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## Bathing in the shadow of the pyramids. Greek Baths in Egypt, Back to an Original Bath Model

Thibaud Fournet, Bérangère Redon

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# Collective Baths in Egypt 2

New Discoveries and Perspectives

βαλανεΐα ■ THERMAE ■ حمامات

*Edited by*

Bérangère Redon



Institut français d'archéologie orientale

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## Bathing in the Shadow of the Pyramids

### Greek Baths in Egypt, Back to an Original Bath Model\*

**A**N INITIAL article, written in 2006 and published in 2009, provided an opportunity for us to review the state of research on collective baths in Egypt and to outline the Graeco-Egyptian model as it then appeared.<sup>1</sup>

Since then, documentation of baths in Egypt has been almost completely revamped. Thanks to incidental discoveries and a collective review of the bibliography, the corpus has grown from 26 *tholos* baths in 2006, to 34 buildings in 2015 (fig. 1). It comprises also a homogeneous set of small baths, which, in the above-mentioned article, had not caught our attention. Composed of 12 buildings contemporary to the large *tholos* baths, they share significant architectural and operating specificities with these latter.

Apart from the quantitative increase in the archaeological documentation, we have also benefited from a privileged access to all buildings under study. Aside from the Taposiris Magna baths, where we worked from 2003 to 2011, and which was the starting point for our reassessment of Graeco-Egyptian baths, we have participated in the study of five other recently excavated facilities (Buto North, South and East, Karnak and Theadelphia 2) and we are in direct relationship with the teams that work or have worked on seven other buildings (Dionysias North, Euhemeria 1 and 2, Kom el-Qadi/Kom el-Wasit, Sais, Schedia and Theadelphia 1). Except for 15 buildings that have now totally disappeared, are very badly damaged or overgrown and impossible to check,<sup>2</sup> we have visited all the baths of the corpus, except those of Sais, and have significantly completed the plans of some baths. Finally, we have been able to consult the archives of the former excavations of the baths of Athribis South-East, Buto North, Dionysias South, Edfu, Kom el-Qadi, Kom el-Wasit and Sais.

\* We would like to thank all our colleagues with whom we worked and collaborated on our bath project, in Egypt and elsewhere: P. Ballet, M. Bergmann, M. Boraik, G. Hadji-Minaglou, M. Kenawi, G. Lecuyot, S.K. Lucore, S. el-Masekh, C. Römer and M. Trümper. We are also thankful to P. Davoli, G. Marouard, R. Pintaudi and P. Wilson who gave us access to their archives on ancient excavations.

1. FOURNET, REDON 2009.

2. Alexandria, Athribis South-West, Buto near the temple, Canopus, Hu, Kom Demes, Kom Ganady, Kom en-Negileh, Marsa Matruh, Krokodilopolis Sarapeion, North-West and East, Shishet el-An'am, Tell Gomaimah, Xoïs.

In parallel, significant progress has been made on Greek baths, their typology and evolution in the Greek and Italic worlds, which has led to the publication of the proceedings of a conference bringing together all the specialists in the field.<sup>3</sup> In that publication, we presented a study of the heating system of Graeco-Egyptian baths<sup>4</sup> and participated in the creation of a catalogue of all the Greek baths known by archaeology in the Mediterranean,<sup>5</sup> involving 70 buildings.

The composition of the corpus provided an opportunity to review all the Egyptian *tholos* baths, their chronology and organisation, to present a standardised plan whenever possible, and to propose new hypotheses or additions to the plans of some baths, even for buildings now disappeared. However, since the catalogue is deliberately concise, we haven't had the opportunity to justify some of our hypotheses. In addition, the group of "small baths" was voluntarily removed from the corpus because too distant from the Greek models outside Egypt.

Consequently, it seemed important to us to complete this catalogue by writing a comprehensive and global overview, taking into account the whole and renewed corpus, and exploiting the new data collected during more than ten years of field work. The present article should be read along with the catalogues of Greek *tholos* baths (Cat. I), which has been updated since the publication of the first one, and of small Greek baths (Cat. II) at the end of this volume. It aims to provide a full overview of the collective baths of Egypt from their adoption at the beginning of the Hellenistic period to their abandonment during the first centuries of the Roman domination. We will particularly focus on the bathing architecture and layout and their evolution, leaving aside more societal issues, except that of the clientele of the baths, which may be reviewed from the reconsideration of the layout of the buildings.

## THE GREEK BATH MODELS

### *The Different Mediterranean Bath Models*

René Ginouvès' book on Greek baths, published in 1962, demonstrated the homogeneity of the Greek Mediterranean baths:<sup>6</sup> all the collective *tholos* baths—from their emergence in Greece in the 5th century BC to their gradual disappearance, from the 2nd century BC in the West to the 1st/2nd second century AD in Egypt—include two sections dedicated to the two cleansing forms available for the bathers in these buildings: a hygienic section, fitted with hip-bathtubs arranged usually in one or two rotunda (*tholoi*), and a relaxation section, equipped with individual tubs or swimming-pools, *a priori* used at a second moment, after cleansing in the hip-bathtubs.

Beyond these similarities, however, a large heterogeneity in the architecture and organisation of the *tholos* buildings is observed and three models coexisted, namely Western, Eastern and Egyptian.<sup>7</sup>

3. LUCORE, TRÜMPER 2013.

4. FOURNET, REDON 2013.

5. FOURNET et al. 2013.

6. GINOUVÈS 1962, p. 187–209.

7. The first attempt to produce an architectural typology is due to Henri Broise, regarding the baths of Magna Graecia (BROISE 1994, LUCORE 2013). Monika Trümper, resuming his approach, extended it to the whole Mediterranean (TRÜMPER 2009). Our work on the Egyptian baths' heating system have recently reinforced and deepened her hypothesis (FOURNET, REDON 2013).

The first model (11 buildings<sup>8</sup>) emerged in the Western Mediterranean during the 4th century BC. It is very homogeneous and comprises, in addition to a *tholos* (rarely two), a collective immersion pool heated by a furnace and an underground heating channel.<sup>9</sup> A bottle-shaped heating corridor is also to be found, located under an oblong room adjacent to the *tholos*. Until recently, it was thought that this room connected the two sections of the baths, acting also as a kind of steam room, and hosting one or more boilers (at its ends), to provide hot water to the bathers of both sections. Henri Broise, however, has proposed considering it as a separation rather than a connection within the baths. The shape of the best preserved and recently excavated remains (Caulonia, Locri, Morgantina North, Velia) suggests that passage from one side to the other was prohibited and that the entire heating channel was surmounted by cylindrical cauldrons and boilers.<sup>10</sup> The presence of a second entrance and a cloakroom next to the *tholos* in most of the preserved buildings lends weight to this theory. Both sections may have been independent, although sharing the same furnace and boilers, offering two kinds of bathing programmes to the bathers: on one side, a cleansing bath in the hip-bathtubs of the *tholos*, and on the other a relaxing bath in the swimming pool, maybe preceded by a quick cleansing near a *louterion* (basin set on a pedestal) that is evidenced in some baths (Caulonia, Morgantina North, Velia). This hypothesis, however, is based on remains that are difficult to interpret given the present state of our knowledge,<sup>11</sup> and the possibility for some users to enjoy a “complete bath” (cleansing and relaxing), and for others to restrict their visit to the washing section accessed from a secondary entrance may still be considered. The Western Greek model is abandoned during the 2nd century BC, and replaced by Roman baths with hypocaust, as illustrated at Fregellae.<sup>12</sup>

The second type (21 buildings<sup>13</sup>) is to be found in the Eastern Mediterranean, mainly Greece, and reaches its apogee in the 3rd/2nd century BC. It is, however, much less homogenous than the two others and several subtypes or variations exist, which may, perhaps, reflect a longer evolution. Furthermore, the buildings are often poorly preserved and the evolution of this type is impossible to assess for the moment. In the best preserved examples it has, next to the *tholos*, two forms of relaxation bath, heated by the floor: individual bathtubs on one hand and a circular steam room on the other. The best-known examples of this corpus are at Gortys (usually dated to the mid-3rd century BC, although Monika Trümper has dated it to the 2nd century), Olympia (mid-2nd century BC) and Thessaloniki (1st century BC). It tends to disappear during the 1st century BC.

The last model (34 buildings) is characteristic of Egypt and perhaps of its area of influence (Cyprus and Cyrenaica, five buildings). Thus far less well known than the other models, it has provided the most important documentation (in quantity). All the more than 12 buildings of smaller size but of similar characteristic can now be added to our inventory.

8. Nine buildings are listed in the Rome catalogue, and we add the baths of Fregellae (TSIOLIS 2013) and a newly discovered bath at Gela (GUZZONE, CONGIU 2014).

9. LUCORE 2013.

10. BROISE 2014.

11. Paving may exist at least in one part of the bottle-shaped corridor of Velia (GRECO, DI NICUOLO 2013, fig. 4). It probably means that people (bathers and/or attendants) passed through the corridor.

12. TSIOLIS 2013.

13. We can add the recently unearthed baths of Arachamitai to the previously published catalogue (see <http://chronique.efa.gr/index.php/fiches/voir/2422/>).



### **Formation of the Egyptian Corpus**

When Ginouvès wrote his book in 1962, 15 Greek *tholos* baths had been excavated in Egypt (though he knew only 13) and only four of them were well published and dated. Moreover, the small Greek baths were not included in the study. We now have an extended range of buildings (34 *tholos* baths and 12 small baths), which was created in four major periods of research:

#### **Evaristo Breccia, the Precursor**

The first Greek baths of Egypt were discovered at Taposiris Magna<sup>14</sup> in 1905 by Evaristo Breccia, then director of the Graeco-Roman Museum in Alexandria. He had only partially published them by 1923 in an article in which Breccia also described the buildings of Canopus and Kom Negileh, located in the region of Alexandria.<sup>15</sup> His successor, Achille Adriani, published the baths of Marsa Matruh.<sup>16</sup> As well as the large *tholos* baths, some small baths were also discovered and excavated in the 1930s, at Hermopolis (1931), Xoïs (1934) and Edfu (1937), either by the SCA or foreign missions.

That bath exploration in Egypt began in the area of Alexandria, under the direction of the first two directors of the Graeco-Roman Museum of the city, is not a surprise. Collective baths were imported by the Graeco-Macedonians into Egypt after the conquests of Alexander, and baths were particularly numerous in regions of strong Greek settlement.<sup>17</sup>

#### **1940s–1970s, the El-Khachab Years**

Mohamed Abd el-Mohsen el-Khachab dominates the next four decades of baths studies in Egypt. Librarian of Cairo Museum in the 1950s,<sup>18</sup> inspector for the Antiquities Service in different inspectorates of the Delta, he conducted the excavations of several bath buildings, and tirelessly visited Greek and Roman baths then being excavated. He published three detailed monographs on the Greek and Roman baths of Kom el-Ahmar, Kom Trugah and Sakha/Xoïs that he himself excavated. In these books, he also refers to baths newly excavated by others but unpublished (Euhemeria 1 and 2, Kom Demes, Kom el-Qadi/Kom el-Wasit, Shishet el-An'am and Sais), sometimes providing a photo (Krokodilopolis North-West and Euhemeria 1), or even a detailed description along with a plan (Athribis South-East, Krokodilopolis Sarapeion).

In parallel to his work, the first two bath buildings of Buto (Buto North, and Buto Near-the-Temple) were discovered by the British Egypt Exploration Society (1968–1969), while the Athribis South-West baths were excavated by the Polish team of Michałowski (1960), and Kom Ganady (1962) by the Antiquities Service. The excavations of the Dionysias South baths (and the mention of Dionysias North) by a Franco-Swiss team, directed by J. Schwartz and H. Wild, led the latter

14. See the bibliography of each building in the catalogue at the end of the volume. The references mentioned in this article are deliberately limited.

15. BRECCIA 1923.

16. ADRIANI 1940, p. 161.

17. REDON 2012b.

18. See his meetings with B.V. Bothmer on March 2 and 28, 1950 (BOTHMER 2003, p. III, 151).

to visit other baths then being explored (Kom Trugah, Athribis South-East, Kom el-Ahmar and Kom el-Qadi/Kom el-Wasit) to find parallels. The archives, stored at the IFAO, contain unpublished photographs of these buildings (dated May, 1948 and 10 January, 1949), as well as the original of the photos used by El-Khachab in his publications. The baths of Hu were also found (and excavated?) at that time (before 1969,<sup>19</sup> the mosaic being removed in the early 1980s), as well as the small baths of 'Asafrah, Memphis/Kom Sabakha and Luxor (by SCA teams) and, perhaps, the baths of Theadelphia 1, however it is not published and not reported by El-Khachab.

### 1980s–1990s

After the death of El-Khachab, the attention paid to the baths diminished and several buildings were excavated by the Supreme Council of Antiquities without any immediate publications: Alexandria Cotarelli, Karm el-Baraasi, Kom el-Khamsin, Krokodilopolis East and North, Schedia, Tell Gomaimah. Nevertheless, one should note the excavations of the baths of Marina el-'Alamein by a Polish team, the thorough excavations of two baths at Tebtynis by a Franco-Italian team led by Cl. Gallazzi and G. Hadji-Minaglou, the survey of the baths of Sais carried out by the team of P. Wilson (EES), and the discovery of the Tell el-Herr bath by the Antiquities Service under the direction of M. Abdel-Maksoud, author of a master's thesis on this bath.

### 2003–2014, the Balnéorient Years

This last period has seen the number of baths discovered incidentally increase because of growing land pressures in Egypt. The site of Buto is exemplary in this sense, since the construction of a wall around the three *kiman* of the site to avoid the constant encroachment of farmland led to the discovery of two collective baths (Buto South and East) and a private bath.<sup>20</sup> In parallel, the recovery or the publication of ancient excavations was encouraged by the success of the Balnéorient programme, initiated in 2006 although the roots of the programme date back to the rediscovery of the baths of Taposiris Magna in 2003. Buto North, Dionysias North, Edfu, Euhemeria 1 and 2, Karm el-Baraasi, Kom el-Khamsin, Kom el-Qadi/Kom el-Wasit, Schedia, Taposiris Magna, Tebtynis North and South, Tell el-Herr, Tell Gomaimah, Theadelphia 1 and 2 were all affected by this programme. Moreover, work in old excavations' archives was undertaken at the IFAO by B. Redon, the Egypt Exploration Society by G. Lecuyot and P. Ballet, and the SCA by A. El-Ashmawy, concerning the baths of Athribis South-East, Buto North, Dionysias South, Kom el-Qadi/Kom el-Wasit, Krokodilopolis Sarapeion, and the small baths of Athribis. At the same time and with no connection to the Balnéorient programme, J. Kościuk conducted a first comprehensive study of the small baths, starting with the baths of Karm el-Baraasi and Luxor which he was able to examine and draw before their disappearance.<sup>21</sup>

19. HONIGSBERG 1969, pp. 21–22.

20. ABD EL-RAFA FADL, LECUYOT, REDON 2012.

21. KOŚCIUK 2011.

**Alius et Idem:*****Similarities and Differences of the Egyptian Model***

Despite its quantitative importance, the Egyptian corpus is far from being homogeneous. Its magnitude implies a great heterogeneity of the data, with baths excavated prior to or during the years 1980–1990 being poorly or not documented at all. Some baths are still unpublished (Krokodilopolis East and North) and others are known only by their name and a brief description (Kom Demes, Kom el-Qadi/Kom el-Wasit, Shishet el-An‘am), sometimes accompanied by a photo (Canopus, Hu, Kom Ganady, Kom en-Negileh, Kom Trugah, Krokodilopolis North-West, Marsa Matruh) or a plan (Buto Near-the-Temple, Dionysias North, Xoïs small baths). Others were relatively well documented by their excavators, but their disappearance, extensive destruction or inaccessibility, make it impossible to verify some of their assumptions (‘Asafrah, Dionysias South, Edfu, Hermopolis, Karm el-Baraasi, Kom Sabakha, Krokodilopolis Sarapeion, Luxor “Large Baths”, Saïs, Xoïs *tholos* baths and small baths). Even among the recently excavated baths, large disparities in the documentation exist, especially between the buildings explored during rescue operations (Alexandria Cotarelli, Buto South and East, Tell Gomaimah) and baths that benefited from excavations over a period of time by bath specialists (Buto North, Karnak, Schedia, Taposiris, Tebtynis North and South). In addition, the remains of the baths are often very difficult to read due to the disappearance of their remains<sup>22</sup> and to the several remodellings of the bathing devices and extensive reconstructions and modifications of the layout (Athribis South-East, Buto North, Schedia, Taposiris, Theadelphia 2).

Our work on the corpus of Egyptian baths, however, has allowed us to overcome these deficiencies and, thanks to some well-documented examples and the complementarity of the information obtained on each building, a typo-chronology of Egyptian Greek baths (*tholos* and small buildings) can now be proposed. Their common characteristics are the bathing equipment, *i.e.* hip-bathtubs for cleansing and individual immersion bathtubs for relaxation, and the fact that they are collective<sup>23</sup> and open to a more or less large clientele of bathers.

We are now able to classify the buildings of Greek type that we consider in this article and that are listed in the two first catalogues at the end of this volume in three main categories:

22. The quality of the mortar and the use of fired bricks allowed the preservation of the remains of many bath buildings throughout Egypt, while many other buildings, made of mud bricks, disappeared. However, mud brick was also extensively used for the construction of the buildings, as shown by still preserved mud masonry in many baths (Athribis South-East, Karnak, Kom el-Khamsin, Theadelphia 2 etc.). In bath architecture, the low water resistance of mud bricks did not pose any problems since the walls were covered with thick hydraulic mortar. Fired bricks or stones were reserved for the parts on which the highest strain was put: furnaces, tanks, hip-bathtubs, immersion bathtubs etc. Thus, the use of mud bricks for the walls has a curious effect for those examining the preserved baths since the only visible remains nowadays are the mortar floors, separated by ghost walls.

23. We prefer to use “collective” instead of “public”, since a majority if not all the baths erected in the Ptolemaic period are collective (open to the public) but private property: see REDON 2011, pp. 301–307.

