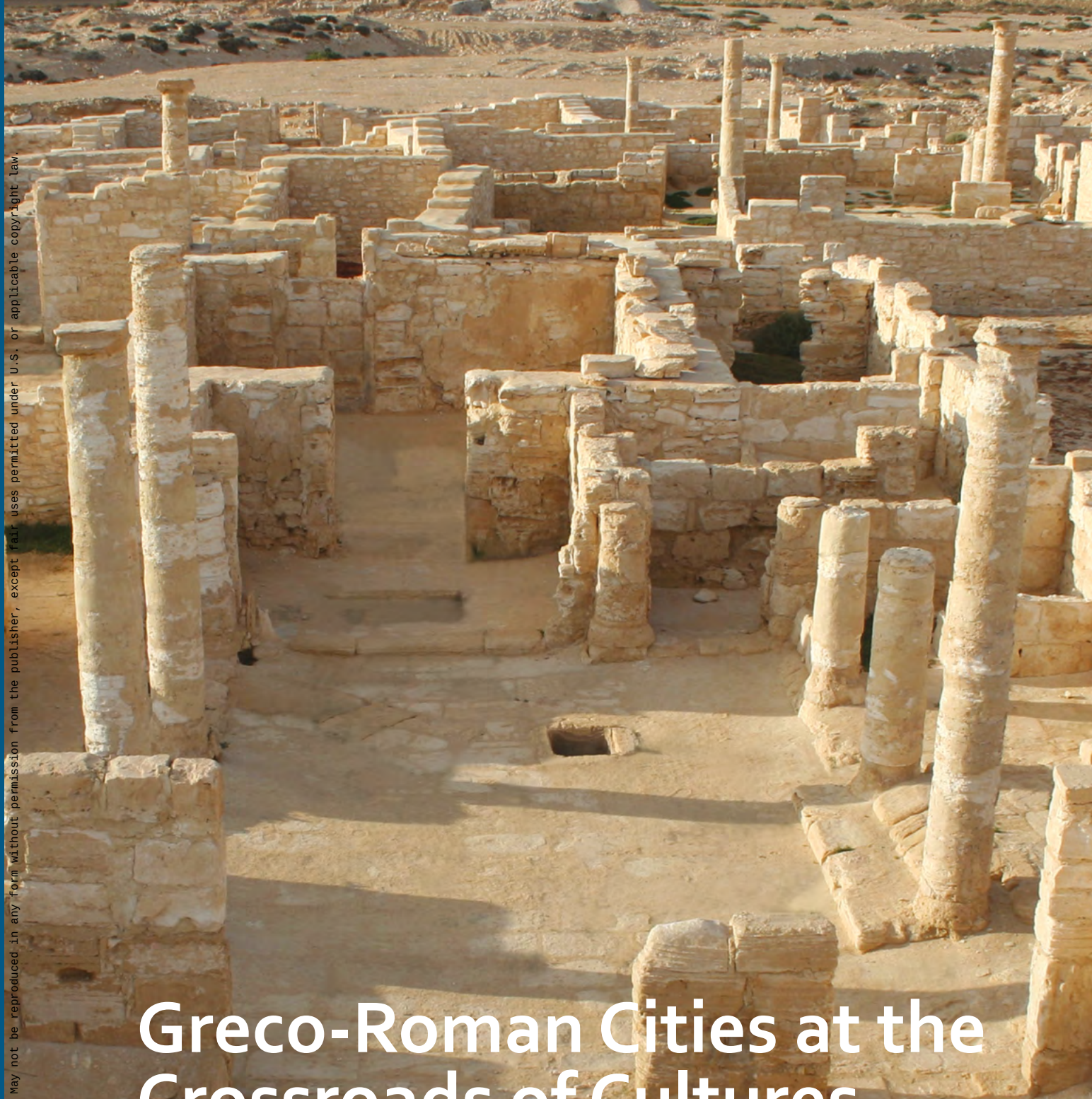

# Greco-Roman Cities at the Crossroads of Cultures

## The 20th Anniversary of Polish-Egyptian Conservation Mission Marina el-Alamein

edited by

Grażyna Bąkowska-Czerner and Rafał Czerner

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Front cover illustration: Remains of the residential houses at Marina el-Alamein. Photo Rafał Czerner
Back cover: A painted representation of Harpocrates from the house H10 in Marina el-Alamein. Photo Stanisław Medeksza

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# Contents

## Conservation

# Preface

The ancient town, discovered at the site of today's Marina el-Alamein, located on the northern coast of Egypt – which developed from the 2nd century BC to the 6th century AD – has found itself at the crossroads of several civilisations: Hellenic, later replaced by Roman, and eventually Christian – and has always been strongly influenced by Egyptian tradition. A variety of cultures have met and appeared here and grown in strength – then their significance weakened – but they have always co-existed and influenced one another. The syncretism prevailing here is notable in art, architecture, religion and worship.

In 2015, it had been thirty years since the discovery of the remains of the ancient city, which, for many centuries, had been unknown to the world. They were found unexpectedly during the preparatory work for the construction of a modern tourist settlement on the Mediterranean coast, and the significance and extraordinary value of the find was immediately recognised. The discoverer and author of the scientific interpretation, Professor Wiktor A. Daszewski, mentions these pioneering times in the first article of this volume.

