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Atti

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Indice del volume

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The Sphinx temple

An account of certain measuremente relations which may support a supposition of a closer connection to the Cheops complex.

In 1985 Professor Rainer Stadelmann suggested that the socalled Sphinx temple was not, as is usually supposed, built by Cheops' successors, but that there were good grounds to suppose that it had been Cheop's Sun Cult temple.

Rainer Stadelmann's supposition means that the date of the temple's construction must be moved back to the reign of Cheops and that the building must be regarded as part of the entire Cheops complex. My investigations into this interesting question do confirm Rainer Stadelmann's theory and I can back his suppositions purely by the way that the groundplan of the temple has been laid out.

The questions is:

"Are there in the ground plan and the proportions of the Sphinx temple any signs of a connection with the rest of the Cheops complex?".

The answer is: "Yes", and I shall now attempt to justify this standpoint.

In several instances, the drawings of groundplans of mastabas temples, and temple complexes constructed during the Old Kingdom indicate that their interior layouts were divided into a 4:3 ratio. It is difficult to decide just why this particular ratio was found to be desirable and also to pinpoint when the concept arose. But it was certainly in evidence as early as the First Dynasty.

The picture (fig. 1) shows a tomb complex. The grave pit, which is covered by a tumulus, has been sited so that it divides the monument into a proportion of 4:3. Another fine example of the use of the 4:3 ratio occurs in the monument designed by the architect Imhotep for King Zoser of the Third Dynasty (fig. 2). This enormous funerary complex is surrounded by a fine limestone wall and dominated by a Step Pyramid of six stages. However, arcitectural researches have demonstrated that this structure has been changed no fewer than 5 times. It consisted originally of a square mastaba. This mastaba, now buried beneath the Step Pyramide, is, most remarkably, sited exactly at the intersection of the North-South and East-West lines which divide the complex into the aforementioned 4:3 ratio. This 4:3 ratio was also used after Cheops time. It was employed in the monuments of both Chephren amd Mykerinos Egypt is rich in buildings having 4:3 as the basic proportions. It is certain that this proportion has been one of primary principles of both builders and architects for thousands of years. This proportion has also been used outside Egypt and, up to our era, it has been strictly observed in the design and costruction of a great number of ecclesiastical buildings in Europe (fig. 3a and 3b). But let us look at the Cheops complex. Firstly at the remains of the former funerary temple on the easterne side of the pyramid (fig. 4). Unfortunately, time has dealt very harshly with this temple, but most of the sockets chiselled into the rocky ground for the columns can still be located. This check shows that the 4:3 ratio was not used. Instead, a ratio of 7:9 (4-3-9) was used when the ground plan was marked out. The same 7:9 (4-3-9) ration can clearly be seen to have been used when the ground plan of the Sphinx temple was market out (fig. 5a and 5b).

Before showing where the 7:9 (4-3-9) proportion occurs elsewhere in the Cheops pyramid complex, and how it determines the angles, height and breadth, etc. of the pyramid, it is probably a good idea to describe the method of measurement employed (fig. 6).

At first sight it seems easier to divide a given length into a 4:3 ratio than into a 7:9 ratio. However, this is not so. Any given measuring rope can be marked off into a 7:9 ratio in a matter of seconds whereas it is almost impossible to divide the same rope into a 4:3 ratio without the use of artificial aids. A given square can, just like a given length be divided into a ratio af 7:9. There are, of course, many ways of doing this but, bearing the present subject in mind, we shall confine ourselves to the method illustrated in the picture (fig. 7). We may regard this diagram as extremely interesting because it represents the builder's primary principle. With simple geometrical additions in this diagram yields, remarkably easely, exact data on many hitherto highly controversial proportional relationships in the Pyramid complex. I shall demostrate later how this diagram, when it is laid over the ground plan of the Sphinx temple, clearly demonstrates the temple's relationship to the Cheops complex. But before that, we shall try laying this diagram over the funerary temple on the eastern side of the Pyramid (fig. 8). We can then see how the diagram has determined the siting of the columns and the altar.

