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THE "LIGHTHOUSE" OF ABUSIR IN EGYPT

FAWZI EL FAKHARANI

MUCH has already been written about the tower which marks the site of the small town of Abusir in the Western Desert of Egypt (Fig. 1). The tower stands as a landmark on the main road from Alexandria to Marsa Matrooh (the ancient Paraetonium) and Cyrene. It is only 50 kilometers away from the capital of the Lagids. From the crest of the hill which it surmounts, the tower looks over the Mediterranean coast to the north, and to the ruins of the ancient city of Taposiris Magna[1] and its port on the Lake "Mareotis" to the south. Hence it is known to archaeologists as the "Lighthouse of Abusir," but to the natives as "The Tower of the Arabs."[2]

Owing to the importance which it attained as one of the few remains of the Graeco-Roman period in Egypt and as a monument of unique structure, the tower became the subject of considerable argument and

[1] Strabo, XVII, 1, 14. It is likely that it is the old city of Ἆπις mentioned by Herodotus (II, 18, 5) as verified by Lawrence and Waddell (cf. W. G. Waddell, *Herodotus II*, London, 1939, p. 269). It is undoubtedly the modern city of Abusir in the Western Desert of Egypt since "Taposiris" represents "the city of Osiris": the word Taposiris is composed of Ta-ape-Osiris which means in hieroglyphs "The Harem of Osiris" (see A. E. P. Weigall, *A Guide to the Antiquities of Upper Egypt from Abydos to the Sudan Frontier*, London 1910), pp. 60, 61). The Pharaonic god Osiris was accommodated in a temple of a Pharaonic style with pylons even in the Ptolemaic period as is the case of the temple of Hathor at Dendera and that of Horus at Edfu. The stem of the ancient word "Taposiris" is retained in the Arabic word "Abusir" (see also A. De Cosson, *Mareotis*, London, 1935, p. 110). For the identification of the city, see Mahmoud Bey El Falaki, *Mémoire sur l'Antique Alexandrie* (Copenhagen 1872), pp. 97ff; M. J. R. Pacho, *Relation d'un voyage dans la Marmarique, la Cyrénaïque* (Paris 1827), p. 7. This identification of Taposiris as the modern Abusir is confirmed by the discovery at Abusir of a votive inscription on which the words οἱ ἀπὸ Ταποσείρεως were mentioned (see E. Breccia, *Alexandria ad Aegyptum*, Bergamo 1922) p. 338.

[2] J. M. A. Scholz, *Travels in the Countries between Alexandria and Paraetonium, the Libyan Desert* (London 1922), p. 21; DeCosson, p. 111. At present, the name "Tower of Arabs" is given to the village which falls south of the lake opposite Taposiris. In this village there is in fact no tower, and it is likely, I believe, that the appellation "Tower of the Arabs" was given to the whole of this desert area roundabout the tower.

discussion among scholars. What function did it have in antiquity, and what was the date of its construction? Did it represent a lighthouse, a watch or signal tower, a funerary monument, or was it dedicated to the god Osiris together with the neighbouring temple?

In spite of many contradictory views concerning the nature of the tower, both scholars and travelers see in its form a resemblance to ancient lighthouses[3] as represented on ancient mosaics,[4] coins,[5] reliefs,[6] terracotta lamps,[7] and vases.[8] Moreover, on studying the description of the famous Pharos of Alexandria left us by Arab and Spanish writers[9] and by travelers who saw the monument, and on examining the illustrations of the various ancient works of art[10] which were modeled after that great wonder of the ancient world, archaeologists believe that the Tower of Abusir was fashioned after the famous lighthouse of the Ptolemies. Some scholars estimate that it was even built to the scale of one tenth of the Pharos,[11] for it rose before the restoration[12] to a height of more than 17 meters (Fig. 2). Moreover, it is

[3] See E. Allard on "Lighthouses" (1889).

[4] Stuart-Jones, *A Catalogue of Sculptures in the Palazzo dei Conservatori*, p. 268; H. Thiersch, *Pharos antike Islam und Occident* (Leipzig 1909), p. 15, Fig. 11a; A. Adriani, *Annuaire du Musée gréco-romain*, III (1940–50) (Alexandria 1942), p. 137 n. 3, and the attached pl. D, Fig. 66.

[5] Breccia, Figs. 229, 231; D. S. Robertson, *A Handbook of Greek and Roman Architecture*, 2nd ed. (Cambridge University Press 1964), p. 184; A. Bernard, *Alexandrie la Grande* (Paris 1966), pl. 7.

[6] Robertson, p. 184.

[7] Breccia, Fig. 159.

[8] Bernard, Pl. 9: Un goblet à Begram (Afghanistan).

[9] For such Arab writers as Aboul Haggag Youssef Ibn Mohammed el Balawi el Andaloussi, see Omar Toussoun in *Bull. Soc. Arch. Alexandrie*, 30 (1936), 49–53; Don Miguel de Asin, "Ibn Al-Sayj, the Duke of Alba," in *Proceedings of the British Academy*, 19 (1933), 277; Van Berchem, *Compte rendu de l'Académie des Inscriptions* (1898), p. 339; *Mémoires de la mission archéologique française du Caire*, Vol. XIX; G. Reinecke, in *Phil. Woch.* 19, (1937), col. 1869; F. Adler, *Der Pharos von Alexandria* (Berlin, 1901); G. H. Rivoira, *Architettura Musulmana* (1914), p. 148.

[10] Donaldson, *Archit. Numismatica*, Pl. XCII, pp. 345–349; R. S. Poole, *Catalogue of Coins, Alexandria*, Introduction, p. XCIV, Pls. XVI and XXIX.

[11] E. M. Forster, *Alexandria, a History and a Guide*, 2nd ed. (Alexandria 1938), p. 196. I am sorry that I have not had a chance to consult the latest edition of this book; DeCosson, pp. 111, 113.

[12] This estimation was calculated on the western side only because the eastern side is destroyed. In the restorations, some additions were permitted which did not follow the ancient scheme and were meant to facilitate the entry into the building for visitors; see Adriani, p. 135. Adriani gives the new measurements after the restorations. For the measurements before the restorations see Thiersch, p. 27; Breccia, p. 343.

composed, like the Pharos, of three main stages, a square basement (10.75 × 10.75 m.) surmounted by an octagonal building (10.65 m. high) with a cylindrical construction on top (Fig. 3).