The tourist housing complex, designed in 1985, has never been built. The significance of the discovered monument prevailed over the possible benefits that could flow from this construction. The ancient city, and the historic remains of its buildings, are gradually coming to light instead. The archaeological site in Marina el-Alamein, after many years of effort, according to the decision of the Ministry of State for Antiquities, will be soon open to tourists. The organisational work bringing us closer to this important event has already begun.

The Jubilee was twofold, since 2015 marked also the 20th anniversary of the setting up of the Polish-Egyptian Conservation Mission, Marina el-Alamein. During this time, architectural and archaeological research has been carried out at the site, many discoveries have been made, numerous relics of historic building structures have been preserved, and conservation methods have been improved. In the jubilee year, an exhibition was organised at the Alexandria National Museum from 26 May to 8 June, 2015. We also invited researchers – who work on archaeological sites and towns with a similar history and position in the ancient world, art and culture – for a scientific discussion and exchange of experience. A scientific conference was organised in Wrocław on 17-18 September, 2015. The authors of the presented papers are representatives of different disciplines and research methodologies: archaeologists, architects, Egyptologists, specialists in religious studies, historians and conservators. The present volume contains an interdisciplinary review of both the newest and long-term studies and achievements made in various regions of the ancient world.

The research that was conducted in different regions is discussed in articles, ranging from ancient Mauritania, through Africa, Egypt, Cyprus, Palestine, Syria, as well as sites in Crimea and Georgia. The topography of cities, architecture of public buildings, as well as houses and their décor – architectural, sculptured and painted – are presented. Religious syncretism and the importance of ancient texts are discussed. Studies on pottery are also presented. The volume includes studies on the conservation of architecture, sculpture and painting. Several articles are devoted to the study of Marina el-Alamein; others talk about ancient Alexandria, Deir el-Bahari, Hermopolis Magna, Bakchias, Pelusium, Kom Wasit, Berenike, Ptolemais, Apollonia, Palmyra, Nea Paphos, as well as Chersonesus Taurica and Apsarus.

We would like to take this opportunity to thank the authors, as well as the reviewers and everyone who was involved in the conception and preparation of this publication. We thank the following reviewers: Dr Valentina Barberis, Prof. Giuseppina Capriotti, Prof. Piotr Dyczek, Dr Dorota Gorzelany, Prof. Jacek Kościuk, Dr Agata Kubala, Dr hab. Jacek Martusewicz, Prof. Oliva Menozzi, Prof. Ewa Laskowska-Kusztal, Prof. Ernest Niemczyk, Prof. Wiesław Procyk, Dr Bérangère Redon, Prof. Steven Sidebotham, Prof. Loretana Sist, Prof. Joachim Śliwa, Dr Anna de Vincenz, Dr Urszula Wicenciak. We would like to express our gratitude to Marcin Lubecki and Katarzyna Migdał for typesetting and formatting the articles for printing, and to Steven Jones for proofreading and translation.

Thanks to Archaeopress for publishing our book. For the organisational and financial support of the conference and the publication, we would also like to take this opportunity to thank of the Rector of the Wrocław University of Science and Technology, Prof Cezary Madryas, and the Dean of the Faculty of Architecture, Prof. Elżbieta Trocka-Leszczyńska, the Director of the Inter-Academy Institute of Conservation and Restoration of Works of Art, Prof. Andrzej Koss, The Director of the Polish Centre of Mediterranean Archaeology at the University of Warsaw, Prof. Tomasz Waliszewski and the Director of the Centre for Comparative Studies of Civilisations at the Jagiellonian University, Prof. Marta Kudelska. We would like to thank the Director of the Museum of Architecture in Wrocław, Dr Jerzy Ilkosz, for hosting the conference.

Grażyna Bąkowska-Czerner
Rafał Czerner

Figure 1. In front of the Alexandria National Museum on the opening day of the jubilee exhibition (*Photo M. Koczorowska*)

Figure 2. Inauguration of the jubilee conference at the Museum of Architecture in Wrocław (*Photo P. Zambrzycki*)

# Greco-Roman Cities at the Crossroads of Cultures – Marina el-Alamein in Egypt

Wiktor Andrzej Daszewski
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**Summary**
In late November 1985, while in Alexandria, I was informed by an Egyptian colleague that Chinese workers contracted by the Egyptian Government, had begun work on modern tourist areas south of the lagoon separated from the Mediterranean Sea east of el-Alamein, the famous battleground of the Second World War, some 96 km west of Alexandria. Immediately visiting the area where the workers were destroying small fragments of limestone, perhaps walls, I understood that there must have been ancient fragments including pieces of pottery, especially Cypriot Sigillata of the late Hellenistic and Roman period. Having been granted permission to excavate the area called 'Marina el-Alamein,' from late 1986 onwards I started uncovering all the ruins and documenting them. The mission (of the Centre of Mediterranean Archeology – University of Warsaw) excavates private houses, large bathes, official buildings, including parts of the main square (Forum) of the town, and the necropolis. There were uncovered huge tombs, either hewn deep under the surface (hypogea), sometimes up to forty-four meters long, or built upon surface-pillar-and-column-tombs-in the form of stepped pyramidal tombs reaching a height of 5-7 m. The relatively small, but rich town seemed to have accommodated a plethora of foreigners who wanted to settle there and live together peacefully. They included Egyptians, Greeks from the islands, and especially from Cyprus.

