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This volume is dedicated to the memory of

Azza Karara

Significant and exceptional member of the society

Recent Works at Taposiris and Plinthine

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The French expedition at Taposiris has been working at Taposiris and Plinthine since 1998 with the support of the French Ministry of Foreign Affairs and the authorizations kindly provided by the Supreme Council of Antiquities¹. Its main objective when launching the program was to draw a global picture of two sites of the Alexandrian chora, and try to understand why being so close (Fig. 1) they evolved so differently: Taposiris was known from the Hellenistic period and expanded till the 7th c. AD, when the Mareotis area went into decline. Plinthine was attested by Greek sources as early as the 5th century but apparently had a shorter span of life (at least from an archaeological point of view).

Therefore our goal was to understand for which reasons (political, religious, economical, environmental) Taposiris underwent such a growth, at what pace and to which extent, and why Plinthine came to an halt towards the end of the Hellenistic period/beginning of the Roman era, our working hypothesis being that the development of the first led to the decline of the second and that we are dealing with a transfer from one site to another. In our view, the development of Taposiris was linked to royal policy and its gate function (fiscal, economic, military) contributed to the decline of Plinthine, in the late Hellenistic / early imperial period. But we thought that the two cities were mostly if not entirely Greek cities, from the Graeco-Macedonian colonization that followed the conquest of Alexander and installation of the Ptolemies. In 2013 and especially in 2014, we had to revise this initial assumption: we do not know if Plinthine was originally a town but obviously it was not a Greek one.

1 We warmly thank the organizers of the conference for giving us the opportunity to present the recent works of the team members: archaeologists (B. Redon, CNRS; S. Dhennin, IFAO; M. el Amouri, T. Gonon, D. Driaux, J. Le Bomin), architects (T. Fournet, IFPO-Amman; O. Callot, CNRS; M. Vanpeene), topographers (T. Arnoux, INRAP; O. Onezime, IFAO), palaeobotanist (C. Bouchaud) and ceramologists (Z. Barahona, M. Pesenti, C. Römer-Strehl, A. Simony). We are most grateful to the Supreme Council of Antiquities for giving authorizations and assistance and to the French Ministry of Foreign and European Affairs for supporting us.

This paper will focus only on the work we have been conducting from 2007 onwards both in Plinthine and Taposiris and summarize our works in the lake area or in Plinthine necropolis, which have been already published².

Plinthine

Town and Kôm

Long neglected³, Plinthine⁴ is an imposing and even puzzling site: the town on the southern slope of the *taenia* is overlooked north by a huge artificial kôm in the shape of an amphitheatre (Fig. 2). It stands on average 11m above the surrounding fields and a little more than 50m above sea level; measuring roughly 180m EW by 150m NS, it covers c. 2,7 ha. It apparently has two lower parts (or openings) on its short sides: the southern one was explored by Adriani in 1937 and interpreted as an entrance to a building⁵; another (hypothetical) one to the north, might suggest a major EW road in Antiquity⁶. Lots of vestiges are visible on the surface as already noted by Gratien Le Père⁷.

The regular shape of the kôm (Fig. 3) raised many hypotheses: depending on the authors it was interpreted as a public place, "*a huge building*"⁸, an agora, a stadium, a meeting place or a fortress, or even a sanctuary: the north-south wadi that divides the city into two parts and follows a line so straight in its upper part that it seems partly anthropogenic brings to mind a dromos.

To address these issues, we started excavating in 2011 after preliminary topographical campaigns and ceramic surveys, setting three main objectives.

2 For the identification of Kôm el-Nugus (actual name of the site) with Plinthine see below and Boussac, M.-F., 2013.

3 A. Adriani worked only one season in 1937 in Plinthine, briefly in the town and south of the kôm and mostly in the necropolis (Adriani, A., 1952). The Organisation of Antiquities made several soundings in the necropolis only (Nouweir, R., 1955), mostly unpublished: see Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012: 187-218. Useful informations about the Egyptian excavations in Zouair, N., 2004.

4 See lastly Dhennin, S., Redon, B., 2013.

5 Adriani, A., 1952: 158.

6 Further west, at Taposiris, inside the temple, a dromos leads to the North: Hawass, Z., Martinez, K., 2013, 239 and plan 2.

7 "*Des espèces de gradins, des parties maçonnées en pierre de taille, enfin des faces quadrangulaires et inclinées qui donnent au tout une forme pyramidale: au pied de ce tertre, est un fond où l'on trouve les restes d'une belle citerne et d'autres constructions*", Mémoire sur la partie occidentale de la province de Bahyreh connue anciennement sous le nom de nome maréotique, *Description de l'Égypte, État moderne* XVIII, 2 (1823), 29-57.

8 Adriani, A., 1952: 158. Venit, S., 2002: 169, takes for granted that it is "*the stadium or odeion*".

First we had to deal with an emergency. Achieving the topographical and architectural survey of the vestiges in the town was all the more urgent that they are threatened by agricultural activities and urban development: its southern and western parts are endangered by extensive fields of fig trees and the lower areas as probably its lake facilities have long disappeared⁹. The mapping done by T. Arnoux (INRAP), O. Onezime (IFAO) and T. Fournet put in evidence the extension of the settlement, the apparent density of urban occupation in the eastern part of the city, the rather regular grid of urban planning in its final phase (Fig. 4).

Our second objective was to determine the chronology of the site: the surface surveys in the town revealed that the majority of the ceramic assemblage dates from the 2nd c. BC with some sherds belonging to the end of the Hellenistic period or even the beginning of the imperial era. However, the prospection carried out in 2012¹⁰ confirmed the conclusion already drawn by C. Harlaut: the few Roman sherds found in the settlement come from the pollution constituted by the ancient road. The surveys undertaken inside the *kôm* gave a somewhat similar pattern except for an intriguing but isolated archaic sherd found in 2000¹¹. But the necropolis we are exploring 800m west from 2001 onwards started functioning at the end of the 4th/beginning of the 3rd BC and stops towards the end of the 1st c. BC. Therefore we wanted to check if the time frame could be the same in the town as in the necropolis and if there was any chronological discrepancy between the *kôm* and the lower town. This was all the more important that Plinthine is one of the few cities of the Hellenistic period known on the north shore of the lake; on the south one, the CEAlex uncovered levels of the 2nd BC and even 3rd BC in the Marea peninsula further east but the site does not match the importance of Plinthine¹².