– A very homogeneous group of buildings which constitutes what we call the “classic” model of the Graeco-Egyptian *tholos* baths: Buto East (5<sup>24</sup>), Euhemeria 1 Phases A and B (12), Euhemeria 2 (13), Karnak (33), Kom el-Khamsin (16), Schedia Phase 2 (26), Taposiris Phase 1 (28), Theadelphia 1 (31), Theadelphia 2 Phase 1 (32), Xoïs (34), and potentially Athribis South-East Phase 1 (2), Buto North Phase 1 (6), Buto South (7), Kom el-Qadi/Kom el-Wasit (18)<sup>25</sup> and Krokodilopolis Sarapeion (22).

– The second series includes most disparate *tholos* buildings, initially sharing many similarities with the classic model, but also demonstrating, through their successive transformations, a gradual evolution of the basic model into a hybrid one, including local innovations and Roman imports: Athribis South-East Phase 2 (2), Buto North Phase 2 (6), Dionysias South (10), Krokodilopolis North (20), Krokodilopolis Sarapeion (22), Marina el-‘Alamein (23), Taposiris Phase 2 (28), Tell el-Herr (30), Theadelphia 2 Phase 2 (32), and perhaps Schedia Phase 3 (26).

– The last distinct group brings together a dozen small buildings whose surface area ranges from 20 m<sup>2</sup> to *circa* 100 m<sup>2</sup>. Their collective character is not always obvious, but they share the same characteristics as the classic and hybrid models already mentioned and are probably scaled-down adaptations of these two types: ‘Asafrah (36), Bi’r Samut (37), Edfu (35), Hermopolis (38), Karm el-Baraasi (39), Kom Sabakha (40), Kom Trugah (42), Luxor “Large Baths” (45), Philoteris (41), Tebtynis north (43), Tebtynis South (44) and Xoïs (46).

The three groups will be successively described in the following paragraphs.

## THE CLASSIC GRAECO-EGYPTIAN COLLECTIVE BATH TYPE

### *Elements and Geometry of the Plan*

The Graeco-Egyptian baths *par excellence* fit into a rectangle (average: 16–18 m × 15–20 m, *i.e. circa* 300 m<sup>2</sup>), the entrance being located on one of the long sides, while access to the semi-subterranean furnace for the bath attendants is at the opposite side.

Within the building, the distribution of the functions and spaces is arranged in a very organised manner, following a tripartite layout, with the succession of an “entrance section”, a “cleansing section” and a “heated section” (fig. 2–3). The first section (1) consists of a large hall, which occupies the entire width of the building and is sometimes split in two parts (Karnak, Buto East); this was certainly the waiting room and cloakroom.<sup>26</sup> Here, the bathers could leave their most bulky items, coats and bags, as mentioned in the written sources, which often led to thefts in this section of the baths.<sup>27</sup> This room is also sometimes equipped with a basin (Karnak, Taposiris, Theadelphia 2, Xoïs), probably for initial ablutions.

24. The number refers to the inventory number under which the bath is presented in the catalogue.

25. The baths of Kom el-Qadi/Kom el-Wasit were not fully excavated when we wrote this article. The new discoveries, published by Kenawi and Larosa in this volume, strengthen our hypothesis about this building.

26. The cloakrooms may have been equipped with benches and lockers. A built bench is preserved in the Schedia baths, and a probable one in the western cloakroom of Buto North, Phase 2. In the other buildings, they were probably in wood and have disappeared.

27. REDON 2016, p. 79.

The second section (2) comprises the two *tholoi* fitted with hip-bathtubs topped with niches (fig. 4–5).<sup>28</sup> Of the 17 buildings of this classic type where the entrances leading to the *tholoi* are preserved, 12 include one-entrance *tholoi* and five have *tholoi* with two doors (Buto East, Euhemeria 1a and 2, Karnak, Theadelphia 2). The entrances leading to the *tholoi* face each other in seven cases, are parallel in eight other cases, and two buildings have *tholoi* with staggered entries.

The last section (3) is composed of an oblong corridor (3a) occupying the entire width of the building and opening onto three strictly organised spaces: in one of the corners, the relaxing bath room (3b), equipped with individual immersion bathtubs; in the centre, the furnace, topped by a boiler (3c); and in the corner opposite to the bathtub room, the tank (3d), supplied with water from outside (at Buto East, Kom el-Khamsin and Xoïs, traces of an external water supply are preserved). Cold water was directly accessible from the corridor, in a small overhang formed by the tank towards the corridor (Kom el-Khamsin, Euhemeria 2, Theadelphia 1 and 2) or via an intermediate basin (Buto East and Xoïs). The tank also supplied the boiler above the furnace, thus producing hot water. Facing the furnace, in the corridor, often between the two *tholoi*, one can also notice the almost systematic presence of a semi-circular or semi-oval basin, supplied by the cistern through a pipe (Athribis South-East, Buto East, Euhemeria 2, Karnak, Taposiris, Theadelphia 1, Xoïs, and perhaps Kom el-Khamsin) (fig. 6).

### Heating System

In the last section of the classic baths, the furnace, composed of a large and deep circular or conical hearth, occupies a central place.<sup>29</sup> Few examples have been thoroughly excavated, except those of Buto East and Karnak. In both buildings, one or two boilers, supplying the bath with hot water probably sat above the fireplace. The boiler(s) was (were) accessible to the bath attendants circulating in the oblong corridor so they could draw hot water from the boiler and carry it manually in the two *tholoi* and the immersion bathtub room. Additionally, at Karnak, a subterranean channel also led hot water directly from the boiler into the relaxation room, probably to supply a basin or the bathtubs directly with hot water.<sup>30</sup> The central position of the furnace in the corridor shows that it could also heat the adjacent rooms by radiation, but it was probably not the first and main purpose of the furnace. Indeed at Karnak and Buto East, it is not directly built against the bathing rooms, from which it is separated by small square rooms of unknown function.

28. At Taposiris Magna, where the niches are preserved due to the troglodyte nature of the baths, they are *circa* 55 cm wide, 35 cm deep and 60 cm high. A particular feature is noticeable at Athribis South-East: the *tholos* wall, built in mud brick, is not preserved but the filling of the niches during the transformation of the *tholos*, has kept the negative of two niches intact: at a higher level, deep niches similar to those of Taposiris and, at a lower level, small niches, probably designed to accommodate a lamp, small vases or utensils (see fig. 10).

29. For more details, see FOURNET, REDON 2013.

30. EL-MASEKH, REDON 2013.

### **Bather Circuits**

The outline of this classic plan is followed by seven baths: Buto East, Euhemeria 1 (Phases A and B), Euhemeria 2, Karnak, Kom el-Khamsin, Theadelphia 1 and Xoïs (fig. 7). The regularity of the plan mentioned above allows a relatively easy reconstruction of the missing elements (often bathtub rooms and furnaces) of seven other buildings that probably followed the same organisation, at least during one of their occupation phase:<sup>31</sup> Athribis South-East Phase 1, Buto North Phase 1,<sup>32</sup> Buto South, Kom el-Qadi/Kom el-Wasit, Krokodilopolis Sarapeion, Schedia Phase 2, Taposiris Phase 1 and Theadelphia 2 Phase A.

From a total of 21 buildings whose plan is clear enough to reconstruct the general organisation of the baths,<sup>33</sup> altogether 15 baths probably followed, at least at one stage of their evolution, the classic layout, thus showing the great homogeneity of our corpus.<sup>34</sup>

In all those buildings, the circuit is similar, and corresponds to the logical flow of the bathers in a bath building: from the “entrance section” (also hosting the cloakroom), one enters the “cleansing section” fitted with the two *tholoi*. From there, some bathers (see below on the likely restrictive access to this room) had access to the relaxation room(s) with individual immersion bathtubs before returning to the dressing room and entrance hall. Beside these genuine similarities, many variations are noted and almost every bath has a different circuit. In some baths, after the cleansing and relaxation operations, the bathers could go back to the cloakroom/entrance hall through a peripheral exit corridor without using the way they took to enter the *tholoi* (e.g. Buto East, Euhemeria 1 [Phases A and B] and Kom el-Qadi/Kom el-Wasit), following a ring circuit. However, in the majority of the classic baths,<sup>35</sup> the circuit of the bathers was retrograde: they had to retrace their steps to get out of the building, either by passing through the *tholoi* (e.g. Karnak and possibly Theadelphia 2, Phase 1), a central corridor (probably Kom el-Khamsin and Schedia Phase 2) or a peripheral one (Buto North Phase 1<sup>36</sup>). It is difficult to find any evolution between these different circuits, since they seem to occur in contemporaneous baths. The only circuit change in a bath is attested in that of Euhemeria 1, equipped with a central corridor during Phase B, which is added to the peripheral corridor already there during Phase A. Nevertheless, the second circuit is not drastically different from the first one, already of ring type. Hence, it seems that the differences

31. FOURNET, REDON 2013. See also the catalogue I for the details of each building.

32. The recurrence of the patterns has informed our excavations and allows us to understand details, which would otherwise have escaped us. See LECUYOT, REDON 2014 on the second *tholos* of the Buto North baths, Phase 1.

33. We exclude the baths of Alexandria, Athribis South-West, Buto Near-the-Temple, Canopus, Dionysias North, Hu, Kom Demes, Kom Ganady, Kom en-Negileh, Krokodilopolis North-West and East, Marsa Matruh, Shishet el-Ana'am and Tell Gomaimah.

34. Some baths do not fit in the scheme, in particular the baths with “square *tholoi*” (Kom Ganady, Canopus). As they recall parallels in Greece (Colophon, Pella, Olympia, Lemnos, etc.), they may be considered as prior to the establishment of our classic model in Egypt or, more likely, as a possible second Greek model (parallel with the model with rotundas) that did not enjoy a great success in Egypt.

35. Our study of the Taposiris baths led us to assume that the Egyptian baths followed a radiating circuit (FOURNET, REDON 2009, p. 114), like the Greek baths of Magna Graecia, for example. In reality, Taposiris is probably an exception in our corpus, for obvious reasons of construction (cf. *infra*).

36. The bath has two corridors on each side of the two *tholoi*, but a basin is built in the floor of the oblong corridor in front of the furnace, and the circulation between the two *tholoi* and the two corridors is apparently impossible or very difficult.

between the different kinds of circuit do not actually affect the bathing practices and their natural succession, which are similar in all the buildings (entrance, cleansing and relaxing). They just offer a little variety and refinement in some buildings that received more resources. Indeed, the baths with peripheral and central corridors occupy more space than the baths with a retrograde circuit through the *tholoi*.

### **Dating the Classic Type**

The appearance of the Egyptian model is not easily assessable because of the lack of precisely dated buildings, however, papyri mention *tholos* baths from the mid-3rd century BC onward and the classic model probably dates back to this period if not even earlier.<sup>37</sup> In our corpus, the most ancient classic baths<sup>38</sup> were built between the late 3rd and mid-2nd century BC<sup>39</sup> (Buto East,<sup>40</sup> Buto North Phase 1,<sup>41</sup> Karnak,<sup>42</sup> Schedia,<sup>43</sup> Taposiris Phase 1<sup>44</sup>) and two other baths operated during the second half the Ptolemaic period (Kom el-Khamsin, Kom el-Qadi/Kom el-Wasit). All of them were apparently abandoned or transformed before the end of the Ptolemaic era and the earlier transformation takes place during the late 2nd/early 1st century BC (see below on the transitional baths).

Consequently, since there is no proof of any classic bath construction during the Roman period, the other and non-dated similar baths are, with great certainty, probably also attributable to the Ptolemaic period, and likely to the 3rd–2nd century BC: Athribis South-East, Buto South, Euhemeria 1, Euhemeria 2, Krokodilopolis Sarapeion, Theadelphia 1, Theadelphia 2 and Xoïs.

### **FROM THE CLASSIC TO THE HYBRID MODEL**

Slight differences exist between the baths and the classic plan described above is never fully respected. At Karnak, for example, the hall/locker room is completely split into two parts, and the access hall to *Tholos* 1 is perpendicular to the one leading to *Tholos* 2. At Buto East, eight hip-bathtubs were added in a second phase at the north end of the oblong corridor, probably to accommodate more bathers.

What is more important and meaningful, some baths encountered evolutions and additions during the second half of the Ptolemaic period, probably to fit with new practices and needs, resulting in a new and hybrid model that emerges at the beginning of the Roman period.

37. Cf. FOURNET, REDON 2009, p. 115–116.

38. The most ancient Greek baths excavated so far, dated to the late 4th/early 3rd century BC, is of private type and located in a villa of the Alexandrian area: GALLO 2009.

39. We would have liked to have more and better-preserved Alexandrian examples to see if the model was initiated in the capital before spreading to the hinterland or if it was a provincial experiment from the start.

40. Abd el-Rafa Fadl et al. in this volume.

41. CHARLESWORTH 1970, p. 19: the oldest stamped amphora discovered against the baths' exterior wall dates to 180 BC. The bath construction is thus anterior.

42. BORAİK et al. 2013, p. 47.

43. BERGMANN, HEINZELMANN 2009, p. 64. The baths follows the classic plan during a second phase, which has not been precisely dated: cf. below.

44. FOURNET, REDON 2009, p. 125.

### **The Transitional Buildings**

Five baths following the classic layout (Athribis South-East, Krokodilopolis North, Taposiris, Theadelphia 2 and maybe Schedia) encountered significant transformations of their layout and bathing equipment during their last occupation phase (fig. 7). The transformations are not all exactly the same in each building, and we will describe each of them quickly, before trying to list the characteristics and possible aims of the remodelling.

#### **Taposiris Magna**

[Fig. 8]

The baths of Taposiris Magna were thoroughly, but not fully,<sup>45</sup> excavated from 2003 to 2011 by the authors of this article. Overviews and descriptions have previously been published<sup>46</sup> and we will present here only some short considerations on the transformation of the layout that occurred around the third quarter of the 2nd century BC.

Before that date, the building comprised all the features of the classic model (even if its layout is not totally canonical<sup>47</sup>), in particular a distribution hall (3), two *tholoi* and a probable immersion bathtub room (7). We do not know if the building already had a heating system, but it was likely located at the same location as in Phase 2, in front of a semi-circular basin set between the two *tholoi*. When the remodelling occurs, at the beginning of Phase 2, the baths still include two *tholoi* and an immersion bathtub room. But new rooms are added to the south, in particular latrines (20) and an access corridor (19), leading to the underground furnace room (3a). The furnace is probably topped by a boiler reached from the distribution Corridor 3, as in the classic model, however, the heating system is improved with the addition of a heating wall to the east, acting as a radiator for the neighbouring relaxation room (7).<sup>48</sup> At the same time, the east end of Room 3 is converted into a large tank (4).

Along with these additions, the bathers' circuit is also transformed and the former ring circuit (with two parallel entrances from Hall 3 into the *tholoi*) becomes a retrograde circuit (access to *Tholos* 2, in which the hip-bathtubs are perhaps removed, is henceforth made through *Tholos* 1).<sup>49</sup>

#### **Athribis South-East, Krokodilopolis North and Theadelphia 2**

[Fig. 6–7]

Other transformations are noted at Athribis South-East, Krokodilopolis North and Theadelphia 2—three classic Greco-Egyptian baths during their first phase—that are, if not totally similar, bear close resemblance. The first two baths were never published after their discovery and thus we do not have

45. The south-east corner of the building, as well as its south end, was not excavated, due to the overlapping of later remains.

46. See the bibliography in the catalogue of Greek baths, cat. no. 28.

47. This feature is due to the underground character of the building: unable to build the technical parts of the baths to the north of the *tholoi* (which would have provoked problems of safety and of smoke outlet), the architects have brought together in a single room (3) the usual entrance hall/cloakroom and the oblong distribution corridor.

48. For a comprehensive description of this feature, see FOURNET 2011, FOURNET, REDON 2013.

49. See FOURNET, REDON 2013 for more details.



any information as to their date, but thanks to their good preservation, we were able, when visiting them, to complete their plan and to get the broad outlines of layout and evolution. Furthermore, one of the authors directly surveyed the baths of Theadelphia 2 together with C. Römer (fig. 9).

This building is, at first, a classic bath. It has an entrance section (Rooms 1 and 2) leading to two *tholoi* (3 and 4) that open onto the distribution corridor (5). As usual, it gives access to the relaxation room (9) in one corner and is fitted with a tank (11) in the opposite corner, and a central furnace (under 6). During Phase 2, *Tholos* 4 is abandoned, and its entrance is blocked by the creation of a new room (6), with at least one immersion bathtub. The furnace is moved to the south (8) and built directly near the relaxation rooms (6 and 9). In addition, the old tank is levelled and a larger, elevated tank is built (10).

At Athribis South-East (fig. 10), the building during Phase 1 comprised two *tholoi* (2 and 3), accessed from a central corridor (1) that led to the heated section, which is totally covered by Phase 2. In order to fit with the classic layout,<sup>50</sup> it is possible to restore a distribution corridor under Room 4, a relaxation room under Room 5, a tank under Room 7 or 11 and a central furnace under that of Phase 2. During the remodelling, the two *tholoi* (2 and 3) were abandoned, one being razed while the other is transformed into a reservoir (its niches and door are blocked, covered by a new interior wall with stucco, and the hip-bathtubs levelled). Apparently, the baths were no longer fitted with hip-bathtubs. The east part is also remodelled and equipped with one main relaxation room (5) and two smaller ones (6 and 7). The heating system is located directly near the relaxation rooms (possibly to heat the rooms through heating walls, as at Taposiris ?), and a large tank (13) and an elevated water tank (9–10), similar to that of Theadelphia 2, is built close by.

The Krokodilopolis North baths (fig. 11) are also of the classic type during their first occupation phase, even if they are original in the position of the two *tholoi*, placed diagonal to each other (see below, Schedia, which is similar). Other than that, they comprise an entrance hall (13) leading to a distribution corridor (1) that opens into the two *tholoi* (2 and 3) and a relaxation room (5). In Phase 2, the hip-bathtubs of *Tholos* 3 are levelled and replaced by two immersion bathtubs and a small peripheral bulge. The distribution corridor (1) is reduced and a new room (4) is created to the west, with one hip-bathtub, at least one immersion bathtub and a reservoir. The previous relaxation room (5) is perhaps abandoned in order to build a furnace near the entrance of Room 3. At the same time, new rooms are added to the east (6–11), the larger one (9) being fitted with immersion bathtubs. During this phase, the building is most likely separated into two circuits by a separation wall, the first one corresponding to the old building, with the new amenities, the other one being totally new and devoid of any hip-bathtubs.