**Keywords**
Marina el-Alamein, ancient town, necropolis, Hellenistic and Roman period

During late November of 1985, while studying archaeological issues in Alexandria, I was informed by an Egyptian colleague of mine that Chinese workers, contracted by the Egyptian Government, had started building a modern tourist area, south of the huge lagoon separated from the Mediterranean Sea by sand dunes. On this coast, about 5 to 6 km east of el-Alamein – the famous battleground of the Second World War, and some 96 km west of Alexandria [Figure 1], the workers began to create roads and streets for a new town. This prompted me to visit the area [Figure 2]. Indeed, in preparing the ground for new houses the workers were in fact destroying fragments of limestone walls which seemed to be from ancient times, while young shepherds still hung onto their existence and continued to feed their donkeys with grass [Figure 3]. Among the tiny fragments of walls I found pieces of ancient pottery, including Cypriot sigillata from the late Hellenistic and early Roman period. That is why, I informed the Supreme Council of Egyptian Antiquities in Cairo about the situation and, after some time, was granted permission to begin researching the area, i.e. the place called 'Marina el-Alamein,' while the Egyptian inspectors tried to save the area from modern destruction [Figure 4]. At first, in late 1986 – (look what was found – a huge whale! [Figure 5]) – and during 1987, all the visible ruins were documented. The Polish Mission of the Centre of Mediterranean Archaeology (University of Warsaw), under my direction, began excavating fragments of private houses, of a large bath, of different official buildings, including part of the main square (Forum) of the town, and the necropolis [Figure 6]. Incredibly, there were huge tombs either partly hewn deep under the surface of the area (hypogea, sometimes up to 44 meters long – see T6!), or built upon the surface – pillar-and column-tombs [Figure 7] – in the form of stepped pyramidal tombs [Figure 8], reaching a height of 5-7 m.[1] Sometimes they were decorated. For instance, the top of the column of one tomb, was decorated with a Horus-falcon statue.[2] Later on, over time, these tombs were partly destroyed or buried under deep sand.[3] On one above-ground tomb with one layer of several *loculii* but without columns or pilasters, on top of one *loculus* a statue was found of a standing women. Such examples of decorations were uncovered during the excavation work. It seems that these reliefs were once made by local people, probably from the same families. The architecture was excellent, indicating that the builders of such constructions were extremely professional, probably Greeks or, more likely, Greco-Egyptians. Of interest is the fact that the Greco-Egyptian geographer Claudios Ptolemaios of the 2nd century AD. when describing this region mentioned Leucaspis, a small town built along

[1] Daszewski 1990: 83-86; 1991: 27-34; 1999: 41-50. Members of the Polish Mission: W.A. Daszewski, Zofia Sztetyłło, Iwona Zych, Grzegorz Majcherek, Rafał Koliński, Janusz Wałkuski, Grzegorz Wyrzykowski, Tomasz Szmagier.
[2] Daszewski 1995a: 28-36, esp. 31.
[3] Daszewski 1994: 22-35, esp. 31-35; 2011: 438, fig. 17.


Figure 1. Map of the Mediterranean coast of Egypt (*After Fauvel 1982*)

Figure 2. Expedition to visit the area (*Photo W.A. Daszewski*)

Figure 3. Young shepherds feeding their donkeys with grass at the site of Marina el-Alamein in 1985 (*Photo W.A. Daszewski*)

Figure 4. The site of Marina el-Alamein in 1985 (*Photo W.A. Daszewski*)

Figure 5. Late 1986. Members of the Polish Mission of the Centre of Mediterranean Archaeology and a huge whale thrown onto the sea shore at Marina el-Alamein (*Photo Author's archives*)

the lagoon protected from the sea by incredibly white sand forming a narrow band between the sea and the lagoon. Several modern scholars describing the coast between Alexandria and Marsa Matruh thought that in this particular area there must have been either the previously mentioned harbour-town Leucaspis or the harbour-town Antiphrae.[4] Which one of these two is this new place? Until now no inscriptions had been found during excavations which would attest to the name of this town.

Several houses were partly rescued in 1986/7 and later excavated entirely. Salvage works allowed us to uncover a number of such houses in a residential quarter. Later on they were fully explored and restored. All these buildings represented the Greek type of Hellenistic and Early Roman private houses. As an example, one may present [Figure 9] House no. 9.[5] It stood about 150 m southeast of the main square and was of average

[4] Ptol. *Geog*. 4.5.7; Strabo. *Geog*. 17.1.14; Diod. Sic. *Bibl.* 1.31.68; Plin. *HN* 5.5.32; 6.39; Hierocles, *Synecdemus* 734.2. All these things are of importance for the areas called 'Gulf of Arabs' (Gulf of Plinthine) and possibly the town of Leucaspis or Antiphrae – cf. Fourtau 1914: 100-126; de Cosson 1935; 1940: 48-61; Ball 1942.

[5] Daszewski 1995b: 11-29, esp. 20-21; Medeksza 1996: 42-52, esp. 48.

