

# Glimpsing Alexandria from archaeological evidence

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with an appendix by John Baines

Media coverage of the underwater discoveries in the harbour of Alexandria has resulted in the impression that much of the ancient city, or at least the so-called Royal Quarter (the area of the palaces), has been lost under water.<sup>1</sup> As this misconception has been accepted by those less acquainted with the archaeological evidence, an indication should be given of what new information about the city as a whole is provided by the recent underwater discoveries. It is also worth considering what can be gleaned from the *in situ* remains on dry land of buildings going back to the Ptolemaic period. The archaeological evidence for the city of the living has received less attention than tombs.<sup>2</sup> Recent discoveries provide more information about the city's design and architecture than is generally realized.

The purpose of this paper is to consider some instances of what is known about the city from archaeological evidence, not just from underwater discoveries and recent excavations on dry

- 1 Because of limitations of space, only the main references are given in the notes and only some aspects are discussed. More detailed bibliographies and discussion will be found in my book on the monumental architecture of Alexandria and Egypt during the millennium from the city's foundation to soon after the Islamic conquest, based on archaeological evidence and written sources. I started working on Alexandria in 1980 and my work on the book began in earnest in 1990. This project, directed by myself, is concerned with the interpretation of the archaeological evidence and written sources for the city's architecture and topography, in combination with relevant evidence from elsewhere in Egypt.

*Frequently cited abbreviations:*

Adriani, <i>Annuario</i> vol. 1	A. Adriani, <i>Annuario del Museo greco-romano</i> , vol. 1 (1932-33)
Adriani, <i>Repertorio</i>	A. Adriani, <i>Repertorio d'arte dell'Egitto greco-romano</i> , ser. C, vols. 1-2 (Palermo 1966)
<i>Annuaire</i>	<i>Annuaire du Musée greco-romain</i>
BSAA	<i>Bulletin de la Société d'archéologie d'Alexandrie</i>
Daszewski, <i>Mosaics</i>	W. A. Daszewski, <i>Corpus of mosaics from Egypt I</i> (Aegyptiaca Treverensia 3, 1985)
Empereur, <i>Alexandrie</i>	J.-Y. Empereur, <i>Alexandrie redécouverte</i> (Paris 1998)
<i>ÉtTrav</i>	<i>Études et Travaux</i>
Goddio et al., <i>Alexandria</i>	F. Goddio et al., <i>Alexandria, the submerged royal quarters</i> (London 1998)
Grimm, <i>Alexandria</i>	G. Grimm, <i>Alexandria, die erste Königsstadt der hellenistischen Welt</i> (Mainz 1998)
Humphrey, <i>Circuses</i>	J. H. Humphrey, <i>Roman circuses</i> (London 1986)
Kolataj, <i>Baths</i>	W. Kolataj, <i>Imperial baths at Kom el-Dikka</i> (Alexandrie VI, Warsaw 1992)
Mahmoud-Bey, <i>Mémoire</i>	Mahmoud-Bey, <i>Mémoire sur l'antique Alexandrie</i> (Copenhagen 1872)
McKenzie, <i>Petra</i>	J. McKenzie, <i>The architecture of Petra</i> (Oxford 1990)
PAM	<i>Polish Archaeology in the Mediterranean</i>
Pensabene, <i>Elementi Aless.</i>	P. Pensabene, <i>Elementi architettonici di Alessandria e di altri siti egiziani</i> (Repertorio d'arte dell'Egitto greco-romano, ser. C, vol. 3, 1993)
Rodziewicz, <i>Habitations</i>	M. Rodziewicz, <i>Les habitations romaines tardives d'Alexandrie</i> (Alexandrie III, Warsaw 1984)
Rowe and Rees	A. Rowe and B. R. Rees, "A contribution to the archaeology of the Western Desert: IV, The Great Serapeum of Alexandria," <i>BullJ RylandsLib</i> 39.2 (1957) 485-520
Rowe, <i>Encl. Serapis</i>	A. Rowe, <i>Discovery of the famous Temple and Enclosure of Serapis at Alexandria</i> (Supplément aux Annales du Service des Antiquités de l'Égypte, cahier no. 2, 1946)
Tkaczow, <i>Topography</i>	B. Tkaczow, <i>Topography of ancient Alexandria</i> (Warsaw 1993)

- 2 Catalogue of tombs: Adriani, *Repertorio*. Chronology of Ptolemaic tombs: McKenzie *Petra* 63-69. Tombs at Gabbari recently discovered beneath expressway: J.-Y. Empereur and M.-D. Nenna (edd.), *Nécropolis 1* (Études Alexandrines 5, Cairo 2001). Well-illustrated interpretations of Ptolemaic and Roman tombs: I. Kaplan, *Grabmalerei und Grabreliefs der Römerzeit, Wechselwirkungen zwischen der ägyptischen und griechisch-alexandrinischen Kunst* (Vienna 1999); M. S. Venit, *Monumental tombs of ancient Alexandria* (Cambridge 2002).

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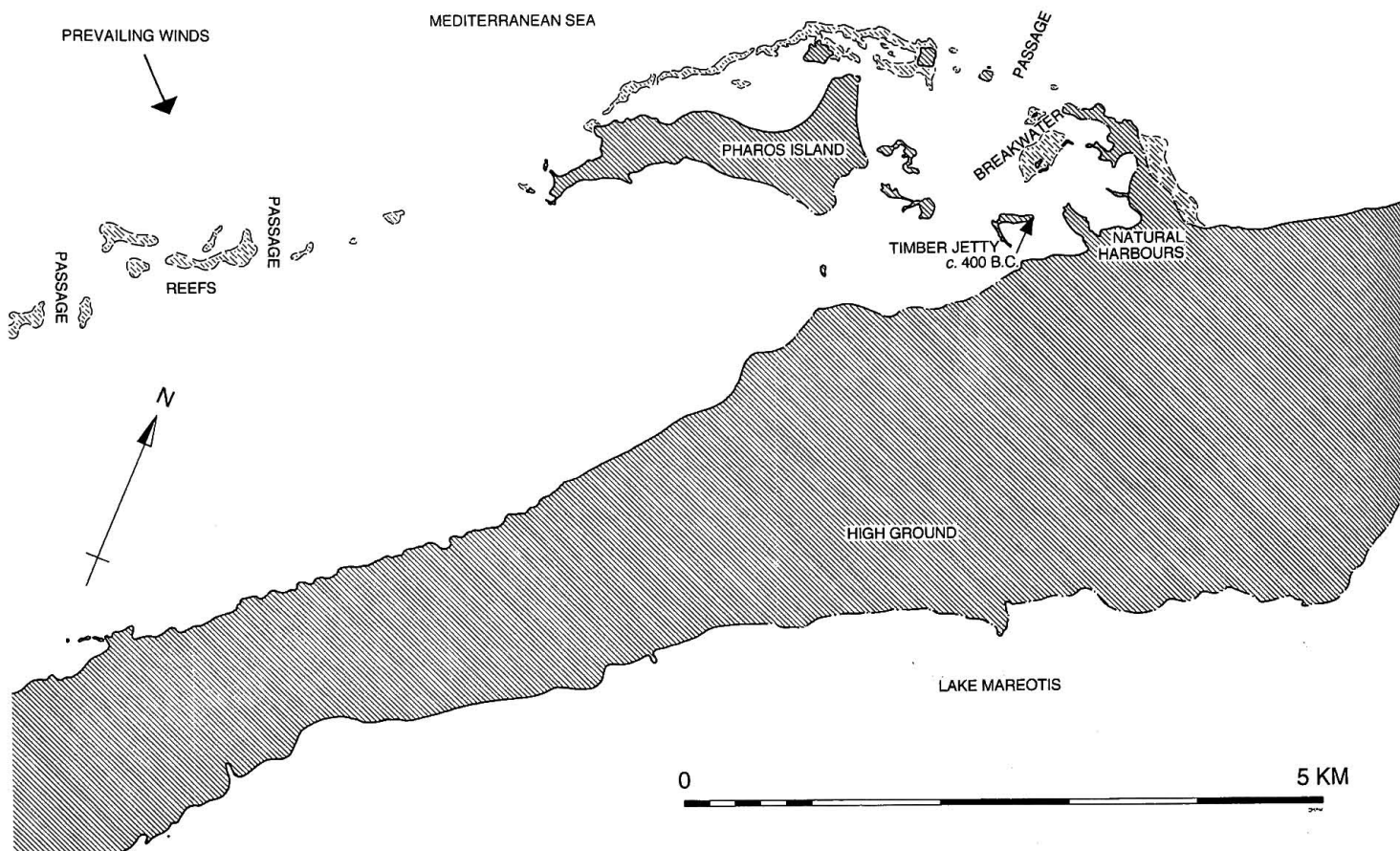


Fig. 1. Site of Alexandria before its foundation (author).

land, but also in relation to earlier discoveries and excavations. This will alter our understanding of the design of the city and its harbours. The axonometric reconstructions of some building complexes, presented here for the first time, are the result of detailed evaluation of the evidence. Limitations of space mean that only new results from physical remains are treated, not the written sources without which, of course, no picture of the city will be complete. It is hoped nevertheless to provide some glimpses of how some aspects of the city might be visualised.

### Harbours

Despite its title, the most important discoveries presented in F. Goddio *et al.*, *Alexandria, the submerged royal quarters* (1998), are the submerged remains of the bays and man-made harbour structures in the E part of the E harbour. Since then, Goddio has also recorded the submerged features in the W part of the E harbour, now under water due to the increased height of sea-level by 1-1.5 m and subsidence of the land by 5-6 m.<sup>3</sup> The extent and exact shape of these man-made harbour structures were not previously known.

If the man-made structures recorded by Goddio's team (and others by A. Hesse and G. Jondet, discussed below) are stripped away to leave the natural land-forms (see fig. 1), a sense can be gained of the site when Alexander the Great decided to found a city. (Further study of the levels of the coast of Pharos island would be necessary to establish its ancient coastline more accurately.) There were small natural harbours in the E part of the (later) E harbour, protected by reefs which formed a natural breakwater.<sup>4</sup>

3 Plan by F. Goddio in S. Kingsley, "Anatomy of the port of Alexandria," *Minerva* 12.4 (2001) 41. Changes in sea level: de Graauw in Goddio *et al.*, *Alexandria* 58.

4 Reefs: Goddio *et al.*, *Alexandria*, maps on 13, fig. 9 on 54.



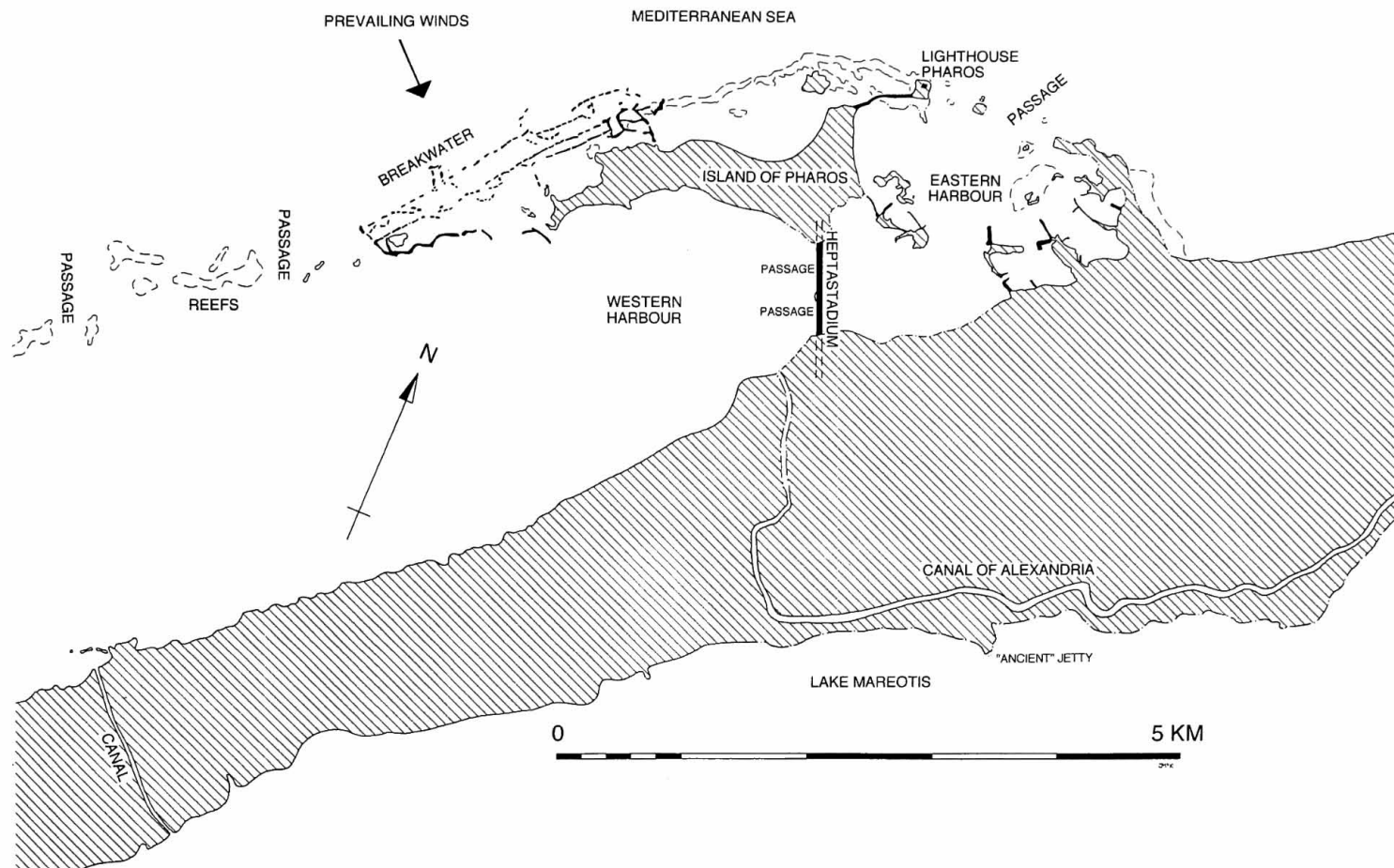


Fig. 2. Alexandria with its man-made harbour works marked in solid black (author).

Goddio's team found the remains of a timber structure which was apparently a jetty (marked on fig. 1) made of elm stakes and pine planks. These timbers gave  $C^{14}$  dates of  $410 \pm 40$  B.C. and  $395 \pm 40$  B.C., respectively.<sup>5</sup> This is in accord with what is recorded by classical sources, that the site was already in use prior to the foundation of the city by Alexander in 331 B.C. According to Strabo (17.1.6), Rhakotis 'was at that time a village', and Pliny (*NH* 5.11.62) says that 'the site was previously called Rhacotes'. Some Greek pottery dated before Alexander has been found in Alexandria, but discussion has arisen about when it reached the city.<sup>6</sup> The hieroglyphic Satrap Stela of 311 B.C. records of the site where 'Ptolemy made his residence' that 'Raqote was its former name'. It has recently been suggested that as Rhakotis (Egyptian Raqote) can mean 'construction site', this was not the name of a village, but referred to the new city under construction. By implication there might not have been an earlier Egyptian settlement there. However, according to J. Baines (see Appendix), the name, as used in the stela, must go back to the Dynastic period, even if Egyptians of the Early Ptolemaic period may have enjoyed the pun on a phrase that was current in administrative documents.

The man-made harbour structures are shown in solid black in fig. 2. There are three main sets: the Heptastadium, the structures recorded by Goddio in the E harbour, and those north-west of Pharos island. The direction of the prevailing winds and swell is also indicated. More than half the time the winds and swell come from the northwest, 70-90% of the time from June to September. The other main wind is from the northeast, 20-30% of the time from October to May. Thus the Heptastadium, the mole joining Pharos island to the mainland and built by

<sup>5</sup> Goddio *et al.*, *Alexandria* 29-31, 56, fig. 11 on 57, photo 26, plan opp. 29, plan on 30.

<sup>6</sup> Venit (*supra* n.2) 224 n. 60. List of Greek vases from Alexandria dated before Alexander's foundation: M. S. Venit, "Two Early Corinthian alabaster in Alexandria," *JEA* 71 (1985) 186-87 n.10 and 187 nn. 1-2.