50. Different levels of floors are still visible under the eastern rooms.

## Schedia

[Fig. 12]

Considering the transformations exposed above, we would like to reconstruct a similar evolution for the baths of Schedia, which are, in many aspects, comparable to the above-described examples. This reconstruction is more hypothetical than for them, in particular because the baths are not entirely excavated. Still, recent work on the field, under the direction of M. Bergmann,<sup>51</sup> and examination of archival pictures, give more weight to the following scenario.

The Schedia baths underwent at least two construction phases, and parallels with the evolution of other transitional baths suggest a possible third. During the first construction phase, attributable to the late 3rd/early 2nd century BC, the Schedia baths comprise the usual two *tholoi* (B and C) separated by a corridor that leads from an entrance hall/cloakroom (D) to the distribution room (E), only its southern part belonging to the first period. It is unknown whether other rooms belonged to the first building but a relaxation room was probably located either in Room E or in a room that disappeared during the later phases. The two *tholoi* are squeezed diagonally, a distinctive feature also found at Oiniadai (Greece) and Krokodilopolis North (Egypt).<sup>52</sup>

During the second phase, unfortunately not dated, Room F, equipped with two individual immersion bathtubs, is added on the north side of the baths. The eastern bathtub is installed after the first one, directly on the floor of the room (and thus after the laying of the mosaic floor). The new room follows a slightly different orientation and a much deeper level of foundation, probably due to the semi-subterranean heating system that is also added to the building. It consists of a furnace designed to heat the adjoining room and probably associated with a hot water tank accessible from Room E. This transformation probably aims to adapt the plan of the baths to a more classic model, with a heating system located near the immersion bathtub room and in front of the *tholoi* entrances. The eastern part of Room F, hidden by modern construction, probably included a cold-water tank to fit perfectly with the classic model.

A third construction phase might be restored, before the abandonment of the baths, at the beginning of the Roman period. Indeed, looking at the entrances of the *tholoi*, one sees that the two *tholoi* are accessed from Hall E by large and similar entries, while *Tholos* C is also fitted with a second door, that opens south-west. Its narrow dimensions and the disposition of the adjacent

51. The baths at Schedia were excavated by the SCA in the 1980s and a German mission, led by M. Bergmann, has resumed the study as part of its work on the Graeco-Roman town. The baths, heavily restored, are still accessible and the German mission was able to carry out sounding trenches. Despite the presence of modern buildings covering the eastern part of the building, Bergmann's analysis of the remains and of the archival pictures allowed her to publish an initial article on the baths (BERGMANN, HEINZELMANN 2009). New soundings were carried out in 2014 on the heating system, precisely when we visited the baths with Bergmann. We would like to thank her for her trust and for allowing us to use the latest results of her field works here. Note that the hypothesis exposed below is not totally in accordance with her reconstruction of the baths evolution, which aggregates our Phase 2 and 3 together in a sole Phase 2. Also she does not believe that the thin wall was a separation wall, which is clearly not a certainty. Only the excavations of the eastern part of the building could confirm or infirm our reconstruction, but it is not possible at the moment.

52. It is tempting to consider this originality as a mark of the early date of the building, but the classic Egyptian model probably already existed from the mid-3rd century BC onward. Thus, this layout may rather be explained by the relative small size of the building, which is one of the smallest "double *tholoi*" examples of Egypt, with only 30 hip-bathtubs in two *tholoi* of 4.80 m diameter. The average diameter of double *tholoi* buildings is 5.95 m and the second smallest one is to be found precisely in Krokodilopolis North, the other "diagonal building".

hip-bathtub likely indicate that this entry did not exist in the first phase and was opened after the destruction of a hip-bathtub and the reconstruction of another one. The width of the door corresponds to a hip-bathtub, and the hip-bathtub south of the door has an asymmetric plan, as if it was cut. In that case, the small vestibule in the south-east corner of Room D, isolating the users of *Tholos C* from the entrance hall, could be a contemporaneous addition.<sup>53</sup> A *louterion* set in Room E, directly near a thin curved wall built on the floor of the same room in front of the north door of *Tholos C*, probably belongs to the same remodelling phase. The wall is partly hidden by modern construction and it is difficult to know whether it was only a small curved wall, designed to hide the *tholos* inside from Room E (to provide some privacy to the users of the *tholos*), or if it continued up to the wall (to deviate the bathers eastward when leaving the room). Considering the example of Krokodilopolis North, the second option seems more likely. It could be a way to separate the baths into two independent sections by splitting Room E into two parts. The awkward position and design of the thin wall was probably intended to maintain an access to the hot water tank to bathers of both circuits.<sup>54</sup> The creation of an entrance vestibule for *Tholos C* fits well with this hypothesis.

### **The Hybrid Graeco-Romano-Egyptian Baths of Egypt**

The completion of the evolution described above is encountered in two buildings, built at the beginning of the Roman period, which, from their first occupation phase, follow a new layout that differs from the classic. They are truly and totally hybrid baths and can be called “Graeco-Romano-Egyptian”, as they mix Graeco-Egyptian bathing architecture features and Roman ones.

#### **Tell el-Herr**

[Fig. 13]

The best-known example is located at Tell el-Herr, North Sinai, and has already been discussed in many articles. It includes both traditional Graeco-Egyptian elements (*Tholos 7* with hip-bathtubs, individual immersion baths in relaxation Rooms 6, 13 and 14, a furnace system heating water and the neighbouring rooms by radiation) and features of the transitional Graeco-Egyptian buildings (Latrines 3 and 9, possible heating walls?). The ratio between hip-bathtubs and immersion bathtubs is lower from that of the classic baths and the Tell el-Herr baths comprise altogether seven immersion bathtubs for 16 hip-bathtubs. Most importantly, the baths are organised in two parallel circuits (one with immersion bathtubs and hip-bathtubs in a *tholos*, the other containing only bathtub rooms). This feature implies a certain Romanisation of the building, which has led us to date it to the 1st century BC/1st century AD. A bronze coin, found in the drain of the baths and dated to the reign of Hadrian, arguably gives an indication as to the date of abandonment.

53. The renovation of the terrazzo floor and the mortar (wall and bathtubs) in antiquity and the destruction and modern restoration of the building, prevent us from verifying this assertion.

54. Another separation wall may be restorable in the oblong corridor (Room 5) of the Buto East baths (see fig. 3, 7), possibly with the same purpose: one can see on the floor an oblique track that separates the room into two in front of the furnace. It could be (but with no certainty) the remains of a missing wall, which in a late phase (corresponding to the addition of eight hip-bathtubs in Room 7) separated two circuits with a shared boiler.

## Buto North

The second example of a hybrid bath is located at Buto North. It was discovered by the Egypt Exploration Society at the end of the 1960s and was recently re-excavated by G. Lecuyot and B. Redon. The bath is exceptional in the Egyptian corpus by its longevity. It was built and rebuilt on two occasions on the same site, evolving according to the modes and bathing practices for more than four centuries, from the early 2nd century BC to the beginning of the 3rd century AD. During the first phase, the bath followed a classic plan with an entrance hall (8), two *tholoi* (1 and 2), a circular corridor (3–4), a relaxation room (7), a tank (5) and a central furnace (6). Then it was replaced by a hybrid bath at the beginning of the Roman era, before being covered by Roman baths with hypocaust, built in the middle of the 2nd century AD.<sup>55</sup>

As at Tell el-Herr, the Buto North Phase 2 building (fig. 14) is divided into two circuits, each one fitted with latrines (15 and 20). The western section is equipped with a *tholos* with hip-bathtubs (17), and the eastern one includes, in addition to a non-heated immersion bathtub room (22), a hypocaust room (23) fitted with four immersion tubs and heated by a deep furnace (24) at the end of the bather circuit. The use of the hypocaust technique reveals a profound Romanisation of the baths, more remarkable and complete than at Tell el-Herr. It is located in the larger and more luxurious section of the baths, and is the counterpart, in the other circuit, to the traditional *tholos*.

### **Dating the Transitional and Hybrid Type**

All the transitional and hybrid baths are late Ptolemaic/Early Roman in date. The oldest is Taposiris Phase 2, dated to the last quarter of the 2nd/early 1st century BC and abandoned at the end of the Ptolemaic period. The later two are those of Buto North Phase 2 and Tell el-Herr, built at the turn of the 1st century BC/1st century AD and abandoned during the 2nd century AD. The undated transitional examples of our corpus can almost certainly be placed between the late 2nd/early 1st centuries BC and the 1st century AD.

### **Characteristics of the Transitional and Hybrid Baths**

Altogether seven or eight baths (out of 34 *tholos* baths listed in the catalogue) can be considered as transitional (in various stages of hybridisation) or hybrid (fig. 7). They all share specific features regarding their equipment: an increasing number of individual immersion bathtubs, rebalancing the proportion in comparison with the hip-bathtubs that are, in some cases, totally abandoned; advanced heating technologies (heating walls); enlargement of the water storage capacity; and the addition of collective latrines. Their general layout is also specific, with the use of chicanes and non-linear corridors, the systematisation of a retrograde circuit and the duplication of the bather circuit. However, unlike the classic model, the hybrid or transitional building plans do not seem to follow a single model and each bath is unique, and more or less distant from the original model. For example, the baths of Taposiris Phase 2 share many features with the classic model, from which

55. See cat. nos. 06 and 56.

they differ only by the addition of latrines, a larger water tank and the improvement of the heating system. Tell el-Herr and Buto North Phase 2 are further on in the evolution and closer, in their layout and equipment, to a Roman bath. In-between, we find classic baths that underwent drastic transformations and remodelling, such as Athribis South-East, Krokodilopolis North, Theadelphia 2 and possibly Schedia Phase 3. In the first three buildings, one or even two of the *tholoi* are sealed off and the use of hip-bathtubs partially abandoned; in parallel, the immersion bathtubs are more numerous, sometimes located in smaller spaces, as if to give more intimacy to the bathers. At Krokodilopolis North and maybe Schedia, the baths are apparently split into two circuits, as in the more complete baths of Tell el-Herr and Buto North.

Given the originality of their layout and their late date, other buildings can probably also be classified as transitional or hybrid, in particular the baths of Dionysias South, dated to the end of the Ptolemaic era, and which follow many features of the hybrid baths: retrograde circuit, presence of latrines, restricted number of hip-bathtubs (ten in a single *tholos*), and probable an advanced heating system.

The same is true for the baths of Marina el-‘Alamein, built during the 1st century AD.<sup>56</sup> They are original by the fact that they include a single *tholos*, which is one of the smallest in our inventory (only 4.85 m diameter and ten simple and one double hip-bathtubs). Furthermore, the baths are set in a vast quadrangular building, apparently centred on a courtyard onto which quadrangular rooms opened. One could see here a possible *palaestra*, equipped with rest rooms, conference halls and baths. However, the plan of this area is unfortunately not yet fully excavated and we cannot know if the baths were part of the building from its construction, or whether they are anterior or posterior. Anyway, the Marina baths do not correspond to the usual configuration of the Greek baths, which is probably the result of the late date.

The huge baths of Krokodilopolis Sarapeion also have latrines, an advanced heating system, and underwent many transformations with the addition of new relaxation rooms. Finally, Tell Gomaimah baths have a very small *tholos*, with only seven hip-bathtubs. But the two latter buildings are not extensively published and that they might belong to the transitional baths is still an unverifiable assertion.

## THE SMALL COLLECTIVE BATHS

### *Shared Characteristic and Differences*

Along with *tholos* baths, other baths of smaller size were built in Egypt during the Ptolemaic period. They all have hip-bathtubs for cleansing and immersion bathtubs for relaxing and range between simple bathrooms belonging to houses and villas, to buildings that share many features with the *tholos* type and that we call “small collective Greek baths”. We will not discuss here private bathrooms, as they are beyond our purpose, which is focused on collective baths. Nevertheless, we must admit that the distinction between “large bathrooms” and “small collective baths” was difficult

56. DASZEWSKI 1995.

to make for several buildings, and that we are not entirely sure whether the small collective baths discussed below were of collective, private or semi-private use (cf. *infra*: Clientele of the small Greek baths and the restriction issue).

To date, 12 buildings enter the “small collective baths” category (fig. 15): ‘Asafrah, Bi’r Samut, Edfu, Hermopolis, Karm el-Baraasi, Kom Sabakha, Kom Trugah, Luxor “Large Baths”, Philoteris, Tebtynis North, Tebtynis South and Xoïs.<sup>57</sup> They are all of reduced dimension (*circa* 100 m<sup>2</sup> for the largest ones, and around 50 m<sup>2</sup> for the majority) and organised with a retrograde circuit. Their urban context is poorly understood, but four of them are independent and were entered from the street (Edfu, Karm el-Baraasi, Kom Sabakha, Luxor “Large Baths”), one is included in a fortress (hosting both soldiers and civilians) but not connected with any other construction of the fortress and accessed directly from the court (Bi’r Samut), and two (Tebtynis North and Tebtynis South) are placed in a building that was not a simple house (gymnasium, association building?).

In the building, the bathers accessed the bathing room(s) via a non-linear corridor, leading to a circular room recalling the *tholoi* of the great baths (with the exception of Edfu and Luxor “Large baths”). However, the *tholos* of the small baths did not systematically host the hip-bathtubs, which could also be located in a second room, square in shape, and systematically equipped with immersion bathtubs. This last room concentrates the cleansing and relaxation operations in the same space, the *tholos* being, in that case, a waiting hall dedicated also to the first ablutions (Bi’r Samut, Philoteris, Tebtynis North). In the largest baths, however, the two types of bathing equipment are separated, the hip-bathtubs in the *tholos*, and the immersion bathtubs in the square room (‘Asafrah, Hermopolis, Karm el-Baraasi, Kom Sabakha, Kom Trugah, Tebtynis South, Xoïs). The small collective baths are also always equipped with a heating system that recalls the great baths, with a furnace located in a contiguous service room, heating the relaxation room by radiation and producing hot water for hip-bathtubs via a boiler. Lastly, some baths also have latrines (Karm el-Baraasi, Xoïs, and maybe Luxor “Large Baths”).

Not all of these baths have all the features mentioned above, but they have at least three of these characteristics, in particular several hip-bathtubs and immersion bathtubs placed in more than one room, heating devices and an independent character. We have excluded some baths that could look very similar, such as Luxor “Small Baths”,<sup>58</sup> Karnak “near the gate of the Bubastid”,<sup>59</sup> Athribis “Large Baths”<sup>60</sup> or Syene baths,<sup>61</sup> due to the fact that they lack any heating system. But some of these examples may belong to the small collective baths: the Karnak and Syene baths (fig. 15) are apparently independent from any house and open directly onto the street, and Athribis “Large Baths” are in a building that recalls the Tebtynis North and South baths context (see below).

57. FOURNET, REDON 2013, pp. 255–256, fig. 24. Our original inventory included a building in Bawit, whose plan offers great similarities with the small bath series (rotunda, retrograde circuit, etc.). Its evident date in the Byzantine period and the lack of any hydraulic or heating devices finally led us to exclude this building from the corpus.

58. KOŚCIUK 2011, pp. 76–81.

59. PILLET 1923.

60. See Mysliwiec in this volume.

61. See Müller, Hepa in this volume.

### ***Evolution and Date of the Small Greek Baths***

Some of the small baths are well dated, based on careful and recent excavations. The oldest ones, until now, were unearthed very recently in the Ptolemaic fortress of Bi'r Samut. Their occupation period is probably the same as the fort's, *i.e.* from the 260s to 208/7 BC. It comprises all the distinct features of the small baths described above, with the only originality being the setting of the cleansing and relaxing tubs in the same room, like the Philoteris and Tebtynis North baths, two of the oldest baths of the corpus (2nd century BC). However, the Edfu baths, which are probably dated to the beginning of the Roman period, show the same peculiarity, which thus has no chronological significance. The baths of Bi'r Samut are equipped with a heating system, whose presence in a bath is thus not evidence of advanced evolution. However, the heating system of Bi'r Samut is less developed than at Tebtynis South Phase 2 and Edfu, for example, two late examples (1st century BC/1st century AD), where the furnace heated a boiler but also the immersion room via a heating wall, similar to that of Taposiris Magna Phase 2 (see above). The improvement of the heating system (with heating walls) is clearly meaningful in terms of chronology, since the baths of Tebtynis North, which are older than the neighbouring Tebtynis South Phase 2, do not feature a heating wall in the original construction. Another distinctive feature of the evolution within the small bath group may be the presence of latrines, as in the *tholos* transitional baths. They are evidenced in the baths of Karm el-Baraasi, Xoïs and possibly Luxor "Large Baths", which are probably Late Ptolemaic/Early Roman. A division into two circuits is also possible in the baths of Hermopolis (two entrances are restored), which are late (probably 2nd century AD), but the publication is not detailed enough to verify this assumption and the baths have now disappeared.

If some evolutions are clearly similar to the one encountered in the classic *tholos* baths, such as the improvement of the heating system and the possible addition of latrines, no sign of real hybridisation and Romanisation, in particular the use of the hypocaust technique or the abandonment of hip-bathtubs, is found in the small Greek bath group. Two private baths of Medinet Habu show clearly that, when the hypocaust technique is used in a bath (they are heated through *tubi* inserted in the walls as well as a network of heating channels under the floor) this bath is no longer a Greek one: they comprise a single immersion tub, but no more hip-bathtubs.<sup>62</sup>

The small Greek baths, like the *tholos* baths, are typically Ptolemaic and disappear during the Early Empire.<sup>63</sup> The oldest ones date to the 3rd century BC (Bi'r Samut, 'Asafrah). Tebtynis South Phase 1 and Tebtynis North are built in the 2nd century BC, which is probably also the case of the baths of Philoteris.<sup>64</sup> The statue adorning the baths of Xoïs is dated to the 1st century BC and the surface pottery found around Karm el-Baraasi and Kom Sabakha/Memphis is from the end of the Ptolemaic/beginning of the Roman period. As for the *tholos* baths, the last well dated examples are

62. Baths of houses B3 and B5, dated from the end of the first to the 3rd century AD (HÖLSCHER 1954, pp. 37–38). See also FOURNET, REDON 2013, p. 256, fig. 25.