Figure 6. Marina el-Alamein. The excavations in the area of the necropolis (*Photo W.A. Daszewski*)

Figure 7. Marina el-Alamein. Pillar-and column-tombs (*Photo Author's archives*)

size, approximately 38 m E-W by 24 m S-N. An earlier building stage from the late 1st century BC used broken limestone bonded in clay and lime mortar. A later stage, from the late 1st century AD, showed repairs to the stone walls and additions made of mud-brick in clay mortar. Several houses in the neighbourhood demonstrated similar process of development by agglutination, in the 1st and 2nd centuries AD.[6]

House 9 was entered from a winding ally to its west. The wooden doorway nestled in a corner of walls, next to a large stable (T), probably for donkeys. It was provided with a separate entrance from the street. Four stone steps led up to the threshold of the house, passing a bench by the side of the entrance. From the vestibule (1) one could pass into a latrine (2) with seats for several users. The installation was flushed by water brought from the main house cistern and discharged into a circular settling tank outside the house wall. On the opposite side of the vestibule there was a storeroom (3) still full of completely preserved amphorae. A long

[6] Plan of private houses to the southeast of the main square – see especially H9. Cf. Medeksza 1999: 52, fig. 2 and Daszewski 2011: fig. 9. Plan of private houses, including H9a, H10, H10a, H10b, H10E.

Figure 8. Marina el-Alamein. The author of this work at a stepped pyramidal tomb (*Photo Author's archives*)

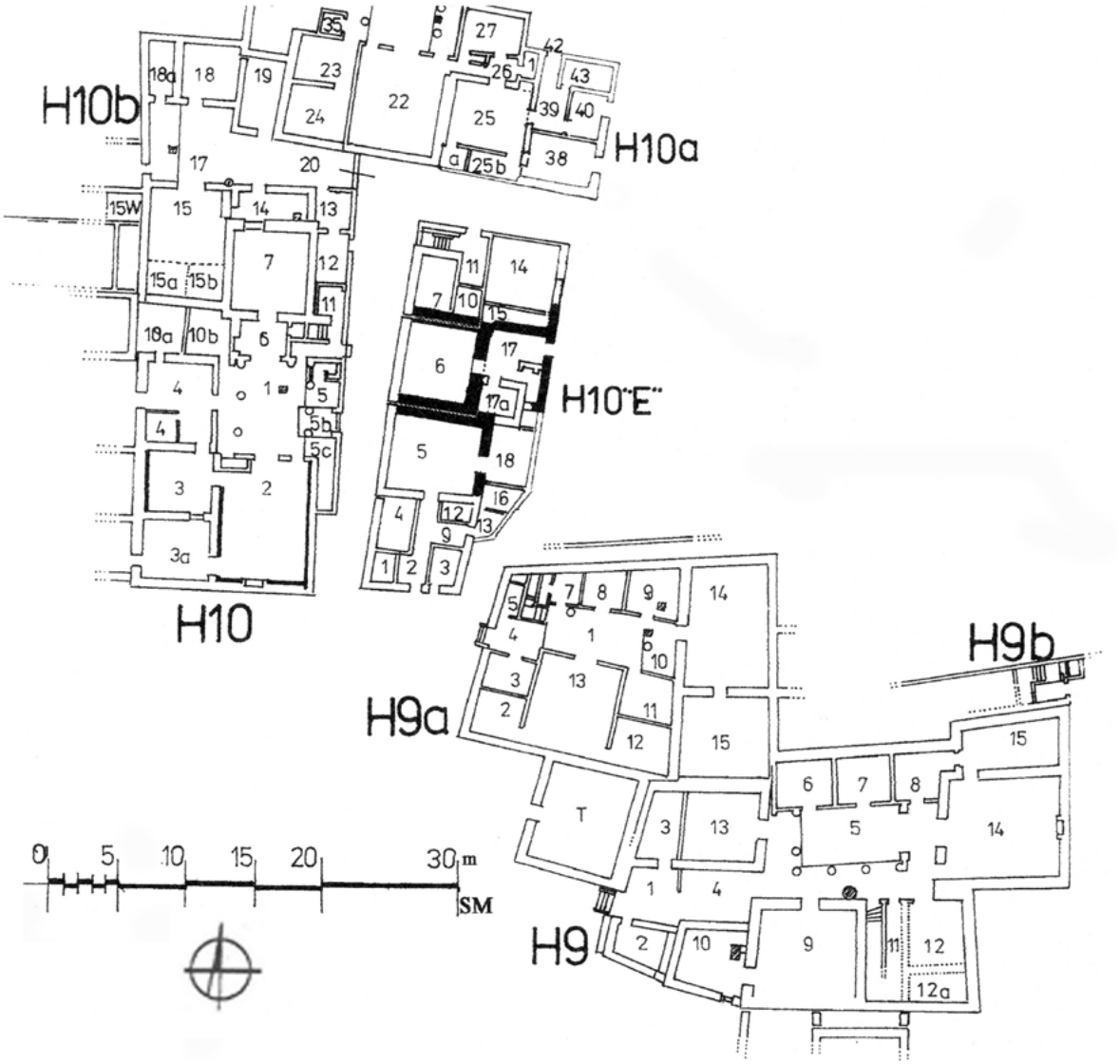


Figure 9. Marina el-Alamein. Plan of a group of private houses in the south-eastern area of the site (*Drawing S. Medeksza*)