On these grounds we started excavating first in the town, and later in the *kôm*¹³. In the town two sectors were opened south of the *kôm*, on both sides of

9 Google maps from 2004 onwards give a good idea of the vertiginous acceleration of the damage.

10 Z. Barahona-Mendietta and C. Römer-Strehl.

11 A Chian calyx of the 6th BC was identified in 2000 by Cécile Harlaut. A few Roman sherds were also discovered but proved to be pollution.

12 Pichot, V., 2011 and 2012. I thank V. Pichot for kindly giving oral informations. On the Hellenistic ceramics found by the Mareotis Research Project at several sites see Blue, L., Khalil, E., (eds.), 2011, 294-295, specifically Fig. 7-5, 7-6.

13 For a first presentation of the results see Dhennin, S., Redon, b., 2013.

the wadi, which might have been a main NS axis of circulation in Antiquity (Fig. 5). A trial trench was conducted in 2011 and 2012 by S. Dhennin west (sector 1): it unearthed a habitat that has undergone several phases (4 till now), the latest belonging to the 2nd century BC, with no later occupation at all. Besides it pointed out that the town of the Early Hellenistic period was intact and gave some evidence of even earlier levels. The large building partly excavated was devoted in its last phase (middle 2nd BC) to domestic purpose as emphasised by the finds: pestle, mortars, oven and stove.

In 2014 a second sounding was launched on the eastern side of the wadi (sector 3) and has also highlighted several phases.¹⁴ It cleared a limestone retaining wall of N/S direction, nicely built in the Greek manner (two courses with bossage). But it is not yet extensive enough that we understand the link between the city and the *kôm* (the wall continues north) and the nature of the wadi (the excavation did not come down deep enough).

The most spectacular, and unexpected results were provided by the soundings conducted in 2013 and 2014 in the southern part of the *kôm*, west.¹⁵ They still do not explain the nature of the *kôm* but change our understanding of it: it was occupied from at least the early 7th c. BC (and even earlier) till the 2nd BC with a gap in between (so far there is no evidence of the second half of the 5th and 4th c. BC).

Excavations in three sectors (sectors 2, South and North, sector 4)¹⁶ uncovered a series of levels and walls whose difference in orientation goes with a difference in chronology. In the latest phase a Ptolemaic occupation, whose nature is still unclear (fortress?), was built through or on the surface of earlier levels (7th / 6th and even late eighth c. BC) on a *kôm* already established. These Ptolemaic structures consist mainly of a very thick wall (c. 2,60 m) followed on more than 75 m long. It is preserved only in its foundations and presents a series of uncrossed joints. According to the testimony of one copper coin and shards found in its foundation trench it should belong to the second half or the end of the 2nd century BC. Its collapse and abandonment are the last occupation phase in the *kôm*.

14 Conducted by D. Driaux.

15 See: Dhennin, S., Redon, B., 2013.

16 Under the responsibility of B. Redon and J. Le Bomin.

Of exceptional interest is the fact that much earlier levels were found (Fig. 6): a dump and levels of the 7th / 6th and may be earlier (domestic area with ovens). These layers are exposed directly under the surface of the kôm, in places that have not been reoccupied during the Ptolemaic period (as for instance in sector 2 north). The abundant material of the occupation and abandonment layers was stirred during Ptolemaic constructions in the area and is therefore mixed with ceramics associated with this work.

In these levels shards (i.e. of the Saite period and perhaps the beginning of the Persian period) were collected, mainly from a dump but also from stratified layers a few metal items (among them three bronze bowls), some faience vase (New Year flask) and amulets representing Thoueris, Isis and Anubis but pottery was by far the largest group of material. Alongside local ceramics made with alluvial or calcareous paste (storage jars, juglets), these levels yielded a large repertoire of vases imported from Cyprus and the Levant (torpedo jars, mortars, basket-handled jars, pilgrim flasks), mainland Greece (Corinth, Athens – ‘à la brosse’ amphora)¹⁷ but mainly from Eastern Greece: mostly transport amphorae (from Chios, Clazomenae, Samos, Lesbos, Miletus or Ephesos), and fine wares in limited numbers (Ionian cups, Corinthian aryballos among others). The whole assemblage matches more or less what is found at the same time at Naucratis or elsewhere in Egypt¹⁸. Local ceramic is better represented in the levels of the 7th c. BC¹⁹ when imports point more towards the Levant than eastern Greece.

These findings are so far the first reported on the coastal area west of Alexandria: one must go much further west to Marsa Matruh to find something similar. Obviously, the map published by Sabine Weber in 2012 and mentioning Egyptian sites with archaic ceramics has to be updated²⁰: Mareotis is there a blank area.

17 They are however very few. Identifications made by M. Pesenti.

18 See above all: Villing, A., Schlotzhauer, U., (eds.), 2006 and Schlotzhauer, U., Weber, S., 2012. For commercial amphorae see: Gantes, L.-F., 2007. For parallels notably with tell Kedu see: Dhennin, S., Redon, B., 2013.

19 Identification and study made by Z. Barahona and M. Pesenti.

20 Weber, S., 2012. Map on p. 200. For Marsa Matruh (ceramics of the 7th and 6th c. BC) see p. 201. Moreover archaic ceramics were recently found during survey at Bahig south of Mariut by CEALex (information kindly provided by J.-Y. Empereur). In surface the Lake Mareotic Research Project did not identify any sherd earlier than mid 4th c. BC: Tomber, R., Thomas, R., 2011.

These discoveries raise many questions about the nature of the settlement, the distribution networks and the consumers during this period. The nature, duration and percentage of the imported pottery, its diversity of origins in the archaic levels (with a peak in the 6th c. BC) show that it was not for individual consumption. They suggest the presence of a core of Greek foreign population and/or Eastern origin²¹. This raises the question of the possible function of the site and its communities: was Plinthine a gateway into the territory, may be a fortified post? As well known Saite pharaohs hired foreign mercenaries on a huge scale.