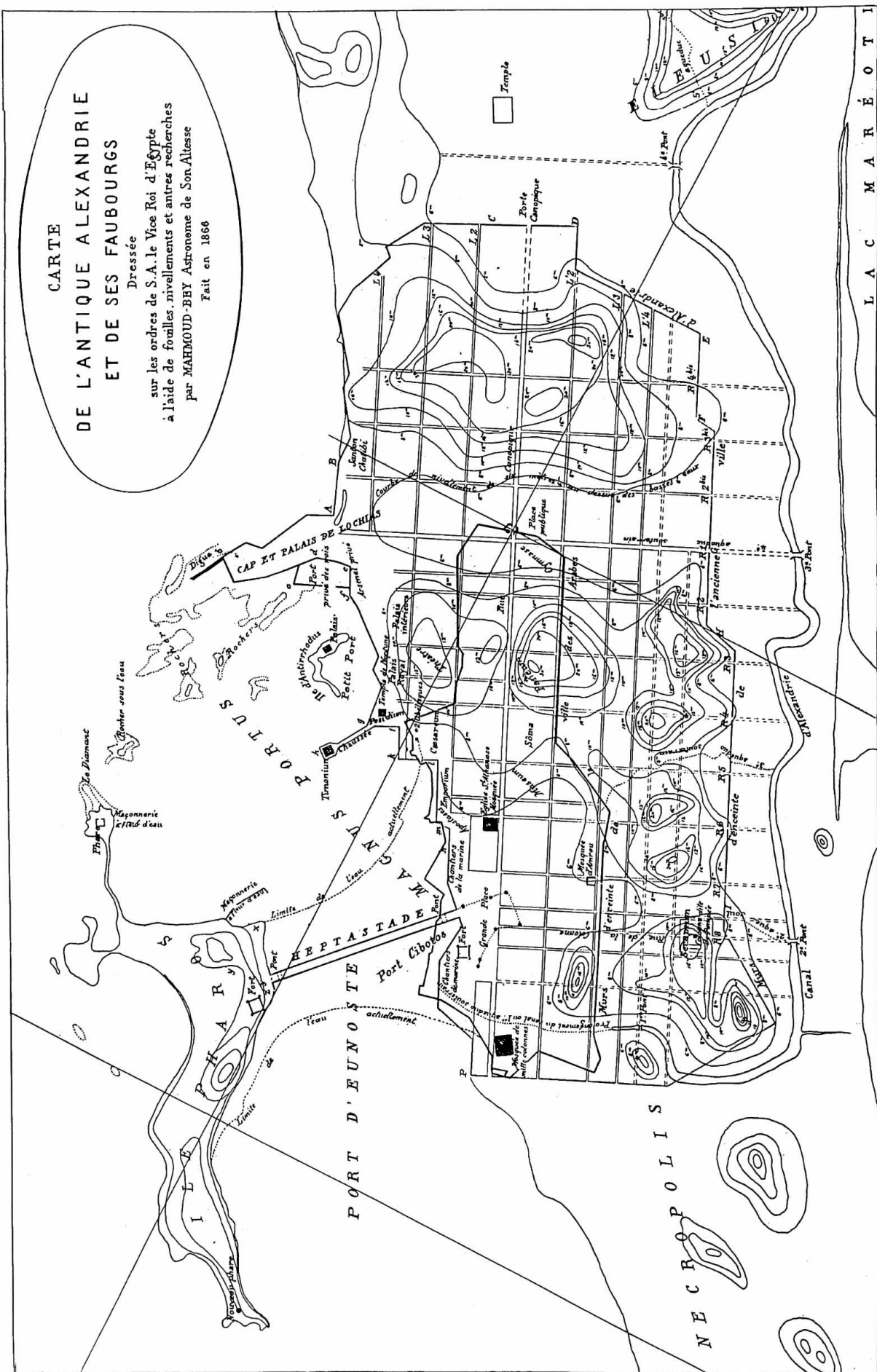


Fig. 3. Ancient city plan recorded by Mahmoud-Bey in 1866.



c.280-270 B.C. as part of the same harbour works as the Lighthouse, created two large harbours which provided year-round protection from the different wind directions.<sup>7</sup> Because the Heptastadium silted up so much that it became built on, its original location was not known until the recent work by A. Hesse and his team using geophysical measuring techniques.<sup>8</sup> They discovered that it was on the orientation of the ancient city grid recorded by the astronomer Mahmoud-Bey in 1866, and on the alignment of the N-S cross-street he named R9 (marked on fig. 6). This changes our understanding of the shape of the harbour because, when combined (as on my fig. 6) with the new information about the E harbour from Goddio's work, the Heptastadium apparently created a large well-protected harbour within the E harbour (assuming this was not broken up by more small islands hidden by the now silted-up Heptastadium). Previously the most reliable suggestion for the location and orientation of the Heptastadium, that of Mahmoud-Bey, gave a different shape to the harbours (fig. 3). He based this primarily on the position of water channels apparently leading to the Heptastadium because the ancient sources indicated that it had an aqueduct on it.<sup>9</sup>

Structures such as breakwaters and jetties were added to improve the small natural harbours within the E harbour so that, as Strabo (17.1.6) indicated in c.26-20 B.C., it was 'cut up into several harbours'. These structures are of lime mortar which had to set in the air in timber frames (caissons) before being sunk. The pine planks from one of these caissons are dated by C<sup>14</sup> to c.250±45 B.C.<sup>10</sup> The Romans also used caissons for harbour constructions (Vitruvius 5.12.2-6). Harbour construction in Italy was revolutionised by the invention of a concrete which set under water because it contained the local volcanic earth (pozzolana) as a hardening agent. The concrete used in caissons for constructing Herod's harbour at Caesarea in 21-10 B.C. included pozzolana,<sup>11</sup> which would have been shipped there as ballast. Thus, if major harbour works were being built in Alexandria after the late 1st c. B.C., they would probably have been of concrete using pozzolana shipped there in the ships which transported grain back to Italy. In that case, the construction with blocks cast of lime mortar of the other (now submerged) moles and jetties in the E harbour of Alexandria<sup>12</sup> should date to the Ptolemaic, rather than the Roman, period. However, further sampling needs to be done to compare the lime mortar from different parts of the harbour and to ascertain their chronological relationships.

Extensive submerged harbour works running along the north of Pharos island and to its west were recorded in detail by G. Jondet, Chief Engineer of the Ports of Egypt, in 1911-15 (fig. 2).<sup>13</sup> The northernmost breakwater, which was 2.4 km long, had regular gaps in it to prevent siltation; it also gave protection to a second breakwater parallel to it. Parallel again is a third, southernmost breakwater which Jondet thought formed a man-made harbour, c.1.2 km long and c.200-400 m wide, with the entrance on the S side (leading from the W harbour). These struc-

7 Details: A. de Graauw in Goddio *et al.*, *Alexandria* 53, 57-58, fig. 9 on 54.

8 A. Hesse *et al.*, "L'Heptastadium d'Alexandrie (Égypte)," in J.-Y. Empereur (ed.), *Alexandrina* 2 (Études Alexandrines 6, Cairo 2002) 191-273.

9 Mahmoud-Bey, *Mémoire* 37-40; Strabo 17.1.6.

10 Goddio *et al.*, *Alexandria* 35-37, 55-56, photo 32, fig. 10 on 56, plan on 34.

11 J. P. Oleson, "Technology of Roman harbours," *IJNA* 17 (1988) 147-57; C. Brandon, "The concrete-filled barges of King Herod's harbour at Sebastos," in S. Swiny *et al.* (edd.), *Res maritimae* (Atlanta 1997) 45-57; C. Brandon *et al.*, "Pozzolana, lime and single-mission barges (area K)," in K. G. Holum, A. Raban and J. Patrich (edd.), *Caesarea Papers* 2 (JRA Suppl. 35, 1999) 173-76. The earliest dated example of pozzolana mortar concrete set under water is at Cosa of the late 2nd or early 1st c. B.C.: Oleson *ibid.* 149.

12 Goddio *et al.*, *Alexandria* 18-52. The descriptions of the building materials of the harbour structures recorded in Goddio's later work and marked on his plan (*supra* n.3) have not yet been published. That some of them are man-made is indicated by the fact that they are marked on Mahmoud-Bey's plan as "masonry".

13 G. Jondet, *Les ports submergés de l'ancienne île de Pharos* (Mémoires présentés à l'Institut Égyptien 9, 1916); *id.*, "Les ports antiques de Pharos," *BSAA* 14 (1912) 252-66; Adriani, *Repertorio* 58-59; Tkaczow, *Topography* 49-50 site 1C. I thank Prof. M. El-Abbadi for his comments.

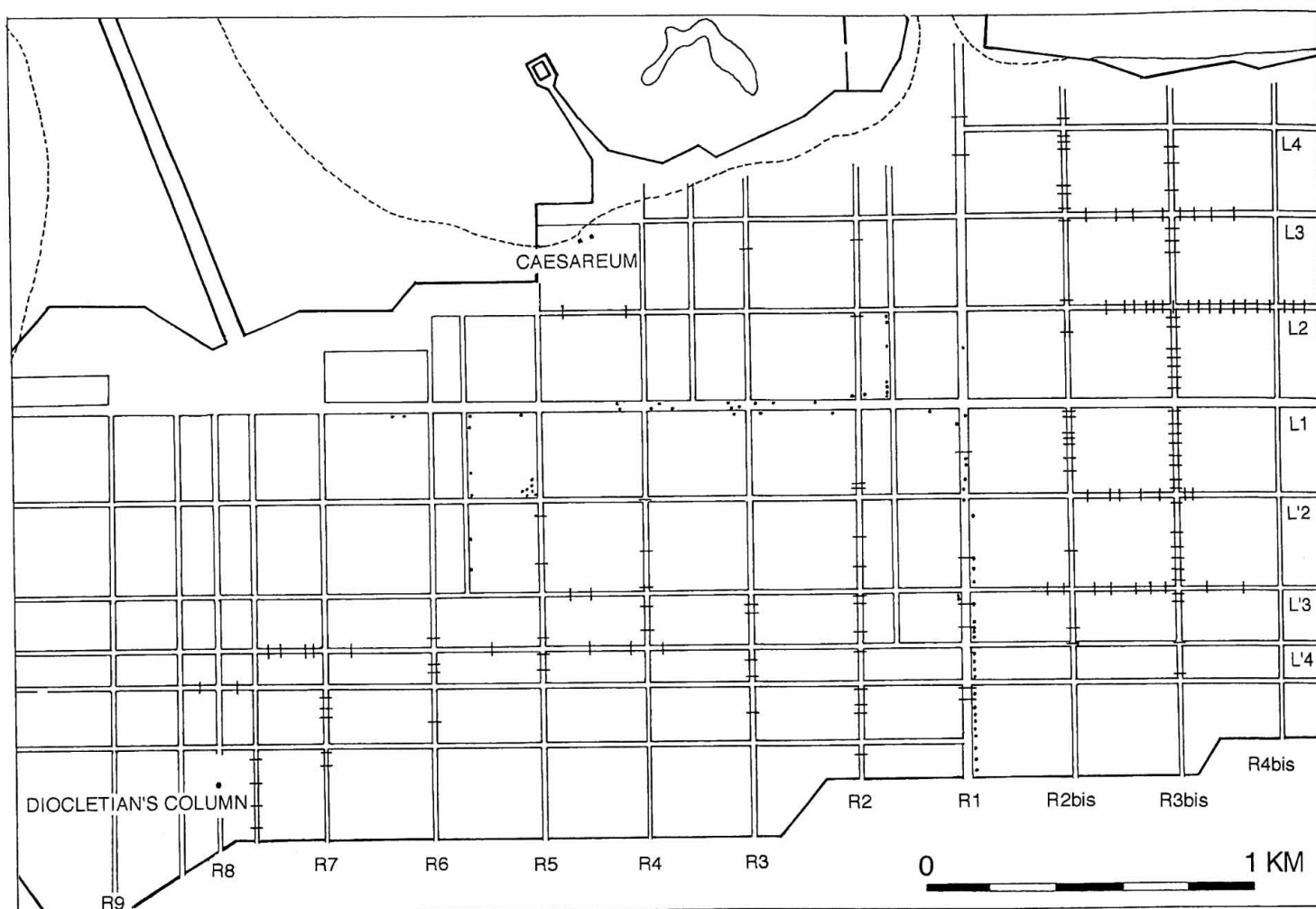


Fig. 4. Paving and columns recorded by Mahmoud-Bey, detail from Kiepert's plan.

tures, which include limestone blocks, also provided additional protection to the W harbour. Jondet made a detailed record of them with descriptions, sections, and plans. Some are man-made, although they included natural reefs when available. I have marked those along the N shore of the island as reefs. The features recorded by Jondet are included in the absence of a more detailed study using modern recording techniques.<sup>14</sup> Jondet observed that, as no pozzolana was used, they antedate the Roman conquest. Because they are not mentioned by Strabo and on account of their monumental size, he suggested that possibly they were built by Ramasses II (c.1279-1213 B.C.). While acknowledging that they are not conclusively dated, Grimm tentatively accepted the suggestion that they might be Minoan.<sup>15</sup> However, F. Petrie observed that the "submerged harbour may well be all Ptolemaic".<sup>16</sup> Once the Heptastadium was built creat-

14 They are marked on the plan here from Jondet's more detailed plan incorporating his work up to 1915 (Jondet *ibid.* 1916, pl. 4), rather than his smaller-scale earlier plan (*ibid.* pl. 3). Those marked on Tkaczow, *Topography*, maps B-C, and E. Breccia, *Alexandria ad Aegyptum* (Bergamo 1914) map at back, are based on Jondet's preliminary report of 1912 (*ibid.* 1912, plan opp. 266).

15 Jondet *ibid.* 1916, 5, 71-73; *id.*, "Les ports antéhelléniques de la côté d'Alexandrie et l'empire crétois par M. Raymond Weill," *BSAA* 17 (1919) 167-78. Grimm, *Alexandria* 17, marked schematically on fig. 9 on pp. 14-15; R. Weill, "Les ports antéhelléniques de la côté d'Alexandrie et l'empire crétois," *BIFAO* 16 (1919) 1-37. See also K. Lehmann-Hartleben, *Die antiken Hafenanlagen des Mittelmeeres* (Klio Beiheft 14, 1923) 10-11. Summary of dates, with references: P. M. Fraser, *Ptolemaic Alexandria* (Oxford 1973) vol. 2, 8 n.21. Fraser considered that they dated before Alexander: *ibid.* vol. 1, 6, marked schematically on map opp. p. 8.

16 W. F. Petrie in E. Bevan, *A history of Egypt under the Ptolemaic dynasty* (London 1927) 7 n.1.

ing the W harbour, a breakwater to its northeast would have been needed to provide protection. Thus, if these harbour works did not already exist, it would have been necessary to build them (this is shown by the construction of the modern breakwater on the same line).

As my maps show, there is now considerably more indication of the design of the maritime harbours than in 1866 when Mahmoud-Bey made his plan. To the south of the city in Lake Mareotis (in the area now covered by landfill) there were docking facilities by the 3rd c. B.C. A harbour there is mentioned later by Strabo (17.1.7). A jetty of unknown date in this part of Lake Mareotis is recorded on the Napoleonic plans of c.1800 (marked on fig. 2), as well as an ancient canal<sup>17</sup> which gave direct access from Lake Mareotis to the Mediterranean, at a point protected by a small harbour (fig. 2).