corridor (4) led to the porticoed courtyard (5) at the heart of the house. The diurnal life of the inhabitants ran its course in room (13), west of the portico. The kitchen (6) and living rooms (7, 8, 15) in the north wing of the house, as well as room (12) to the south of the courtyard were all for daily activities. A well-shaft leading to an underground water cistern was located in the middle of the southern portico. A large room – an 'andron' (9), southwest of the courtyard, was a place for men. Room (14) was an 'oikos' preceded by a 'prostas.' The columns and pilasters of the porticoes were decorated in the pseudo-Ionic style, while those in the entrance to the 'prostas' and 'oikos' were of the pseudo-Corinthian type. A staircase leading up to the rooms of the upper floor and the roof of the House were situated between rooms (9) and (12). Painted panels with geometric patterns in blue, red, yellow, white and purple were also recorded everywhere, sometimes including figural representations. For instance, in House 10, the heads of Harpocrates, Serapis and Helios were uncovered, while in other parts, near the main square, marble statues were found, a nymph and a marble head of a young woman, perhaps a goddess.[7] Many other finds – pottery, lamps, fragments of amphorae and coins were found during the restoration and conservation of the buildings carried out by ourselves and our colleagues from the PCMA Polish-Egyptian Restoration Mission.[8]

Who were those people of the harbour town? Most of the tombs were plundered, and the corpses almost completely destroyed. Were they Greeks (see the Greco-Roman architecture!) or were there other groups of people, from Cyrenaica or from Egypt. This small, but rich town seemed to have accommodated all foreigners who wanted to settle and live together peacefully. It seems to me that, just as in Hellenistic and Roman Alexandria, there were different groups of Greeks from the islands, particularly from Cyprus (closely connected with the famous goddess Aphrodite/Venus) and Crete, as well as from the mainland and, of course, the Egyptians. That is why in some tombs some splendid mummies were found – the Greco-Egyptians, most probably bilingual.[9] See, for example, the fully preserved portrait painted on a wooden panel from this burial in T6. That is why, indeed, they were the truly 'Greco-Egyptian people' whom we are now attempting to uncover once again.

[7] Daszewski 2013: 167, fig. 4, 169, fig. 5.
[8] For instance, cf. Medeksza *et al.* 2011: 119-127; also Bąkowska 2005: 100-105; Kucharczyk 2005: 93-99.
[9] Mummies from a cache burial in T6 in Marina el-Alamein, cf. Daszewski 2011: 451-452, fig. 30.

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# Hermopolis Magna at the Crossroad of Cultures

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**Summary**
In the Greco Roman period Hermopolis Magna became an important place of cultural exchange. Chosen examples – the Hellenistic Corinthian capital, the Gymnasium, the Agora with its Great Tetrastylon, and the Great Basilica are situated at the town's main crossroad or next to it. They are the result of an intercultural exchange and new ideas brought to Khmun thereby created the Greco Roman Hermopolis and then next Coptic Shmun. The author discusses these monuments and researches their importance in various contexts and aspects.

**Keywords**
Hermopolis Magna, Shmun, architecture, Corinthian capital, agora, basilica

At present the ancient site of Hermopolis Magna near El Ashmunein village is stripped of its former glory. Tourist buses arriving here stop in the front of reconstructed giant baboon statues of the Amenophis III. Only a few buses or individual tourists go further up to the end of the asphalt road to visit the archaeological site of an important ancient town called Khmunu in Pharaonic times, Hermopolis Magna in the Greco-Roman period, and Shmun in the Christian era. Most tourists are disappointed having seen some columns standing and plenty more, broken and lying around in pieces. Archaeologists acquainted with the town plan know, they are in the ancient city center. Professional Egyptologists and ambitious visitors access the site, climbing koms in order to feel and appreciate the past glory of the capital of the Nome. But, there is a little to be seen in comparison to the rich historic sources. Ancient papyri are valuable sources to imagine a number of temples, public buildings, as well as hundreds of private houses, unfortunately built mostly of mud brick. Of a great importance is the Repair papyrus[1] describing most of the important buildings in the AD 267. The great earthquake, which presumably happened before at the turn of the 7th and the 8th century destroyed the town. In the next centuries the crushed buildings and ruined churches were extensively exploited. Dismantled ashlars and monolithic column shafts were valuable material to generations of Egyptian builders. The irrigation canal passing close to the ruined town was a perfect means for their transportation to Mallawy, or Minia. Some of the Ashumein granite column shafts were even taken to Cairo to build a Sultan an-Nashir Muhammad mosque. Another destructive factor was the sebakh digging in the abandoned city. Decades of such activity meant that only a Great Portico of the Thot Temple remained at the end of the 18th century. Denon visiting Ashmunein made a description and a drawing of it.[2] But soon around the 1826 even this great monument was demolished.[3] An increasing interest in antiquities meant that in the end of the 19th century a sebakh digging became an extra beneficiary when a valuable artifacts and papyri scrolls had been discovered. The great number of possessed artefacts led to controlled sebakh digging becoming an archaeological activity at the turn of the 19th and the 20th centuries. At the end of the 1920ties Heidelberg University mission developed scientific research at the site by excavating trenches through the town remains. Roeder's comprehensive study on the town's history and its monuments by marking a few important points was good enough to begin sketching the plan of ancient Hermopolis Magna.[4] A site with some columns close the main crossroads of the Dromos of Hermes, and Antinoe street were preliminary recognised as an Agora a famous place of Hermopolis, described in the Repair papyrus.[5] The Alexandria University excavations exposed here a ruin of an early Christian basilica, as well as relicts of a Hellenistic foundation. These monuments were situated at the great temenos bordered by the stoas.[6] The subsequent excavation in the town center revealed more Greco-Roman monuments. Thanks to the activity of the British Museum mission it was possible to recognise apart from the remains at the Thot Temple area monuments in a town center too such as the Komasterion, the Bastion, the Great Tetrastylon and a temple at the Sphinx Gate.[7] The Polish-Egyptian mission researched a Basilica site which resulted in

[1] P. Vindob. gr 12565.