These imported ceramics also raise the issue of traffic and Greek settlements in the region. Very similar findings made east of Heracleion in what is now Nelson's Island,²² are explained by the proximity of the Canopic mouth and the activity of Heracleion-Thonis. Those from Plinthine raise the question of trade patterns (intermediaries, recipients, distributors) in the Archaic period and the importance of the coastal zone at that time. Where do these products come from? Probably not from Naucratis even though the coast could be reached from the south via the lake²³ and as well known at the beginning of the 6th c. BC Amasis assigned to Greek merchants Naucratis as the unique emporion they could attend as a way to control their activities – which means that this centralized approach was short lived²⁴. It would be easier to convoy them from a harbour on the coast and remember that Greek products were not necessarily conveyed by Greeks. However even if Plinthine was listed in the coastal part of the Mareotic nome by Ptolemy (4, 5, 8: *paralios*), it had no 'harbour', only anchorage according to the *Stadiasmus of the Great Sea*²⁵. In the same way Taposiris was *alimenos* according to Strabo. No doubt its assertion is valid for his time, which experienced a significant increase in the traffic on the lake. According to Breccia, Beduins of his time said there was a well maintained paved road down to the sea at Taposiris meaning that there was at least one landing post. Unfortunately it is difficult

21 On these questions see: Villing, A., 2013.

22 We thank Paolo Gallo for kindly providing these informations. See also Gallo, P., 2012.

23 Due to prevailing North-westerly winds, sailing from South to North was not so easy: Khalil, E., 2010, 142-143. On the canals linking the Canopic branch and the Lake at an early date see De Cosson, A., 1935, 76-82.

24 See for instance Pfeiffer, S., 2010.

25 Ball, J., 1942: 132 ff. On the meaning of *limen* ('mouillage naturellement protégé') see; Arnaud, P., 2009: 174.

to test these hypotheses: the proliferation of holiday resorts along the coast has removed any traces of installations.

In any case Plinthine existed before any foreign immigration or occupation. The most important discovery made in 2014 pushes further back in time the beginnings of the site; it also raises the question of its function at the end of the second millennium: a broken arched stele representing Pharaoh Seti II offering Maat to a missing deity was found reused. Being made in local limestone it probably comes from the kôm or at least from a near place. Several stelae of Ramses II are known in Mareotis (without any secure architectural context)²⁶ but it is the first one uncovered in this area of his great son, who reigned from 1203 to 1194. As well known, the pharaohs of the 19th dynasty had to struggle against the Libyans and established a series of forts for this purpose²⁷. Considering the taenia had defensive advantage, a stronghold there would be a possibility.

These discoveries are important for the history of Pharaonic Mareotis, which has long been neglected by Egyptologists. Besides, they seemingly support the identification of kôm el Nugus (actual name of the site) with Ancient Plinthine, which remained to date hypothetical due to the lack of written evidence and some inconsistencies in Ancient geographers²⁸. By uncovering data of the end of the second millennium while they are only at an early stage our excavations echo ancient authors who stressed the antiquity of Plinthine: according to Hellanicus, an author of the 5th c. BC, wine would have been invented there, a way of putting the beginning of the site back into a distant past and of referring to a production attested early in Pharaonic times²⁹. Moreover its identity is modified in so far as an Egyptian installation (whose nature remains to be determined) pre-existed. The question of continuities is

26 See already De Cosson, A., 1935: 29-30, 127-128 (Gharbaniyat) and 147-148 (Karm Abu Girg); Habachi, L., 1980.

27 See: Winnicki, J. K., 2009, 27-34.

28 See: Ball, J., 1942; Rowe, A., 1953; Desanges, J., 2002, 10 and Boussac, M.-F., 2013.

29 The delta and specifically its Western margins are famous for their early production of wine: Meeks, D., 1993, 10-19. Interestingly, a small winery functioned close to the Plinthine necropolis, north, probably during the Hellenistic period. It should be added to the few examples known on the North shore: see for instance Abu Talaat (Rodziewicz, M., 1998: 31; Late Ptolemaic/Early Roman period) and site 214-215 of the Mareotic Research project, Building four (Blue, L., Khalil, E., (eds.), 2011: 181-185. Associated with Ptolemaic and Early Roman Amphoras).

therefore more complex than previously thought: what do the data of the Ramesside period and the Saite Period refer to (Strongholds? Gates?)³⁰? Is there any link between the structures found in the kôm and the Hellenistic town (the late 5th and 4th c. BC being conspicuously absent)? Finally, are the Archaic (i.e. Saite and Persian) levels attested only in the kôm or also in the town as suggested by the discoveries made in 2012 in sector 1? In addition, which circumstances led to the construction of the large (enclosure) wall whose abandonment seems to go along with that of the city³¹?

The most striking result is the permanence of a border area encompassing Taposiris and Plinthine as these two cities are still considered gateways to Egypt, during the Hellenistic and Roman periods, just as Alexandria or Pelusium. In 41 AD in his Letter to the Alexandrians, Claudius distinguished indeed three gates of Egypt, which are (from west to east) Taposiris, Pharos and Pelusium, both access and check points. This role of *eisbole* was possibly first played by Plinthine, as already suggested by some ancient sources: for Herodotus the gulf of Plinthine is the western boundary of Egypt (II, 6) and this tradition is attested later by Josephus (*Jewish War* IV. 610).

*The Hellenistic Necropolis*³²

These discoveries imply in any case that the small necropolis (50 x 100m) of c. 100 tombs, located 800m west reflects only one sequence of occupation of the town of Plinthine (the Graeco-Macedonian one). Other tombs linked to the other periods were probably located elsewhere (on the coast?).

30 Somaglino, C., 2010. A gate of the Libyan foreign countries is attested during the Saite period but is still to be located. This gate whose Egyptian name is '3-n-h3st-tnw possibly was a fortress, and might probably be identified with the town of the same name Khaset tjemehou known by some ancient sources (statue of Nesnaisout in Berlin; demotic Papyrus Cairo CG 31169, Petubastis cycle and Aramaic stela Berlin 7707, from which J. Yoyotte proposed this identification). One also may think of PaleaMarea (formerly Marea) mentioned by Ptolemy, whose identification is a vexed question. All informations kindly given by S. Dhennin whom I thank warmly. See also Dhennin, S., Redon, B., 2013. What J. Yoyotte wrote about Taposiris may be applied to Plinthine: "*Par sa position même cette localité vouée à Osiris devait compter parmi les 'forteresses de la mer' dont les garnisons étaient chargées d'empêcher les infiltrations de pirates et de contrebandiers*" (Yoyotte, J., 2013: 218).

31 A kind of parallel is provided at the beginning of the 3rd century BC by the settlement on the Nelson's Island, abandoned suddenly (Gallo, P., 2012).