Yet in spite of its similarity to the Pharos, the Tower of Abusir differed from it in certain features, which were marked out in studies by Thiersch[13] and Adriani.[14] In the Tower of Abusir, for example, a stone socle half a meter high was added between each stage and the next (Figs. 1, 3), but the windows which were opened in the walls of the Pharos are missing in the Tower of Abusir.[15] The two towers also differed greatly in their internal setting, as we shall see.

Because of the crest of its structure and its location high on the hill dominating both the Mediterranean and Mareotis Lake, the tower was thought by many scholars and travelers (including the scientists of Napoleon's Expedition to Egypt,[16] Pacho,[17] Thiersch,[18] Pagenstecher,[19] Kees,[20] Fyfe,[21] Breccia,[22] Forster,[23] Bernard[24] and others[25]) to have been an ancient lighthouse. These authorities, however, had different opinions regarding the assumed function of the tower.

Fyfe and others saw in it a beacon tower burning all night to warn mariners of the rocky headland on which the neighbouring temple stands.[26] Forster and DeCosson[27] thought that it was one of a series of lighthouses or signal towers placed all along the coast from Cyrene to Alexandria. Thiersch and Breccia believed that the Tower of Abusir commanded one or two harbors of the city.[28] Of these two ports, one fell on the lake for inland trade with the districts bordering the lake and the other at the sea for exterior commerce. Thus according to some, it served navigation between Taposiris and Plinthine,[29] or

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[13] Thiersch, pp. 28, 31.

[14] Adriani, pp. 133, 135.

[15] T. Fyfe, *Hellenistic Architecture* (Cambridge University Press 1936), Fig. 17.

[16] Thiersch, p. 30.   [17] Pacho, p. 6.

[18] Thiersch, pp. 30, 31, 209; Plates 41–47, 49.

[19] R. Pagenstecher, *Nekropolis* (Leipzig 1919): "Das Leuchtturm–Grab von Taposiris Magna," pp. 115, 116.

[20] Kees, "Taposiris," in *PW* Col. 2260.   [21] Fyfe, p. 70, Pl. VIb.

[22] Breccia, p. 343.   [23] Forster, p. 196.   [24] Bernard, p. 109.

[25] Such as H. Von Minutoli, *Reise zum Tempel des Jupiter Ammon*, pp. 41ff.

[26] Fyfe, p. 70; Breccia, p. 343; DeCosson, p. 112.

[27] Forster, p. 196; DeCosson, p. 112; Bernard, p. 109; Breccia, p. 343.

[28] Thiersch, pp. 30, 209; Forster, p. 194; Breccia, pp. 343, 344; DeCosson, p. 112.

[29] Breccia, p. 79; DeCosson, p. 112 and n. 1; Thiersch, p. 30.

it may have been used for the lake port which was, for some, the only port of the city of Taposiris.[30]

But in spite of all these interpretations regarding the use of the tower as a lighthouse, one wonders if the form and the location of the building can really be taken as sufficient evidence for the claim.

As a lighthouse or a beacon tower a huge and continuous supply of fuel, whether of oil or wood, would have been required to keep the fire burning the whole night long. Therefore, a great space on top of the tower or inside it was needed for storing a huge quantity of fuel. But the actual space on top of the building or inside its three stages (see the plan of Fig. 3) is very narrow and does not allow for storing even a small quantity of fuel.

Besides, the narrow and spiral staircase would not permit a single person to move easily up and down the building even if he were not carrying fuel. Unlike the Tower of Abusir, there were several rooms in the Pharos for the storage of fuel. In the Pharos, too, there were also sloping ramps[31] for the use of the mules which carried the fuel up, in addition to the staircase which was thought to be a double spiral.[32] Thus we realize that the construction of the Tower of Abusir and its internal setting do not favor its use as a lighthouse or a beacon tower burning all night.

It is also worth noticing that the pylons of the temple are equally high and stand nearly half a kilometer to the west and on the same spur of the hill as the tower (Figs. 4, 5). These pylons would have been more appropriate as beacon towers because they are internally wider than the tower and would thus allow more easily for the transportation of the fuel to the top. But in spite of that the pylons were not used for this purpose. How, then, could the tower, which is much narrower, have been used as a lighthouse or a beacon tower?

The location of the tower, on the other hand, cannot be considered the most appropriate or convenient one, had the tower been used as a lighthouse. The tower stands, for example, in the midst of a cemetery (Figs. 1, 4). Many of the tombs and the wells in this cemetery belong to the date of the construction of the tower and even earlier,[33] as we

[30] Thiersch, p. 209.

[31] Fyfe, p. 70; Bernard, p. 106; Bernard quoted the description of the Pharos by Aboul Haggag Youssef el Balawi el Andaloussi.

[32] Forster, p. 196.

[33] Adriani, p. 136, Pl. LII (1), Adriani pointed out that the tower is later than some tombs: "Comme le côté nord de la tour passe au dessus d'une partie de cette fosse, nous aurions pu avoir en celle-ci un terminus post quem pour la datation de la tour qui est évidemment postérieure."

shall see when we deal with the dating of the building. Burial continued in the cemetery even after the erection of the tower.[34] Moreover, the tower itself is centered on top of a funerary hypogeum (Fig. 1). Would all that not have hampered the tower in fulfilling its task perfectly, had the tower been a lighthouse? Besides, it would be most unusual to find a lighthouse erected in a cemetery!

Moreover, the tower does not stand right at the seacoast but at a distance of nearly 2 kilometers away from the sea and a kilometer and a half from the lake port to the south. But in antiquity, as well as nowadays, lighthouses were erected close to the entrance of the harbor in order to show the ships the direction they would have to follow in sailing into the port. The famous Pharos stood at the eastern end of the island of Pharos next to the entrance of Portus Magnus (i.e. the present Eastern Port of Alexandria).[35] Similarly, the modern lighthouse of the city is erected at the western end of the island of Pharos, next to the entrance of the present Western Port of the city (i.e. the ancient Port Eunostos), which has been used as the main port of the city of Alexandria since the nineteenth century.[36]

This fact shows clearly that any lighthouse served the port at whose entrance it stood. Subsequently, if the Tower of Abusir was used as a lighthouse, it could not have served two ports, one for sea navigation and the other for navigation on the lake, as claimed by Thiersch,[37] Breccia,[38] and Forster;[39] nor could it have served navigation on either the sea or the lake because of its location far from the sea and the lake. The famous Pharos, in spite of its big size and the great distance to which its light extended and which made it one of the seven wonders of antiquity,[40] served navigation only in one port (i.e. Portus Magnus) and not all the ports of the city, although these ports (e.g. the lake port and Port Eunostos) were closer to each other than the distance between the sea and the lake at Abusir. Thus, if the Tower of Abusir

[34] Thiersch, p. 30; Thiersch mentions a decorated tomb with a fresco of the Pharos whose inscription is probably of Roman date.

