforce the virtues of the old religion. The heresy of Amarna was to be erased, and the old faith brought back to the fore. It seems that the impressive Temple and Osireion, was a grand marker in stone to honour the old kings who stood by the old religion; their roll of honour, some seventy-six names were put on display in the Temple, and

those deemed heretical omitted. The location of Seti's complex, as well as honouring the old kings, was also set in one of Egypt's greatest religious centres; Abydos was intricately related to one of Egypt's more important deities, Osiris. The whole complex comes across as a memorial for the old loyal kings and true gods of Egypt. The interplay between the Temple and the Osireion is a complex one. From the evidence, I have no doubt that the two constructions are the work of Seti; I see no evidence to suppose that it dates back to the Old Kingdom, many great structures survive throughout Egyptian history, great buildings were not the preserve of the Old Kingdom.

We have still much to learn from the Osireion; in many ways we have just scratched the surface, many questions remain unanswered. Some of these questions can only be answered by significant resources being deployed to the site, but given the subterranean nature of the site and the water table, the expense would be great. Unfortunately I can envision that such necessary work will not happen for the foreseeable future. This guide like my others highlights the limits of our knowledge when it comes to Egyptian Architecture; as a layperson, it seems to me that the priority is the recovery of ancient texts, the architecture and how it was constructed is a poor cousin.

Many sumptuous volumes are given over to ancient texts, but rarely do we get a detailed forensic account of the structure that holds these texts; a case of we can't see the wood (structure) for the trees (texts). This may sound harsh, but surely in this day and age we should be able to explain how the Egyptians built these impressive structures. We live in an age were plans are actively being pursued to build bases on Mars; yet we still do not know how they built the pyramids. These problems are not intractable, and I feel that if more resources are given to the architectural problems, we would be in a better position as to how they built these structures. Until the scales of wood versus trees are balanced, the many Mysteries of the Osireion will endure for many more centuries.