32 See: Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012.

The necropolis is located on the crest of the EW ridge (*taenia*), which provided the necessary material: extraction, exploitation and construction were carried out in parallel. It apparently developed around a central quarry later abandoned and occupied by tombs (tomb 54)³³; contractors took also supply from a small quarry outside the peribolus, North West, when they did not directly cut into their concession: extraction beds are still visible in *hypogea* 1 or 3.

Reopening the case, we did not aim to explore all the tombs which were still untouched; we simply wanted to reconstruct the history of the necropolis and address topics such as funeral practices, treatment of the body, through an archaeological-anthropological study in selected loculi and pit graves. In short, we planned to check how the necropolis has evolved over 3 centuries and put the dead at the heart of the study, as was the case in Gabbari. We were lucky enough that, despite clandestine excavations and other interventions (excavations, mostly unpublished), many loculi or graves remained sealed.

Out of previous works most useful are those of A. Adriani, who insisted on the Greek character of the necropolis but was interested in issues of architecture and chronology more than funerary practices. Despite its interest, his publication could be enhanced on some points: his architectural study is rather static (no information about the different phases) and limited – he provides some plan and layout for the eastern part of the necropolis only, while he published 29 graves; he does not question much the distribution of loculi which can help to assess the evolution of the necropolis. Above all, he takes little interest on anthropological issues and does not always define the funerary complexes. Moreover, in his all-Greek interpretation of the necropolis, he detected inhumation and cremation only, even though some offerings (offering table)³⁴ suggested some influence of local religious traditions. Therefore the architectural and anthropological

33 The numeration is by O. Callot. All the numbers are given according to his system.

34 Adriani, A., 1952, 'Hypogée 6' 156, n° 4, and 157, Fig. 81. For a recent photograph see: Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012: 219, Fig. 16. This kind of object is rare in Mareotis area: a similar table, found by chance on the coast, about thirty miles from Alexandria, was recently published by Abd el Fattah, Ahmed, 2006: 29-33. Further west, another offering table was found in a tomb at Marina el Alamein from the late 1st century AD. These offering tables attest that the deceased will not be deprived of food or drinks in the afterlife. See Aufrère, S. H., et al., 1992; Tricoche, A., 2009: 117-118.

survey we undertook intended to improve the chronology and question the entirely Greek pattern drawn by Adriani by working on selected tombs – whether collective *hypogea* or individual shaft tombs.

As several aspects of our work have been recently published³⁵ and the final publication is under preparation, I shall focus on chronology only. Our campaigns have confirmed most of Adriani's observations (typology of tombs,³⁶ similarities with Alexandrian necropoleis, overall chronology and modest funerary equipment); however they suggest that the necropolis was more densely occupied (three new *hypogea* – 77, 78, 79 – and several shaft tombs have been discovered [80 to 86] and others should exist at least on its southern side). They also broaden its timespan: the necropolis started operating at the very beginning of the 3rd BC, earlier than supposed by Adriani,³⁷ as evidenced both by architectural and ceramic study. The date of the earliest occupation is given by four ceramic deposits– from a locus in hypogeum 3 (III5A2)³⁸ and three shaft graves (33, 57 and 81) – which can be dated between the late fourth and the first quarter of the third century BC. A systematic collect of surface ceramics (survey by C. Harlaut) revealed nothing very significant, but confirmed that there was no occupation in the Roman period: almost all the material collected belongs to the 2nd c. BC, mostly to its first half. Few ceramic fragments might date from the first century BC, and three (intrusive) ceramic sherds are from the Roman era, but it is clear that after the end of the second century, traces of occupation are becoming increasingly rare. To this late phase of occupation belongs a unique find made in 2011 in *hypogeum* 3, which might be dated in the (late?) 1st BC according to some parallels in Alexandria and Marina el Alamein. A pit was dug deep into the ground (1.70m), inside room 5, cutting the bench surrounding the room: at the bottom was a locus closed by a limestone slab in which a woman of more than 30 years was buried in a lead sarcophagus, with no artefacts except for a gold tongue sheet. The sarcophagus is an undecorated metal sheet of a single piece (178 x 30 x 35cm), rectangular with

35 Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012.

36 Nenna, M.-D., 2009.

37 Adriani, A., 1952: 141: according to him the chronology “*peut être fixée au IIIème siècle av. J.-Chr., probablement quelques dizaines d’années après la nécropole de Hadra [250 av. J.-C. env.]*”. The corresponding levels of Graeco-Macedonian occupation in the town have not yet been excavated.

38 Cécile Harlaut dates the deposit no later than 275 BC. See the detailed study in Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012.

rounded edges, with a lid made of a separate sheet, as well known in Roman times³⁹, which raises the question of the date of the burial and duration of use of the *hypogeum* (and necropolis). A few specimens have been collected along the coastal region from Sinai to Oum el-Rakham, all are of the undecorated type⁴⁰. A similar lead coffin was found in Gabbari⁴¹: as the loculus was closed by a slab in the shape of a door, it should not be dated too late (1st BC?)⁴². Other specimens found further west at Marina el Alamein are assigned to the 1st BC/1st AD on ceramic evidence⁴³. Obviously this burial is the last of the group in the room and one of the latest in the necropolis.

Similarly the architectural study highlighted a kind of decline in the second phase of occupation⁴⁴: as usual the necropolis was a work in progress⁴⁵ but *hypogea* show marks of abandon rather early, are unfinished (*hypogea* 1, 3, 4)⁴⁶ or occupied in a more anarchic way over time, shifting from familial type occupation to collective one. This picture fits rather nicely with the abandon of the town.

One of the problems for the necropoleis of Alexandria and its chora is the presence and the date of onset of the practice of mummification, widespread in the chôra at the end of the Ptolemaic period, but rare in the capital before its development at the time of Strabo⁴⁷. Adriani reported only burials or

39 For an overview see Cochet, A., 2000: 96-129.

40 Discussion in Cartron, G., 2012 : II, 41-42.

41 Thiersch, H., 1900: pl. VII,9: loculus 20, hypogeum E 1 (= Cartron, G., 2012: II, 47-49: 'Gabbari 5 (Tombe Thiersch 1') is so short that it was intended most probably for a child (see p. 38). I owe this information to M.-D. Nenna whom I thank.