[35] Whether the famous Pharos stood on the Diamond Island or on the site of Fort Kai't Bey, the two spots fall close to the entrance of the East Port.

[36] This port became the main port of Alexandria since Mohammed Ali Pasha; see M. G. Jondet, "Les Ports submergés de l'ancienne Ile de Pharos," in *Mémoires de l'Institut Égyptien*, IX (Le Caire, 1916), pp. 50, 51.

[37] Thiersch, pp. 30, 209.   [38] Breccia, p. 344.   [39] Forster, p. 194.

[40] F. Josephus, *Bell. Jud.* V: 4, 3: Josephus said that the fires of Pharos could send their light to a distance of 300 stades; see also *Ant. Jud.*, XVI: 5, 24. According to the circular form of the earth, that will give the Pharos a height of 120 meters; see Bernard, p. 109.

served in antiquity as a lighthouse, we would have expected it to have
served navigation in one port only: either at sea or on the lake.

The remains of the lake port can still be clearly seen at Abusir,
but we have no literary or archaeological evidence for a seaport there.
The city of Abusir itself is not on the sea[41] but on the lake. The seaport
nearest to the town stood, as it seems, at the vanished port of Phinthine,[42]
at a distance of 4½ kilometers away. This is confirmed by the fact
that opposite Abusir, there are no bays on the coast, and it appears
that the coast was not fit for building a port. The tower, therefore,
could not have served as a lighthouse for sea navigation between
Taposiris and Plinthine.[43]

Had the Tower of Abusir served as a lighthouse, it would therefore
have to be assumed that it served navigation on the lake as Thiersch
claimed.[44] But, it seems to me, navigation on the lake did not require
any lighthouse. We know, for example, that Alexandria had an impor-
tant port on the lake, that the goods which poured into the city via
this port were, as Strabo tells us,[45] much more abundant than the
merchandise which came to the city through her seaports. Marea, too,
was the capital of the nome of Mareotis (at least till the time of Justi-
nian).[46] Its extensive remains date from the Graeco-Roman period,
including its huge port and dykes which can still be seen untouched
and unexcavated.[47] The lake ports of these two important cities (namely,
Alexandria and Marea)[48] were undoubtedly no less important than
Abusir, yet neither of these two important cities had a lighthouse for
her lake port. Therefore, one would not expect Abusir to have had a
lighthouse for hers.

Besides, in spite of the various ruins of the ancient towns scattered
around the lake and the numerous islands[49] which could have constituted

[41] Forster, pp. 16, 133–137, 194; DeCosson, p. 112 and n. 2 for Strabo:
DeCosson claims that if a maritime harbor existed, it would have been very
small since Strabo stated that Taposiris was not situated upon the sea.

[42] DeCosson, p. 112; Breccia, p. 79; Forster, p. 194. Forster is wrong when
he says that it is half a mile away; see Pacho, p. 7 and n. 3, for the distance
between Taposiris and Plinthine as seven stades.

[43] Breccia, p. 79; DeCosson, p. 112 and n. 1; Thiersch, p. 30.

[44] Thiersch, p. 209.

[45] Strabo, XVII: 1, 7–8, 10; XVII: 7–22; Virgil, *Georg.* II: 91; Hor. *Od.* 37:
14; DeCosson, p. 109.

[46] De Cosson, p. 110.   [47] *Ibid.,* pp. 131–135.

[48] Mahmoud Bey *L'Astronome,* "Carte des environs d'Alexandrie contenant
le lac Maréotis" (Paris 1866, 1875); *B.S.A.* 32 (1938), p. 176, for the map;
Strabo, XVII: 7–22; DeCosson, p. 71, 72.
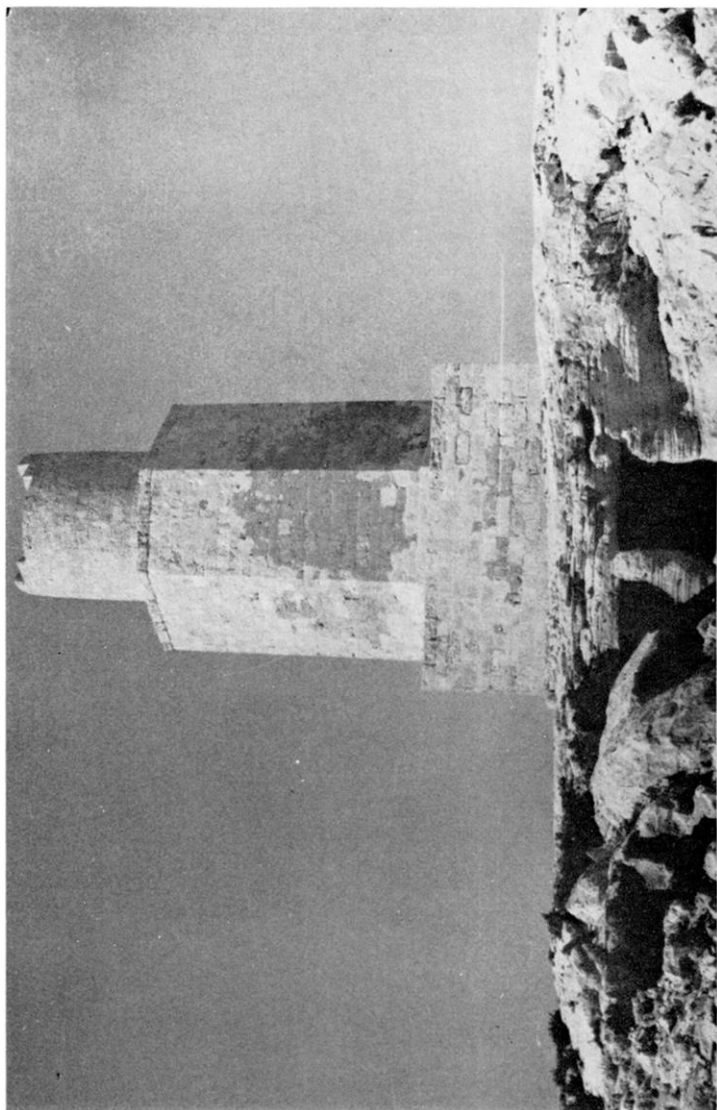
[49] DeCosson, pp. 131–135.
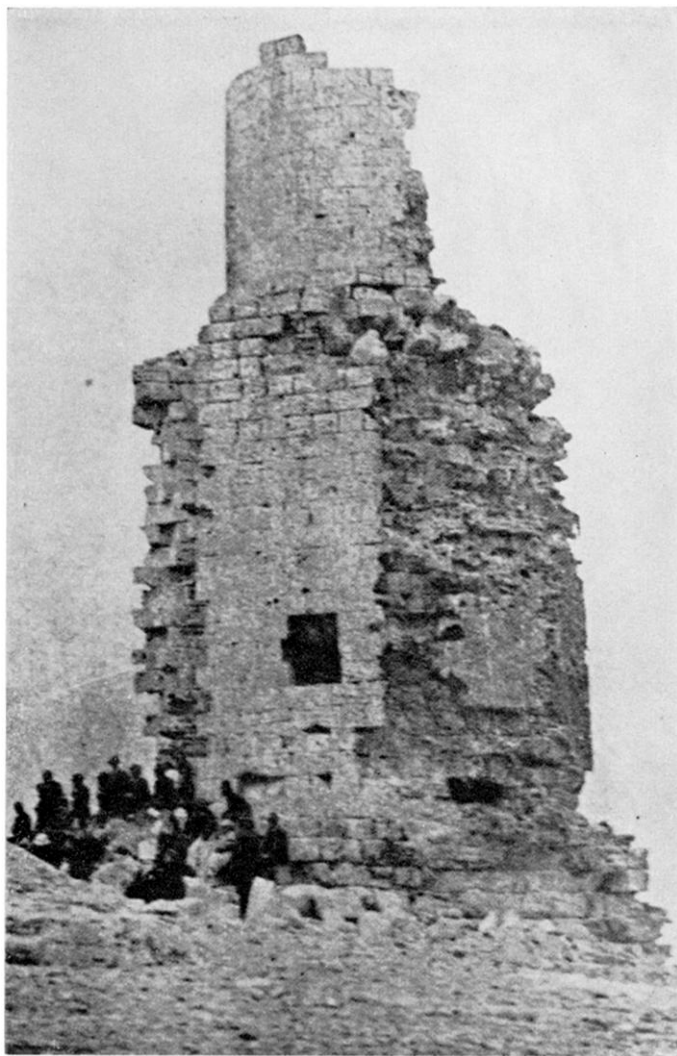
Fig. 1. The restored Tower of Abusir.