63. *Contra* KOŚCIUK 1987, p. 7; KOŚCIUK 2011, p. 81, who dates the "Small Baths" group to the third or even 4th century AD. When he wrote his article though, no small Greek bath had been carefully excavated and precisely dated, except those of Tebtynis North and South which he did not mention.

64. From surface pottery and analysis of the wall painting decoration.

still operating during the first two centuries AD: Tebtynis North and South are abandoned in the mid-1st century, Edfu is probably built during the 1st century AD, Hermopolis is dated, without details, to the 2nd century AD.<sup>65</sup>

## CONCLUSIONS

### COLLECTIVE BATHING IN PTOLEMAIC AND EARLY ROMAN EGYPT

#### *Typo-Chronological Overview of the Graeco-Egyptian Collective Baths*

What we have called the “classic” Graeco-Egyptian model is directly inherited from the Greek model conceived in Greece during the 5th century BC. It is evidenced in Egypt for the first time in the late 3rd/early 2nd century BC, but it is likely to have existed as early as the mid-3rd century BC. It spreads all over Egypt, in large towns (Krokodilopolis) and small villages (Euhemeria), in areas of dense Greek presence (Krokodilopolis, Dionysias, Euhemeria, Theadelphia in the Fayoum) but also in remote areas of Egypt (Karnak and Hu in Upper Egypt), where the Greeks were not numerous and probably only belonged to the army and administration. Whatever the region, the standardisation of the bath architecture and layout is striking and the Graeco-Egyptian classic model is essentially unchallenged. It recalls the case of the western bath model, also very homogeneous. This feature is maybe due to the relative peripheral location of the two areas, Egypt and Great Greece, that allows a certain autonomy from the original model invented in Greece, and the possibility to develop local layouts and architectural features. The homogeneity probably indicates the existence of a common prototype, which is likely to have been found, for the Egyptian baths, in Alexandria. Unfortunately, only one bath of the Ptolemaic capital has been excavated and our hypothesis is impossible to verify. Nonetheless, a papyrus evokes a model (*paradeigma*) to be followed for the layout of the mosaics of a bath, built in the Fayoum,<sup>66</sup> showing the great influence of the royal court at least in the decoration of the baths.

Compared to other regional models, the classic Graeco-Egyptian model has its own originalities. Firstly, the Egyptian baths have, in general, two *tholoi* more frequently than in the rest of the Mediterranean: of the 26 baths for which the information is sufficient,<sup>67</sup> 9 have one *tholos* and 19 have two. When looking at the 15 buildings identified as classic *tholos* baths, this proportion probably rises to 100%.<sup>68</sup> The classic baths also have a large number of hip-bathtubs, with an average of 42 per bath, *i.e.* 21 in each *tholos*, while there is only an average of three immersion bathtubs per bath, located in a single room. Thus the capacity of the relaxation rooms is much smaller than the spaces dedicated to hygienic bathing, with an average of one immersion tub for 14 hip-bathtubs. We will come back to this originality later when considering the clientele of the baths.

65. It is coherent with its decoration: the mosaic floor technique recalls the one used in the baths of Tell el-Herr for example (see Guimier-Sorbets, Redon in this volume).

66. For more details, see Guimier-Sorbets, Redon in this volume.

67. We do not have enough information concerning the presence of one or two *tholoi* in the baths of Alexandria Cotarelli, Athribis South-West, Buto Near-the-Temple, Canopus, Dionysias North, Hu, Kom Demes and Kom Ganady.

68. Buto South comprises only one *tholos*, but the baths are not fully excavated and a second *tholos* is likely.



Secondly, unlike the other models, the Graeco-Egyptian classic model does not encourage collective bathing. No collective pool has ever been found in Egypt, while they are systematically found in Sicilian baths for example, and the bathing practice, in whatsoever form, is only individual, whether for cleansing or relaxing.<sup>69</sup> It has been shown that the absence of collective structures in which customers were swimming in the same water and at the same time was most likely an adaptation of the Greek baths to the Egyptian conceptions of hygiene,<sup>70</sup> since it allowed customers to wash in a common, within a shared space, but not in potential contact and too close to the dirty water of other bathers.

The classic model changes gradually from the end of the 2nd century BC onward, with the addition of latrines, of large tanks and a more efficient heating system (using heating walls) and a trend to separate the buildings into two sections. The transitional baths are now fitted with a sole *tholos* equipped with hip-bathtubs (with the exception of Schedia Phase 3) and the hip-bathtubs are less numerous (an average of 13 per bath), while the number of immersion bathtubs increases, reaching, in Athribis South-East, ten, located in three different rooms. This probably corresponds to local influences, resulting from architectural improvements and possible changes in the bathing practices (see below on gender and bathing programme divisions within the Graeco-Egyptian baths). Foreign influences are also likely (from the Western Mediterranean, where the double circuit existed from the 4th century BC onward), even if they are difficult to assess given the present state of our knowledge (see below).

The hybridisation of the model reaches its completion at the beginning of the Roman domination. The hybrid baths show a total and strict separation of the bather circuits and the abandonment of the *tholos* and the hip-bathtubs accompanied by the integration of the Roman hypocaust system in one of the two circuits. Here, a clear Romanisation is evidenced, showing the openness and curiosity of the bath architects of Egypt. However, a certain conservatism is also observed, since a *tholos* and hip-bathtubs are still provided in one of the two circuits, as if the architects wanted to meet the needs of a traditional clientele on the one hand, and of bathers open to innovations on the other. Indeed, as in every field of Egyptian daily life, Roman influence is slight and the Egyptian *tholos* baths still operating during the first two centuries of the Roman period follow a local and original model, inherited from Greek baths. This conservatism, but also the capacity for innovation of the Graeco-Egyptian model, probably also explains their longevity and that there are still *tholos* baths in Egypt under the Early Empire, while they are abandoned in the Mediterranean in the 2nd to 1st centuries BC.

The small Greek baths of Egypt are also an original feature of the bathing practices of the Hellenistic period, since we do not find any parallels outside Egypt, except in the private and luxurious bathrooms of Italy of the Late Republic<sup>71</sup> and a few examples from the Hellenistic Near East.<sup>72</sup> Directly inherited from the Egyptian *tholos* model, they underwent the same evolution: the classic model emerges in the mid-3rd century BC and progressively integrates novelties and improvements in its equipment, probably from the 2nd century BC onward (the layout, in contrast, does not

69. FOURNET, REDON 2009, p. 127.

70. GRÄZER 2009, pp. 53–54; BROISE 2009, pp. 12–13.

71. BROISE 1994.

72. HOSS 2005; HOSS 2012.

change, which is explained by its simplicity). As in the *tholos* baths, latrines and heating walls are added, though no split into two circuits occurs, except for a possible example at Hermopolis dated to the Early Empire. Finally, the small Greek baths disappear during the 1st and 2nd centuries AD, like their *tholos* counterparts.

The two small baths of Tebtynis, located within the same building, may show that the implemented solution for splitting the small baths was to build two baths in a collective building. However, the circuit division was obviously less critical and in fact does not make sense in these small buildings, because the bathers' choice of circuit did not occur in the building itself, but before entry. This implies the need to focus now on the users of the Greek baths of Egypt.

### ***Clientele of the Small Greek Baths and the Restriction Issue***

In many aspects, the small baths are a small-scale adaptation of the *tholos* baths: the two bathing forms are preserved, in hip-bathtubs and immersion bathtubs, as well as the natural succession (relaxing after cleansing). The most emblematic room of the *tholos* baths is also found in the small baths but sometimes reinterpreted and given new functions: the *tholos* is not (only) the room for the cleansing, it is also the distribution and waiting room, where first ablutions are possible, before immersion. The heating system is adapted to the small scale of the building and miniaturised, as is the size of the tanks and water containers. Above all, the miniaturisation is noticeable in the number of bathers that could enter the baths at the same time: most of the buildings can host only two bathers together (Bi'r Samut, Karm El-Baraasi, Kom Trugah, Philoteris, Tebtynis North, Xoïs) and the maximum is encountered at Hermopolis (at least five bathers) if we exclude the particular case of Luxor "Large Baths" (7).<sup>73</sup>

The question is: was miniaturisation due to a lack of space, means, or other needs? In other words, are the "small baths" equivalent to small "*tholos* baths" or are they another type of bath for another kind of clientele?

The answer is clear when considering the size and capacity of the baths. In comparison with the *tholos* baths, the small baths are equipped, in proportion, with fewer amenities and could host less people at the same time. For example, the baths of Bi'r Samut, Karm el-Baraasi and Xoïs occupy an area of 70, 100 and 60 m<sup>2</sup> respectively, but are equipped with only one hip-bathtub and one immersion tub (the two latter baths also comprise collective latrines so their collective nature is unquestionable). In comparison, the small *tholos* baths of Tell Gomaimah is *circa* 110 m<sup>2</sup> for ten or maybe 18 bathers, at Schedia (*circa* 140 m<sup>2</sup>) 32 persons could bathe at the same time, and at Dionysias South 11 or 12 bathers were hosted in around 130 m<sup>2</sup>.

Moreover, the small Greek baths are often carefully decorated, more often than the *tholos* baths. Painted plaster is reported in 'Asafrah, Karm el-Baraasi, Kom Trugah, Philoteris, Tebtynis North and South, false columns or pilasters decorated the *tholoi* of Xoïs and Karm el-Baraasi, a beautiful

**73.** Seven people could bathe at the same time in 54 m<sup>2</sup>: it is thus the larger of the "small baths" in capacity, but not in surface area. It may be an indication of their specific status within the small baths group and one could possibly identify them with "local baths", playing the same role as the *tholos* baths, *i.e.* collective facilities open to a very large clientele. Two other buildings (Canopus and Kom Ganady) may be of the same type (see n. 33).

bronze statue of Dionysus adorned the small baths of Xoïs, a statue of Hermes was found at the exterior of the Edfu baths, near the entrance, and the floors of Hermopolis baths were enhanced by *opus tessellatum* mosaic.

These two features probably show that the nature of the small baths is different from the *tholos* baths. They were collective, in the sense that they could accommodate more than one person at the same time, and not private, since the majority of them are not attached to any other building. However, the refinement of the plan, the techniques, decoration, and materials used in their construction indicates that the constructors favoured quality rather than capacity in these buildings. It probably means that access was reserved for the “happy few”. At Tebtynis South, the layout of the hip-bathtubs in the *tholos* reinforces this hypothesis: they face each other within an alcove, and thus are to one side of the line of circulation inside the bath. This unusual and unique organisation, as well as the construction side-by-side of hip-bathtubs and immersion bathtubs in the baths of Bi'r Samut, Edfu, Philoteris or Tebtynis North, recalls the architecture of some baths fitted in private residences on the shores of the Mediterranean at the end of the Hellenistic period.<sup>74</sup> Perhaps one should see these original bath buildings as associated with some particular group, association, gymnasia, body of soldiers or settlers. Until recently, no written sources could add weight to this hypothesis, but a papyrus has just been published, which mentions a bath, at Herakleopolis Magna, reserved and/or belonging to the cavalry settlers (τὸ τῶν κ[ατ]οίκων βαλανεῖον<sup>75</sup>), *i.e.* cavalry men granted lands, of high status in the Ptolemaic army. This could relate, according to us, to the special case of the small baths that we consider here.

### **Bathing Programmes and Evolution of the Bathing Practices in the Tholos Buildings**

Unlike the small baths, the *tholos* baths were probably largely open to a non-segregated clientele. Indeed, by their architectural features, status and location<sup>76</sup> (often at the fringes of a town, near the main streets), they were collective spaces par excellence. The entrance fee was modest<sup>77</sup> and the annual number of visitors of certain baths can be estimated at several thousands.<sup>78</sup> The mixed character of the clientele of the baths was also enhanced by their dispersion across the country, even in small towns and villages, where there is every reason to believe that there was only one building in which people who wanted to take a bath could go. Consequently, the collective Egyptian baths were open to all, welcoming a mixed and varied population with all that implies for potential tensions.<sup>79</sup> No social or ethnic segregation is evidenced in the sources, and, on the contrary, the

74. TRÜMPER 2010 presents at the end of the article the innovations in the private bath architecture at the end of the Hellenistic period, especially in southern Italy, which can recall some of the examples discussed here. See also BROISE 1994 on these buildings and FANTAR 1985, pp. 305–358 on the private baths of Kerkouane, in Tunisia.

75. *P.Herakl.Bank.* 2f, l. 19 (Herakleopolite, after 138 BC). On the *katoikoi*, see SCHEUBLE-REITER 2012.

76. REDON 2012a.

77. FAUCHER, REDON 2014.

78. REDON 2011, pp. 307–310.

79. On the numerous conflicts in baths, see REDON 2016.

papyri show that Greeks and Egyptians, civilians and soldiers, locals and travellers and all the strata of the Egyptian population enjoyed these facilities that became, from the early Ptolemaic period, part of daily life.<sup>80</sup>

Nonetheless, when considering the architecture and layout of the baths of Egypt, some features may indicate that a certain segregation existed within the buildings themselves. Concerning the baths following the classic *tholos* model, we have already highlighted the low number of immersion bathtubs compared to the number of hip-bathtubs (one immersion bathtub for 14 hip-bathtubs). It means that, even if no walls prevented it, access to the relaxation room was somehow restricted. In other words, all the bathers entering the baths had access to the *tholoi*, for the cleansing operation, but the complete baths (cleansing plus relaxing), was accessible only to a very small portion of the bath users (7%). As a consequence, it is highly probable that only the people attending the relaxation room had access to the heated corridor (except in the baths with one entrance *tholoi*, where the bathers had to penetrate into this corridor to enter the *tholoi*, such as Xoïs or Buto North Phase 1). Except for those people, the corridor was mainly reserved for the attendants, who supplied the bathers of the *tholoi* with hot water. A well-known papyrus tells us of an accident in the baths of Trikomia (Fayoum) that led to the scalding of a woman bather by an attendant carrying hot water into the *tholos*.<sup>81</sup> Theophrastus also mentions the actions of a bather, who dares to serve himself from the cauldron of a bath instead of waiting for a servant, as an act of wrongdoing contrary to standard practice.<sup>82</sup>

It is also highly probable that the people who wanted to go to the relaxation section were bathing in the hip-bathtubs of the *tholos* closest to the relaxation room. Accordingly, the circuit of the bathers was regulated in the building according to the bathing programme they chose, and limited for the majority of them (93% if we take the average number of hip-bathtubs and immersion bathtubs within the Egyptian buildings), to the entrance/cloakroom and one *tholos*. It means that the practice of the complete Greek bathing programme, in the classic *tholos* buildings, was an exception, and that the usual bathing programme offered to the clients was incomplete and limited to the hygienic part in the hip-bathtubs.

The existence of different bathing programmes and bather circuits within the transitional and hybrid baths is still evidenced and much more obvious, encouraged by the trend to separate the buildings into two sections. In the transitional baths, and more evidently in the hybrid baths (Buto North and Tell el-Herr), the division is clearly linked to the bathing forms proposed inside. Indeed, each section offers a kind of bathing programme. However, unlike in the classic baths, where the difference was between an incomplete and complete programme, two complete albeit different bathing programmes are proposed in the new baths. In one of the two sections (west section at Buto North and Tell el-Herr), the classic complete and typically Greek programme (cleansing in hip-bathtubs and relaxation in immersion bathtubs) is still present, while in the other one (the east section of the two buildings), the hip-bathtubs are replaced by simple ablutions, probably with hot water contained in a *louterion* (restorable in Room 22 at Buto North and Room 12 in Tell el-Herr)

80. REDON 2016.

81. *P. Enteux*. 82, l. 2–4 (221 BC).

82. Theophrastus, *Characters* IX, 8.

for the cleansing operation, followed by relaxation in immersion bathtubs. The separation attempts observed in the transitional baths of Athribis South-East, Krokodilopolis North, Schedia and Theadelphia 2 are also probably a way for the architects to separate two bathing forms in the same building by condemning one *tholos* pertaining to the classic scheme and adding, in parallel, the new bathing equipment. The separation of two bathing programmes is particularly obvious in the baths of Krokodilopolis North after their transformation, with a western “classic section” (*tholos* with hip-bathtubs plus immersion bathtubs) and an eastern “new section”, devoid of any hip-bathtubs, and which comprises only immersion bathtub rooms and maybe a *louterion* in Room 8, to follow the example of the hybrid baths.

The abandonment of hip-bathtubs and their replacement by a *louterion* reveals deep changes in the bathing practices of Late Ptolemaic and Early Roman Egypt. It recalls, along with the separation of the buildings into two sections, the examples of Magna Graecia that, according to recent research, offered two different bathing sections and two bathing programmes to their clientele.<sup>83</sup> As in the transitional and hybrid Egyptian baths, the Western baths had a typical Greek section (equipped with hip-bathtubs in a *tholos*) and a new or local section, devoid of this traditional Greek equipment: a combination *louterion*/swimming pool (corresponding in Egypt to the combination *louterion* /individual bathtubs) is attested for example in the baths of Caulonia (Room H), Megara Hyblaea (Room G, with a small basin in the south wall), Morgantina North (Room 9) and Velia (Room E), and one must also notice the *louterion* in the relaxation Room C of the Gortys baths (located in Greece). This “new section”, without hip-bathtubs, is evidenced in the Magna Graecia baths from the 4th or 3rd century BC onward and its insertion into the Egyptian baths in the late 2nd and 1st century BC may be an influence of the Western bathing tradition.

### **Clientele of the Tholos Baths and the Gender Issue<sup>84</sup>**

That the segregation stressed above was made by a higher entrance fee is difficult to assess, as has been shown elsewhere.<sup>85</sup> We would like to conclude this paper by examining the possibility that this segregation was based on gender, a still-debated question among bath specialists.

While in many cities of the Greek world, women most likely did not bathe in collective buildings,<sup>86</sup> women of Ptolemaic Egypt had access to the *tholos* baths, as is proved by many papyri.<sup>87</sup> However, could men and women bathe in the same building?