42 Suggestion by M.-D. Nenna. According to Cartron, G., 2012: II, 48-49, it should be dated to the Roman period, (see also Cartron, G., 2012: II, 147). Even if most specimens belong to the Roman period, a discovery in Hadra might be assigned to the 1st BC (ceramic evidence). In any case none seems to be earlier than the late 1st BC. See Cartron, G., 2012.

43 Zych, I., 2003: 81 mentions 3 specimens. See also Daszewski, V. A., 2011: 450. Cartron, G., 2012: I, 42; II, 208-209); *hypogeum* 1GH is dated to the end of the 1st BC.

44 Architectural study by O. Callot.

45 *Hypogeum* 3 was occupied from the beginning of the 3rd BC to the 1st BC and experienced at least three phases: see Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012.

46 For instance in *hypogeum* 4, in the dromos, only the northern part of the staircase was cut. A dozen extra steps should be necessary in order to reach the level of the threshold of the tomb chamber about seven meters below the surface. The floor of the court also remained in a state of quarry and the loculi (1-13) that line it, either east or west, were dug in accordance.

47 Dunand, F., 2002. At Gabbari, only one gilt mummy is mentioned by Boës, E., Georges, P., Alex, G., 2002: in a 1st BC/1st AD context.

cremations, which allowed to emphasize the Greek character of the whole. Even though our works confirmed the frequency of these two types of burial, they also revealed some evidence of body preparation as known in Alexandria from the 2nd century BC⁴⁸. Unfortunately, the loculi in which were found these traces had no very precise chronology (no specific data associated). No precise chronology can be offered except that the loculi of hypogeum 3 belong to a later phase of the tomb. They reflect in any case the impact of native traditions on a Greek or fully hellenized population.

Taposiris

The Hellenistic Town

Our recent discoveries in Plinthine support our initial hypothesis that the expansion of Taposiris and the abandon of Plinthine are connected but raise questions of circumstances and chronology. The role of Taposiris as a (economic, fiscal, military) gate or *eisbole* is attested by the written data from the beginning of the imperial period (letter by Claudius), and took a quite sophisticated form in the 2nd c. AD (closed harbour)⁴⁹; it should be traced back to the Hellenistic period to explain the decline of Plinthine. Factors are probably diverse but royal policy and the strategic position of the site might have been decisive.

Therefore we faced two questions: how far back in time is Taposiris attested before assuming this function and how the consequences of this turning point are archaeologically documented? We therefore kept searching the origins of the city and identifying early levels both in the upper town and lake areas. In the Alexander's Romance, the king makes a halt in an already established site, but this is a conventional way of enhancing a posteriori the prestige of a place important for Alexandrians. An inscription found by Breccia might be tentatively dated as early as the late 4th c. BC/early 3rd BC but remains to date an isolated find⁵⁰. Till now we did not reach stratigraphied structures earlier than the 2nd century but collected a few finds of the 3rd century. It must however be stressed that in none of our sectors we excavated to the earliest levels.

48 The point was already stressed in Georges, P., 2002. See also Boussac, M.-F., Callot, O., Georges, P., Harlaut, C., 2012. According to Guimier-Sorbets, A.-M., 2010: 169, 174 the passage to mummification in Alexandria should be dated to the second half of the IInd c. BC or at the latest to the beginning of the first c. BC. See also Guimier-Sorbets, A.-M., 2012.

49 Boussac, M.-F., 2009; Boussac, M.-F., El-Amouri, M., 2010.

50 Inscription found by Breccia. See: Boussac, M.-F., El-Amouri, M., 2010: 72-73.

Although today relatively few structures have been linked to these early phases of the city, they are spread in the 2nd BC from the lake area – taverns, houses, commercial buildings not later than the end of the second century⁵¹ attesting an active economic life connected with the capital –, to the upper terrace: the subterranean *tholoi* baths south of the Osiris temple started operating before the 2nd half of the 2nd c. BC; and their second phase of use (with heating system and latrines) is dated between the 2nd half of the 2nd BC and the beginning of the 1st BC⁵². Further east a small complex (35m²) which was in a first phase probably a subterranean domestic structure, was enlarged in a second phase (late 3rd/beginning of the 2nd) and transformed into an animal necropolis; a staircase was built from the south to give a better access, several rooms were dug on both sides of the main room for the burials of the animal mummies after only cursory mummification⁵³.

A strong impulse was apparently given under Ptolemy IV's reign (221-205) as evidenced by the finds of a Dominico-Egyptian team working in the Osiris temple: a series of foundation plaques attributing the temple construction to this king⁵⁴, a cartouche⁵⁵ and a stele attest to his intervention⁵⁶. Considering the connexion he steadily promoted between Sarapis-Isis his saviours at Raphia⁵⁷ and the royal family, but also the way Osiris was made a symbol of power and linked to the dynastic cult as was Sarapis⁵⁸, it is not surprising to find in a temple dedicated to Osiris a stele celebrating Sarapis and Isis (with a topic epithet) and the victory of the king Philopator⁵⁹. Osiris, in whose honour the temple was founded, will be somewhat overshadowed by his consort during Roman times, according to a well-known process, but the temple will continue its development.

51 Boussac, M.-F., 2009 with an annex by Sandrine Marquié.

52 Fournet, Th., Redon, B., 2013.

53 Dhennin, S., 2008.

54 Hawass, Z., Martinez, K., 2013: 241-242. See also Seif el Din, M. in this volume.

55 *National Geographic* May 2010. According to the excavators it might be related to a huge headless statue of pharaonic style.

56 Hawass, Z., Goddio, F., 2010: 206, (with a good picture of the stele); Hawass, Z., Martinez, K., 2013: 238-239.

57 Bricault, L., 1999.

58 See Coulon, L., 2010: 1-19, especially 16-17.

59 Hawass, Z., Goddio, F., 2010 : 206, the dedication is offered to Sarapis and Isis in Taposiris and to Apollon Mareotis. Unfortunately the name of the eponymic priest is incomplete. Hawass Z., Martinez, K., 2013; 239 believe the kings are Ptolemy II and Arsinoe II. For the link between Osiris/Sarapis and the royal function see Coulon, L., 2010.

This royal policy probably was a huge incitative for the development of the city, even it does not fully explain the later abandon of Plinthine. In any case from that period onwards the prosperity of the settlement is obvious both in the upper town (Breccia terrace) and the lower area near by the Lake waterfront.