### Street grid

The next aspect to consider is the street plan. In the early 1860s, not enough of the ancient city had been built over for Mahmoud-Bey to be able to record the evidence for the ancient street grid (fig. 3). He wrote a detailed text to accompany his map,<sup>18</sup> and on another copy of the map he marked where paving or columns had survived. This was copied by other scholars, such as Kiepert (fig. 4).<sup>19</sup> Mahmoud-Bey was aware that the evidence he recorded was Roman, not Ptolemaic.<sup>20</sup> He established the numbering system for the streets (used here in figs. 4–6). He recorded well-preserved paving for the main lengthwise (E–W) streets, L1, L2, L3, L'2, and L'4; and for the main cross (N–S) streets, R1, R2, R3, R5, R6, R7, R2<sup>bis</sup>, and R3<sup>bis</sup>.<sup>21</sup> The positions of most of these streets were confirmed by excavations in the late 19th and 20th c.<sup>22</sup> The soundings by F. Noack in the palace area confirmed the location of L2, R1, R2 and R3 (to which he added two streets: *Lalpha* between L3 and L4, and L5).<sup>23</sup> Evidence for streets R2<sup>bis</sup>, R4, R5 and L'2 was found by E. Breccia and A. Adriani.<sup>24</sup> The lines of some of these streets survive in the modern

- 17 C. L. F. Panckoucke, *Description de l'Égypte* (2nd edn., Paris 1821–29) *Antiquités*, plates vol. 5, pl. 31 (canal), *État moderne*, plates vol. 2, pl. 84 (jetty). Goods unloaded by the Serapeum in Rhakotis, 3rd c. B.C.: Fraser (supra n.15) vol. 1, 144.
- 18 Mahmoud-Bey, *Mémoire*. The map is often missing from copies of this text. A copy of the map is reproduced in G. Jondet, *Atlas historique de la ville et des ports d'Alexandrie* (Mémoires présentés à la Société Sultanieh de Géographie 2, 1921) pl. 37. Colour detail of original plan: Grimm, *Alexandria* fig. 8; Empereur, *Alexandrie* pl. on 22–23. Traces of the grid were also recorded by H. Salt in 1806, reproduced in J. S. McKenzie, "Alexandria and the origins of baroque architecture," in K. Hamma (ed.), *Alexandria and Alexandrianism* (Malibu, CA 1996) 111–12, fig. 3.
- 19 H. Kiepert, "Zur Topographie des alten Alexandria. Nach Mahmūd Beg's Entdeckungen," *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 7 (1872) pl. 5 opposite 384.
- 20 Mahmoud-Bey, *Mémoire* 27.
- 21 Mahmoud-Bey, *Mémoire* 18.
- 22 Also noted in: Rodziewicz, *Habitations* 17–33; id., "Le débat sur la topographie de la ville antique," in R. Ilbert (ed.), *Alexandrie entre deux mondes = Revue de l'occident musulman et de la Méditerranée* 46.4 (1987) 38–48. Mahmoud-Bey's paving and columns, and more recent discoveries of paving, are marked on Tkaczow, *Topography* plan 1, which also gives a full list of sites with evidence of streets on 333.
- 23 F. Noack, "Neue Untersuchungen in Alexandrien," *AthMitt* 25 (1900) esp. 231–32, figs. 2–4, 8, pls. 9–11; Adriani, *Annuario* vol. 1, 59–61 nos. 8–12 and 16–17, 63 nos. 23–25, 77–78 nos. 51–52, 80–81 nos. 60–61; Adriani, *Repertorio* 70–74 nos. 25–28, fig. A on 71, pls. 12–13; Tkaczow, *Topography* 127–28 site 80 (L5), 151–52 site 111 (R3), 157–58 site 119A–B (L2), 159–60 site 122A–C (*Lalpha*, R2), 160 site 123B (*Lalpha*, R1), figs. VII, 60–61, 64a–b.
- 24 Street R2<sup>bis</sup>: Adriani, *Annuario* vol. 1 93–94 no. 116; id., *Repertorio* 80–81 no. 40, pl. 20.71; Tkaczow, *Topography* 162–63 site 128. Street R4, south of L1 for 52 m: A. Adriani, "Scavi e scoperte alessandrine (1949–1952)," *BSAA* 41 (1956) 6–7, fig. 1 no. 53, fig. 6; Adriani, *Repertorio* 87–88 no. 48, pl. 26 fig. 93, pl. 27 fig. 96; Tkaczow, *Topography* 106–7 site 53, fig. 39, plan 3b. Street R4 further south: Rodziewicz, *Habitations* 17–33, plan 1, figs. 7–11; G. Majcherek, *PAM* 11 (1999) 37, fig. 8. Street R5: E. Breccia, *Le Musée gréco-romain* (1925–31) 51–52, pl. 61; Adriani, *Annuario* vol. 1, 19–27, pls. 4–9; Rodziewicz, *Habitations* 18, pls. 6–7; Tkaczow, *Topography* 93–94 site 40, plan 3b; B. Tkaczow, "The historical



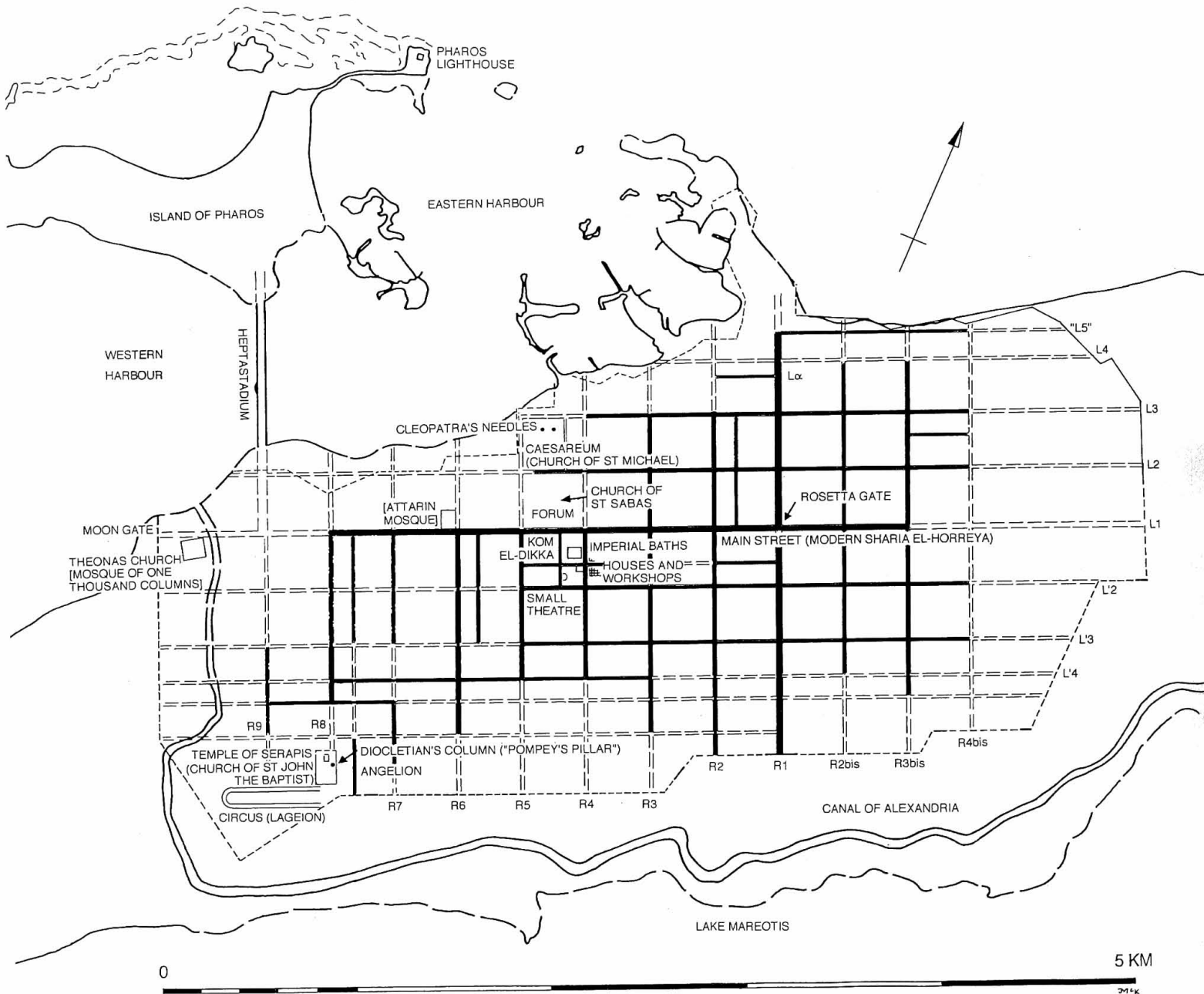


Fig. 5. Late-antique city, with evidence for Roman or late-antique streets marked in solid black (author).

city, such as Sharia el-Horreya which is still the main E-W street. When this evidence is added to Mahmoud-Bey's record and each street where there is evidence drawn to the corner of the relevant blocks, it shows there is considerable evidence for the late-antique grid and for the area occupied by the city in that period (the solid black lines in fig. 5).<sup>25</sup>

topography of Kom el-Dikka," in Z. Kiss *et al.*, *Fouilles polonaises à Kôm el-Dikka (1986-1987) (Alexandrie VII, Warsaw 2000) 134, 135 site 40, plans 12-13. L'2: Adriani, Annuaire 1935-39, 57-64, fig. 27, pls. 24, 25.2; Rodziewicz, Habitations pl. 8.3; Tkaczow, Topography 83-84 site 31, plan 3b; Tkaczow in Alexandrie VII (supra) 134 site 31, plans 12-13. For further discussion of the grid plan: W. Hoepfner, "Von Alexandria über Pergamon nach Nikopolis. Städtebau und Stadtbilder hellenistischer Zeit," in *Akten XIII int. Kongr. klass. Arch. 1988 (Mainz 1990) 276-85.**

<sup>25</sup> The circuit of the city walls marked on plans figs. 5-6 is the main Ptolemaic and Roman one recorded by



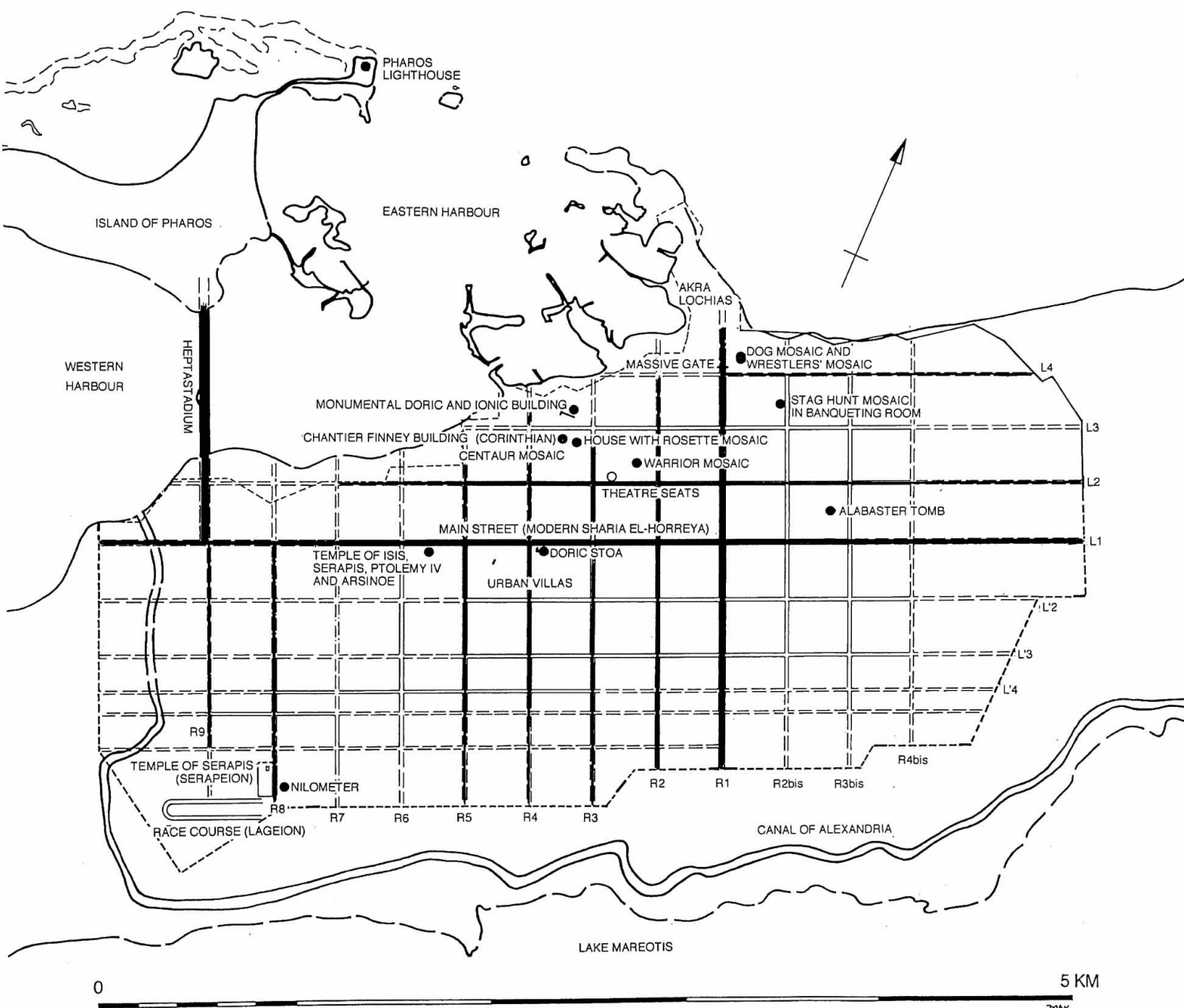


Fig. 6. Ptolemaic city, with streets having a known Ptolemaic phase (at some point on their length) marked in solid black (author).

There is also evidence from the Ptolemaic period for some of these streets. Unlike for the late-antique period, because the Ptolemaic streets are attested only in small areas their whole lengths have been highlighted for clarity (as solid black lines on fig. 6). Ptolemaic phases have been identified in Noack's excavations of streets R3, R2, and L2.<sup>26</sup> Other streets going back to the

Mahmoud-Bey. According to the written sources, there was a second eastern wall (not marked here). Remains of it possibly survive at the base of the Arab walls (visible in Empereur, *Alexandrie* top pl. on 51) near the Rosetta Gate (marked here on fig. 5). There is no space here to discuss the city walls, location of the cemeteries, or areas of occupation in each period.

<sup>26</sup> R3, R2, and L2: Tkaczow, *Topography* 151-52 site 111, 159-60 site 122C, 157-58 site 119A. R3: W. Hoepfner and E.-L. Schwandner, *Haus und Stadt im klassischen Griechenland* (Munich 1994) 238, fig. 226.



Fig. 7a. Fragments of an obelisk and sphinx found under water near Fort Qait Bey, displayed at Kom el-Dikka.



Fig. 7b. Re-cut papyriform columns found under water near Fort Qait Bey, displayed at Kom el-Dikka.



Ptolemaic period include R1,<sup>27</sup> R4,<sup>28</sup> R5,<sup>29</sup> L1, L4 and *Lalpha*.<sup>30</sup> Street R8 ran beside the Ptolemaic Serapeum (see below). That R9 goes back to the Ptolemaic period is indicated by the location of the Heptastadium (mentioned above). Thus, the basic grid plan was established in the Ptolemaic period. The main changes in later periods took place within these larger city blocks. Nearly all the remains of Ptolemaic and Roman buildings are on the orientation of this grid.<sup>31</sup>

### Blocks of architecture and sculpture found under water

Before considering what the Ptolemaic remains still *in situ* on dry land in the palace area tell us about its architecture, we should see what information is provided by the loose pieces of architecture recently found under water.