**83.** See above: The different Mediterranean bath models. TRÜMPER 2012 first asserted this separation of the Western baths into two sections. Her assumption was confirmed by the recent discoveries in the above mentioned development, but she thought that the aim of the partition was to separate genders within the buildings, men being offered a complete programme (cleansing & relaxing) and women an incomplete one (cleansing only). In fact, the two sections of the baths did offer two different bathing programmes but that the sections were reserved for one gender or another is not yet proven. See below: Clientele of the *tholos* baths and the gender issue.

**84.** The chapter below is a summary of a more detailed study found in REDON 2016.

**85.** FAUCHER, REDON 2014, pp. 840–842.

**86.** In classical Athens (and probably in many classical cities), women most likely did not bathe in collective buildings. GINOUVÈS 1962, pp. 220–223 states that women had access to public baths in Athens, but admits that the sources he uses (vases and literary sources) are not convincing. On vases depicting women bathing, which are in fact either representations of domestic scenes or depictions of female beauty and attractiveness, see recently STÄHLI 2013.

**87.** For a list of papyri, see REDON 2016, pp. 67, 70.

This eventuality is rejected by those who assume that the Greek baths functioned in the same way as the Roman baths, which were based on a more or less strict gender separation.<sup>88</sup> It has been proposed that Greek baths were accessible to men and women at different times (to separate the bathers by time) or were reserved for one gender. Nevertheless, the sources of the Hellenistic period do not tell us of any bath opening at different times for women and men, whether in Egyptian papyri or in literary and epigraphic sources from the rest of the Greek world, consequently excluding the gender separation by time.<sup>89</sup> Likewise, bath buildings strictly reserved for men or women only do not appear in written sources, in particular in Egyptian papyri, before Roman times.<sup>90</sup>

Other scholars propose a spatial and more or less partial separation of the genders within the building,<sup>91</sup> and we would support this assumption for the Egyptian case. However, it should first be noted that the absolute written proof of gender mixing in the baths is still lacking. Only two papyri evoke men and women together in a bath: the complaint of Philista against Petechon who scalded her: and a report of a fight between five women and one man (Deios, son of Ammonius),<sup>92</sup> but both examples are fragile. Petechon is an attendant of the bath and likely a slave, whose gender is thus not an issue, and Deios could be a child who was bathing with one of his relatives.

Nevertheless, *tholoi* dedicated to one gender are mentioned in three papyri of the 3rd century BC. The first records the order to lay mosaics in “the rotunda of the women” and “the rotunda of the men” of a bath,<sup>93</sup> the second is the complaint of one Thamounis who says she was abused by another female bather “while she was bathing in a hip-bathtub of the *tholos* of the women”,<sup>94</sup> and the third is the already mentioned complaint of Philista, scalded by the attendant working in the female *tholos*.<sup>95</sup> It proves that at least the *tholoi* of the baths were gendered and that men and women could be accommodated at the same time in the baths, whereas not in the same rooms.<sup>96</sup> The field evidence of Egyptian baths supports this hypothesis since they comprise, when following the classic layout, almost systematically two *tholoi*, as stated above. While this could be to host a large clientele (enlarging a single *tholos* up to 40 or 50 seats would probably meet with technical constraints, especially roofing issues), the double *tholos* scheme is a perfect way to enable women and men to bathe at the same time in different rooms.<sup>97</sup> To preserve a minimum of privacy between genders, devices to hide the bathers of the *tholoi* from prying eyes are attested. Usually the entrances of the *tholoi* are easily hidden and, for example, in Buto East, Karnak and Krokodilopolis Sarapeion

88. Nevertheless, even in Roman baths, exceptions exist and baths where men and women bathe together (often small buildings) are known: ROBERT 1948, p. 83–84; TRÜMPER 2012, pp. 302–303.

89. The earliest epigraphic references of this practice date from the beginning of the Roman period (Arkades, in Crete: SEG 26, 1044., and Vipasca, in Portugal: CIL II, 5181.).

90. In Egypt, the evidence is scarce and Roman only: *P.Brem.* 23 = *P.Flor.* III, 333 (116 AD); *P.Leiden* r XIII, 15 (2nd–3rd century AD); *P.Flor.* III, 376 (3rd century AD).

91. GINOUVÈS 1962, pp. 220–223; BROISE 2009, p. 11–13; TRÜMPER 2012.

92. *P.Enteux.* 82 (221 BC), *P.Ryl.* II, 124 (1st century AD).

93. See Guimier-Sorbets, Redon in this volume.

94. *P.Enteux.* 83 (221 BC, Oxyrhyncha). Another female *tholos* is mentioned in *P.Mert.* III, 108 (69–79 AD); they disappear from the papyri precisely when the Greek baths of Egypt are replaced by Roman types.

95. *P.Enteux.* 82 (221 BC).

96. GINOUVÈS 1962, pp. 220–223; TRÜMPER 2012.

97. BROISE 2009, pp. 11–13 already discusses the issue and argues in favour of the former hypothesis. This is rejected by TRÜMPER 2012, p. 38.

the entrance hall is split into two halls, each giving access to one *tholos*, preventing bathers from one hall seeing inside the other *tholos*. Even in the case of the seven baths with *tholos* entries facing each other on each side of a corridor,<sup>98</sup> bathers could be protected from prying eyes by a simple curtain or a door. Such devices are attested in both archaeological and papyrological documentation: the north *tholos* of Karnak was fitted with a door, the socket of which is visible on the floor of the locker room, and a papyrus of the 3rd century BC mentions the purchase of four doors for a bath located in Philadelphia.<sup>99</sup>

To avoid privacy issues in the other bath rooms of the classic model, we must suppose that the bathers were naked only when bathing in their respective *tholos*,<sup>100</sup> and that they left only their coat and unwanted belongings in the cloakrooms of the entrance halls.<sup>101</sup> The question of the gender mix arises for the access to the heated section (heated corridor and immersion room) of the classic model. Indeed, it seems impossible, even in a country where the women were probably freer than in the rest of the Mediterranean, to imagine men and women bathing in the immersion bathtubs of the same room.<sup>102</sup> This probably implies that only one gender had access to the heated section, and that the bathing programme separation described above was probably also based on (but not only<sup>103</sup>) a gender criteria. In the transitional and hybrid Egyptian baths, the gender separation is even simpler, with the separation into two bather circuits emphasised above.

Nevertheless, we have just stated in the previous section that the motivation for the segregation inside the buildings was to divide the bathing forms and to offer two kinds of bathing programme to the clients. Taking all these considerations into account, it seems to suggest that both genders did not have access to the same bathing programme, both in the *tholos* baths and in the transitional and hybrid ones.<sup>104</sup> Unlike many Roman baths where jewellery has been found in the latrines or sewers of one of the two sections, which can be interpreted as the women's section, no such discovery has been made in the Greek baths of Egypt. Nevertheless, a papyrus, unfortunately very fragmentary, may give some indication, at least for the latter baths: it mentions a women's *tholos*<sup>105</sup> in the middle of the 1st century AD, when the transitional and hybrid baths are operating, and it may demonstrate that the "traditional" section, with *tholos*, was more likely to be open to women, while the "new" section was reserved for men. In the classic *tholos* baths, considering the relative place of women and men in Graeco-Egyptian society and their probable different bathing and

**98.** Athribis South-East, Kom el-Khamsin, Kom el-Qadi/Kom el-Wasit, Krokodilopolis North, Krokodilopolis Sarapeion, Tell Gomaimah, Theadelphia 1 Phase B.

**99.** *P.Mich.* I, 38 (3rd century BC, Philadelphia), l. 33–36.

**100.** See TRÜMPER 2012, p. 38, on the fact that the niches of the *tholoi* were large enough to host the bathers' clothes and toiletries.

**101.** See *supra*, n. 25.

**102.** The bibliography on this issue is vast. See lastly VEÏSSE 2011, who questions the status difference between Greek and Egyptian women, to show how their situation remains that of an inferior in fundamentally male societies.

**103.** Even if half of the bathers of the *tholoi* did not have access to the relaxation room, the disproportion between the number of hip-bathtubs and immersion bathtubs is still important and solved only if also a part of the bathers of the second *tholos* did not have access to the relaxation room. See above.

**104.** This is different from the later practice of the Roman period, with double baths offering the same bathing programme to both genders, within the two sections of the baths. Therefore, the division of the Egyptian buildings into two sections is not an evidence of Romanisation of the buildings, as we thought in FOURNET, REDON 2007, pp. 123–124. As we now assume, it is more likely an influence of the Western bathing tradition (see above).

**105.** *P.Mert.* III, 108 (69–79 AD).

hygienic practices, we may assume that only (a minority of the) men had access to the complete baths, while the women were confined to the hygienic part of the baths in the *tholos* dedicated to their use. The evidence to prove this is, however, still lacking and we would not like to fall into the trap of essentialism and the comments above are largely hypothetical.

To conclude, the collective baths of Greek tradition in Egypt are original within the Mediterranean corpus by their homogeneity, longevity and evolution.

The classic Graeco-Egyptian baths are organised, from the outset, with a partial separation between men and women, one gender (the women?) having access to an incomplete programme in one of the *tholoi*, while only a minority of the other gender (probably the men) could reach the immersion baths and enjoy a complete traditional Greek bath. Of course, this recalls the partition of the Western baths, but in Egypt the two practices offered to the bathers are identical, but more or less complete, and clearly related to gender, while in Sicily the programmes are completely different one from the other. Also, the classic model differs by the presence, for the relaxing part of the baths, of individual immersion bathtubs, instead of large and collective pools, which is clearly an Egyptian influence. This Egyptian bath type did not remain unchanged and it progressively included technical improvements, mainly of the heating system (heating walls), and new facilities (like latrines).

Therefore, the bathing options on offer in Ptolemaic Egypt were more sophisticated than previously stated, and differentiated according to gender and probably other criteria (for access to the relaxation section) in the *tholos* baths. A third option was also available in the small—and probably restricted-access—baths, that are an Egyptian invention, miniaturising the great *tholos* baths.

From the end of the 2nd century BC, the options greatly evolved in order to answer to new practices and needs. The *tholos* baths were progressively split into two sections, one of them being devoid of the traditional hip-bathtubs, which were replaced by raised basins for ablutions. The insertion of this new equipment and the change in the bathing practices that is implied are probably partly influenced by other bathing traditions, mainly from Sicily and southern Italy,<sup>106</sup> even if Egyptian features remain, like the absence of collective pools. The separation of men and women in the buildings is then total, the traditional baths possibly being reserved for the latter, while the “new section” might be devoted to men. Finally, at the beginning of the Early Empire, Roman influence is also evidenced with the addition of the newly invented hypocaust technique in the section designed for the new practices.

The evolution of the Greek *tholos* baths of Egypt is original in the Mediterranean. Without denying common influences from one model to the other, the evolution is also a local phenomenon that occurred in parallel to other evolutions, in particular those of southern Italian and Sicilian baths.<sup>107</sup> However, as these baths’ development in the 2nd to 1st centuries BC gave birth to the Roman baths,

**106.** It is worth noting that the Egyptian baths were apparently partly “westernised” precisely when the Western baths were definitively transformed and gave birth to what we usually call “Roman baths”, organised with only one circuit, equipped with a *labrum* (Latin equivalent to the *louterion*), a steam room and a collective immersion basin: see the examples of Musarna and Fregellae in BROISE 1994 and TSIOLIS 2013. It is unknown whether this discrepancy in the chronology is significant or if it is just the result of the state of our data.

**107.** *Contra* BROISE 2009, pp. 12–13. At the time of this article, though, the heating system of the Egyptian Greek baths was not evidenced.



as evidenced by the example of Fregellae, the Egyptian evolution, equally inventive and original, failed to find a successor. The Graeco-Egyptian model is definitively abandoned in Egypt in the 2nd century AD when it is replaced by a purely Roman model, imported from outside. After that date, no more *tholos* is attested in Egypt<sup>108</sup> and bathing practices change drastically.<sup>109</sup>

**108.** In the papyri, the term *tholos* becomes a synonym of vault: PAPAConstantinou 2012, p. 221.

**109.** Redon in this volume.

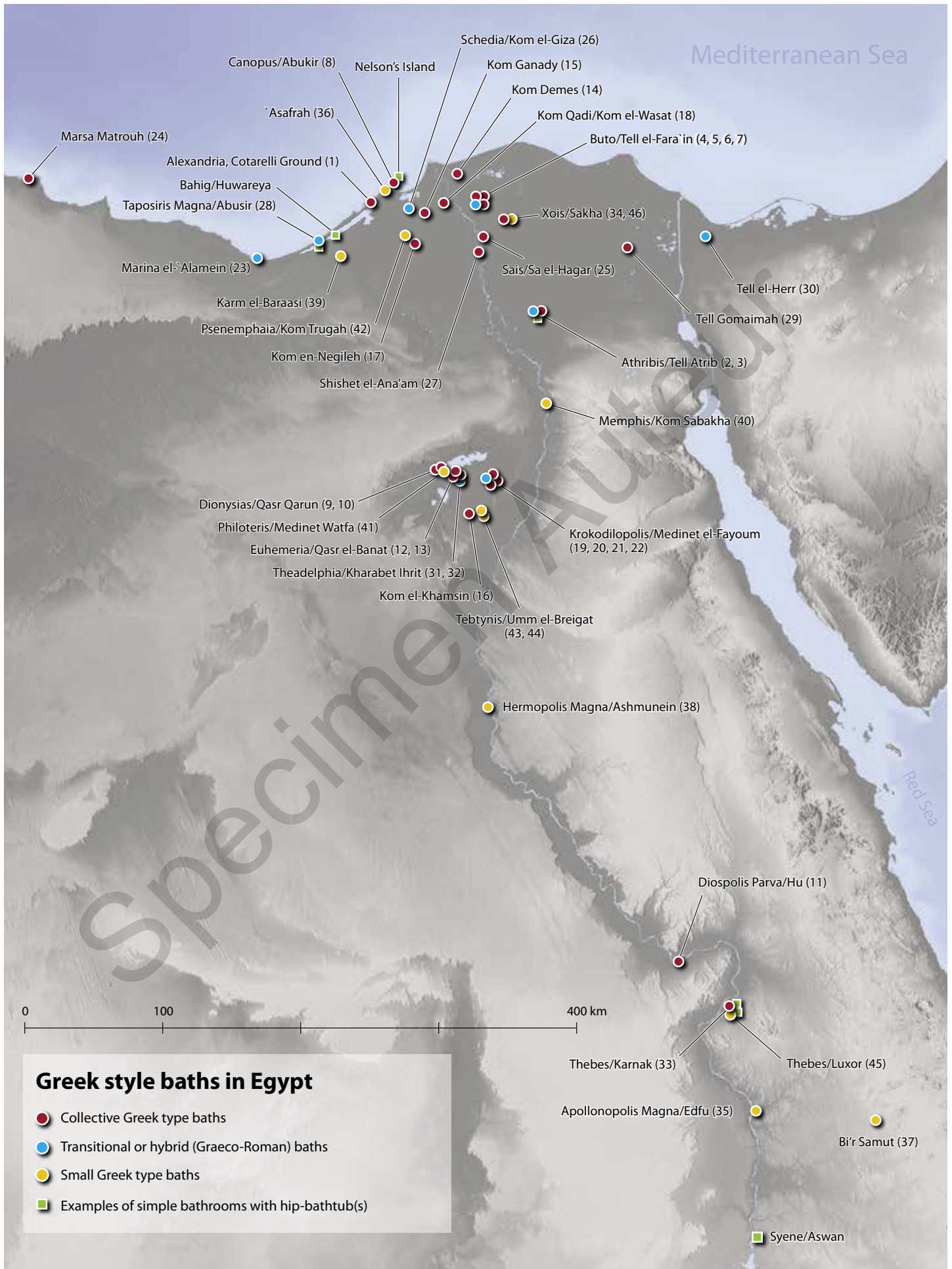


Fig. 1. Greek style baths in Egypt (Th. Fournet, B. Redon, after a Google Map, 2012).

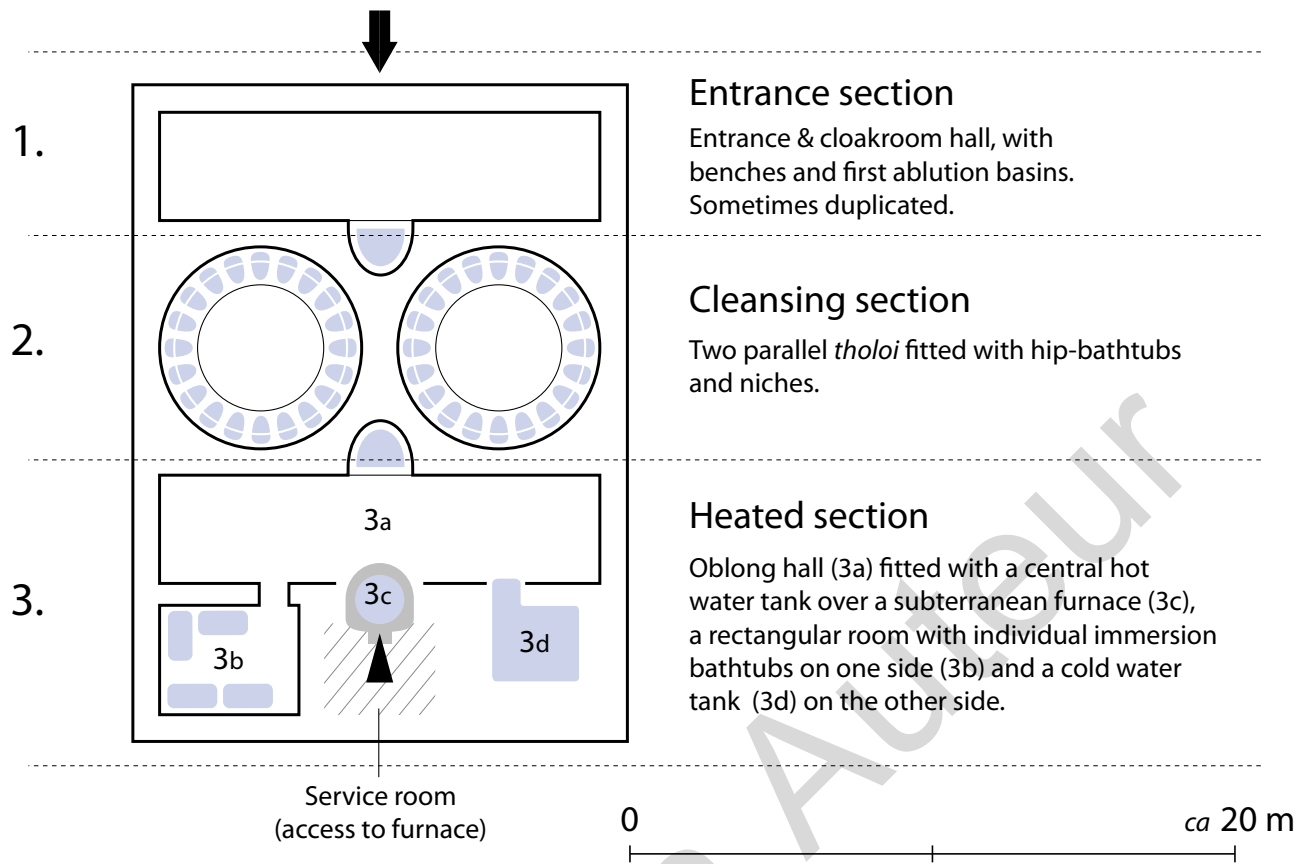


Fig. 2. Theoretical layout of the classic Graeco-Egyptian collective bath type.