Out of these Hellenistic structures only the ones located on the upper (so-called Breccia) terrace had been investigated by Breccia at the beginning of the 20th century, notably underground baths and a necropolis of mummified animals. However, the excavations carried out for instance from 2003 to 2011 by B. Redon and T. Fournet in the baths gave amazing results: they allowed fixing the chronology; they also helped reassess the whole issue of the Greek baths in Egypt and broadly in the whole Mediterranean. They testify for the development of a Graeco-Egyptian model (two tholoi, a separate room for immersion bathtubs, a subterranean heating ring) before the middle of the 2nd c. BC⁶⁰ but offer some innovative devices (heating wall) and commodities (latrines discovered in 2011) which remain unique at such an early date⁶¹. Several articles have already been published⁶² and the material of the baths (mainly pottery, but also plants and charcoal remains) is actually in its final phase of study⁶³.

Harbour and Urban Development in the Roman and Byzantine Periods

Obviously Taposiris position and harbour facilities played a major role if not unique in this evolution. Therefore both an understanding of the harbour system (a closed basin allowing traffic control and tax collecting) and a global mapping of the urban grid were among research priorities.

The first programme we launched confirmed that the lay out of the closed system during the Roman period was a key to the lasting prosperity of the city (Warehouses and harbour structures operated until the 7th century⁶⁴;

60 See Fournet, Th., Redon, B., 2013: 254 (Karnak).

61 The rediscovery of these baths has been the starting point of a huge program on collective bathing in Mediterranean (Boussac, M.-F., Fournet, Th., Redon, B., (éd.), 2009; Boussac, M.-F., Denoix, S., Fournet, T., Redon, B., (eds.), 2014 (in press); Redon, B., Tallet, G., (ed.) forthcoming).

62 Fournet, Th., Redon, B., 2009, 2013; Fournet, Th., 2011. See also the broader studies on Egyptian baths in Redon, B., 2012a, 2012b, Redon, B., Tallet, G., forthcoming.

63 The ceramic study is under the responsibility of C. Römer-Strehl, coins are studied by Thomas Faucher, and plants and charcoals remains by Charlène Bouchaud (see already Bouchaud, C., Redon, B., 2012).

64 See for instance the results of the ceramic study by D. Dixneuf (eastern jetty) in Boussac, M.-F., El-Amouri, M., 2010:103.

urban expansion in Roman and Late Roman time is obvious⁶⁵. We demonstrated, through excavations, supplemented with an environmental study and geophysical survey, that the close basin was part of an important program carried out in the first half of the 2nd AD⁶⁶. Its implementation drastically changed the topography of the lower part of the city. Before that, in Hellenistic time, according to geomorphological study, the shoreline would have been south of its present position. Hellenistic buildings, excavated from 2000 to 2005, and built in an area which appears now as a swampy plain, were in the 2nd c. AD recovered with deposits taken from the lake or with gypsum deposits from a nearby quarry (levee construction).

Urban History, Organisation and Extension in the Roman and Byzantine Periods

The impact of this gate function is obvious on the map drawn under the supervision of T. Fournet and completed in 2011 (Fig. 7)⁶⁷. The crossing of geophysical and topographical surveys or architectural studies in the field aimed at analyzing how and at which pace the city (with its necropoleis) had expanded on the slopes and along the lake waterfront in its Roman and Late Roman stages. For that purpose all the structures excavated or surveyed by previous scholars – but never put on a map before such as the structures uncovered by Breccia in 1905-1906 (5, 6), Adriani in 1937-39 (34) or Ochsenschlager in 1975 (12, 17) – were positioned. Out of the series of churches and ecclesiastical complexes briefly surveyed by P. Grossmann in 1969 and 1990 (10, 38, 39), within and outside the town territory, most interesting is the one located about 235 m West from the wall of the Barbarians, and probably along a main road of an East-West direction⁶⁸. It is composed of a church (three-aisled basilica 17.5 x 28m) to which are attached north and south two sets of building probably organized around courtyards.

65 See Boussac 2008 and 2006.

66 The ceramic study undertaken by A. Simony in 2013 in a sector near by the western bridge (sector 4 excavated by M. el Amouri) helps specify different phases of digging and/or dredging: at least two successive stages have been distinguished (late 1st-early 2nd AD and 2nd c. AD). For the general chronology see the results of the ceramic study by S. Marquié in Boussac, M.-F., 2009.

67 Architectural survey (T. Fournet) was done on the topographical map carried out by T. Arnoux (INRAP). On the final map, vectorized contours have been taken from the 1/10 000e map from the Survey of Egypt (équidistance 2,50 m) with the help of O. Onezime (IFAO). The preliminary plan was made by T. Arnoux (INRAP). Urban study by T. Fournet.

68 Both had been published by P. Grossmann some years earlier but never put on a map and partly described. See lastly Grossmann, P., 2002.

While surveying⁶⁹, we came across a huge complex of buildings south of the church not mentioned or drawn by P. Grossmann; it is probably related to the monastery and addresses the issue of the location of the EW road along the *taenia*, and the western gate of the City in the wall of the barbarians, seen by De Cosson and Oliver but still not located⁷⁰. The layout of the buildings south of the church suggests that this approach should be found there⁷¹. The Northern complex was interpreted by P. Grossmann as 'Ecclesiastical hospice' a charitable function, or the external residence of bishop but the whole might more plausibly correspond to a monastery complex, as suggested by its extramural location, huge dimensions (over 2800m²)⁷² and the south structures.

The map highlights the prosperity of the city during the Roman and Late Roman periods, which is not a surprise⁷³: the number and quality of public buildings – of which some will be mentioned below: baths, water management systems and building with troughs – is striking. Besides, it shows how much impact its stepwise expansion and environmental setting had on urban grid. In any case it infirms some recent hypotheses offered about the urban organization or buildings by Parcak, Mumford 2012⁷⁴: working with satellite Imagery detection but without field verification, they detect a 'potential' racetrack in the heart of the city, an outer mud enclosure around the temple of Osiris and a 'potential' second large temple precinct in the middle of the town west of the main NS road. In fact the 'apparent' outer mud temple enclosure around the Osiris temple is a mixing up with the rubbish from the Breccia excavations still in place south and the 'outlying rectilinear structure' west of the temple is simply a quarry (30). Similarly when they interpret a depression in the middle of the town as 'highly suggestive' of a possible hippodrome located off the main road and measuring at least 55-60m (180-200ft) wide by 230m (750ft) long they do not take into account the slope: it means horses had to run on a track with a gradient of 8m from North to

69 As the complex is dangerously close to a modern quarry, we were given at our request the authorization to make a one day survey of the area in 2011. We thank Mohamed Moustapha Abdel Maguid, then director for the sites in and around Alexandria.