[2] Denon 1803: 239-243, 317-318.
[3] Snape and Bailey 1988: 48-49.
[4] Roeder 1959.
[5] Baraize 1941; Kamal 1947.
[6] Wace *et al.* 1959.
[7] Bailey 1991.

expansion of our knowledge concerning Hellenistic monuments and the church building itself.[8]

At the early stage of the Hellenistic presence in Egypt, Philip Arridaeus became a founder of great portico of the Thoth temple, due to the fact that most of the structure had been already completed when he added his commemorative inscription. Presumably, during that period, the town still bore its Egyptian name Khmun. Soon, the Hellenistic culture had already been introduced to the town, by the Greek settlers (*katoikoi*) causing change its name for Hermopolis Magna. New settlers established a gymnasium here, a basic element of their culture. According to Barański's interpretation, the area to the east of the town center should be a part of a greater gymnasium complex.[9] Other authors consider the Hellenistic remains discovered here as base for setting the Ptolemaic cult complex in this location. Unfortunately architectural evidence gathered here, can't be confirmed with foundation remains, the both suggestion can overlap easily. It is striking, but the name of the gymnasium is not found in Appianus Repair papyrus, although it was used in other documents. Roman documents suggests that the baths of Hadrian, the Great Serapeum and the gymnasium were present as one great complex.[10] In Roman times building a bath in gymnasium complex was a common practice.[11] If so, the baths ruins located far east of the already discovered Hellenistic foundation at the west of this complex could support this information. However the size of the discovered Hellenistic foundation looks too small for a Great Serapeion building, although there is still a large piece of land to be excavated between these Hellenistic remnants and the baths. Any new discovery in the archaeological site of Hermopolis may be helpful to resolve problems locating other Hellenistic and Roman buildings mentioned in historic sources.

Greek settlers in the 3rd century BC erected a Doric temple in Hermopolis Magna to commemorate their ruler Ptolemaios the IIIrd. It is an enigma to us who commissioned the master architect to do this project. It was the choice of the local people or a master came especially from Alexandria, and the Hermopolite citizens had only to pay for his job. Almost nothing is known about the next spectacular Corinthian building constructed in this period either. The extreme quality of its capitals is significant. Hermopolis was still growing during the Roman period and many public buildings were erected in the Hadrianic and Antonine periods, but of a standard character, apart from the Great Tetrastylon. The impact of Christianity in Hermopolis resulted in pagan temple destruction or conversion into churches. This is what happened to the main Thoth temple and other sanctuaries. A new large church dedicated to St. John at the Cross was built before the middle of the 5th century on the court of the Ramses II temple.[12] However this was not the end of the story. There were more than 20 Christian churches, as is mentioned in historic documents. Hermopolis because of its metropolitan status became a bishop seat. This important function required support and splendor. The idea to construct an episcopal complex large enough with an imposing church was almost natural, because the needs of the Christian community always met the local bishop's expectations. Therefore, the new Basilica church, the Cathedral was erected according to unusual plan, as a one of the largest buildings of its kind in Egypt. As with all societies in change, such a building program needed an ideological background, and this presumably occurred here as well. The Great Basilica was constructed on the grounds of the Gymnasium, as we may presume. Should we also consider this action as the reason to change the town's name to Shmun?

This short account on the cultural impact on the Greco Roman town – *Hermopolis Magna* mentions some monuments. These illustrate the significant cultural transfers at this crossroads located in Middle Egypt, where the Old met the New. Among the Hellenistic remains discovered in the Basilica church foundation, were 16 Hellenistic Corinthian capitals of an unknown building. In general, their style belongs to Type I of the Ronczewski Corinthian capitals classification.[13] Examination of the capitals examination exposed both, a rich color decoration as well as a top class design. In fact a color pallet is more rich than described by Wace.[14] Presumably he studied capitals where the colors had faded or not remained in full. Our research had more luck discovering fresh colors samples hidden under the lime mortar.[15] The original color decoration consists of the following paints – dark-blue, red, pink, green, black and white. The discovery of the paint traces provided an opportunity, to reconstruct its color scheme. The capital's bell was painted a purplish pink; the acanthus leaves were green, with yellow midribs. The stems leading to the corner volutes were pink with edges painted in yellow. The color of the inner curling stems was blue with a light brown curl at the tip of the helices. The main and side flowers were yellow with light-brown-red tips. The small acanthus leaves on stalks were yellow. Such rich color painting was underlined by the white painting of the fluted column drums, although fine white limestone had been used. Presumably for Greek masters a natural limestone color was not sufficiently white and smooth. Apart from the

[8] Barański 1992.
[9] Barański 1996: 104.
[10] Łukaszewicz 1986: 58.
[11] Lindsay 1965: 87-105.
[12] Grossmann and Bailey 1994.
[13] Ronczewski 1927.
[14] Wace *et al.* 1959: 7-8.
[15] Barański 2004.

rich color scheme there are also other features showing extreme capital quality. In general, the decorative scheme follows the Epidaurean model where the height of the leaf collar and decoration of the bell are differentiation factors.[16] The fleuron form is also a significant element characteristic for the 3rd century BC Alexandrian type capitals. Among early examples of Corinthian capitals from the 4rd and 3rd century BC period a only a small number belongs to the group with leaves covering half of the capital. There are few examples from Epidauros and Alexandria. In the second group, the Corinthian leaf collar has additional leaves supporting the corner volutes or they protrude and cover the rest of the capital bell. The Belevi Mausoleum capitals dated to the 285-280 BC belong to this group.