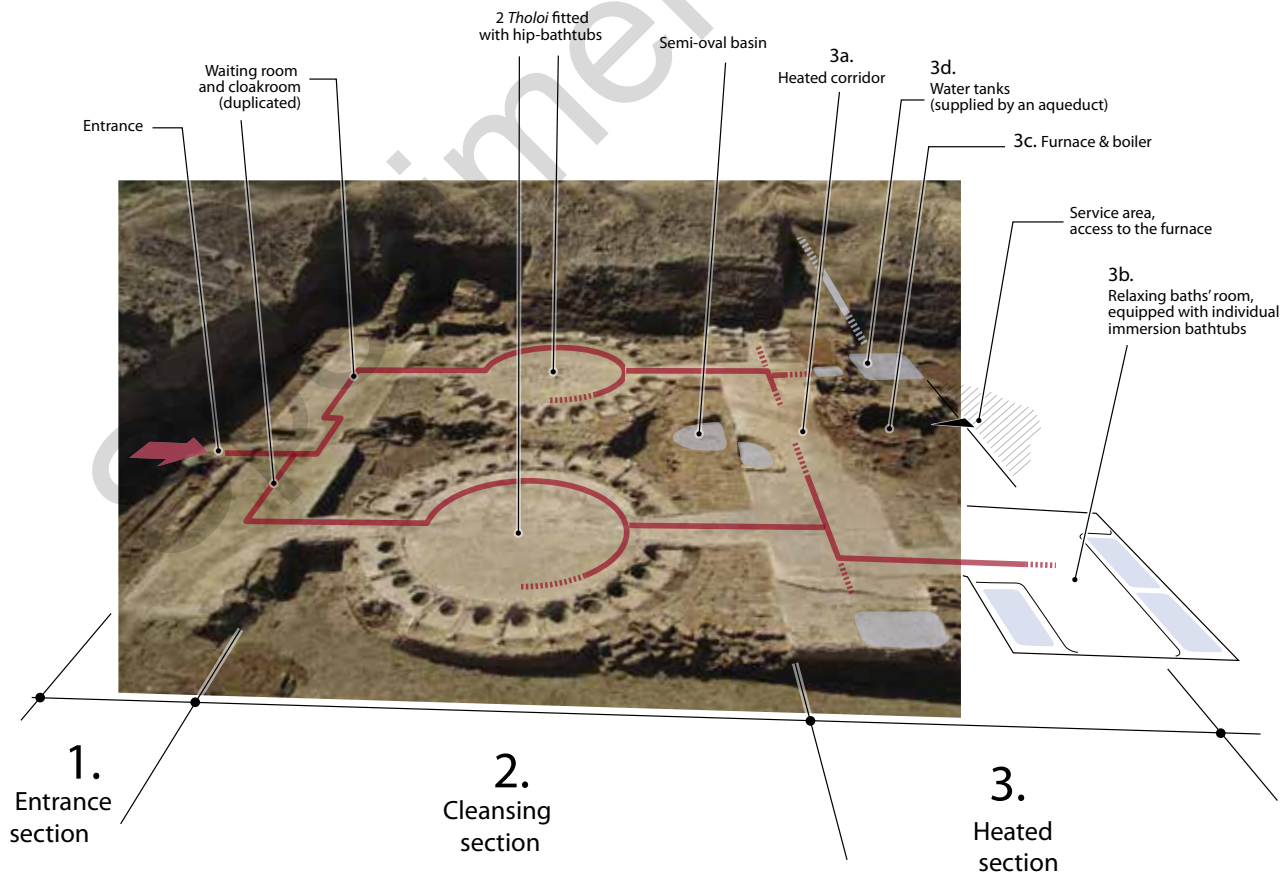


Fig. 3. The baths of Buto East, general view from the south. Elements of the classic Graeco-Egyptian bath type.





Fig. 4. Thebes/Karnak, northern *tholos*, looking towards the west.

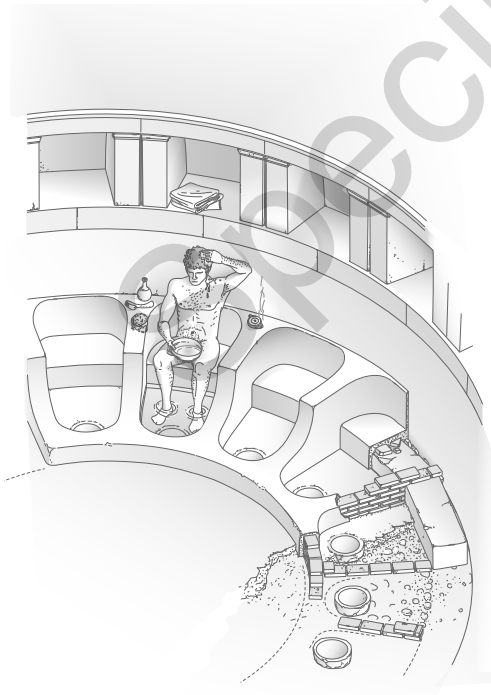
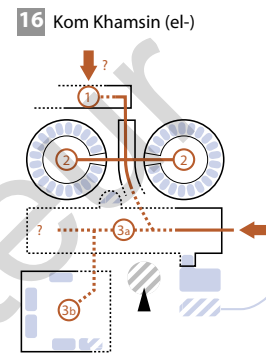
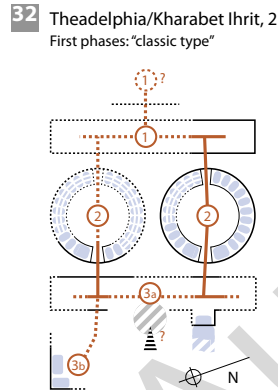
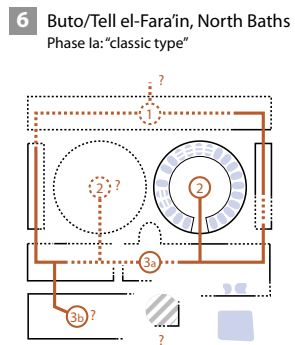
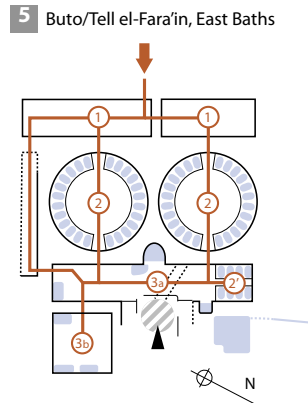
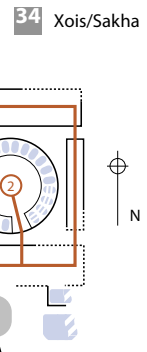
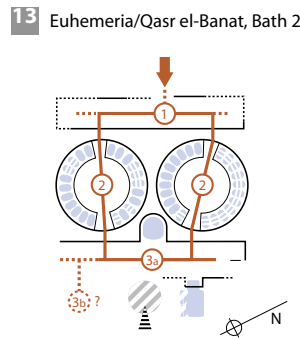
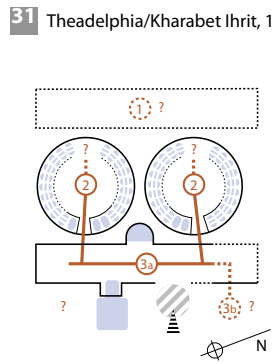
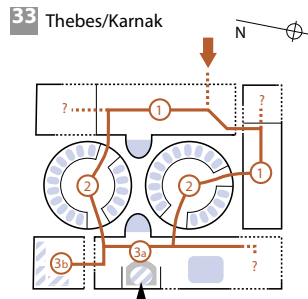


Fig. 5. Taposiris Magna, reconstruction of the hip-bathtubs.

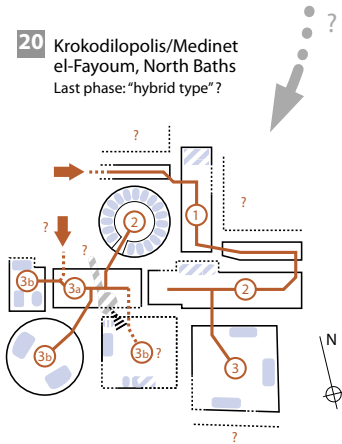
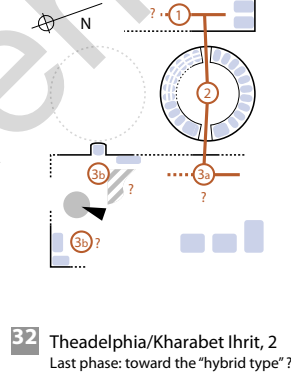
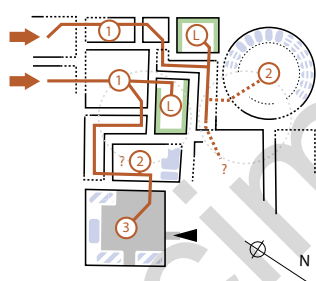
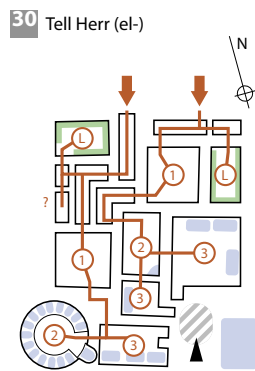


Fig. 6. Thebes/Karnak, the furnace during excavation, looking towards the east.

I. CLASSICAL GRAECO-EGYPTIAN TYPE



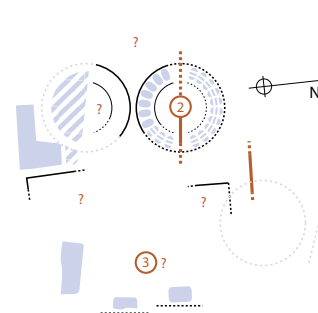
II. TRANSITIONAL AND HYBRID TYPE



Catalogue of  
Graeco-Egyptian baths  
**Typological plate**

UNCLASSIFIABLE (MIXED CHRONOLOGY)

**25** Sais/Sa el-Hagar  
Uncomplete first phase, second phase probably of the "classic type" and third phase toward the "hybrid type"?



**22** Krokodilopolis/Medinet el-Fayoum, Sarapeion  
From the "classic type" toward the "hybrid type"?

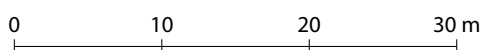
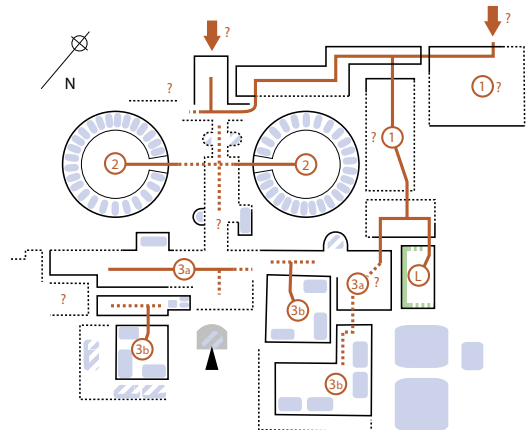


Fig. 7a. Typological plates of Graeco-Egyptian baths.

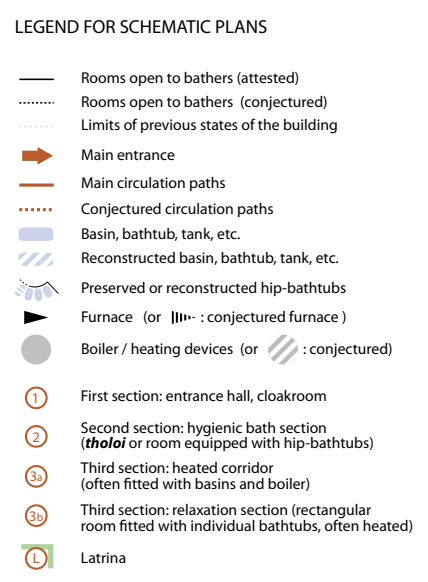
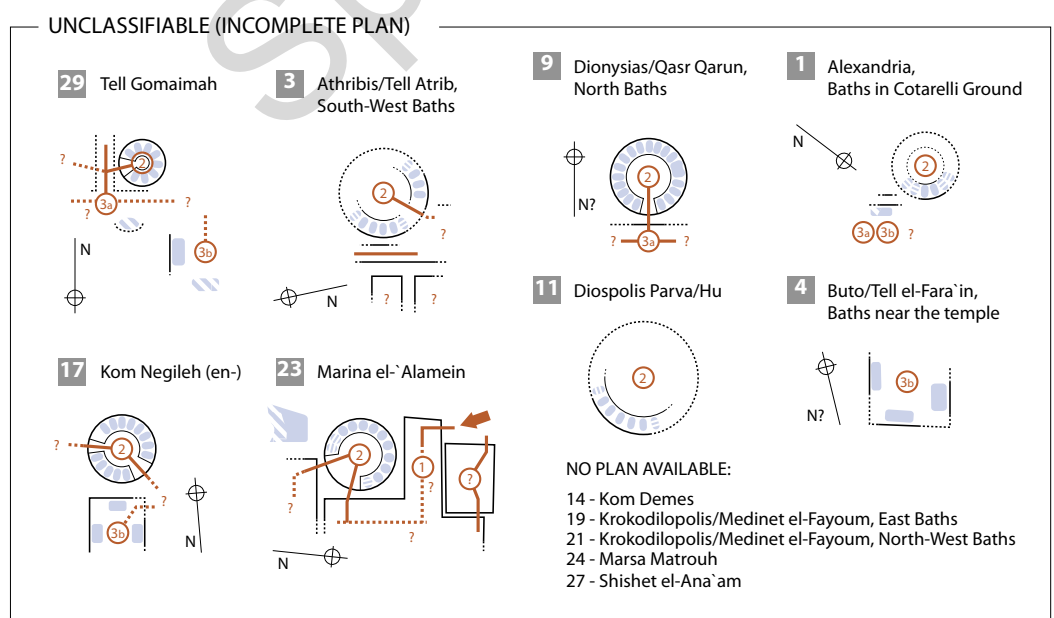
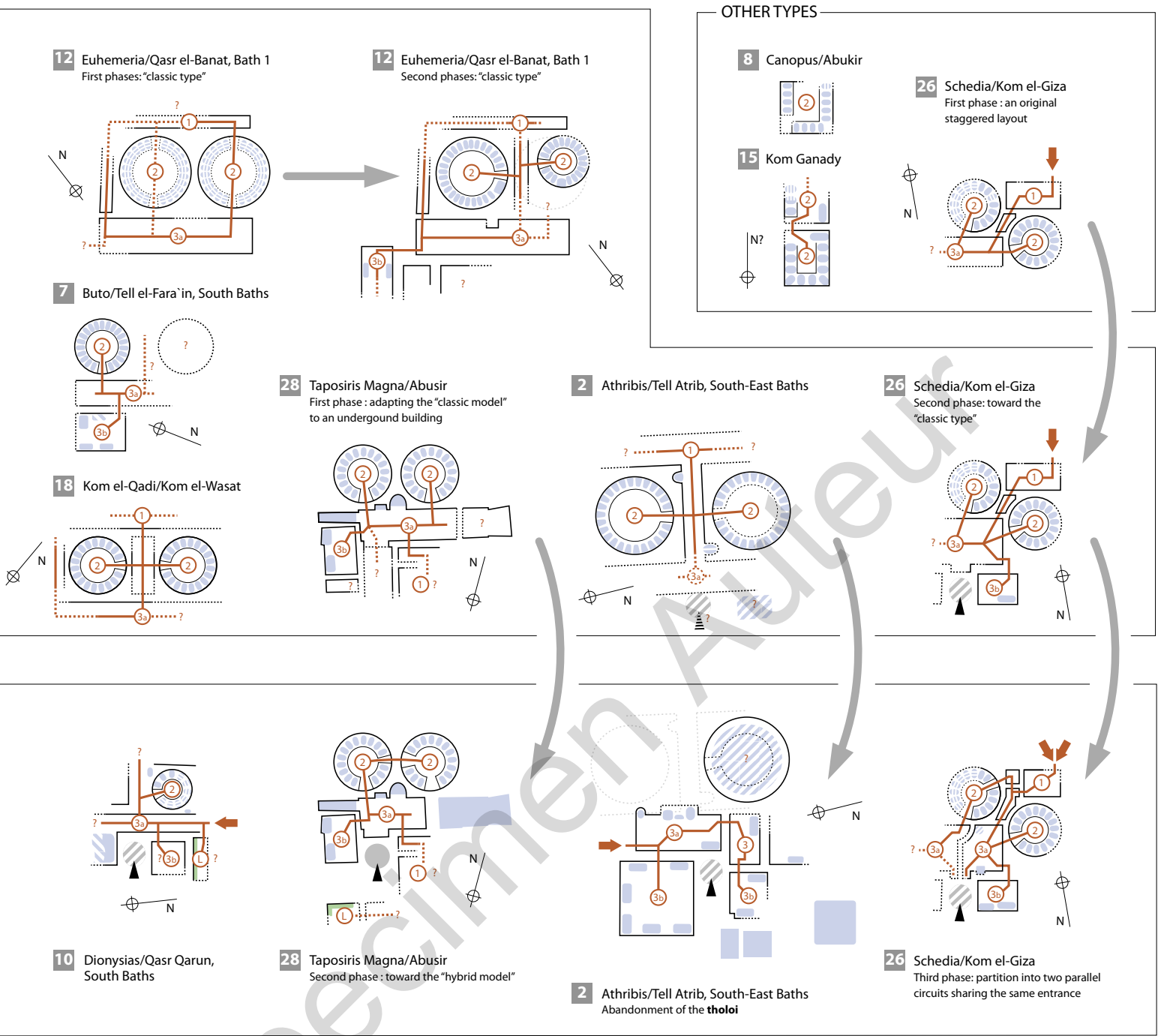
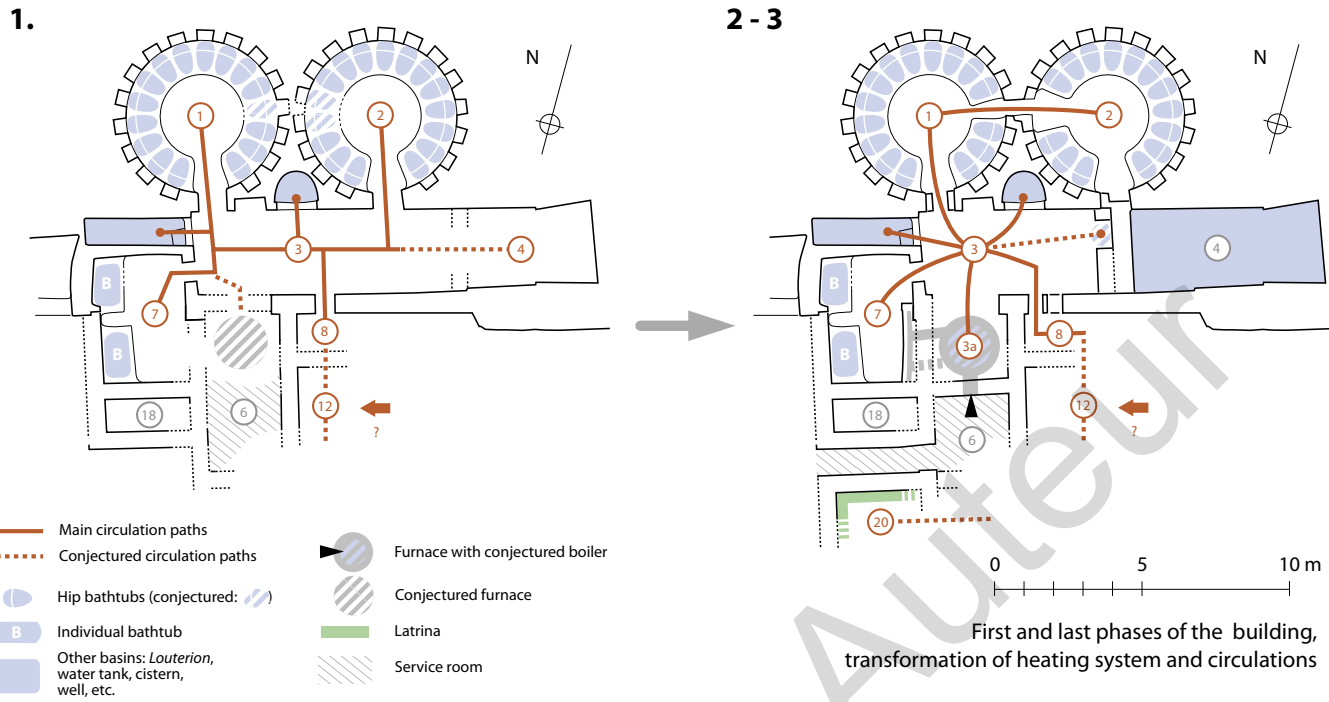