Fig. 2. The Tower of Abusir before the restoration.

Fig. 63. — La Tour d'Abousir-Plan.
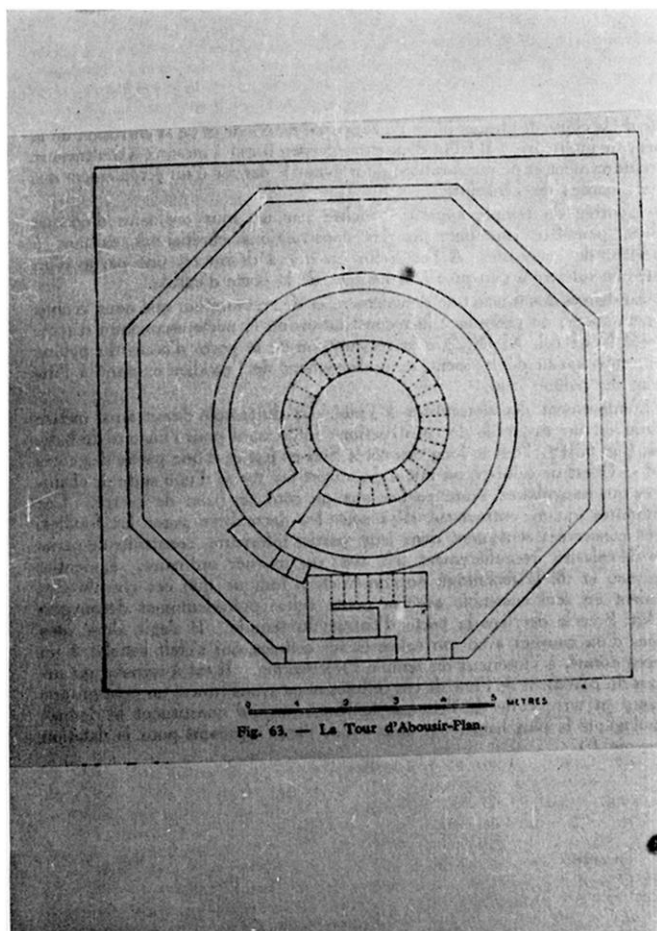
FIG. 3. Plan of the Tower of Abusir after Adriani.