70 Oliver, F. W., De Cosson, A., 1938: 163-176.

71 The geophysical survey by C. Benech (CNRS-MOM) detected in the lower town, in areas which are now marshes due to some subsidence, two large east-west roads coming closer to the west while approaching the Wall of Barbarians and the Western gate, still visible in 1938.

72 According to Grossmann, P., 1992: 25, they are "*rather small*".

73 See Boussac, M.-F., 2007 and the concluding remarks for the whole Mareotis in Blue, L., Khalil, E., 2011.

74 Parcak, S., Mumford, G., 2012: 30-34. Thorough urban analysis to be published by T. Fournet.

South, which is rather unlikely. Moreover, the southern side would abut directly onto the 'Governor's palace' entrance, which would make audiences difficult⁷⁵. Besides, there are remains of structures inside what would have been the path. In any case, streets and 'hippodrome' are not in alignment, which would be required for a building linked logically to the main phase of the city⁷⁶. Their third hypothesis⁷⁷ is no better: they restore a pylon of a temple enclosure in a place where we have been exploring since 2009, late Roman *thermae* watered by a *sakkia* (9, sector 13)⁷⁸. The layout of this building fits perfectly in a series of Byzantine baths in Mareotis including Marea. Its characteristics – narrow and individual bathtubs among others – are typical of this late date. Besides, the ceramic study undertaken in 2013 by J. Le Bomin dates the abandon of the bath before the middle of the 6th c. AD. It is worth mentioning that Procopius in his *Ktismata* written around 561 praises the emperor Justinian (482-565) for having adorned Taposiris with various monuments, including baths. The relevance of this allusion has been recently doubted but the history of the city and the archaeological study rather suggest otherwise⁷⁹.

Urban expansion also required the implementation of major works for capturing and managing water. Different aspects of the water systems – from traditional tanks to a sophisticated underground aqueduct – had already been discussed by previous scholars: Ochsenchlager mentioned for instance the draining system in the lake area; starting from the upper (Breccia) terrace where Breccia explored a subterranean gallery and followed it over 800m⁸⁰. Therefore we launched in 2006 a systematic survey of all the urban hydraulic systems. As expected,⁸¹ wells and cisterns are to be found everywhere from the lower city

75 I assume that a hippodrome would be operating during the main development of the city, i.e. Roman and Late Roman phases.

76 Instead of clarifying the grid network their map Fig. 4, p. 33, slightly distorts the street orientations. See the mapping by T. Fournet and already their Fig. 3, p. 32: the street network is not the same in the eastern and the western areas.

77 They also trace near the lake waterfront a '*square feature*': the remains are visible without any satellite imagery processing. Their interpretation of the building as a small temple, after Ochsenchlager, E. L., 1999: 761, is highly doubtful.

78 Excavations by M. El Amouri.

79 According to Grossmann, P., 2000, Procopius made a confusion with Abu Mina. In his posthumous edition of the text, Roques, Denis, 2011: 414. maintains that Procopius is speaking of Taposiris.

80 Ochsenchlager, E. L., 1999: 161, (*a symmetrical cistern has been uncovered by us on the artificial levee*); Breccia, Ev., 1914: 126.

81 For an overview of water management systems in Mareotic area see: Blue, L., Khalil, E., 2011: 293-299.

to the upper terrace: in 2006 and 2008 T. Gonon explored several elements of the water equipment in the upper town – including a small cistern west of the baths (capacity: c. 10m³) and another one east dug inside Breccia's 'chapel' (4), dotted with an elaborated system for water decanting in a later phase. Linked in its original form to an early phase of this structure, it underwent several subsequent transformations. In 2008 and 2014, our focus shifted to the area west of the 'governor's palace' (12) in the lower town. The largest cistern found there, 6m deep, leads to a gallery 2m large which could be followed over 20m. The *sakkia* providing water to the Roman Thermae (9) is still to be fully excavated. The whole reflects the sophistication of a water management strategy whose main element was undoubtedly the NS underground channel mentioned by Breccia, which finds close parallels along the coastal ridge, notably at Marsa Matruh⁸². The main issue to be resolved is whether this channel draws its water from the Taenia ridge or from the south.

Finally, as an active trading town, Taposiris probably offered some sort of facilities for controlling or hosting traffic such as caravanserais or stables for animals⁸³. Administrative buildings had been positioned earlier in the lake waterfront but in 2010, when completing the general map, we noticed in the eastern limit of the town, opposite the necropolis, a large structure with troughs (Fig. 8). In 2014 the architectural study was undertaken by T. Fournet: to date only the southern half of the complex (two terraced houses with peristyle) has been cleared. The Eastern building is flanked to the south by a room equipped with stone troughs (14 can be restored). Earlier attestations are known in Egypt from the Pharaonic period onwards (Amarna)⁸⁴, and multiple examples are attested in the Middle East and Africa during the Roman period⁸⁵, where their interpretation is much debated.

82 Walpole, G. F., 1932; Ward, P., 1968. See Boussac, M.-F., 2007: 472-473. We were able to visit the Marsa Matruh aqueduct in 2013 under the supervision of Ahmed abd el Fattah with the kind authorization of the SCA which we thank.

83 Boussac, M.-F., 2009; Boussac, M.-F., El Amouri, M., 2010. A huge building in the marshy areas close to the southern end of the Wall of Barbarians might have played some administrative role.

84 Two examples are known at Amarna occupied during a short period (1347-1332 BC). One is found in a large house (Q. 44.1), the other in the North Palace. See Newton, F. G., 1924: 291, pl. XXV et XXVI.1 (Q.44.1) and 295-296, pl. XXVIII et XXX.1 (North Palace); Kemp, B., 2012: 149-150, Fig. 4.26-4.28 (North Palace) & 187-188, Fig. 5.27 (Q. 44.1). Informations kindly provided by D. Driaux.

85 For Cyrenaica, see Jastrzebowska, E., 2009, who supposes that in some case the 'troughs' served as collecting points for taxes in kind. See also Baratte, F., 2008. Informations about buildings with troughs in Syria and Jordan kindly provided by P. Piraud-Fournet.