Early Corinthian capitals until the middle of the 3rd century BC represent many different solutions concerning not only their decoration.[17] Analysing the Hermopolite capital we should consider some examples which may have influenced its design. Its base was an Epidaurean model adopted and developed in Alexandria. Apart from the leaf collar height, the way of carving cauliculi and setting small flowers are also important. Characteristically for an Alexandrine capital scheme, the spiral covered by a small leaf curls back and the spiral is twisted and terminates in a circular blob. This is also the case with the Hermopolite capital, but its form is elaborated to a perfect extreme. A preliminary analysis of the Hermopolite capital also confirms the Epidaurean scheme of proportions. In general these capitals have proportions following an idea coming from the partition of two circles. The bigger circle is equal to the capital's full height while, the smaller one is diminished by the abacus height. The partition of the larger circle or the capital height into two sets the height of the upper leaves as is common in many Corinthian capitals. It is interesting that the Capital decoration also has proportions according to the horizontal and vertical partitions of each circle by four. The grid plans thus established a system helpful in marking main points and tracing the capital's decoration. Therefore, an architect or sculptor could design its decoration individually, using a simple system based on geometrical coordinates. These cross cuttings determined the setting of characteristic capital elements respectively i.e. the size of the volutes, the place of the helices, as well as the height of the upper and lower leaves and almost all the other elements of decoration. A preliminary study of the Hermopolite capital also indicates one more principle including the column base height. This additional circle was enlarged by 1/3 of the smaller circle diameter, and this is equal to the base height. It is astonishing that the size of the new circle is also equal to the column base diameter. The three-circles system provides a simple and complex as well as solid way of uniting the proportions of the both, the capital and the column base. Both elements are the part of the architectural order based on column diameter proportions. Therefore, the geometrical proportions created on the basis of the partition and multiplication of circles resulted in the possibility to design an architectural order in horizontal and vertical proportions, as well as organising its decoration according to the same system. Thus, we have achieved a total system combining the Corinthian order and its capital decoration. Depending on the class of architect and sculptor, the system could have been implemented in a more or less elaborated form. The intersecting circle system can be translated into a much simpler set of average proportions based on mathematical structure, but it will never reach a sophisticated elaboration of proportions determined by the geometrical system. Presumably in a capital prefabrication process this system was simplified by using a template to mark a characteristic points on a stone cube. In general practice over the following centuries, the system had been converted to a simple method, and its geometrical idea was abandoned. According to Vitruvius[18] the proportion system of the Corinthian capital is built on an easy partition system. Therefore, in the Roman period the Corinthian order could have been based on a mathematical scheme.[19] The lower diameter of the column should constitute the height of the Corinthian capital, and this is confirmed in the Hermopolite capital, but the other indications are slight different. In a Roman period, a proper Corinthian capital should had abacus of a 1/7 of the height of the capital, but in Hermopolis this proportion is 1/8. By saying, 'Omitting the height of the abacus, let the rest be divided into three parts, of which one should be given to the lowest leaf, let the second leaf occupy the middle part of the height...'[20] he presented an easy description for the prefabrication of a stone block, where the sculptor's role would be limited to decoration carving. His pointing on a size of the middle flower equal to the abacus height practically framed the artist's freedom. The Vitruvian description was dedicated for an average architect and builder of that period, and so it was been translated into a simple and easy form to adopt in mass production in the Roman Empire.[21] Presumably with spread of the Corinthian order, such a template was implemented in the late Hellenistic period, and Vitruvius role was only to continue its description in an understandable form. It is worth mentioning that in the Early Hellenistic period Corinthian order were still used as a decoration in sacred buildings rather, than as a common feature of temporary architecture.[22] Therefore,

[16] Pensabene 1993: 109-120; McKenzie 2007: 84-88.
[17] Bauer 1973.
[18] Vitr. *De Arch. Libri Decem* 4.2.11-12.
[19] Jones 1989.
[20] Vitr. *De Arch. Libri Decem* 4.2.12.
[21] Asgari 1988.
[22] Onnians 1979: 72-79; Pollitt 1986: 247-249.