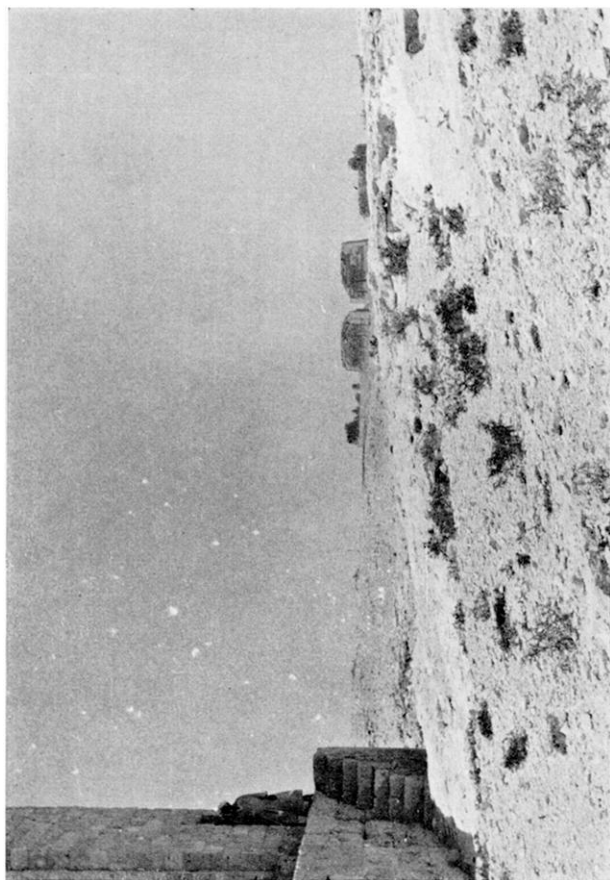Fig. 4. The pits of the cemetery next to the Tower, and the pylons and temple enclosure from a distance.
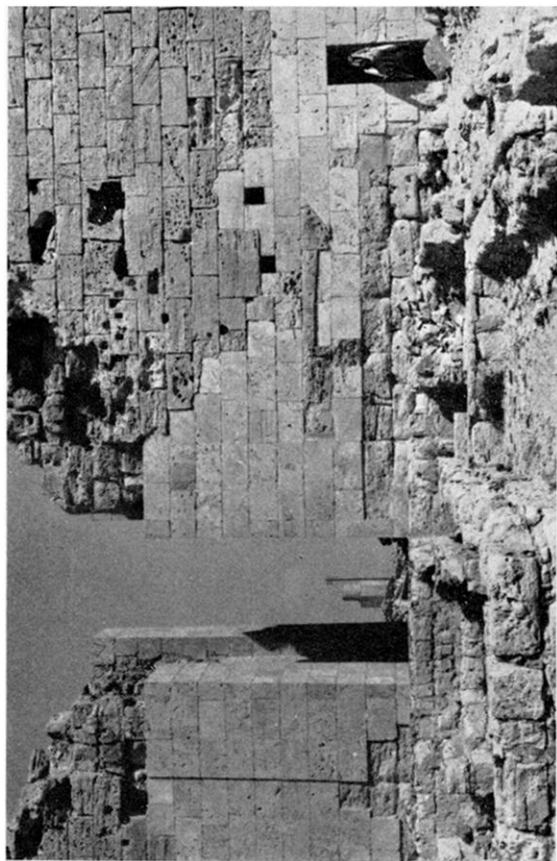
Fig. 5. In the foreground the church with its apse almost blocking the east gate from inside the enclosure. The Tower is seen from a distance.

Fig. 6. Temple enclosure, showing Ashlar masonry (smooth surface of blocks).

Fig. 7. The Tower, showing alternate courses of headers and stretchers and smooth surface of blocks.

FIG. 8. The Theater of Amman, showing alternate courses of headers and stretchers in the back face of the *scaenae frons*.

some danger in antiquity for night navigation, there are no remains of towers like that of Abusir. Even in the literary sources, there is no mention whatever of the existence of any lighthouse along the lake or its islands. Why, then, would Taposiris alone out of all these towns possess a lighthouse for her lake port?

Now, if this tower was erected for sea navigation and was used as a beacon tower burning all night to warn mariners of the rocky headland on which the neighbouring temple stands, or if it were one of a series of lighthouses extending all the way from Alexandria to Cyrene, one would expect to find other towers along this part of the African coast at least close to the areas where submerged ridges are found.[50] We know, for example, as understood from the warning which Julius Caesar gave to the Rhodian captain, Euphranor, on entering the port of Eunostos in Alexandria,[51] that in this port there were ridges and dykes belonging to the ancient port of Pharos, lying submerged under the water.[52] These submerged ridges and dykes represented a menace to navigation. At Agami, too (the ancient Chersonese), west of Alexandria, there are such natural submerged rocks.[53] But in spite of all these submerged rocks and dykes, which are not only found in and near Alexandria but in other places along the African coast from Alexandria to Cyrene, there is no reference in the literary sources to any remains of any tower except that at Abusir. This shows clearly that the Tower of Abusir was not meant to be a beacon tower or a lighthouse for sea navigation.

Similarly, the tower could not have been used as a signal tower to heliograph messages, decrees, and orders,[54] because for such a purpose more than one tower was needed to receive and pass the messages. The present remains do not show that there were any such towers between Alexandria and Cyrene, apart from Pharos. Even if the Pharos was strong enough to send the messages to Abusir (a distance of more than 50 kilometers away), as understood from the statement of Josephus,[55] the tower of Abusir would have been unable to answer back except with the help of intermediary towers between Abusir and Alexandria in order to pass the word. Such towers do not exist

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[50] Diodorus, too, said that there was no safe harbor on the coast except at Alexandria (cf. Scholtz, p. 20).

[51] M. Jondet, p. 71. Jondet refers also to Bouché-Leclercq, *Histoire des Lagides*, vol. II.

[52] Jondet, p. 14.   [53] Scholtz, p. 20.

[54] Forster, pp. 16, 133–137, 194; DeCosson, pp. 112, 114.

[55] Josephus, *Bell. Jud.* V: 3; *Ant. Jud.* XVI: 5, 24; Bernard, p. 109.

among the ruins of the archaeological sites between the two cities.[56]

An inscribed painted tomb with a fresco of a lighthouse and the inscription "$\Phi APOC$" was discovered at Taposiris Magna.[57] This was one of the reasons which made Thiersch believe that the Tower of Abusir was a lighthouse. However, I cannot see how this discovery can have a bearing on the nature of the Tower of Abusir. The inscription and the illustration were not attached to the tower, nor did they belong to the tomb on which the tower is centered. Nor does the illustration resemble the Tower of Abusir in form, although it has similarities with the Pharos. It shows, in fact, an attempt to represent the Ptolemaic wonder of Alexandria in painting. In the illustration, as in the Pharos of Alexandria, the walls are pierced by windows, a feature which is missing in the Tower of Abusir. Since lighthouses are used by human beings, and since in the Pharos of Alexandria communication between the ground and the top had to be continuous, especially for the transport of fuel to the top, windows were much needed as lightwells in daytime. The Tower of Abusir, on the other hand, being centered on top of a large-chambered tomb, did not need such windows since it had to do with the dead. The illustration, however, had the inscription "$\Phi APOC$" attached to it, which referred to the Pharos of Alexandria, if the illustration belonged to the Hellenistic period or meant any lighthouse in general, if it was later in date. In either case, this could account for the existence of windows in the illustration. On epigraphical grounds the inscription "$\Phi APOC$" could belong to the Hellenistic or Roman epochs.[58]

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[56] See DeCosson, "Mareotis" for the antiquities of Dekheila, Chersonese, Sidi Kreer, and other sites which fall between Alexandria and Taposiris.

[57] Thiersch, p. 30, and Abb. 48.

[58] I am greatly indebted to Professor G. Bowersock of Harvard University for his remarks on the use of the word "$\Phi APOC$" in the Hellenistic period to mean the Pharos of Alexandria and in later periods to mean any lighthouse. See *Anth. Pal.* 9.671; 11, 117.