The underwater work near the Lighthouse site, by H. Frost and more recently by J.-Y. Empereur and his team, as well as in the E part of the E harbour by Goddio's team, have uncovered Egyptian-style remains, including sphinxes, obelisks (fig. 7a), and blocks from buildings.<sup>32</sup> As their hieroglyphic inscriptions attest, most came from Egyptian Dynastic-period temples originally built at other sites, especially Heliopolis.<sup>33</sup> The most important sculptures are the colossal statues of the Ptolemaic rulers represented as Egyptian pharaohs and their queens; they were apparently erected near where they were found beside the Lighthouse site.<sup>34</sup>

These Egyptian-style pieces have led to the suggestion that the city was largely Egyptian in appearance. However, a distinction needs to be made between decorative items, such as sphinxes, obelisks and statues, and blocks which come from the fabric of buildings, such as column shafts and capitals. A further distinction needs to be made between architectural blocks

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- 27 M. Rodziewicz, "Ptolemaic street directions in Basilea (Alexandria)," in *Alessandria e il mondo ellenistico-romano* (Rome 1995) 230.
- 28 Tkaczow, *Topography* 110 n. 127.
- 29 Tkaczow in *Alexandrie VII* (supra n.24) 132 site 40.
- 30 Rodziewicz (supra n.22) 45.
- 31 Notable exceptions: W. A. Daszewski, "Notes sur la trame urbaine de l'ancienne Alexandrie," *CRAIBL* 1994, 425-29, plans 1-2; Rodziewicz (supra n.27) 227-28, 230, figs. 1-3; Tkaczow in *Alexandrie VII* (supra n.24) 133 site 45, 138, 140 site 45, plan 12-14.
- 32 H. Frost, "The Pharos site, Alexandria, Egypt," *IJNA* 4 (1975) 126-30; P. Clayton and M. J. Price (edd.), *The seven wonders of the ancient world* (London 1988) 152, fig. 77; W. La Riche, *Alexandria the sunken city* (London 1996); J.-Y. Empereur, "Alexandrie (Égypte)," *BCH* 119 (1995) 756-60 and *BCH* 120 (1996) 963-70; id., "Alexandria: the underwater site near Qaitbey Fort," *Egyptian Archaeology* 8 (1996) 7-10; id., "The discovery of the Pharos of Alexandria," *Minerva* 7.1 (1996) 5-6; id., "Les fouilles sous-marines du Phare d'Alexandrie," *Égypte, Afrique et Orient* 6 (1997) 2-8; id., *Le Phare d'Alexandrie* (Paris 1998) 41, 78-96, 114-15; Empereur, *Alexandrie* 62-81; *La gloire d'Alexandrie* (Paris 1998) 102-4, 307; J.-Y. Empereur, "Diving on a sunken city," *Archaeology* 52.2 (1999) 36-43; N. Grimal, *BIFAO* 99 (1999) 507-12; Goddio *et al.*, *Alexandria* 169-244. East of Silsila (ancient akra Lochias, marked on fig. 6), divers of the Hellenic Institute for Ancient and Mediaeval Alexandrian Studies (Athens) have also discovered blocks: H. E. Tzalas, "Greco-Egyptian underwater archaeological survey near Alexandria," in *Towards integrated management of Alexandria's coastal heritage* (Paris 2003) 74-79.
- 33 N. Grimal, "Fouilles sous-marines à l'est du fort Qaitbey, 1995," *BIFAO* 96 (1996) 563-70; J. Yoyotte in Goddio *et al.*, *Alexandria* esp. 203-4, 214, 217 n.85, 242.
- 34 The statues were found near their pedestals: Frost (supra n.32). The king who was recently erected near the new library in Alexandria and the queen with an Isis crown constitute a pair, for which suggested dates vary as follows: Ptolemy II and Arsinoe II?: J. P. Corteggiani in *La gloire d'Alexandrie* (Paris 1999) 103 no. 64; J.-Y. Empereur, *Le Phare d'Alexandrie* (Paris 1998) 88, pls. on 85, 88-91, 94, 96. Ptolemy IX or X and Cleopatra III(?): S.-A. Ashton, *Ptolemaic royal sculpture from Egypt* (BAR S923, Oxford 2001) 92 cat. 20, 110 cat. 56. Ptolemy VIII and Cleopatra III?: P. E. Stanwick, *Portraits of the Ptolemies, Greek kings as Egyptian Pharaohs* (Austin, TX 2002) 115-16 nos C22 and C27, figs. 111-12, 115.



Fig. 8a. Vienna, Kunsthistorisches Museum, red-granite papyriform columns found in Alexandria.



Fig. 8b. Vienna, Kunsthistorisches Museum no. 213, screen-wall found in Alexandria.

which were re-cut (and not re-used for their original function) and those which were not re-cut. Many Egyptian-style blocks found under water have cuttings indicating that they were re-used for a different function than their original one (e.g., a block from a beam of a building of Apries; see below). The top halves of two papyriform column shafts found in the sea near Fort Qait Bey by Empereur's team have been re-cut and their opposite sides flattened (fig. 7b), so that they lost their function as free-standing columns in the round. Three red-granite monolithic papyriform columns taken to Vienna in 1869 (they are built into the Kunsthistorisches Museum) provide proof of Egyptian-style architecture in Alexandria (fig. 8a). They originally came from a building in Memphis with cartouches of Thutmose IV (c.1400-1390 B.C.), Merneptah (c.1213-1204), and Sety II (1204-1198).<sup>35</sup> They have not been re-cut, indicating that, when re-used in Alexandria, they were re-used as columns retaining their Egyptian appearance. A column of the same colonnade, found more recently, is re-cut into a rectangular beam; it has cartouches for Trajan added to those of Thutmose IV and Sety II.<sup>36</sup> Egyptian-style blocks were also re-used in the Arab period, even if the blocks were first brought to the city in the Ptolemaic or Roman period. Re-cutting could have occurred in any of these periods.

35 I thank J.-Y. Empereur for information concerning the blocks of papyriform columns at Kom el-Dikka. Vienna columns: two columns with h. 6.30 m, circumference 3.40 m; one column with h. 5.96 m, circumference 3.25 m: H. Sourouzzian, *Les monuments du roi Merneptah* (Mainz 1989) 49 no 11a; B. Kriller and G. Kugler, *Das Kunsthistorische Museum. Die Architektur und Ausstattung* (Vienna 1991) figs. 92, 94-95; H. Satzinger, *Das Kunsthistorische Museum in Wien: Die ägyptisch-orientalische Sammlung* (Mainz 1994) fig. 31; J. Yoyotte in Goddio *et al.*, *Alexandria* 214-15.

36 J. Yoyotte in Goddio *et al.*, *Alexandria* 215.



Many more Egyptian-style blocks have been found on dry land than under water. They include a group of blocks re-used for Egyptian-style architecture. Seven blocks of screen-walls of dark green-grey stone come from a building in Sais or Heliopolis, as is indicated by their hieroglyphic inscriptions of the 26th and 30th dynasties (fig. 8b).<sup>37</sup> The structure in which they were re-used in Alexandria was possibly a fountain, and the Greek inscription on one has been dated to the Roman period.

Both these screen-walls and the columns now in Vienna indicate re-use of Egyptian-style fragments in structures of Egyptian appearance in the Roman city. We still do not have archaeological evidence that this also occurred in the city in the Ptolemaic period. Some Egyptian elements were used in that period, as in the case of the obelisk of Nectanebo [I or II] erected by Ptolemy II Philadelphus in the Arsinoeion, the temple to his wife who died in 270 B.C. (Pliny, *NH* 36.14.67-69).

With the recent media focus on the Egyptian-style blocks, what has largely escaped comment is the fact that the vast majority of architectural fragments from the underwater excavations, both near the Lighthouse site and in the E harbour, were smooth red-granite column shafts belonging to Greek- and Roman-style architecture. Near the Lighthouse site, 32 sphinxes were found, 5 obelisks, and 6 Egyptian columns (such as the re-cut examples just discussed). Of the 2,655 architectural pieces recorded so far, the majority belong to smooth red-granite column shafts.<sup>38</sup> These would have supported Corinthian or Ionic capitals. These columns came from buildings such as the Temple of Serapis, the columns from which were moved to the harbour in 1167 to protect the city walls and impede the approach of Crusader ships.<sup>39</sup> Thus, the preponderance of the evidence from the underwater blocks indicates predominantly classical architecture, with some Egyptian-style sculpture used for decoration.

The other important thing to keep in mind about the architectural and sculptural blocks found under water is that most of them seem to have been dumped. Generally they do not provide evidence for structures in those locations. For example, two pieces of one block of a monument of Apries (589-570 B.C.) brought from Heliopolis were re-cut as a beam: one was found on the mainland shore, the other on the island of Antirrhodos opposite, showing that they were not found on the site of the building in which the beam had been re-used.<sup>40</sup> Notable exceptions found possibly near where they collapsed are the granite doorframe blocks<sup>41</sup> and the marble block with traces of a monumental inscription<sup>42</sup> that might have come from the Lighthouse.

### Some *in situ* Ptolemaic buildings in the palace area

The area of the palaces is the general area (east of the Cecil Hotel) extending from the Metropole Hotel (where Cleopatra's Needles later stood) opposite Ramleh Station eastwards to the promontory Silsila (ancient *akra Lochias*) near the new library. This general area is identified as the palace area or Royal Quarter by the written sources. Nearly all of it is still

37 Ibid. 215-17, fig. 19, photos 102-3. See also M. Eaton-Krauss, "A falsely attributed monument," *JEA* 78 (1992) 285-87 and Satzinger (supra n.35) 46-47, figs. 30a-b. Dating the original monument is complicated by the combination of cartouches on the blocks.

38 These figures, kindly provided by J.-Y. Empereur in April 2003, update those in Empereur (supra n.34) 87-88. Smooth column shafts near Lighthouse: La Riche (supra n.32) pls. on 35-37; in E part of E harbour: Goddio *et al.*, *Alexandria* photos 33, 34, 41, figs. on 32, 38, 46, 48, maps opposite 29, 42, 50. Doric column shaft: Goddio *et al.*, *Alexandria* photo 44.

39 *Relation de L'Égypte par Abd-Allatif* (transl. S. de Sacy; Paris 1810) 182-83.

40 J. Yoyotte in Goddio *et al.*, *Alexandria* 234, 238 nos. 4-5 (blocks 505 and 890), 242, fig. 23, photos 123-24, figs. on 236-37, find spots on plan on 220. Other blocks re-used from the same monument: J. Yoyotte in Goddio *et al.*, *Alexandria* 238-44 nos. 6-8 (blocks 771, 673, 780).

41 Empereur (supra n.34) 93, pls. on 92 and 95; B. Mathieu, *BIFAO* 101 (2001) 524-25.

42 Empereur (supra n.34) 94-95, pl. on 94; P. Bing, "Between literature and the monuments," in M. Harder *et al.* (edd.), *Genre in Hellenistic poetry* (Groningen 1998) 28.

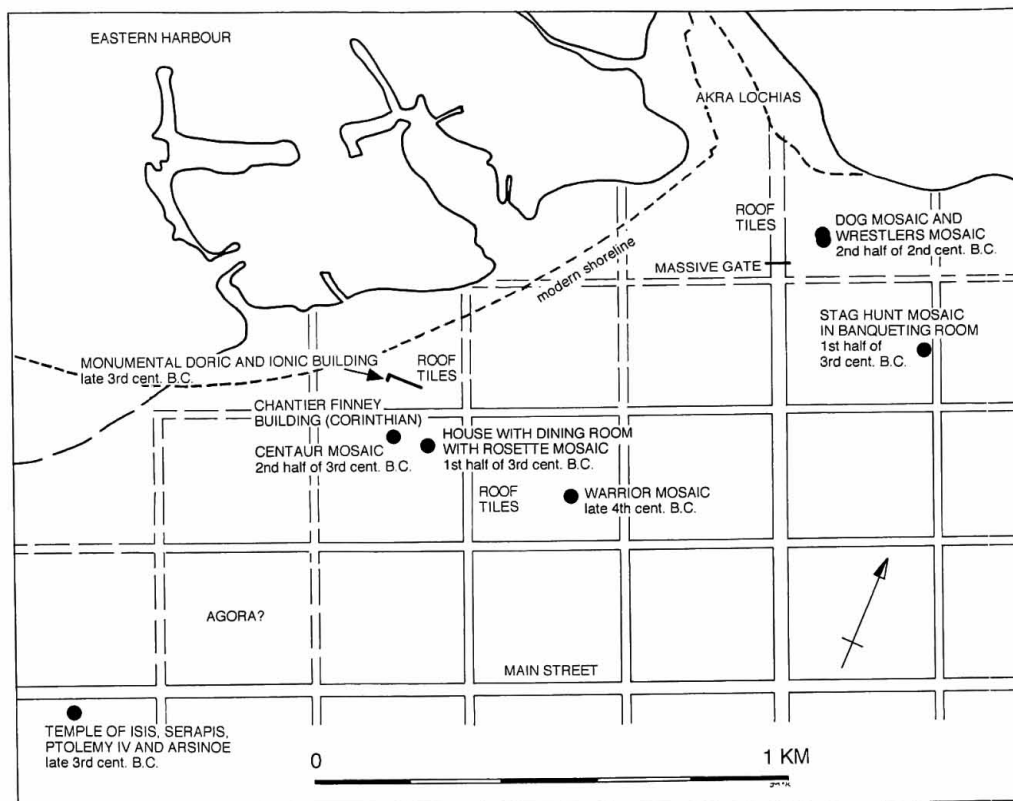


Fig. 9. Buildings of 3rd-2nd c. B.C. *in situ* in the palace areas (author).



Fig. 10. Alexandria, Greco-Roman Museum no. 21643, stag hunt mosaic from Shatby (D. Johannes, DAI Cairo Neg. F17445).

on dry land; only the harbour structures and ancient shore-line at its edge are under water.

Sufficient evidence (see fig. 9) survives *in situ* to give a glimpse of the types of buildings in the palace area in the 3rd and 2nd c. B.C. When a mosaic is uncovered, it is obvious if it is still



in its original setting, in contrast to items of sculpture, single capitals or inscribed blocks, which could have been moved. Hellenistic mosaics have been found in the palace area of Alexandria, and some illustrate the development of mosaic technique from the late 4th to the mid-2nd c. B.C. On the city block west of the later site of the Caesareum (and Cleopatra's Needles), in the so-called Chantier Finney, fragments of mosaics dated to the second half of the 3rd c. B.C. were found, including a centaur and a stag possibly from the same pavement.<sup>43</sup> East of this, on the next city block, a mosaic of a warrior was found; it is dated to the late 4th c. B.C. and made largely of black and white pebbles with a few squared tesserae.<sup>44</sup> Houses with more modest floors were found recently east of the centaur mosaic, including one with a simple pebble mosaic with a rosette at its centre, dated to the first half of the 3rd c.;<sup>45</sup> that this was the floor of a dining-room with couches is indicated by the off-centre doorway marked by a lozenge pattern and the terracotta outline for the dining couches. Further east, beyond cross street R1, three mosaic floors of the 3rd c. were found, apparently from a large house; they include the tessellated mosaic depicting a stag hunted by three erotes (fig. 10), with coloured and graded cubes for shading, which comes from a large (over 7.2 by 5.8 m) banqueting room holding 9 dining couches,<sup>46</sup> as is indicated by the off-centre panel indicating the doorway. In 1993, while the foundations for the new library were being dug, mosaics of a dog and wrestlers were found 1 m apart (first half or mid-2nd c.); these high-quality mosaics are in *opus vermiculatum* having the full variety of shading and colours of a painting.<sup>47</sup>

Although they have received little attention, roof tiles from Ptolemaic buildings have been found in the palace area in excavations at the site of the new library, the Government Hospital, and the WHO building.<sup>48</sup> Thus, not only did some buildings in the palace area have Hellenistic floor mosaics in banqueting rooms for dining in the Greek manner, but some buildings in that area had tiled pitched roofs typical of classical (rather than Egyptian) architecture.

Limestone and marble capitals, column drums and entablature blocks, and foundations from a large monumental building with Doric and Ionic colonnades have been found near the eastern harbour.<sup>49</sup> The re-discovered monumental foundations possibly belonging to it are not on the orientation of the street grid but they are nearly parallel to the section of the ancient city walls along the harbour recorded by Mahmoud-Bey.<sup>50</sup> As this building is dated to the late 3rd c. B.C., it proves that by then the palace area included monumental buildings. Directly to the

43 Greco-Roman Museum nos. 25659 and 25660; A. Adriani, *Annuaire* 1935-39, 32, 43-44, fig. 13, pls. 13-14; Daszewski, *Mosaics* 111-14, nos 5-7, fig. 1, pls. 13-15; Grimm, *Alexandria* figs. 41a-b.

44 Greco-Roman Museum no. 11125; 2.2 x 1.6 m. Adriani, *Annuario* vol. 1, 69 no. 30, site marked on plan at back; Daszewski, *Mosaics* 101-3 no. 1, pls. 1-3; Grimm, *Alexandria* fig. 40.

45 *La gloire d'Alexandrie* (Paris 1998) 227, fig. 5 on 229; J.-Y. Empereur, "Sous le sol d'Alexandrie," *Archéologia* 345 (May 1998) 33, plan on 29; Empereur, *Alexandrie* 60, pl. on 61.