A superficial cleaning put in evidence the good level of conservation of the whole: painted stuccoes, many carved blocks, a portico in fall position, decorated with horned capitals (the so-called 'Nabatean' capitals), etc. For the moment it is difficult to give a precise date (the capitals are mere preforms to be stuccoed, the surface ceramics are mixed), but a bunch of indices (urban history, similarities with buildings excavated by Breccia east of the temple, location around the edge of a town then fully extended) suggests the Roman imperial era.

Conclusion

These results highlight how important are Taposiris and Plinthine for reconstructing the history of Mareotis, from the Pharaonic era to the Byzantine period. Obviously more investigation is needed for precisising some chronological phases, notably the earliest ones; and for adressing multiple issues: continuities and disruptions in territory occupation (notions of borders, connexions between settlements and forts, multiple roles played by gates); transitions and cultural interactions since occupation is attested from the 12th c. BC till the 7th century AD. It is therefore important to preserve these two sites and their environmental setting which is a key for understanding their connexions. However Plinthine necropolis is threatened since 2013 by uncontrolled construction of houses and buildings (which makes it an easy target for vandalism), the lower city of Plinthine is threatened in its southern and western part by fig trees plantations and agricultural work. Its waterfront (if any) has long been destroyed by fish farms. The unique system of artificial channel is endangered (from Taposiris to Plinthine) and partly destroyed by a proliferation of electric pylons and roads. There is concern that the environmental issues raised by this system may soon no longer be resolved⁸⁶.

86 The whole Mareotic region faces numerous threats as listed by Blue, L., Khalil, E., 2011: 13-15.

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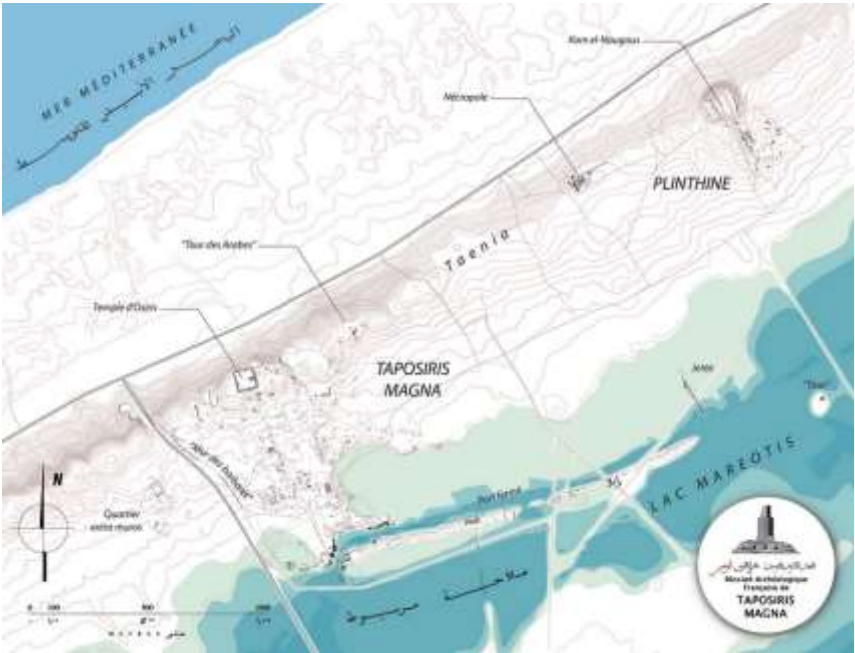


Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6

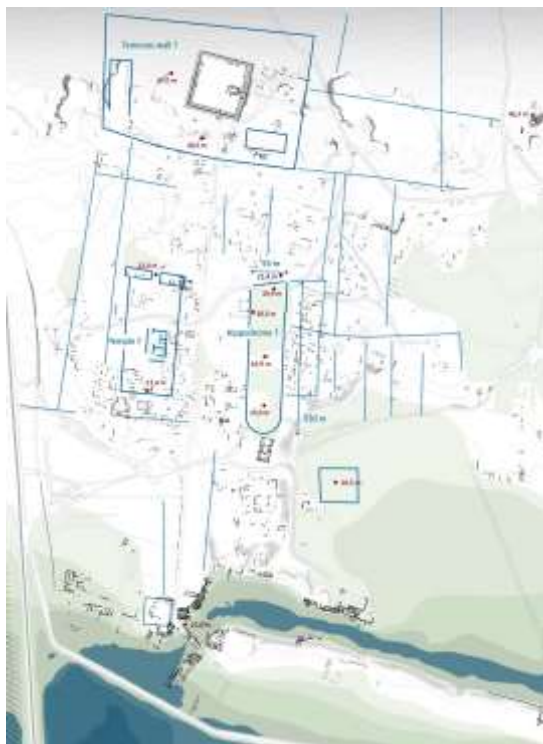


Fig. 7

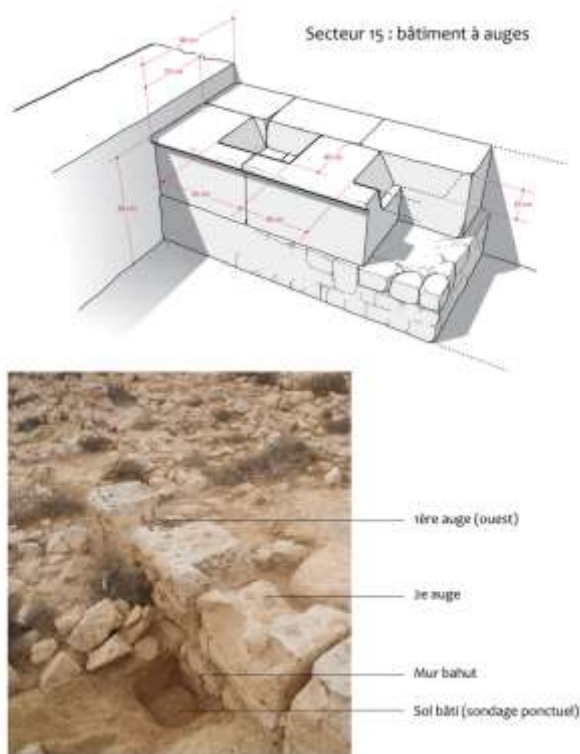


Fig. 8