The lunate sigma "C," is found in papyri as early as the third century B.C.; see C. H. Roberts *Greek Literary Hands (350 B.C.–A.D. 400)* (Oxford 1955), p. 2. In inscriptions belonging to the Hellenistic period, see L. Robert, *Inscriptions grecques* (Paris 1936), pp. 120, 121; Ch. Habicht, *Die Inschriften des Asklepieions* (Berlin, 1969), p. 21, Text nr. 1, Taf. 1. The lunate sigma is more common in inscriptions in Roman and Coptic times, while the old form of sigma "Σ" is common in inscriptions in Hellenistic times; see G. Oliverio, *Le Stele di Tolemeo Neoteros re di Cirene* (Bergamo 1932), p. 64, Tav. VIII, Fig. 13, Tav. VII, Figs. 10, 11; U. Hausman, *Allgemeine Grundlagen der Archaeologie* (Munich 1969), Fig. 67; O. Kern, *Inscriptiones Graecae* (Bonnae 1913), pp. 40–47.

Had the Tower of Abusir been used as a watchtower, as DeCosson and Forster believe,[59] it would have been intended mainly to guard the country and to warn Alexandria, its capital, against infiltrators and any invasion coming from the west and the Libyan Desert. But since in the Graeco-Roman period, to which the tower belongs, Egypt and Cyrene were governed by the same rulers (i.e. the Ptolemies[60] since Alexander the Great and then by the Roman emperors[61]), it would have been more reasonable to have several such towers scattered along the western coast from Alexandria to Cyrene in order to give an early and quick alarm to the capital. But since there is no indication to show that any such towers ever existed in this area, one really doubts if the Tower of Abusir was meant to be a watchtower.

But if it was decided to have only one watchtower along the coast, Abusir, being so close to Alexandria, would not have been the most appropriate location for such an early alarm. Undoubtedly it would have been more suitable to erect such a tower near the border at Cyrene where such attacks were expected since Cyrene and Egypt were under the same rule. At least, it should have been erected at some distance away from Alexandria (at Paraetonium, for example).

Even if it had been found that Abusir was the most suitable location for erecting the watchtower, it was still necessary to have an open space toward the west in front of the tower, as is customary for any watch tower. This open space would enable the guards (looking for infiltrators or for any attack from the west) to have a good view and a clear outlook on the lands stretching before them. But at Abusir (Figs. 4, 5) the high pylons and the vast enclosure of the Temple of Osiris would undoubtedly have hampered the free and open view toward the west, if the guards and the watchmen were ever stationed on the tower. If the tower had really been built in order to be used as a watchtower, it would have been more efficient to erect west of the

[59] Forster, pp. 16, 133–137, 194; DeCosson, pp. 112ff.

[60] E. Bevan, *A History of Egypt under the Ptolemaic Dynasty* (Methuen, London 1914), pp. 1, 9, 10, 22, 25–27, 377, 380: From the time of Alexander till the conquest of Egypt by Caesar Octavianus, when the forces of Antony in the countries of Cyrenaica and Syria declared for Caesar, Egypt and Cyrene were under the rule of the Ptolemies. Since the conquest of Octavianus, all these countries became subject to Rome.

[61] See 60 above. See also J. Milne, *A History of Egypt under Roman Rule*, 3rd ed. (Methuen, London 1924), pp. 31, 146. Egypt and Cyrene remained under the Romans from Augustus till Byzantine times.

temple and not east of it since, as explained below, it is later in date than the pylons and the temple enclosure.[62]

If it was found necessary to have a watchtower at Abusir, there would have been no need to have a special tower erected for that purpose because the high pylons of the temple would have been suitable for the task. For all these reasons I do not think that the Tower of Abusir was meant to be a watchtower, a signal or beacon tower, or a lighthouse.

There is one opinion left concerning the function of the tower, and this holds that the tower was a funerary monument.[63]

Thiersch and Breccia[64] were among the first adherents of this view before they came later to consider the building a lighthouse. The tower was taken as a funerary monument because it stands in the middle of a cemetery. Moreover, it is centered on a big funerary subterranean hypogeum[65] (Fig. 1) and is apparently connected with it, as Scholz[66] and Breccia state. In addition to these reasons, Adriani,[67] who concurs in this view, thinks that a rich man of Taposiris may have wanted to have the funerary monument of his tomb in the form of the Pharos, as in the case of the Pyramid of Caius Cestius in Rome, which resembles the Pyramids of Egypt.

This view, it seems to me, can best be accounted for if we are to link it with that of Scholz,[68] who thinks that the tower belongs to the temple and that both of them were dedicated to the god Osiris.[69] In that case, the cemetery appears to be of the utmost importance. I find indeed that this link is depicted at Taposiris in many ways.

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[62] For the dating of the pylons and the enclosure of the temple as well as the tower, see below in the text; see also Thiersch, p. 30; Adriani, pp. 131, 133, 139, and addenda.

[63] Minutoli, pp. 41ff; Pagenstecher, pp. 115, 116.

[64] Thiersch, p. 210; Breccia, p. 343; see Breccia in *Bull. Soc. Arch. Alex.* 19 (1922), p. 146; Adriani, p. 133 n. 2.

[65] Pagenstecher, pp. 115ff. The funerary hypogeum was described by Thiersch and Adriani; see Thiersch, p. 210, Abb. 391; Adriani, pp. 136–138. The hypogeum is cut in the rock. It is composed of a great rectangular vestibule and a greater square funerary chamber. The chamber has in the middle of its three walls of the north, east, and west sides three great niches with funerary seats cut in the rock.

[66] Scholtz, p. 21; Breccia, p. 343.   [67] Adriani, p. 138.

[68] Scholtz, p. 21.

[69] For the identification of the temple as that of Osiris, see Kees in PW, col. 2259; DeCosson, p. 109; Breccia, pp. 338, 339; Forster, p. 194; Adriani, p. 139; Ward-Perkins, "The Monastery of Teposiris Magna," in *Bull. Soc. Arch. Alex.* 39 (1956), pp. 51ff.