46 Greco-Roman Museum no. 21643; present size: 5.3 x 4.0 m. E. Breccia, *Rapport sur la marche du service du musée* 1921-22, 3-10, pl. 1; Adriani, *Annuario* vol. 1, 93-94 no. 116, site marked on plan at back; Daszewski, *Mosaics* 103-11 nos. 2-4, pl. C, 4-7a, 10-11, 12b-c; Grimm, *Alexandria* figs. 38a-c; K. Dunbabin, *Mosaics of the Greek and Roman world* (Cambridge 1999) 23-24, figs. 22-24.

47 D. Saïd, "Deux mosaïques hellénistiques récemment découvertes à Alexandrie," *BIFAO* 94 (1994) 377-80, 487-89 pls. A-D, site marked on fig. 1; Grimm, *Alexandria* 105, figs. 102a-f; *La gloire d'Alexandrie* (Paris 1998) 229-31; A.-M. Guimier-Sorbets, "Alexandrie: les mosaïques hellénistiques découvertes sur le terrain de la nouvelle bibliotheca alexandrina," *RA* 1998, 263-90.

48 Rodziewicz (supra n.27) 230.

49 L. Borchardt, "Von einer alexandrinischen Baustelle," *BSAA* 8 (1905) 1-6; E. Breccia, *Le Musée gréco-romain* 1922-3, 6, pls. 2-5.1; Adriani, *Annuario* vol. 1, 67-69 nos. 29, 31, 33, 73 nos. 36-38, figs. 16-18 and 21; W. Hoepfner, *Zwei Ptolemaierbauten* (Berlin 1971) 55-91, pls. 13-23c, Beil. 23-31; Pensabene, *Elementi Aless.* 213-14, 311-17, pls. 1-3, 4 nos. 20-21; Tkaczow, *Topography* 145-48 site 105-107B, 215-16 object 73, 218-20 objects 79-88. Date: Hoepfner *ibid.* 87. There is no reason to believe that the building was not finished even if the carving of the entablature decoration was not completed.

50 M. Rodziewicz and A. Abdel-Fatah, "Recent discoveries in the Royal Quarter of Alexandria," *BSAA* 44 (1991) 131-50; Rodziewicz (supra n.27) fig. 1 on 233.

south, on the S side of the main E–W street (L1), a Doric stoa of monumental proportions was constructed at right-angles to the street (marked on fig. 6).<sup>51</sup>

Blocks of an interior ornately-painted Corinthian order of about the 2nd c. B.C. were also found in Chantier Finney.<sup>52</sup> These capitals and cornices belong to the distinctive version of the Corinthian order which developed in Alexandria and became characteristic of Ptolemaic architecture. These, along with ‘baroque’ architecture, developed as a result of Egyptian influence.<sup>53</sup>

The foundation plaques of a temple dedicated to Serapis, Isis, Ptolemy IV Philopator, and Arsinoe (221–205 B.C.) were found *in situ* beside the main E–W street (fig. 6). They are inscribed in Greek and in Egyptian hieroglyphs.<sup>54</sup> When architectural fragments still survived from it in 1885, this temple, which seems to have been substantial, was described as “Greco-Egyptian”.<sup>55</sup> If this means what might be supposed, it suggests it had a mixture of Greek and Egyptian features.

The written sources indicate that by the end of the 3rd c. B.C. the city had all the main buildings characteristic of a Greek way of life. These included an agora, places of entertainment (such as theatre, stadium and hippodrome), as well as the Museum and Library, the places of learning for which the city was famous. This accords with the impression given by the predominantly classical character of the archaeological evidence discussed from the palace area. Elsewhere in the city, archaeological evidence has been found for the Serapeum and adjoining race-course, the Lageion (see below), going back to the Ptolemaic period.

### The Temple of Serapis

The Serapeum, built on what was natural high ground (figs. 1 and 6), is identified by foundation plaques (see below) dated to Ptolemy III Euergetes I (246–221 B.C.).<sup>56</sup> The foundations of the colonnaded court, the temple, and some other structures survive, as well as some architectural fragments. The archaeological evidence excavated by Rowe indicates that it had two main types of foundations. The Ptolemaic ones of limestone ashlar walls with rock-cut foundation trenches<sup>57</sup> are quite different from the Roman concrete foundations consisting of small irregular pieces of limestone bonded with cement (fig. 11). The foundations point to only two main phases of the colonnaded court and the temple. Axonometric reconstructions of both phases were prepared by S. Gibson from my plans and elevations made as a result of a detailed re-examination of the archaeological evidence. We have followed the principle of not making the reconstructions more complicated than is indicated by the evidence: it means that they

51 H. Riad, “Vestiges d’un édifice ptolémaïque en bordure de la voie Canopique à Alexandrie,” *BSAA* 42 (1967) 85–88; Tkaczow, *Topography* 107–8 site 54, fig. 40, plan 3b. As it was built on bedrock, it was probably Ptolemaic.

52 McKenzie, *Petra* 69, 71–74, pls. 201a–c, 203e–f, 204a, 205a–b, 208a, 209d–e, 210b, 210d, 211, 212a–d, 213a–d.

53 McKenzie, *Petra* 85–104.

54 G. Maspero, “Sur une plaque d’or portant la dédicace d’un temple,” *Recueil de Travaux* 7 (1886) 140–41; M. N. Tod, “A bilingual dedication from Alexandria,” *JEA* 28 (1942) 53–56, pl. 6.1; J. M. Weinstein, *Foundation deposits in ancient Egypt* (PhD diss., Univ. of Pennsylvania 1973) 385–86 no. 166; Tkaczow, *Topography* 80 site 27, map B.

55 Maspero *ibid.* 140.

56 Rowe, *Encl. Serapis* 1–10, 51–53, fig. 1, pls. 1–2, 7, 10–11; Weinstein (*supra* n.54) 379–81 no. 162; Grimm, *Alexandria* figs. 84a–b.

57 Analysis of Ptolemaic archaeological evidence, especially for temple and court: Rowe, *Encl. Serapis* 19–33, pls. 3, 6–9, 17; Rowe and Rees 487–95, plan opposite 492; Adriani, *Repertorio* 93–94, fig. F, pls. 29–31; Fraser (*supra* n.15) vol. 1, 266–70; M. Sabottka, *Das Serapeum in Alexandria* (diss. Technische Univ. Berlin 1985; microfiche 1989) vol. 1, 56–251, with many drawings and photographs from the Sieglin-Expedition of 1900–1902; Pensabene, *Elementi Aless.* 195–203; Tkaczow, *Topography* 68–70.



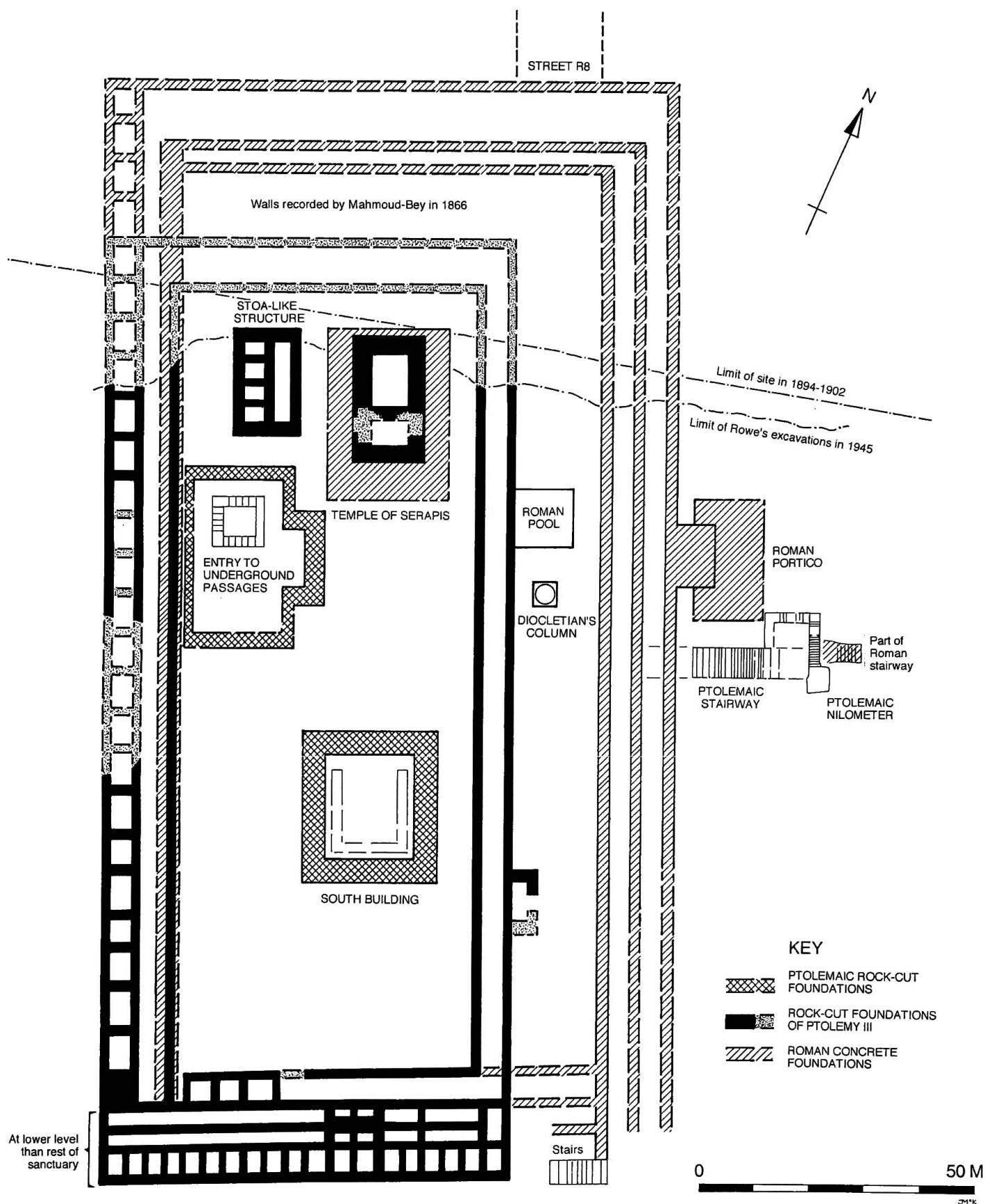


Fig. 11. Temple of Serapis, plan of building foundations (author).

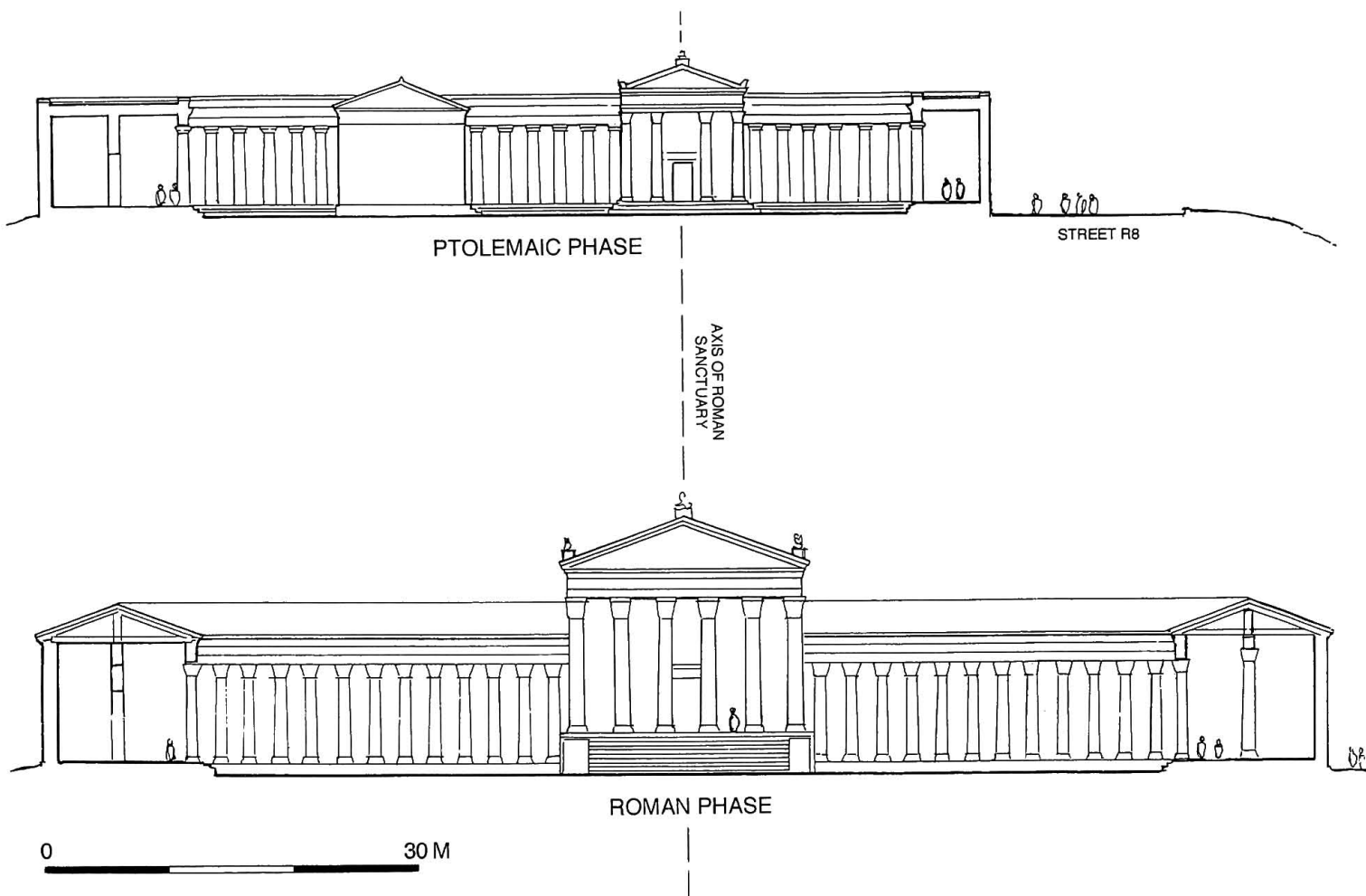


Fig. 12. Temple of Serapis, W–E sections of Ptolemaic phase (Ptolemy III) and Roman phase (S. Gibson). could have been more complex than shown, within the limitations of what will fit on the available foundations.

Some other Ptolemaic foundations may be earlier.<sup>58</sup> An altar found *in situ* indicates the site was in use early in the reign of Ptolemy II Philadelphus (285–246 B.C.).<sup>59</sup> Later, Ptolemy IV Philopator (221–205) added a small temple to Harpocrates beside Ptolemy III's temple of Serapis.<sup>60</sup>

Foundation plaques found *in situ* in recesses at some of their corners date both the foundations for the colonnaded court and temple to Ptolemy III. This version survived until A.D. 181 when the sources say it was burnt down.<sup>61</sup> There is no evidence that it was destroyed in the

58 These and the basis for the reconstructions, on which I worked in 1995–97 with the late S. Gibson who prepared the axonometric drawings, are the subject of a separate article.

59 G. Grimm, "Zur Ptolemäeraltar aus dem alexandrinischen Serapeion," in *Alessandria e il mondo ellenistico-romano. Studi in onore di A. Adriani* 1 (Rome 1983) 70–73, pl. 8; Sabottka (supra n.57) vol. 1, 37–53; vol. 3, figs. 6–7; vol. 4, pls. 13–19. See also Daszewski, *Mosaics* 114 no. 8, pl. 16; Grimm, *Alexandria* figs. 83a–b.

60 Identified by its bilingual foundation plaques: Rowe, *Encl. Serapis* 54–58, 97–112, pls. 16–17; Weinstein (supra n.54) 383–85 no. 165.

61 Clement of Alexandria, *Protr.* 4.42 and 47) in c.190 mentions it was burnt. Jerome gives the date it was burnt as 181: *Eusebius Werke, Siebenter Band. Die Chronik des Hieronymus* (ed. R. Helm; Berlin 1956) p. 208 l.19 and p. 423g; T. Hopfner, *Fontes historiae religionis aegyptiacae* (Bonn 1922–25) 487; J. Schwartz, "La fin du Serapéum d'Alexandrie," in A. E. Samuel (ed.), *Essays in honor of C. Bradford Welles* (New Haven 1966) 97 n.1.