Let us now look at the Coffer in the King's Chamber (fig. 9) which has been the object of much dispute for many years, not least because its length and breadth seem to bear no relation to the ancient Egyptian unit of measurement — the cubit. The diagram comes to our aid here by proving that the base area of the Coffer is a product of the 7:9 ratio, based on the outermost edges of the floor of the Chamber. In other words, the dimensions of the floor determined the length and breadth of the Coffer. This can be illustrated as follows. The floor of the Chamber is a rectangle. It should be regarded as two equal 280 fingerbreadth square. If this diagram is laid over the Western part of the Chamber, the area with the value of 3 will exactely match the breadth of the Coffer. The next question is obviously the length of the Coffer and why it is that precise length. Again the architect's basic 7:9 ratio comes to our aid. The rectangle in this picture is divided up again as shown, although the final proportions are actually 4 1/2: 3 1/2 when seen in relation to the entire diagram. This picture gives us the exact data on the length and the breadth of the Coffer and on its presumably correct siting in the Chamber.

If the rectangle which determined the Coffer were significantly increased — to 28 × 28 cubits, or 409,530 metres, 14 × 28 cubits or 204,765 metres, then the basis for a vertical sectional drawing through the Pyramid would be formed (fig. 10). The Pyramid reaches a total height of 147,175 metres. Deducting the thickness of the socle — 0,522 metres — leaves a height of 146,653 metres and, taking half the base measuremente or 115,180 metres, we arrive at a pyramid angle of 51° 51′ 14″. If diagonals are drawn in on the lower right-hand quarter of the constructional plan, as shown, then the Pyramid's system of passages becomes apparent.

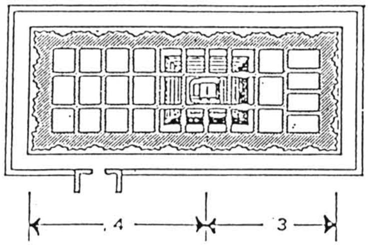
If we lay the diagram over the central part of the groundplan of the Sphinx temple (fig. 11), we notice that the two altars on the diagram are placed in the point between the fields with values of 3 and 4. The altar is similary sited in the funerary temple. It is especially worth noting that this is also the starting point of the line that determines the position and course of the pyramid's entrance passage (fig. 10).

That the diagram can similarly be laid over the ground plan of the Sphinx temple stresses that this method of measurement has been used — and that closer scientific investigation is therefore worthwhile. As already mentioned. The diagram, with a few geometric additions, will yield a mass of data which, besides answering many unsolved questions, can also verify many of our conjectures.

The Sphinx temple's architecture also embodies a number of columns: 14 massive and 28 thinner. The numbers 14 and 28 are, as we already know, important dimensions in the Cheop's complex and so the number of these columns after the extension of the temple is also significant when judging the relationship of this temple.

Conclusion

The conclusion must be that, at the 7:9 method of measurement has not been observed in other buildings of the Old Kingdom but, in this period, has only been used in the Cheop's complex's architecture both externally and internally, we can deduct that, as the design of the Sphinx temple clearly bears the signs of the same method of measurement, this temple must therefore be ascribed to the architect of the Cheop's complex.



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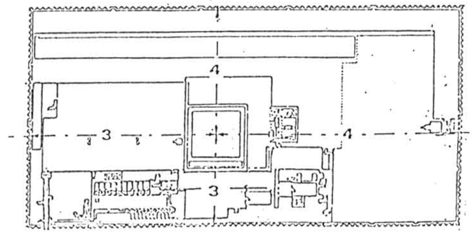

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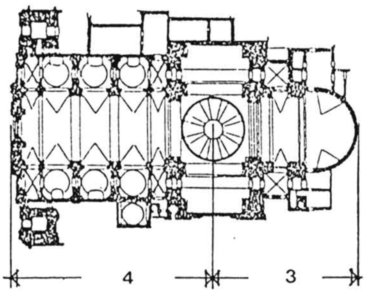

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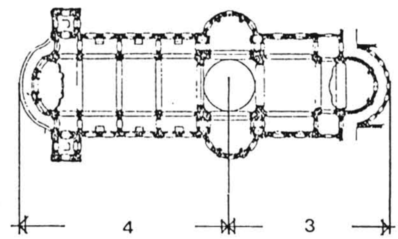

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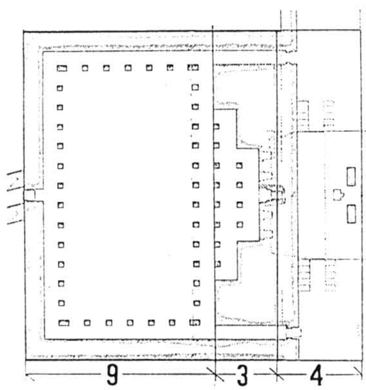