Like most of the cemeteries,[70] the one at Abusir in which the tower stands lies outside the city of Taposiris and at about half a kilometer away from the Temple of Osiris. Yet the most interesting feature about this fact lies in the gates of the enclosure of the temple. Although the temple has gates on the north, south, and east sides of its enclosure, we find that the eastern gate, which faces the cemetery, is the most important one. It is even more important than the gate which opens on the city and its lake port. The east gate is not only wider than the other gates but it is the only one which is flanked by two huge pylons. The pylons are equipped with internal stairs reaching the top of the pylons and the enclosure. The pylons are, moreover, fitted with mast posts for banners on the side which faces the cemetery.[71] To emphasize the importance of the cemetery a road was built leading directly from that eastern gate to the cemetery. All these features show clearly how important the cemetery was to the deity to whom the temple was dedicated.

A further proof to that effect can be found in the construction of the ancient church which was built within the enclosure of the temple (Fig. 5). When Christianity became the religion of the Roman Empire, the early Christians wanted to take vengeance on the pagan religions which existed before. Knowing the importance of the cemetery with respect to the worship of Osiris which took place in that temple of Abusir, the early Christians built their church within the enclosure of the temple, with the apse almost blocking the main broad eastern gate of the enclosure which opens on the road leading to the cemetery where the tower stands.[72] Thus the connection between the temple and the cemetery was almost cut. On the other hand, the Christians left the other small gates which opened on the sea and the city free and un-hampered.

The importance given to the cemetery in the worship of Osiris is further illustrated by the terracotta sarcophagi of anthropoid form which were discovered in this cemetery.[73] The sarcophagi may have belonged to Egyptians.[74] We know that anthropoid sarcophagi are connected with the worship of Osiris since they have taken their form

[70] Strabo tells us that the necropolis of Alexandria fell outside the city. This was proved by the discovery of the cemeteries of Schatbi, Hadara, and Gabbari; see Strabo, XVII: 1.10. Also, the necropolis of Gerasa fell outside the city walls; see the map of the city in Kraeling's *Gerasa* cited above.

[71] Forster, p. 196; Breccia (1922), p. 339; De Cosson, p. 114.

[72] Ward-Perkins, pp. 47ff; Breccia, p. 339.

[73] Adriani, p. 136 and pl. LIII, Fig. 4; Breccia, p. 344.

[74] Adriani, pp. 136.

from the mummy shape of the statues of Osiris and the other representa-
tions in art of that Egyptian god. This shows clearly that the cemetery
was connected with the god Osiris, to whom the neighboring temple
was dedicated.

Because the cemetery remained important till the Christian period,
and since the tower was built earlier, during the Graeco-Roman epoch,
the tower which stands in the center of that cemetery must therefore
have been a funerary monument. The funerary nature of the tower
conforms well with all constructions in the cemetery around it. The
funerary pits, sarcophagi, the funerary chambers which are dug in the
hill with their loculi, wells and cisterns, have all the funerary features
characteristic of cemeteries of the Graeco-Roman period as in the
cemeteries of Alexandria.[75] Funerary monuments were also common
in the Ptolemaic period. Although we have not found another funerary
monument taking the shape of a lighthouse, yet such monuments take
distinctive forms in the Necropolis of Schatbi in Alexandria, for
example.[76]

Thus I believe that an important personality in the Graeco-Roman
epoch to which both the tower and the temple belong wanted to draw
attention to his tomb by erecting a funerary monument above it. He not
only placed this monument as high on the crest of the hill as the temple,
but also had it built in the form of the famous Pharos. This out-
standing funerary monument, because of its unusual form and its
location, must undoubtedly have emphasized the importance of the
cemetery. This emphasis was in harmony with the important position
which both the temple and the cemetery held in the city of Orisis
(namely, Taposiris).

The dating forms the second problem in connection with the Tower
of Abusir. Scholars give the tower various dates, ranging from Hellen-
istic to Roman times.[77] Thiersch, for example, puts its construction
in the first century of the Ptolemaic rule,[78] but Adriani[79] thinks that
the tower was built much later.

Thiersch based his dating on the method of construction. He found,
for example, that polished rectangular blocks of white limestone of a
medium size (1 to 1.10 × 0, 50 m) were used for building the tower,

[75] *Ibid.*, pp. 136, 139, pl. LII, 1.
[76] Breccia, "La Necropoli di Sciatbi," I, in (*Catalogue général des antiquités égyptiennes*), Musée d'Alexandrie (le Caire 1912), II, pls. XVII, 17, 18, XVIII, 19.
[77] Scholz, p. 21; Pacho, p. 6; Ward-Perkins, p. 53, DeCosson, p. 110.
[78] Thiersch, p. 30.
[79] Adriani, pp. 131, 132, 138, 139, and addenda.

the pylons and the temple enclosure. The blocks were laid in a layer of white-greyish mortar[80] and covered with a thin coat of strong white plaster. Similar stones laid in such a layer of mortar were used in the construction of Hellenistic buildings of early date such as the socle of the Pharos of Alexandria.[81] The stones used for the tower and the temple were cut from the neighboring quarry,[82] which falls almost halfway between the two buildings.

Since the temple was assigned to the fourth century B.C. at the beginning of the Hellenistic period,[83] the tower subsequently, as Thiersch believes, ought to belong to the early period of the Ptolemaic rule.

Adriani, on the other hand, relied for his late Hellenistic or early Roman dating for the tower on the examination of the pottery which was found in the cemetery, inasmuch as he and Breccia had a chance to make some soundings and excavations at Abusir.[84] Adriani concluded that the tower must be later than some Hellenistic tombs in this cemetery since the northern corner of the tower surmounts part of a pit tomb. Thus we have a *terminus post quem* regarding the dating of the tower.[85]

The tower belongs, as Adriani states, to those big funerary monuments which are often formed of three large sections superimposed on one another and which spread in Hellenistic and Roman times.[86]

In my opinion the tower cannot be as early as Thiersch took it to be, because, even if its blocks are equal in size to those of the temple enclosure, the method used for the construction of the temple enclosure is different from that used for the tower. In the temple enclosure (Fig. 6) and pylons we have ashlar masonry. The stones were cut into polished rectangular blocks of equal size. They were laid horizontally into courses of stretchers. The vertical joints between the blocks fall almost on the middle of the blocks below them. The blocks all have a smooth plain face. This method is common in Greek constructions of the Classical period and during the Hellenistic epoch.