Jewish uprising of A.D. 115-16,<sup>62</sup> although part of the complex was re-decorated in the 1st c. A.D.<sup>63</sup> Thus, the version depicted on Roman coins is the Ptolemaic one. The coins show that the temple housing the cult statue had Corinthian capitals and a Doric frieze. It had at least 4 columns across the front,<sup>64</sup> which accords with the size of the foundations.<sup>65</sup> A block from a Ptolemaic Corinthian capital was found at the site.<sup>66</sup> The approximate size of the columns of the colonnaded court can be estimated from the width of the foundations.<sup>67</sup> The temple and the small stoa-like structure beside it were positioned symmetrically on either side of the axis of the colonnaded court (fig. 12). The stoa-like structure is set back slightly, suggesting that it was built after the T-shaped structure to its south, which leads to underground passages. A secret passage ran under the courtyard from this T-shaped structure to the South Building.

The Temple of Serapis was approached at an angle from the entrance which stood in one long side of the colonnaded court (fig. 13). This way of approaching the temple at an angle is typical of Greek sanctuaries, in contrast to the axial design of Egyptian temples which have ceremonial approaches from the front. However, the custom of using foundation plaques is Egyptian, not Greek, although those are inscribed in Greek as well as Egyptian hieroglyphs. Thus, the Ptolemaic Serapeum had a combination of Greek and Egyptian features.

The Roman version of the Serapeum, which was larger, was built between 181 and 217. Concrete foundations and parts of granite columns survive from this phase.<sup>68</sup> The concrete foundations enclose the foundations of the ashlar walls of the Ptolemaic temple, following the Egyptian custom.<sup>69</sup> The foundations of the Roman phase show that the colonnaded court was widened on the E side, across street R8, so that the Roman temple was on the central axis of the court (fig. 12). The colonnaded court was also apparently extended to the north. The heights of the columns of the temple and of the court are indicated by the granite column shafts measured at the site by Rowe.<sup>70</sup> A stairway led up to the colonnaded court on the E side; traces of it survive, as do fragments of the red-granite classical cornices of the entrance portico. The Ptolemaic Nilometer was covered over by this stairway; the Roman Nilometer has not been found.<sup>71</sup>

62 So also F. Thelamon, *Paiens et Chrétiens au IV<sup>e</sup> siècle. L'apport de l'"Histoire ecclésiastique" de Rufin d'Aquilée* (Paris 1981) 169. Contra: A. Wace in Rowe, *Encl. Serapis* 63-64; Rowe and Rees 496, 506. But note C. Haas, *Alexandria in late antiquity* (Baltimore, MD 1997) 406-7 n.28.

63 Remains of painted stucco of the 1st c. A.D.: G. Botti, *Fouilles à la colonne Théodosienne* (1896) (Alexandria 1897) 79-81, pl. on 81; R. Pagenstecher, *Necropolis* (Leipzig 1919) 187-99, figs. 113-17.

64 The coins continue until year 16 of Marcus Aurelius (A.D. 175/6): Bern 80.568 in *Jahrbuch des Bernischen Historischen Museums* 63-64 (1983-84) 178 no. 25. I thank C. Howgego for this reference. Some other examples: S. Handler, "Architecture on the Roman coins of Alexandria," *AJA* 75 (1971) 65-68, pls. 11.13-15 and 17. Example with four columns: M. J. Price and B. L. Trell, *Coins and their cities* (London 1977) 185, fig. 318 on 184. Example with Doric frieze: Handler *ibid.* pl. 11.17.

65 Based on the foundations, M. Sabottka in Grimm, *Alexandria*, figs. 83c-d, suggested two alternatives with 4 supports across the front, either distyle *in antis* or tetrastyle prostyle.

66 A. Rowe, "Short report of excavations of the Greco-Roman Museum made during the season 1942 at 'Pompey's Pillar'," *BSAA* 35 (1941-2) fig. on 132.

67 I thank J. J. Coulton for help with this calculation. It is not known whether the colonnaded court had a flat or a pitched roof.

68 Analysis of Roman evidence from excavations: Rowe, *Encl. Serapis* 33-40, 60-64, pls. 4-5, 7, 9, 17; Rowe and Rees 496-502; Sabottka (*supra* n.57) 252-301.

69 Rowe, *Encl. Serapis* 60.

70 Botti (*supra* n.63) 96, 111; Rowe (*supra* n.66) 157; Rowe, *Encl. Serapis* 3 n.2, 23-24; Pensabene, *Elementi Aless.* 202 nos. 2-3, 321 no. 31, pl. 5 no. 31.

71 Fragments of portico: Botti (*supra* n.63) 78, fig. on 140; Rowe (*supra* n.66) fig. 8 on 142; Rowe, *Encl. Serapis* 34, 61; Pensabene, *Elementi Aless.* 64, 199, 202 no. 6, 321-22 nos. 33-37, fig. 221, pl. 6. Roman stairs covering Nilometer: Rowe, *Encl. Serapis* 32, pl. 7. Recent discussion of Nilometer on Sepphoris mosaic: Z. Weiss and R. Talgam, "The Nile Festival Building and its mosaics," in J. H. Humphrey (ed.), *The Roman and Byzantine Near East* vol. 3 (JRA Suppl. 49, 2002) 61, 67-72.

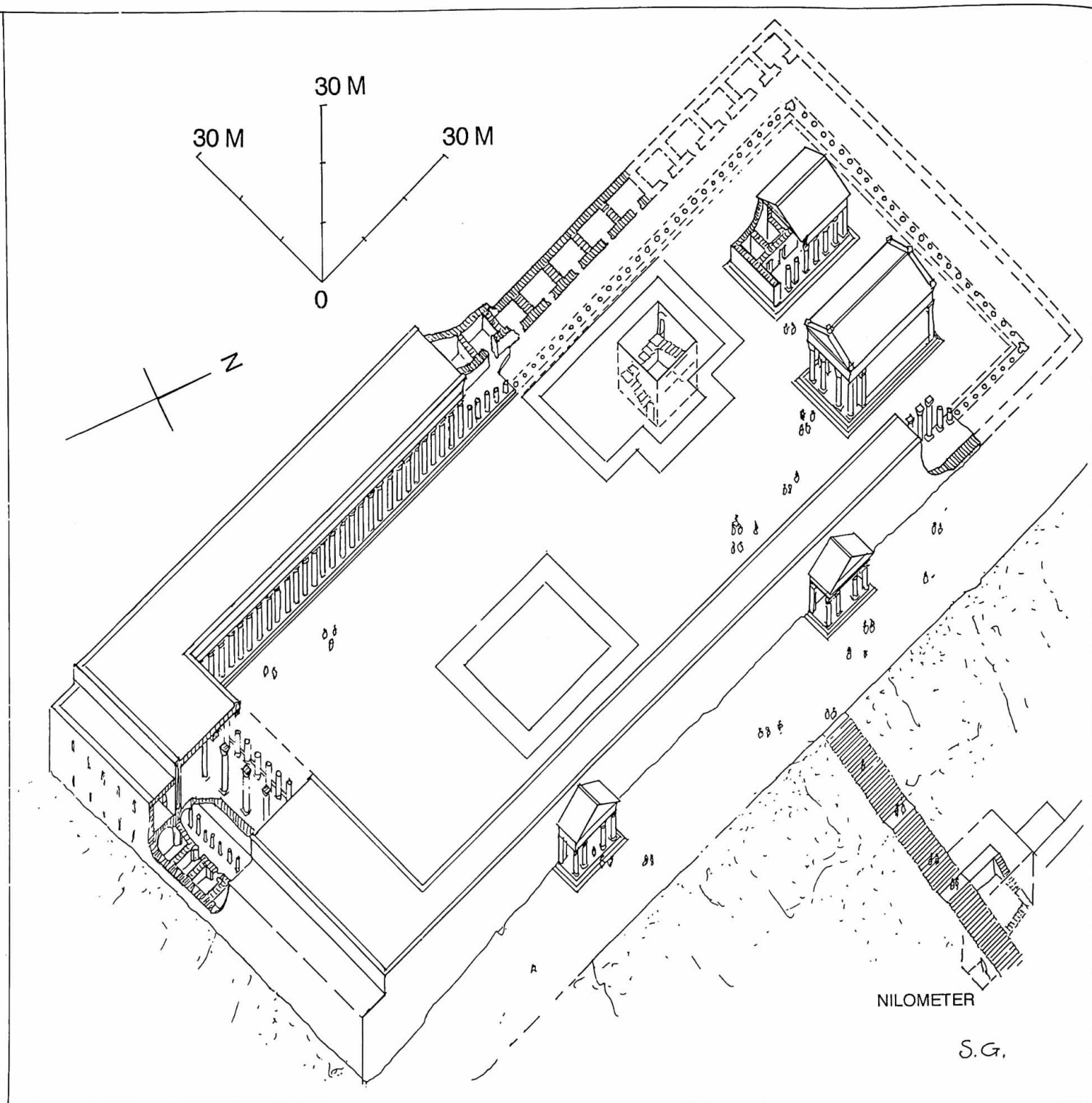


Fig. 13. Temple of Serapis, axonometric reconstruction of Ptolemaic phase (Ptolemy III) (S. Gibson).

Foundation deposits of coins were found embedded in the corners of the pool near the E entrance, "the floor of the pool being of exactly the same material as the foundations of the Roman temple itself". The latest coin is dated to 211<sup>72</sup> and provides a *terminus post quem* for

72 Rowe, *Encl. Serapis* 61-62. The coins were dated Trajan to Julia Domna, Septimius Severus' wife and Augusta (193-217), and to Geta (211). Although dating the pool c.215, Rowe dated the temple to Hadrian.



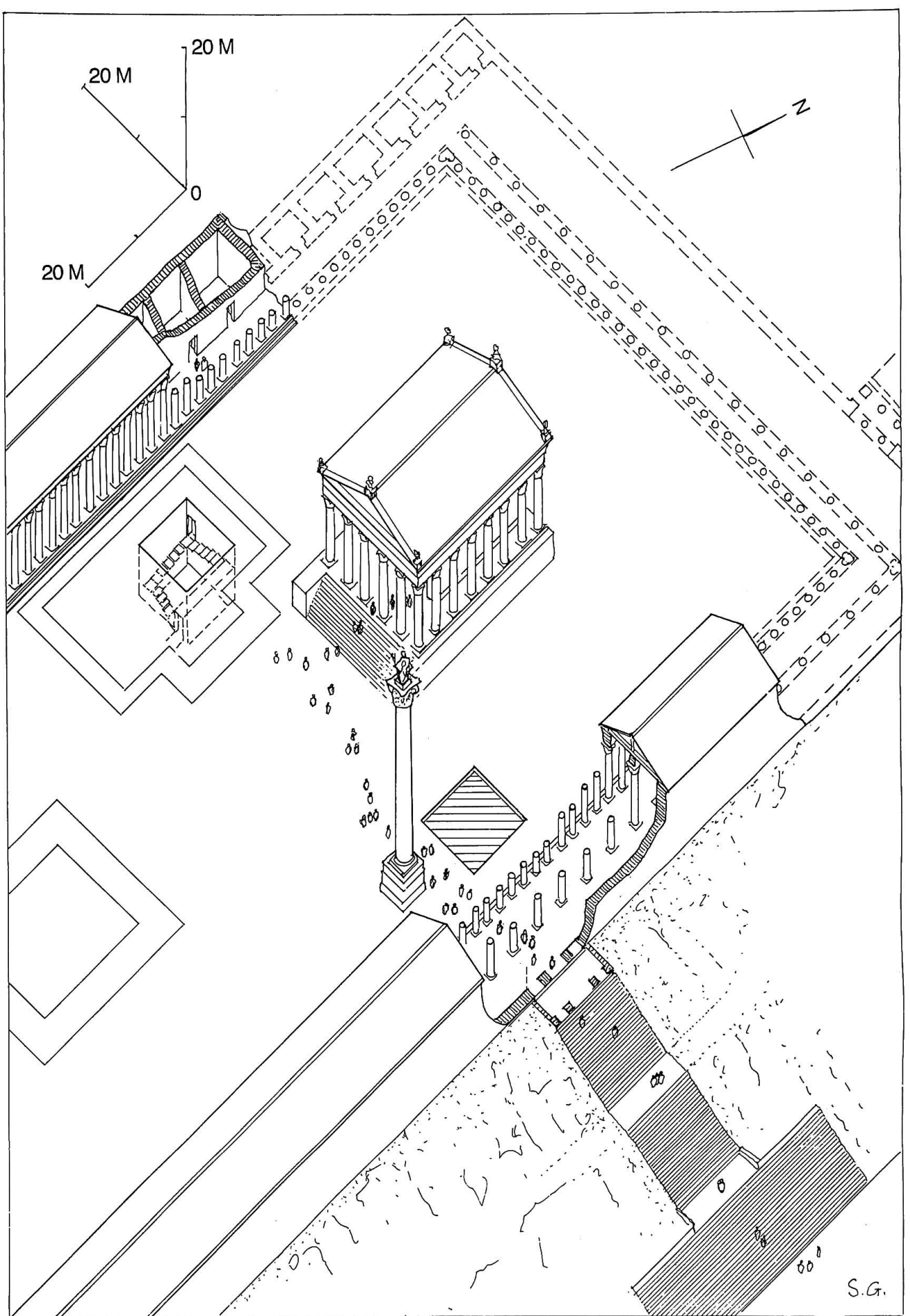


Fig. 14. Temple of Serapis, axonometric reconstruction of Roman phase, c.A.D. 300 (S. Gibson).

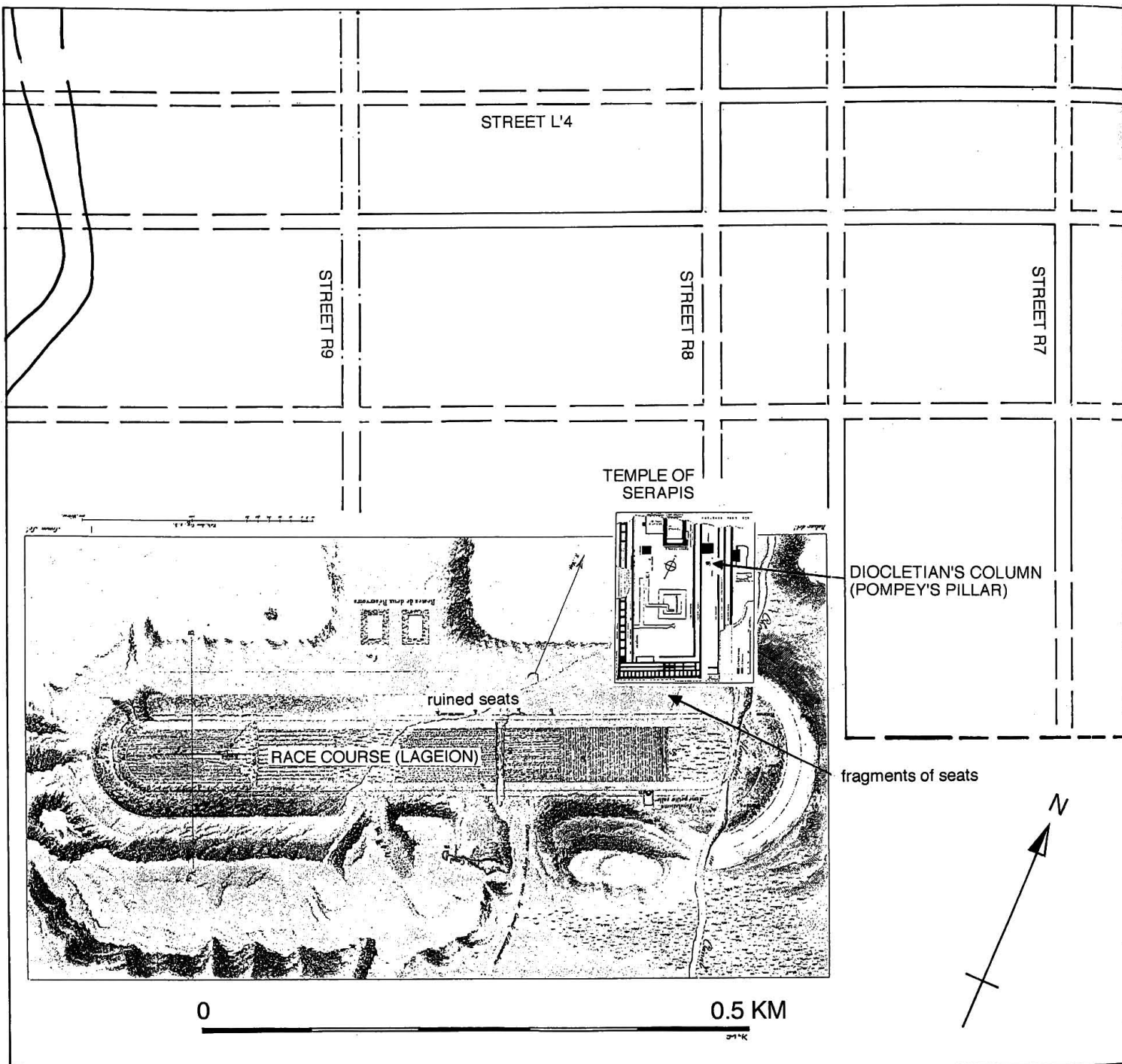


Fig. 15. Temple of Serapis and Lageion, plan (author).

the pool and an indication of the date of construction of the Roman temple. Before Caracalla's death in 217, the Temple of Serapis is reported to have been filled with a great fire which did not damage it.<sup>73</sup> Even though the story is miraculous, it suggests that the temple had been rebuilt by then, if not by the time Caracalla made sacrifices there in 215/16. Diocletian's Column was erected in 298 on the alignment of street R8. The complex (fig. 14) survived until the destruction of the temple by the Christians in 391.