Fig. 7b. Typological plates of Graeco-Egyptian baths.



TAPOSIRIS MAGNA / ABUSIR



Individual immersion bathtub room (7), remains of the heating wall

Reconstruction of the heating system, from south-west

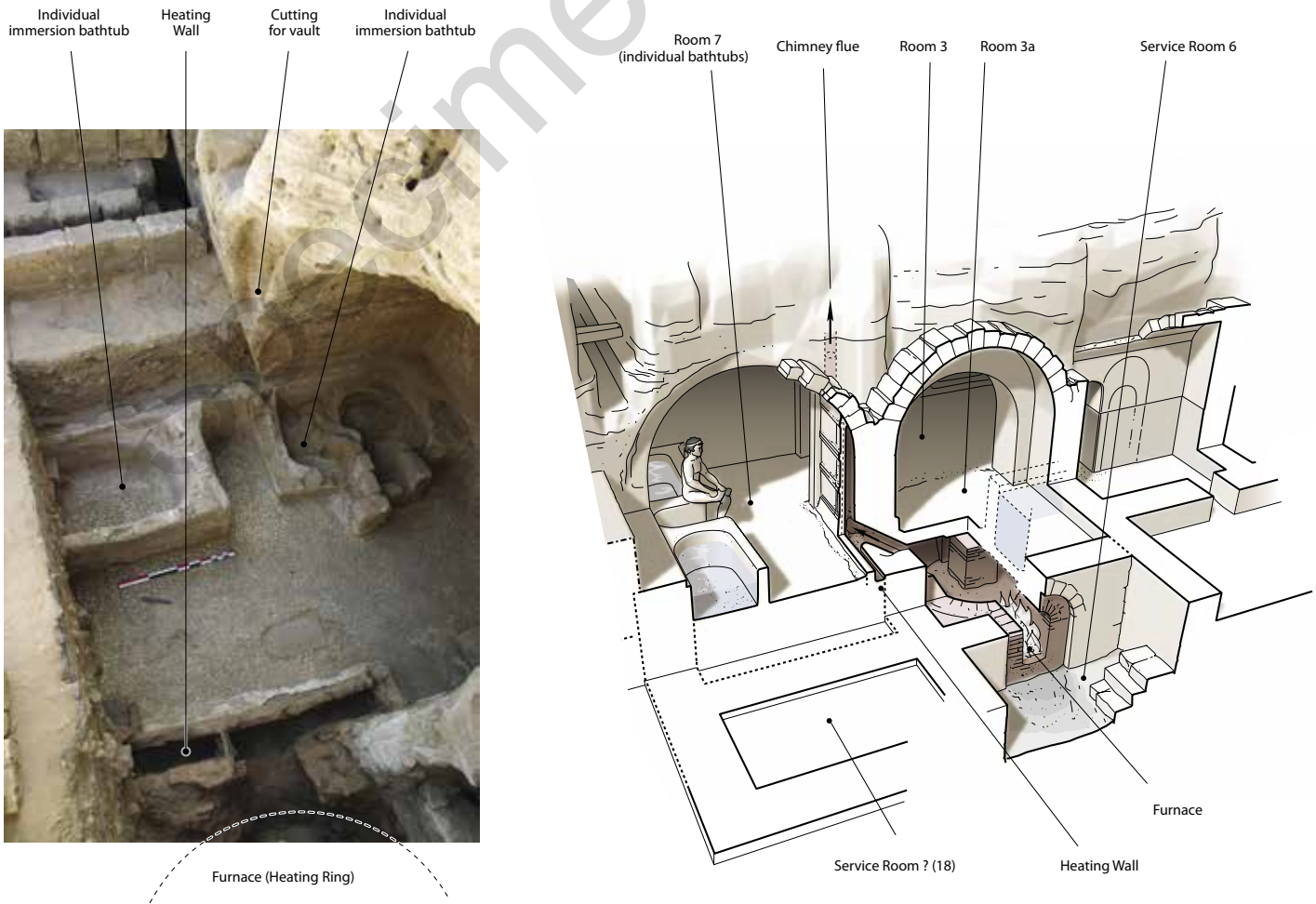


Fig. 8. The baths of Taposiris Magna, general plan with transformation, reconstruction of the heating system (after FOURNET, REDON 2012, fig. 1, 6, 13).

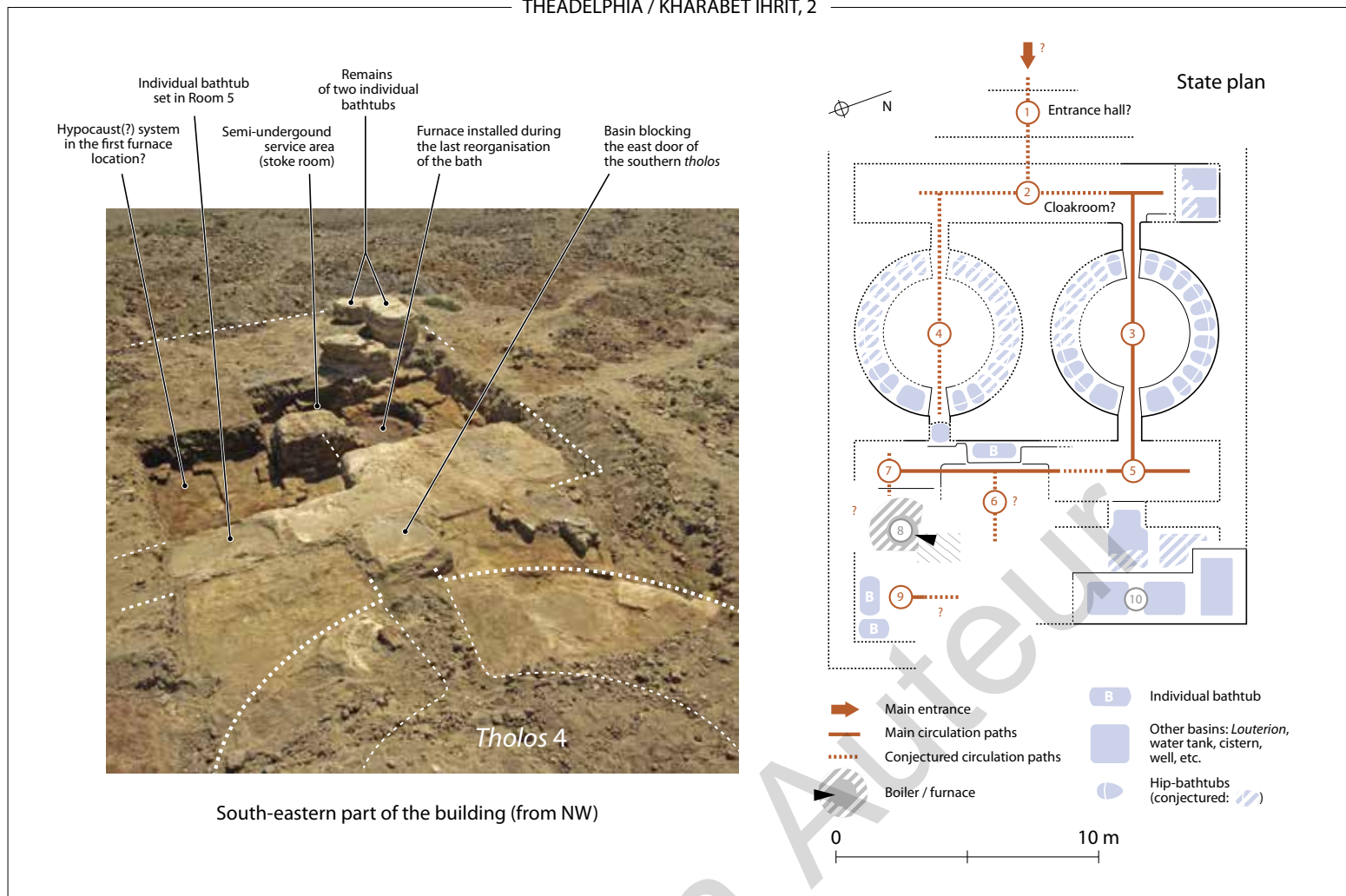


Fig. 9. The baths of Theadelphia 2, state plan and chronological analysis.

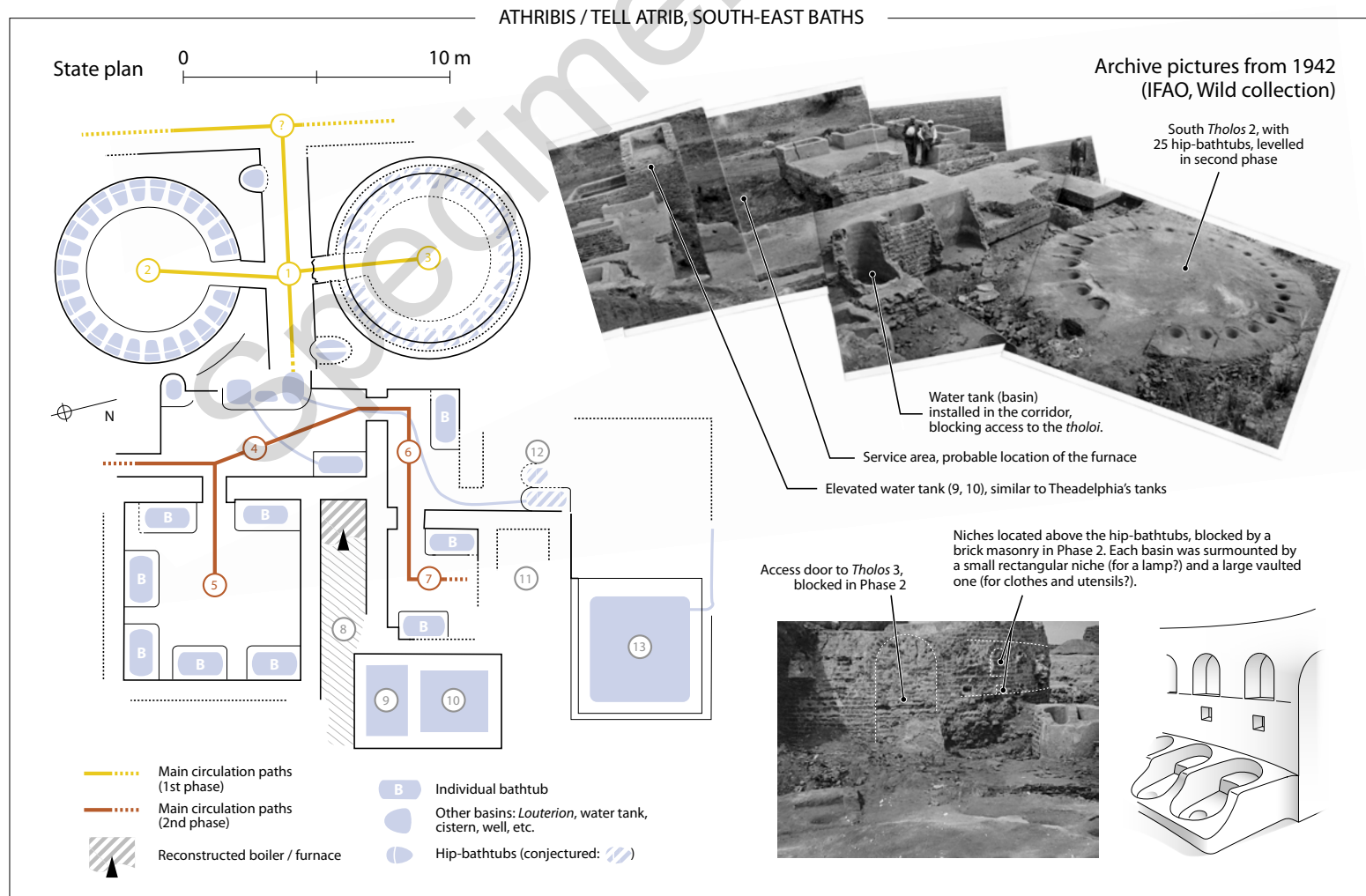


Fig. 10. The baths of Athribis.



KROKODILOPOLIS / MEDINET EL-FAYOUM, NORTH BATHS

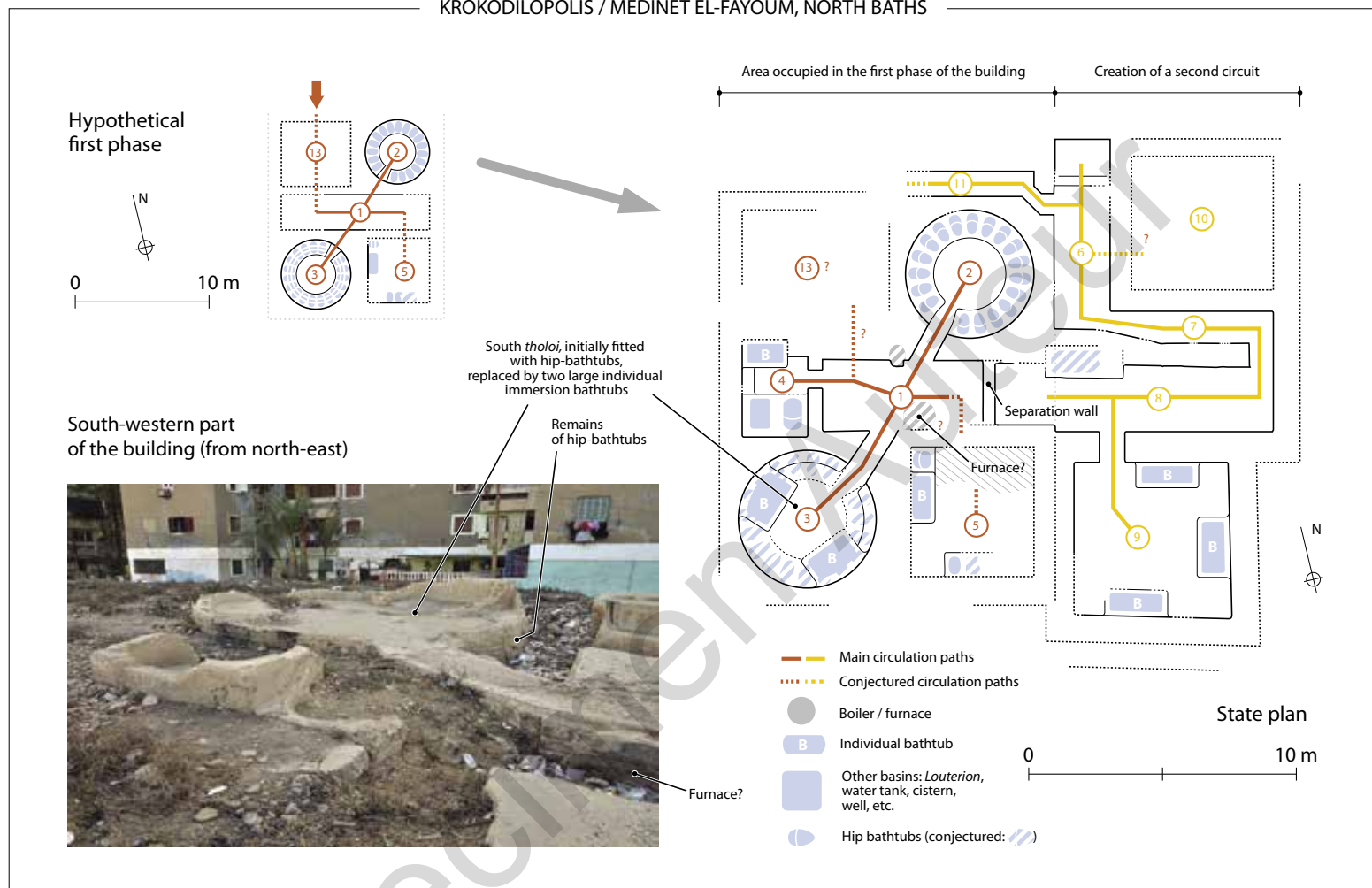


Fig. 11. The baths of Krokodilopolis North.