The same method of construction was used in the cella wall of the early fifth century B.C. Temple of Aphaia at Aegina,[87] and in the con-

[80] Thiersch, pp. 28, 203–205.
[81] A. Von Gerkan, *Griechische Städteanlagen* (Berlin 1924), p. 74.
[82] Oliver and DeCosson in *Bull. Soc. Arch. Alex.* (1938), pp. 164, 167.
[83] DeCosson, pp. 109, 110; Ward-Perkins, pp. 49, 52; Adriani, pp. 131, 139, and addenda; Thiersch, p. 207.
[84] Adriani, p. 136 and n. 2; Breccia, *Alex. ad Aeg.* pp. 339, 343.
[85] Adriani, p. 136.   [86] *Ibid.*, pp. 138, 139.
[87] A. W. Lawrence, "Greek Architecture," 2nd ed. (*Pelican Hist. of Art.*, 1967), pl. 38B.

struction of the fourth century B.C. Arsenal at Piraeus.[88] It is also
adopted for the Citadel Walls of the city of Philadelphia, which was
built in the third century B.C., for a Ptolemaic building in the Royal
Quarter at Alexandria[89] and for the first century B.C. Propylaea at
Eleusis.[90]

The tower, on the other hand, is built by means of courses of
headers alternating with courses of stretchers (Fig. 7). The blocks have a
smooth surface and plain face. The same method of construction is
found in many Hellenistic buildings, as in two shops in Portico B5
in the Agora of Cyrene belonging to the period between the second
half of the fourth century B.C. and the end of the third century B.C.[91]

It is clear then, that, contrary to the claims of Thiersch, ashlar
masonry was used in the construction of the temple enclosure and the
pylons but alternate courses of headers and stretchers were employed
for the tower.

We learn, however, from the following statement of Vitruvius,[92]
"*Itaque non est contemnenda Graecorum structura; utuntur e molli
calmento polita, sed cum discesserunt a quadrato, ponunt de silice seu
lapide duro ordinaria, et ita uti latericia struentes alligant eorum alternis
coriis coagmenta, et sic maxime ad aeternitatem firmas perficiunt virtutes,*"
that the Greeks at first used the ashlar method of construction; but
they later gave this method up for the use of alternate courses of
headers and stretchers as in the Tower of Abusir.[93]

This last method seems to have been used in Hellenistic constructions
especially later in that epoch as in the example of Cyrene cited above.
It was also adopted for the construction of the third century B.C. walls
of the Attic Fort at Aegosthena[94] and the Hellenistic Tower of the
city of Perge.[95]

Alternate courses of headers and stretchers were taken for Roman
Republican constructions of the second half of the first century B.C.
but seem to have gone out of use at the beginning of the first century

[88] H. Plommer, *Ancient Classical Architecture* (Longmans 1964), p. 173,
Fig. 57; Lawrence, p. 260, Fig. 147.
[89] Adriani, in *Annuario del Museo Greco-Romano d'Alessandria* (35–39),
pls. VII, VIII.
[90] Lawrence, p. 221, Fig. 125.
[91] Sandro Stucchi, *L'Agora di Cirene* (Roma 1965), Fig. 83.
[92] Vitruvius, II, VIII, 5.
[93] Vitruvius, *On Architecture*, trans. F. Granger in 2 vols., I (Loeb, 1962),
p. 113, n. 1 (written on p. 114; Vitruvius, II, VIII, 5).
[94] Lawrence, pl. 127.   [95] *Ibid.*, pl. 128.

A.D., after the Augustan Age.[96] Examples are found in the walls which belong to that period of the Roman era in the Theater of Amman (Philadelphia) such as the retaining wall of the cavea, the vaulted passages, the backwall of the stage and the northern wall of the *scaenae frons* (Fig. 8). The blocks in these constructions have mostly a smooth plain surface, although in some parts their face is somewhat roughened in the middle, leaving a plain margin. In the Augustan Age the roughened surface projects mostly in the form of a central boss within the plain margin, as in the Forum of Augustus in Rome[97] and as in the foundations of the cella of the so-called Temple of Hercules or of Zeus on the Citadel Hill of Amman. This foundation is Augustan while the later construction of that building of the Citadel Hill of Amman belongs to the reign of Marcus Aurelius.[98]

The date of the tower has, therefore, to be no earlier than the date of its prototype, the famous Pharos of Alexandria, which was built in 279[99] and no later than the Augustan Age. Yet I am in favor of the idea that the Tower of Abusir was built in the Ptolemaic period, not very long after the construction of the Pharos, perhaps during the second century B.C. or early first century B.C. for at least two reasons. The first reason is the form of the tower and its resemblance to the Pharos. The Pharos, after having been erected, evidently won the admiration of so many people that it came to be considered one of the seven wonders of the ancient world. Therefore, soon after its construction, it became the fashion of the age and the model of other works of art, including the Tower of Abusir. That it was imitated not long after its erection and that it influenced other artistic works is a feature common to all innovations and discoveries and to outstanding structures.

The second reason is the method of construction. It may be noticed that the blocks of the stones used for the construction of the tower are not only equal in measurements to those of the fourth century B.C. temple enclosure of Taposiris but they have, like them, the smooth and plain face without any central projection or roughened surface as in the Forum of Augustus or other early Roman constructions. Thus

[96] R. Cagnat et Chapot, *Manuel d'archéologie romaine I* (Paris 1917), pp. 20, 21.

[97] L. Crema, "L'Architettura Romana" (in *Encic. Class. Sez. III*, vol. XII (Torino 1959), Fig. 3.

[98] Cf. the dating of the "Library of Philadelphia or the So-Called Temple of Hercules on the Citadel Hill of Amman," by Fawzi el Fakharani, publication of *IX Congrès International d'Archéologie Classique* (Damascus, 1969).

[99] Forster, p. 196.

the blocks of the tower should belong to that fashion of cutting the blocks smooth, as in the temple enclosure but still later than 279 B.C., the date of the construction of the Pharos.

It may also be noticed that at Villa Minore near Amalfi in Italy, which belongs to the Augustan Age, the lower steps are high but the other steps on top diminish in height as one goes up. This feature is missing in both the pylons of the temple at Abusir and in the tower. Thus the steps in the tower and the pylons imply Ptolemaic date and characteristics.

*   *   *

It is clear that the Tower of Abusir was not a lighthouse, a beacon, or signal tower, and not even a watchtower. It was a mere funerary monument centered over its Ptolemaic funerary hypogeum. The tower seems to have been erected not long after the construction of its proto-type, the famous Pharos of the Ptolemies. It could thus belong to the second century B.C. or early in the next century. Because of its location high on the crest of the hill and because of its form, the tower must have served as a landmark for the city of Taposiris. It therefore gave importance not only to the tomb of that lofty personage of Taposiris who built it but it must also have drawn attention to the important cemetery of Osiris.

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