<sup>73</sup> Dio-Xiph. 79.7.3.



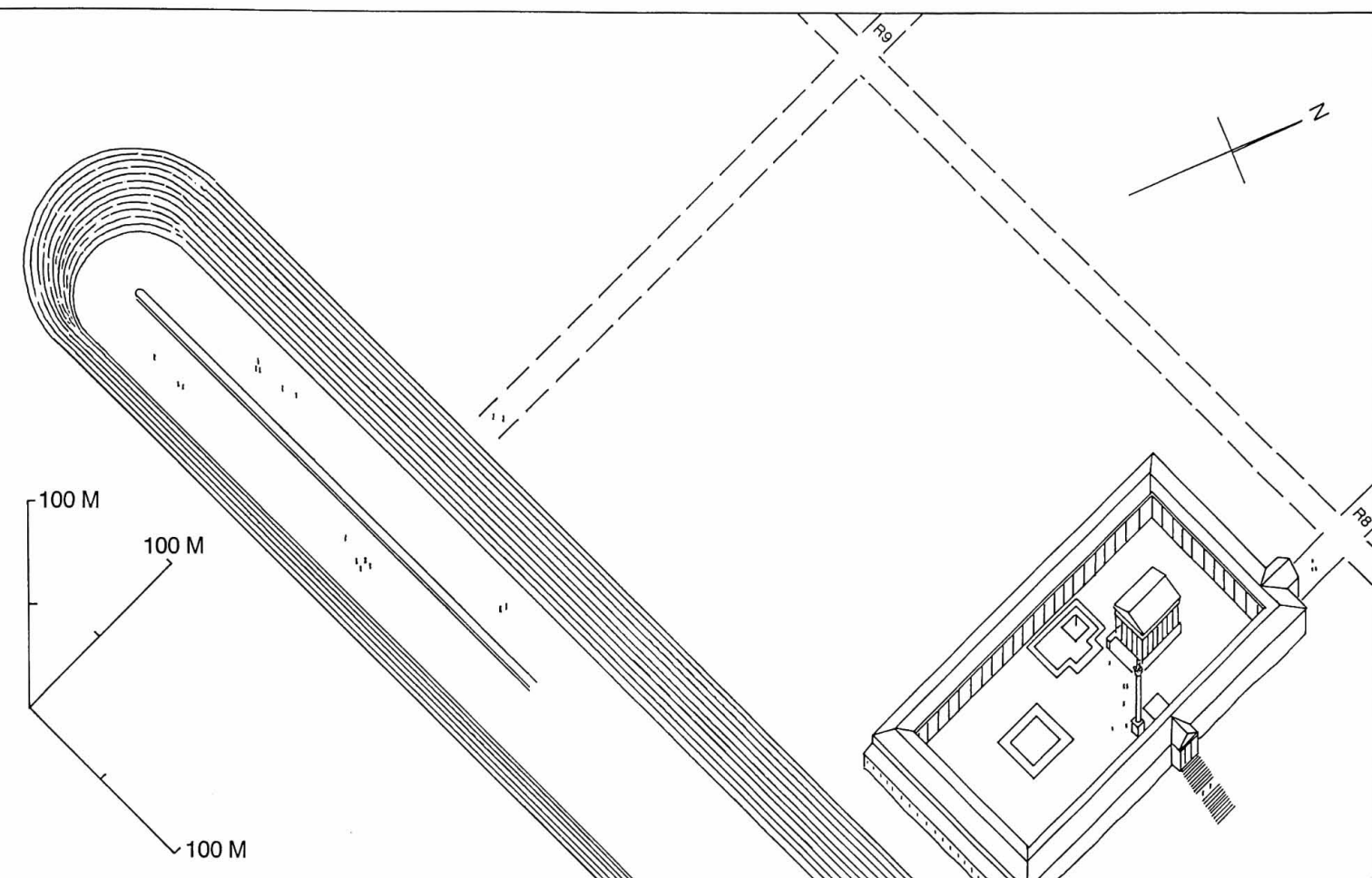


Fig. 16. Temple of Serapis and Lageion, axonometric reconstruction, c.A.D. 300 (author).

### Lageion

The site of the race-course to the southeast of the Serapeum was well known until the late 19th c., by which time it was largely built over. It was measured by the Napoleonic expedition in c.1800.<sup>74</sup> As the Napoleonic plan and Rowe's plan of the Serapeum have a scale and North arrow, and the position of Diocletian's column is marked, these two plans can be combined (fig. 15),<sup>75</sup> showing that the race-course, like the Serapeum, followed the orientation of the city's grid. J. Humphrey noted that the narrowness of the track suggests that it probably went back to a Hellenistic version.<sup>76</sup> The sources indicate that this was the Lageion which was used both as a stadium (for athletic events and processions) and as a hippodrome (for horse racing). It seems to have been the 'city stadium' through which the Grand Procession of Ptolemy II Philadelphus passed<sup>77</sup> (equestrian events could take place in buildings called 'stadia').

74 C. L. F. Panckoucke, *Description de l'Égypte* (2nd edn., Paris 1821-29) vol. 5, 328-37, vol. 10, 524-25, plates vol. 5, pls. 39.2-3; G. Valentia, *Voyages and travels to India, Ceylon, the Red Sea, Abyssinia and Egypt in the years 1802-1806* (London 1811) vol. 3, 455, with vol. 4 foldout plans; Botti (supra n.63) 50-59; E. von Sieglin and T. Schreiber, *Die Nekropole von Kôm-esch-Schukâfa* (Expedition Ernst von Sieglin vol. 1; Leipzig 1908) 19-20, pl. 10; Humphrey, *Circuses* 505-12.

75 *Description de l'Égypte, Antiquités* (2nd edn., Paris 1829) plates vol. 5, pl. 39.2; Rowe and Rees plan opp. 492.

76 Humphrey, *Circuses* 506, 508-9.

77 Humphrey, *Circuses* 510-11. Grand Procession: Athenaeus, *Deipnosophistai* 197c-203b; E. Rice, *The grand procession of Ptolemy Philadelphus* (Oxford 1983) 29-31, 34-35, assumes that the stadium in

Remains of the dividing barrier from the Roman phase were found at the W end by the Napoleonic expedition, indicating that it had been converted to a circus for chariot racing, but no traces of the starting gates were recorded.<sup>78</sup> The Napoleonic evidence indicates a structure with an overall length of 615 m, curved at both ends, and a track 560 m long. Humphrey suggested a revised plan, as "these figures seem to be too high, although admittedly they are very close to the dimensions of the Circus Maximus. While it is conceivable that the original Hellenistic or Greek hippodrome was as long as this (compare the length at Olympia), it seems more likely that at least in the later Roman period the length was about 450 m".<sup>79</sup> However, remains of stone seats (although not *in situ*) were found to the south of the Serapeum enclosure,<sup>80</sup> some 140 m west of those on the Napoleonic plan (marked on fig. 15). This raises the possibility that the overall length of the Lageion was at least c.530 m. The axonometric drawing (fig. 16) which I have made with S. Gibson's help makes it easier to gain a sense of the relative size and position of the Serapeum and the Lageion.

### Buildings in the late-antique city centre

Since 1960, scholars from the Polish Centre of Mediterranean Archaeology have been excavating the area known as Kom el-Dikka, located on the S side of the main E-W street directly south of the Caesareum (and Cleopatra's Needles) and the presumed site of the forum (marked on fig. 5). Their discoveries have not received the same media attention as have the underwater ones. However, at Kom el-Dikka more than anywhere else a sense can be gained of how part of the city centre changed over time.

In the 1st and 2nd c. A.D. this city block held expensive housing of Greek type. The houses were destroyed or damaged in the late 3rd c., possibly by earthquakes and/or during some invasions, and were abandoned in the first half of the 4th c.<sup>81</sup> In the mid-4th c., the whole block was completely re-organized with the construction of public buildings. This is seen particularly clearly where the new street beside the 'small theatre' was built over some houses although still on the same orientation as the existing grid.

The 'small theatre' had two phases.<sup>82</sup> The first consisted of an open-air semicircular structure. As it was not built until the mid-4th c., another location would have been used as the *bouleuterion* for the 150 years after A.D. 201 when the city was granted a council (*boule*), if this

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which the procession occurred was near the akra and near the palace area. However, the route from the palace area to the Serapeum would provide a suitable route through the city.

78 Humphrey, *Circuses* 507.

79 Humphrey, *Circuses* 507-8, fig. 254.

80 Drawing by A. Thiersch, reproduced in Sabottka (supra n.57) vol. 3, 97, figs. 17, 18d.

81 Rodziewicz, *Habitations* 33-41, 50, figs. 16-17, 19-25, plan II; Tkaczow, *Topography* 85 site 32, 87-88 site 34, 95-97 site 43; Z. Kiss, "L'évolution de la structure urbaine d'Alexandrie romaine à la lumière des fouilles récentes," *XIV<sup>e</sup> Congreso int. de arqueología clásica* (Taragona 1993) 262-63; G. Majcherek, *PAM* 5 (1993) 18-20, fig. 1; id., *PAM* 6 (1994) 13-20, figs. 1-2; id., *PAM* 7 (1995) 13-20, fig. 1; id., *PAM* 8 (1996) 19-30, photo 1, fig. 1; id., *PAM* 9 (1997) 25-30, figs. 1-2; id., *PAM* 10 (1998) 35-39, figs. 4 and 7; id., *PAM* 11 (1999) 32-34, figs. 5-6.

82 E. Makowiecka, "The numbering of the seating places at the Roman theatre of Kom el-Dikka in Alexandria," *Acta Conventus XI "Eirene"* (Warsaw 1971) 479-83; W. and T. Kolataj, *BSAA* 43 (1975) 75-97; Z. Borkowski, *Inscriptions des factions à Alexandrie* (Alexandrie II, Warsaw 1981); W. Kolataj, "Recherches architectoniques dans les thermes et le théâtre de Kôm el-Dikka à Alexandrie," in G. Grimm, H. Heinen and E. Winter (edd.), *Das römisch-byzantinische Ägypten* (Aegyptiaca Treverensia 2, Mainz 1983) 189-94, figs. 3, 5-7; Z. Kiss, "Les auditoria romains tardifs de Kôm el-Dikka (Alexandrie)," *AAASH* 33 (1990-92) 331-36; Z. Kiss, "Remarques sur la datation et les fonctions de l'édifice théâtral à Kôm el-Dikka," in *50 years of Polish excavations in Egypt and the Near East* (Warsaw 1992) 171-78, figs. 1-2; Tkaczow, *Topography* 85-87 site 33; B. Tkaczow, *ÉtTrav* 16 (1992) 229-33; W. Kolataj, "Theoretical reconstruction of the Late Roman theatre at Kom el-Dikka in Alexandria," in C. J. Eyre (ed.), *Proc. 7th int. Congress Egyptologists* (Leuven 1998) 631-38.



structure was really used for political gatherings as well as for entertainment.<sup>83</sup> In c.500 the building was considerably re-modelled. The stage structure was demolished, the building was extended on the W side (towards the street) and roofed. The second phase fell into disuse sometime in the second half of the 7th c.

The large public baths facing street R4 were constructed in the late 4th c. as part of the same major redevelopment as the 'small theatre'. They were built of baked brick, and saw three main building phases,<sup>84</sup> during which the plan remained basically the same as the final one. This was a symmetrical rectangular plan of E Mediterranean type with some N African features. The first rebuilding occurred after the earthquake of 447, when the main alterations were made to the *frigidarium*, with its large pools being replaced by numerous small ones. The building seems to have been damaged in the earthquake of 535, after which it was redesigned with major alterations to the *caldarium*, which was used for hot and cold baths. The furnaces were adjusted to suit the local fuel of straw and reeds,<sup>85</sup> and this final phase lasted until the beginning of the 7th c.

The baths were supplied with water from the cistern to their south. This cistern was set above ground to give sufficient pressure to supply the baths.<sup>86</sup> It was built in the 4th c. and rebuilt and remodelled at least twice before it went out of use in the 7th. The passages on either side of the baths led to latrines built in the 4th c.<sup>87</sup> They were flushed with water which had passed through the ashes of the furnace, the resulting high alkaline content acting as a disinfectant.

On the S side of each of the passageways are sets of long narrow rooms built of stone masonry.<sup>88</sup> They are dated by the pottery to the 5th to 7th c. They were apparently classrooms or lecture halls. Teaching happened elsewhere in Roman bath complexes, but the design of these lecture rooms with their tiers of stone seating seems to be unique.

East of street R4 the expensive houses which were destroyed at the end of the 3rd c.<sup>89</sup> were not replaced by public buildings, as were those on the other side of the street; instead, at the beginning of the 4th c., they were replaced by cheaper housing and workshops,<sup>90</sup> which were occupied until the mid-7th c., with some slight modifications and changes in use.

83 Kiss *ibid.* 1992, 174-78. Earlier suggestion for use by council (*boule*): J.-C. Balty, "Le 'bouleuterion' de l'Alexandrie sévérienne," *ÉtTrav* 13 (1983) 7-12; *id.*, *Curia ordinis* (Brussels 1991) 534-38.

84 Kolataj, *Baths*. Summary: *id.*, "Late Roman baths at Kôm el-Dikka in Alexandria," in *50 years* (supra n.82) 179-86.

85 Kolataj, *Baths* 176, 180-81.

86 This cistern is not fully excavated or studied. Summary: Rodziewicz, *Habitations* 263-70. Later preliminary reports: E. and M. Rodziewicz, *ÉtTrav* 14 (1990) 301-10; Kolataj, *Baths* 79-82; G. Majcherek, *PAM* 3 (1991) 5-7; *id.*, *PAM* 4 (1992) 11-14; *id.*, *PAM* 8 (1996) 17-19; *id.*, *PAM* 9 (1997) 23-25; W. Kolataj, *PAM* 6 (1994) 5-7, fig. 2; *id.*, *PAM* 7 (1995) 10-12; *id.*, *PAM* 9 (1997) 17-21, figs. 1-2; *id.*, *PAM* 10 (1998) 24, fig. 1-10.

87 E. and M. Rodziewicz, *ÉtTrav* 12 (1983) 269-75, figs. 10-12; Kolataj, *Baths* 170; M. Rodziewicz, *BSAA* 44 (1991) 9, 12, 27-29 figs. 12-14; Kolataj (supra n.84) 185.

88 M. Rodziewicz, *BSAA* 44 (1991) 73-75, 86, 83 fig. 5, 98 fig. 5, 102 figs. 11-13, 115 pl. 3, 118 fig. 6; Kiss 1990-92 (supra n.82) 336-38, figs. 2-4; B. Tkaczow, *ÉtTrav* 17 (1995) 319-26; E. Rodziewicz, *BSAA* 45 (1993) 269-79; Z. Kiss, "Les auditoria romains tardifs," in Z. Kiss *et al.*, *Fouilles polonaises à Kôm el-Dikka (1986-1987)* (Alexandrie VII, Warsaw 2000) 8-33, figs. 1-11.