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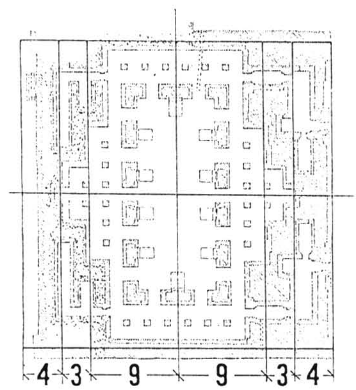

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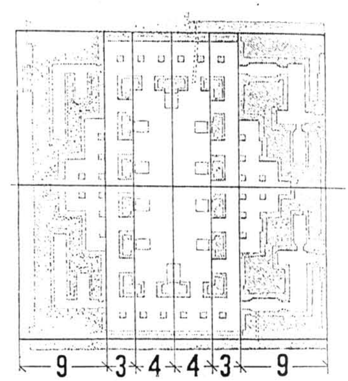

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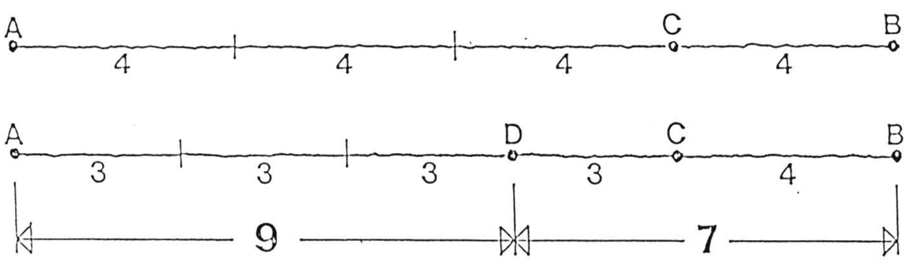

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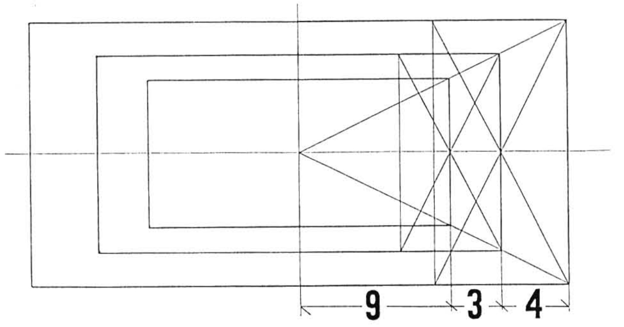
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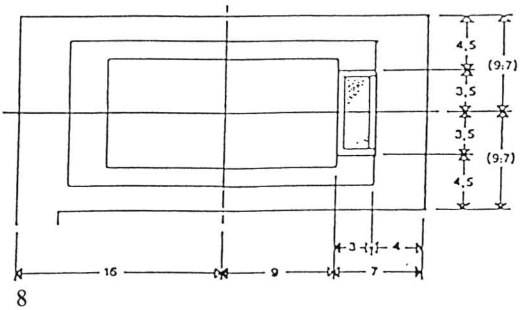
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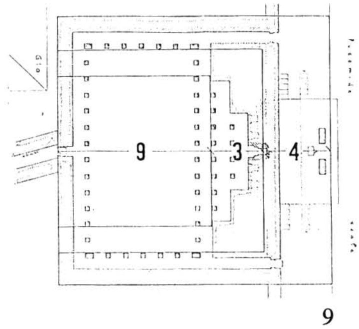
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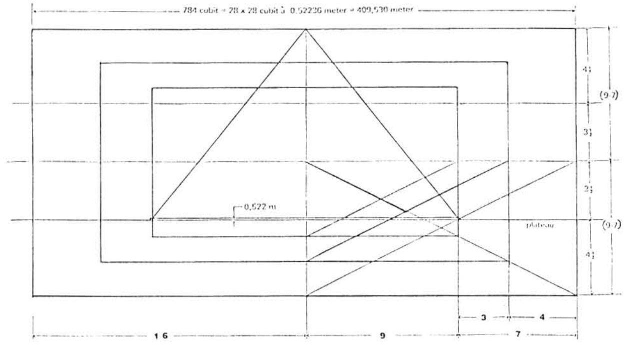
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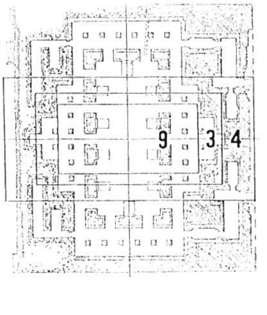
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