SCHEDIA / KOM EL-GIZA

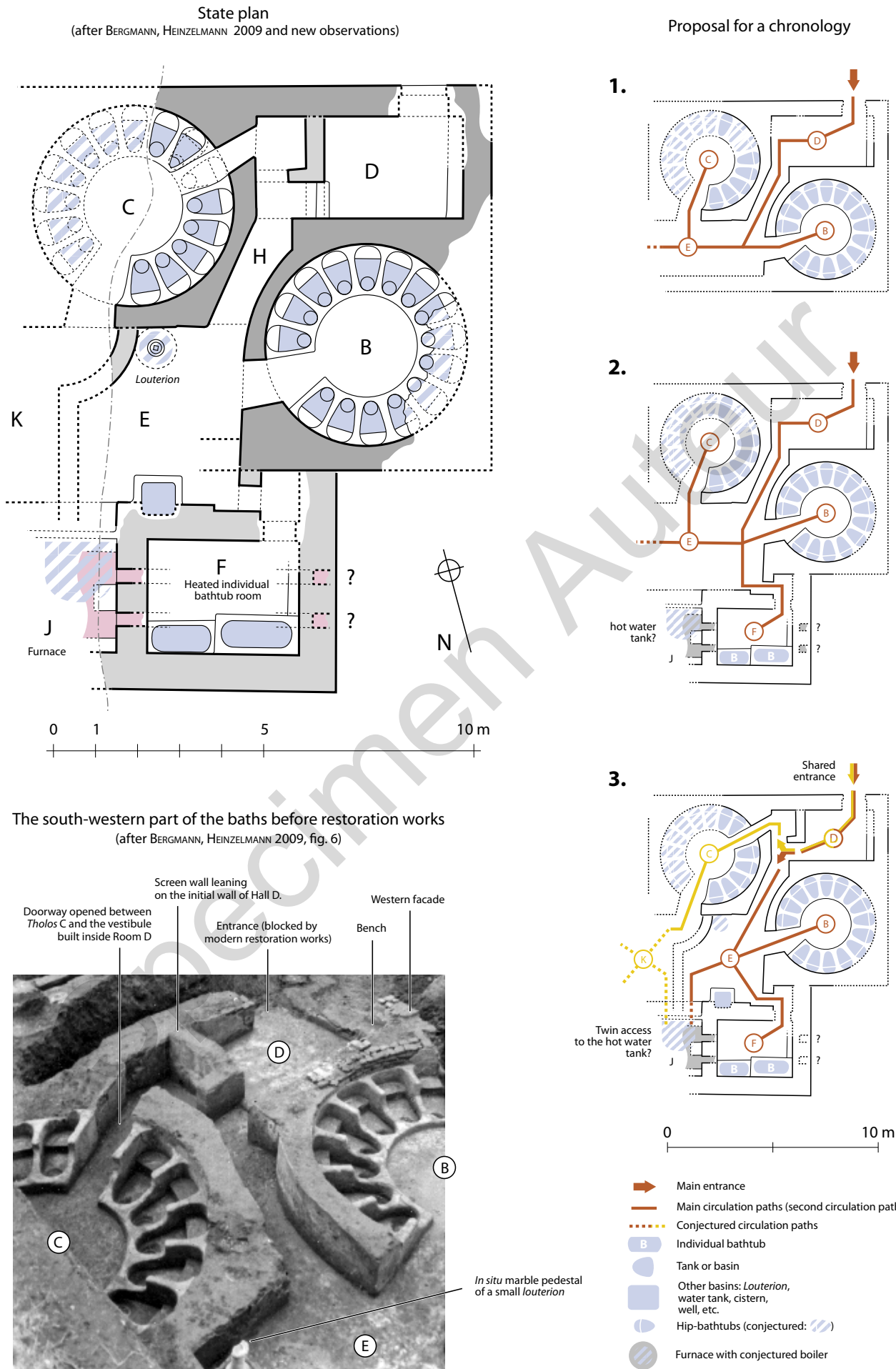


Fig. 12. The baths of Schedia.

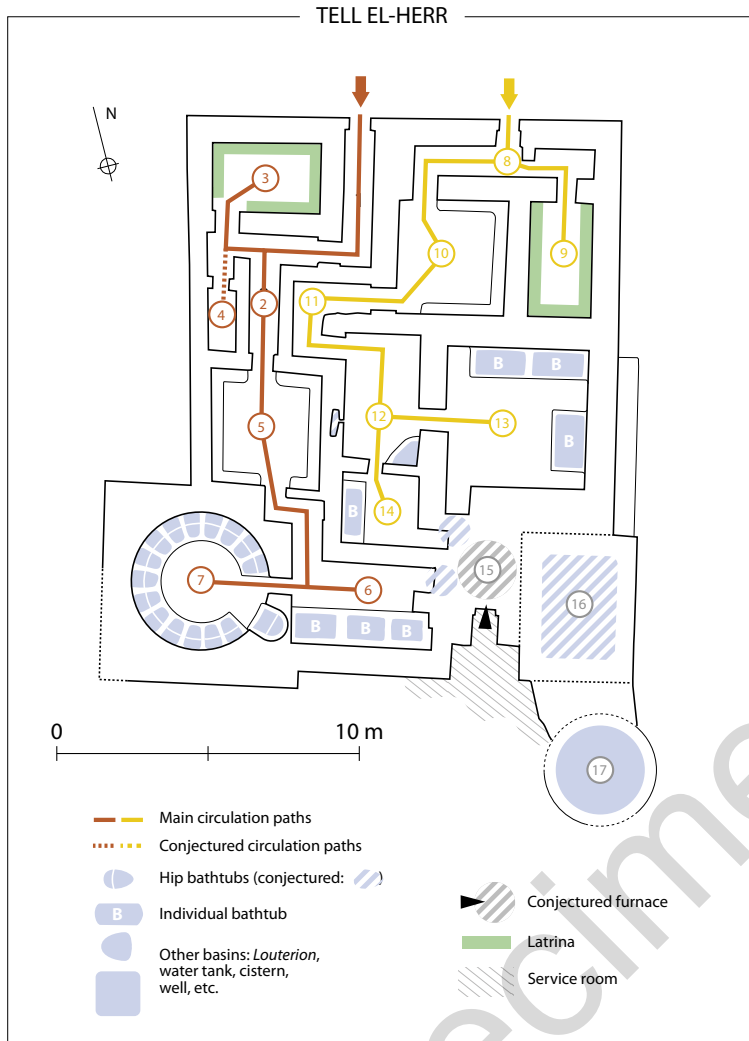


Fig. 13. The baths of Tell el-Herr.

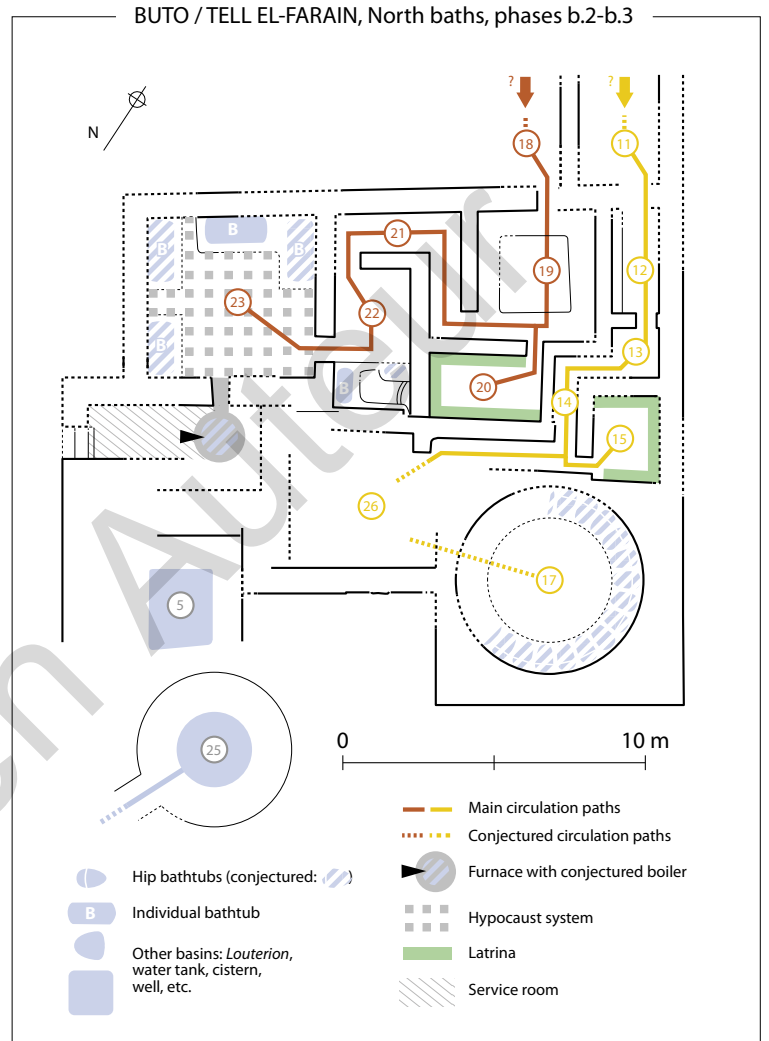
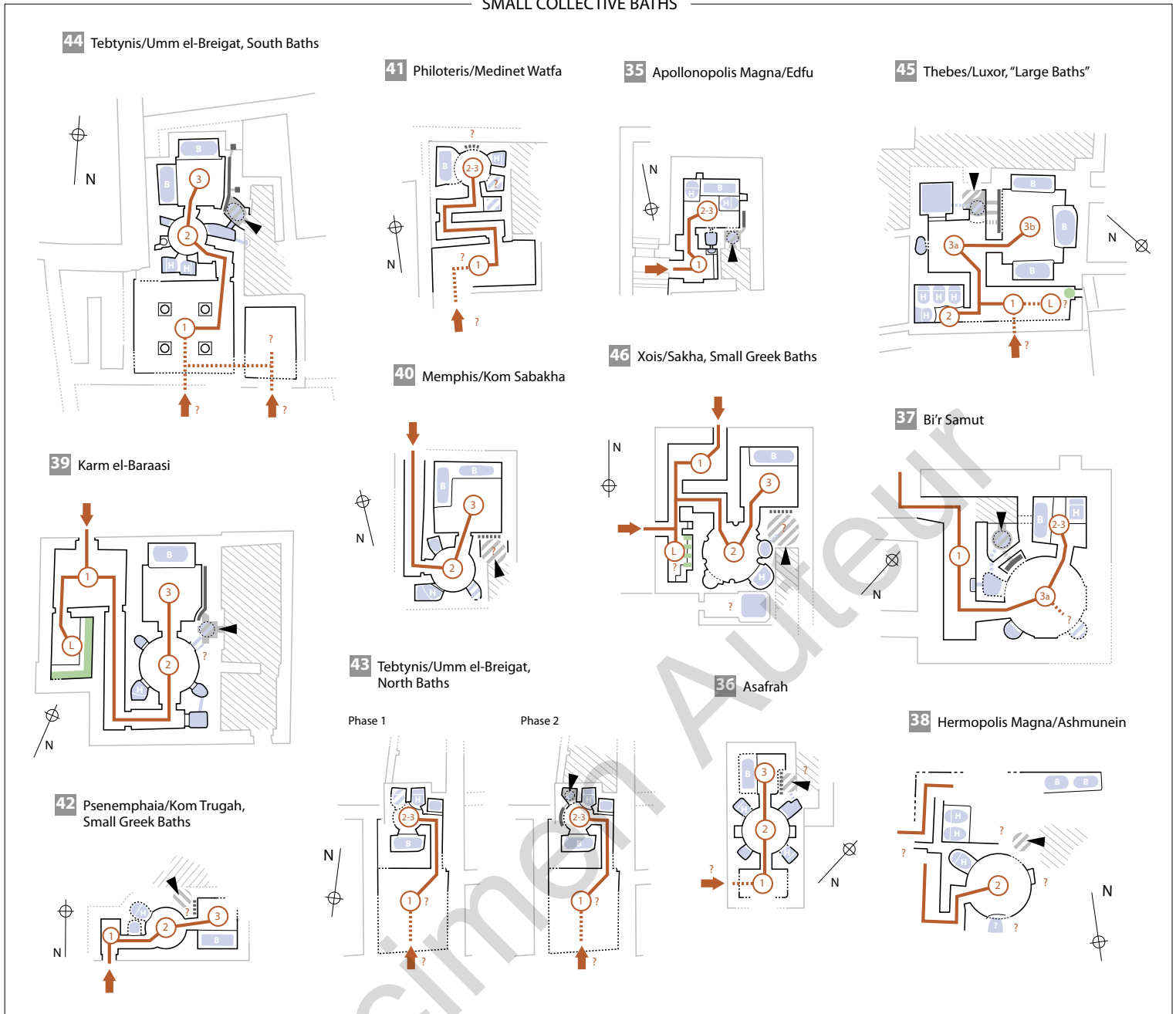


Fig. 14. The baths of Buto North.



LEGEND FOR SCHEMATIC PLANS

- Rooms open to bathers (attested)
  - ..... Rooms open to bathers (conjectured)
  - ..... Limits of previous states of the building
  - ➔ Main entrance
  - Main circulation paths
  - ..... Conjectured circulation paths
  - B Individual bathtub (conjectured: )
  - H Hip-bathtubs (conjectured: )
  - Other tank, *louterion* or basin (conjectured: )
  - ▶ Furnace access
  - Stokery
  - Boiler / furnace (conjectured: )
  - Heating wall or device (conjectured: )
  - ① First section: entrance hall, cloakroom
  - ② Second section: hygienic bath section (*tholoi* or room equipped with hip-bathtubs)
  - ③a Third section: heated corridor (often fitted with basins and boiler)
  - ③b Third section: relaxation section (rectangular room fitted with individual bathtubs, often heated)
  - L Latrina
- 0 10 m

EXAMPLES OF DOMESTIC BATHROOMS

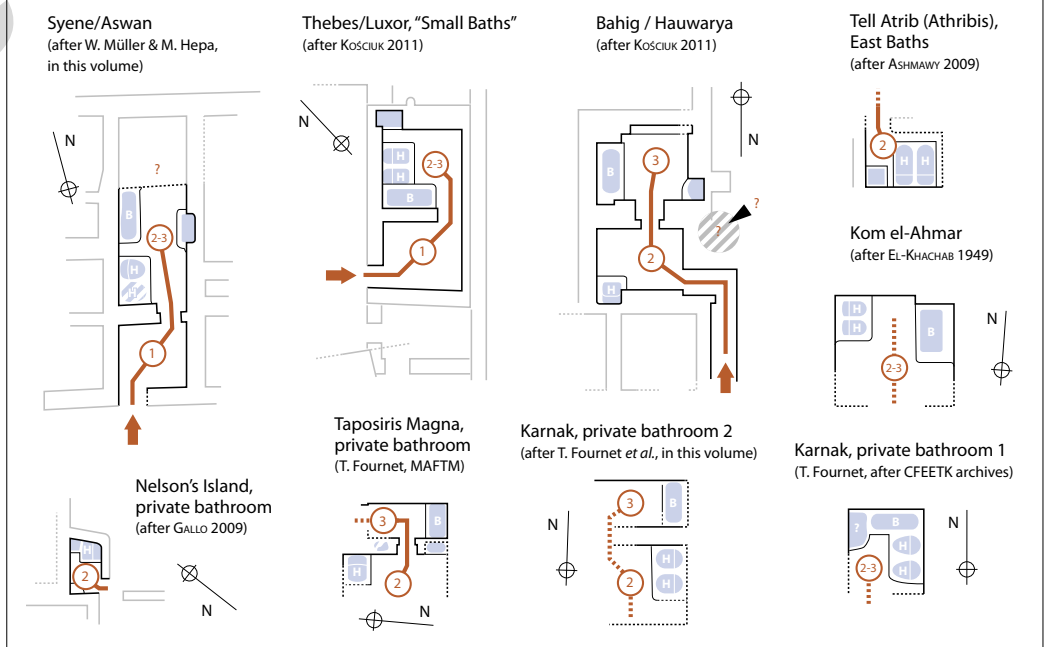


Fig. 15. Typological plate of the small Egyptian baths.

Specimen Auteur

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