89 Rodziewicz, *Habitations* 41-53, figs. 28-32, 34-40, plan IX; Tkaczow, *Topography* 102-103 site 47, fig. 37b, 109-10 site 55, plan 3b; W. A. Daszewski, "From Hellenistic polychromy of sculptures to Roman mosaics," in K. Hamma (ed.), *Alexandria and Alexandrianism* (Malibu, CA 1996) 150-52, figs. 9-10; G. Majcherek, *PAM* 1 (1988-89) 77-78; *id.*, *PAM* 4 (1992) 18-20; *id.*, *PAM* 5 (1993) 14-15.

90 Rodziewicz, *Habitations* 59-234, 333 figs. 338-39, plan III; M. Rodziewicz, *BSAA* 44 (1991) 15, 47-50 figs. 33-36, 52-68 figs. 38-65; Tkaczow, *Topography* 109-10; G. Majcherek, *PAM* 1 (1988-89) 80-83; *id.*, *PAM* 2 (1989-90) 19-24, fig. 1; *id.*, *PAM* 3 (1991) 11-14, fig. 2; *id.*, *PAM* 4 (1992) 15-18, fig. 2; *id.*, *PAM* 5 (1993) 11-14.

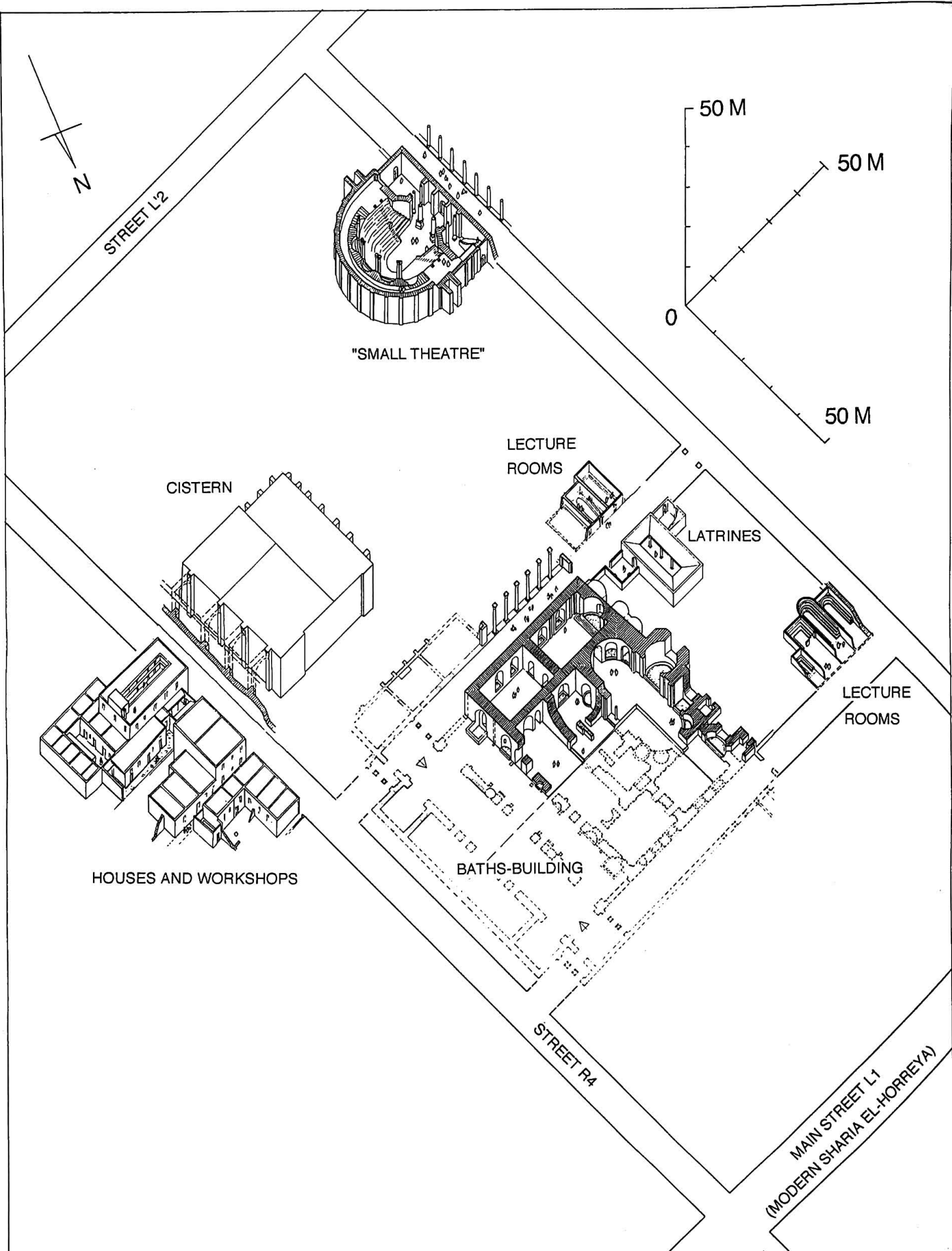


Fig. 17. Kom el-Dikka, city block south of main E-W street, axonometric reconstruction, mid-6th c. A.D.

(S. Gibson and J. McKenzie based on Polish excavations).



A sense of how this part of the city centre would have looked in the mid-6th c. is suggested by the axonometric drawing (fig. 17); it also shows the relationship between the baths and surrounding buildings. This carefully worked-out drawing, compiled after first establishing reconstructions of the individual structures, was only possible because of the amount of their work the Polish team has published. As the baths have furnaces designed for local fuel such as rushes, one could suggest that the fuel included old papyri not unlike those previously re-cycled as mummy cartonnage. This could explain the origin of the legends that the Arabs used books from the library to fuel the city's baths.

It is hoped that the above account will provide a more accurate basis for considering how some aspects of this famous city might be visualized.

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#### Sources of illustrations, and acknowledgements

Copyright for the illustrations (except figs. 3 and 10) rests with the author. Figure 11 is based on Rowe, *Encl. Serapis* pl. 7 and 17; Rowe (supra n.67) pl. 32 and 44; Rowe plan opp. 492; with additions from Botti's (supra n.63) plan and the Sieglin Expedition plan of 1900-2 published in Sabottka (supra n.57) pl. 1. fig. 17 is based on the results of Polish excavations (supra nn. 82, 84, 86-88, 90).

My research was funded by the Wainwright Fund, the Griffith Egyptological Fund, and the Craven Committee of Oxford University, as well as the British Academy, the Seven Pillars of Wisdom Trust, the Australian Research Council, and Miss Rhys-Davids' bequest to St Hugh's College, Oxford.

John Baines, Alan Bowman, Jim Coulton, Tom Hardwick, and Zsolt Kiss kindly read this paper, and David Blackman checked the observations on the harbours. I would also like to thank Donald Bailey, Jim Coulton, and Simon Price for helpful suggestions concerning the reconstructions of the Serapeum, on which much time was spent with the late Sheila Gibson, as well as those of the buildings of Kom el-Dikka. For useful discussion or other help I would like to thank: Mostafa El-Abbadi, Jane Armstrong, Glen Bowersock, Chris Brandon, Margaret Browne, Amanda Claridge, Wiktor Daszewski, Jean-Yves Empereur, Franck Goddio, Günter Grimm, Martina Minas, Andres Reyes, Michael Sabottka, Andreas Schmidt-Colinet, Arthur Segal, Helen Whitehouse, and Alison Wilkins.

## Appendix: Possible implications of the Egyptian word for Alexandria

### John Baines

M. Depauw and M. Chauveau have published primary evidence that the Egyptian name for Alexandria, *r3-ʿqd(t)*, vocalized approximately Raqote, means roughly "Construction (site)", and have discussed how such a meaning could be appropriate to indigenous Egyptian perceptions of the city.<sup>1</sup> The name is attested from the beginning of the Ptolemaic period, in the Satrap Stela of 311 B.C., where Raqote is stated to be the "former (*hntj*)" name of Alexandria, which is given an Egyptian hieroglyphic name as "the Fortress (*sbtj*) of the Dual King (Merikare setepenamun)", Son of Re (Alexander [IV])".<sup>2</sup> That name is in an archaizing style

1 M. Depauw, "Alexandria, the building yard," *ChrÉg* 75 (2000) 64-65; M. Chauveau, "Alexandrie et Rhakôtis: le point de vue des Egyptiens," in J. Leclant (ed.), *Alexandrie, une mégapole cosmopolite* (Paris 1999) 1-10. Their interpretation was to some extent anticipated by J. Quaegebeur, "Rakote," in W. Helck and W. Westendorf (edd.), *Lexikon der Ägyptologie* V (Wiesbaden 1984) 90-91, and L. Pantalacci, "Remarques sur les composés de type ʿ, r3- ou r3- ʿ devant racine verbale en Égyptien ancien," *Orientalia Lovaniensia Periodica* 16 (1985) esp. 15-16 n.31, citing J. Yoyotte.

For non-Egyptologists it may be useful to note that the optional *t* in *r3-ʿqd(t)* is an orthographic element that would not have been pronounced. Demotic does not distinguish *d* and *t*, and the transliteration used in discussions varies between the two. For consistency with the hieroglyphic writing, I write *-qd* here.

2 K. Sethe, *Hieroglyphische Urkunden der griechisch-römischen Zeit* (Leipzig 1904) 12, l.1 of original for the date and l.4 for *r3-ʿqd(t)*. The approach of D. Lorton on this point is contradictory: "The names of Alexandria in the text of the Satrap Stela," *Göttinger Miszellen* 96 (1987) 65-70, followed by A. Nibbi,

and was presumably meant as a suitable formal equivalent for the city's Greek name. Raqote is attested again on the funerary stela of Psherenptah, the high priest of Ptah of Memphis, who died in 41 B.C.<sup>3</sup> Both of these texts, especially that of Psherenptah, are in elaborate Classical Egyptian and look back to ancient models. They suggest that the usage of Raqote in such contexts in Classical Egyptian was consistent over almost three centuries.

Chauveau concludes that "Construction" was a new name, used of Alexandria as a city under construction, so that its emergence will say nothing about the previous history of the locality. Yet since the language of the earliest attestation of Raqote is Classical Egyptian, the linguistic parallel with the example identified by Depauw in a Demotic text of 311 from Thebes is of uncertain value. In Late Egyptian or any later phase of the language, \**r3-r3-ʿqd*, But *r3-ʿqd* is quite widely attested without an article in Demotic as a name for Alexandria; the name should therefore be evaluated in that form, both in Classical Egyptian and in Demotic.<sup>4</sup> The terminal *-e* does not survive in Coptic derivatives of the root *qd* "to build", and was probably not pronounced in Demotic. Its presence in the name Raqote suggests that the word was a linguistic fossil whose etymology was not transparent to its users.

The absence of the definite article in *r3-ʿqd(t)* could be due to the classicizing language of the two hieroglyphic attestations, or it could demonstrate that the word was genuinely older — a possibility that Depauw and Chauveau do not evaluate. The adjective *hntj*, however, commonly qualifies things that are much older, rather than just the few years that Chauveau's interpretation implies. In the rhetoric of the Satrap Stela, the mention of the place's former name may more suitably look back (fictitiously or otherwise) to an indefinite past. It is conceivable that the term was genuinely old. "Construction" would still be a strange place-name, but would be comprehensible if, for example, there were construction installations on the site. An obvious possibility is a naval construction-yard. Since the N coast of Egypt offers few safe moorings, and the Alexandria area is especially favored in this respect, such a rôle for the place and name would be reasonable.<sup>5</sup> Because the archaeological context of Alexandria is so disturbed, while monumental buildings would not necessarily have accompanied a naval yard, it is unlikely that this possibility could be confirmed or refuted through excavation. The area of Alexandria was, however, within the administered perimeter delimited by fortresses constructed under Ramesses II (c.1279–1213),<sup>6</sup> so that it could have housed an Egyptian New Kingdom site.

The stela of Psherenptah states that Raqote is "the Residence (*hntw*) of the Aegean (*h3w-nbw*) kings, which is on the shore of the sea (*w3d-wr*) on the W side of (the) 'q3 district.'" <sup>7</sup> 'q3 is

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"Some remarks about the ancient inhabitants of the Alexandria region," *Alexandrian studies in memoriam Daoud Abdu Daoud = BullSocArchAlexandrie* 45 (1993) 225-38. Lorton proposes to take *hntj* as "southern", a meaning the word does possess, but then argues in effect that "southern name" means not name but location. If "southern part" or similar had been meant, it would almost certainly have been formulated differently, for example as \**f rsj*, "its southern district." Here I agree with Chauveau (supra n.1) 2 n.5.

3 Sometimes termed the "Harris Stela": E. A. E. Reymond, *From the records of a priestly family from Memphis* (Wiesbaden 1981) 142; S. Walker and P. Higgs (edd.), *Cleopatra of Egypt: from history to myth* (London 2001) no. 192; P. Derchain, "Le pique-nique de l'Aulète," in W. Clarysse, A. Schoors, and H. Willems (edd.), *Egyptian religion, the last thousand years: studies dedicated to the memory of Jan Quaegebeur* (Leuven 1998) II, 1155-67.

4 See Chauveau (supra n.1) 7-8 for references.

5 I am very grateful to T. Wilfong for pointing this out to me and for other most valuable contributions.

6 J. Y. Brinton, "Some recent discoveries at El-Alamein," *BullSocArchAlexandrie* 11 (1942) 78-81. Relevant sites are plotted on the map at J. Baines and J. Malek, *Cultural atlas of ancient Egypt* (rev. edn., New York 2000) 44.

7 "District" is conveyed by the placing of the name on a standard, which is normal for words for districts. Such terms are used typically for nomes or their subdivisions.



a term for a sector of the western Delta attested in New Kingdom geographical texts.<sup>8</sup> Presumably it was used in the stela of Psherenptah for its ancient pedigree, as was *hnw* “residence” — most commonly signifying capital city in general rather than royal palace — which was known in Ptolemaic times but derives from a classic usage of the 12th Dynasty (from c.1950 onward).<sup>9</sup> The geographical meaning of *‘q3* is broad; in the stela text it probably indicates no more than that Alexandria is to the west of the western Delta. *‘q3* is not a feature of the internal topography of Alexandria.<sup>10</sup>

The purpose of this appendix has been simply to argue that the ancient Egyptian term for Alexandria, *r3-‘qd(t)*/Raqote, cannot well be used to argue for the novelty of settlement in the area of the site after the Macedonian conquest, and that the stela of Psherenptah does not provide evidence for the city’s topography. The identification of Demotic *r3-‘qd*, with the meaning “under construction”, in a Theban text from the period of foundation of Alexandria, is striking, but it may be coincidental. Classical narratives of Alexander the Great’s foundation of the city date from long after the founder’s own time and are likely to emphasize its novelty as part of their rhetoric in presenting their protagonist. It is therefore worth considering the possibility that an existing naval installation and/or settlement was taken over for redevelopment by the conquering régime. Whatever may have been present on the site could have been ancient when Alexander arrived. The form of the term Raqote fits with an ancient presence and a name that was already a linguistic fossil. If the name was newly devised, it would have been an artificial formation on the older linguistic model of late New Kingdom Late Egyptian or slightly earlier; yet the still older Classical Egyptian of the Middle Kingdom was generally preferred to Late Egyptian for such purposes. In principle, moreover, recourse to Late Egyptian seems unlikely in view of the attested creation of a classicizing term for the city that included the name Alexander, as reported in the Satrap Stela: it is not evident why two new archaizing names would have been needed.

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8 For *‘q3* in New Kingdom sources, see J. Baines, *Fecundity figures: Egyptian personification and the iconology of a genre* (Warminster 1985) 163–64, 170 no. 32, 171.

9 See, e.g., A. Erman and H. Grapow, *Wörterbuch der ägyptischen Sprache* III (Leipzig 1929) 369(16)–370(14). Note especially the Greco-Roman hieroglyph at the bottom of 369.

10 *Contra* A. Rowe, “A contribution to the archaeology of the Western Desert: III,” *BullRyl* 38 (1955) 145 fig. 2, 157. I see no indication that the term ever designated as narrow an area as Rowe proposed.