the creation of a unique and individual order could have become an obligatory duty for a commissioned architect. In Early Hellenistic Hermopolis Magna, decorative elements of the capital are determined by a much more sophisticated system than the Vitruvius presentation. It seems also that Hermopolis Magna attracted at least one of the best capital sculptors of the Age. A brief comparison with other Hellenistic Corinthian capitals confirms to some extent the adoption of an intersecting circle system. Previous studies on Hellenistic Corinthian capitals claiming the adoption of mathematical proportions seems to have been revised and compared to a geometrical system.[23] Research on Hermopolite capital decoration astonishes when compared with those of Epidauros, Samothrace, or Miletus.[24] A brief analysis of capital decoration proportions shows that the Hermopolite Corinthian capital is not a copy of earlier models, but a creation of its own proportion scheme with the introduction of some new decorative ideas. The general proportions of the capital are closer to Epidaurean models than to those from Miletus or Samothrace of a later date. But, here we have a very interesting model of almost perfected form, where the character of the main acanthus leaves is closer to the almost contemporary capital of the Propylon of Ptolemy II in Samothrace dated to approximately 280-250 BC. Also the capital of Laodike's Building at Miletus dated shortly after 259 BC represents great similarity in the form of the central fleuron, and idea of stem and helix decoration. Ribbed cauliculi, curled stems and perfectly elaborated flowers indicate the Hermopolite model as a best solution of that time, later copied. Simply put, the lower part of the capital is close to the Samothrace model, but the upper one reassembles the Miletus type. There is also a small flower bud supporting the corner volutes, as is seen in Epidaurean capitals. This brief comparison frames a possible date to the period of the middle of the 3rd century. According to the Bauer study on Corinthian capitals of Hellenistic period decoration it is possible to date the Hermopolite capital for the period 240-230 BC.[25] The presentation of the Hermopolite Corinthian capital indicates that Middle Egypt, featured almost perfect Hellenistic monumental architecture with spectacular capitals presumably designed by an Alexandrian master. A more comparative study on the Hermopolite capital and similar Alexandrian capitals may indicate a more detailed principle of a system used in Ptolemaic Egypt.

Ammianus Marcellinus[26] in the 4th century AD mentions Hermopolis and Antinoopolis among the four most important cities of Upper Egypt (the Thebaid). This is a significant because those two towns were neighbours and only the Nile separated them from each other. With imperial money, Hadrian's idea to commemorate Antinous by establishing a new town was possible to achieve in a short time. Such a coincidence presumably became a creative factor for both towns – the Roman style Antinoopolis, and the ancient Hermopolis Magna. The creation of such a duo-polis also posed a challenge to provide an economic background for the future development of this great agglomeration. The following centuries confirmed the development of both neighbouring towns. Antinoopolis, founded in AD 130 on the East bank of the Nile attracted citizens from overpopulated Egyptian towns called the Neoi Hellenes. This may indicate a new much more open Roman system of town government. In creating a new town model, set of characteristic buildings were constructed there, including a theatre, baths, monumental arches, columned streets with tetrastyla at the crossroads. The economic growth and political support resulted in relatively quick town development along with great architectural projects. It is almost certain that the great rivalry between inhabitants of both towns – Hermopolis and Antinoopolis, materialised not only in the number of new buildings, but also in their size and decoration.[27] The question still exists to what extent these projects influenced the architectural activity in Hermopolis, as well as how Antinoopolis reacted to Hermopolitane response. It seems that finally Christianity pointed the winner, thus ending this prolonged contests.

Aurelius Appianus in his Repair report from AD 267 mentions the Great Tetrastylon among the many buildings in Hermopolis.[28] Emphasiising the Tetrastylon's boldness, the author highlighted the scale that surpassed local expectations. In Egypt, the building movement present in new communal investments had some stimulus. The growth of civic rivalry led to a boom in new building projects at that time, and this occurred within Hermopolis and Antinoopolis. In Antinoopolis, two tetrastyla were mentioned at the crossroads of the main street.[29] One dates to the time of Alexander Severus, while the other was presumably constructed much earlier, during the main street planning. In Hermopolis Magna, according to the historic sources, we have three tetrastyla including – the Great Tetrastylon dated presumably AD 178 according to an inscription that no longer exists. The citizens of Hermopolis were presumably not satisfied the public buildings constructed so far. The erection of this giant structure was probably the a Hermopolite community's answer to a challenge from the neighbouring towns in Egypt. Donald Bailey who studied the Hermopolite

[23] Bauer 1973: 126-155.
[24] Roux 1961: 367-368; Bauer 1973: 109-121; von Hesberg 1978: 137-145; Alzinger 1979: 179; Frazer 1990: 87-91.
[25] Bauer 1973: 117, 122.
[26] Amm. Marc. 22.16.2, 6.
[27] Bailey 1990: 123-137; Bowman 1992: 495-503; Pensabene 1993: 244-257, 273-288; McKenzie 2007: 154-160.
[28] P. Vindob. gr 12565, line 197.
[29] Bailey 1990: 129-130.

tetrastylon, calculated its height to approximately 24 m.[30] Only a Pompey's Pillar in Alexandria Serapeum was bigger with a total height of 28 m and a 60 ft monolithic red granite column. The Hermopolite Great Tetrastylon columns were made from limestone drums 2 m in diameter. Presumably, it was an easiest solution to omit an Imperial regulations limiting building with granite monolithic shafts. Was it also a response to the structures created by Neoi Hellenes in Antinoopolis? Should we consider the construction of an honorific column with a tripartite granite column shaft and a height of 45 Roman ft in Antinoopolis as a similar response?[31] Another idea worth discussing is the setting of the Hermopolite Tetrastylon. It is situated in the central square in front of the Sphinx Gate, the main entrance to the Thot temple enclosure. Here, the two main streets the Antinoe and the Dromos of Hermes intersect. Apart from the Great Tetrastylon, two nymphaea, a temple, stoas and decorated gates to main buildings of the town were located in this area. Until the Great Tetrastylon, a great portico of the Thot Temple erected in the 4th century BC was the most brazen structure in the town. Its total height was approximately 60 ft, i.e. around 18 m.[32] Therefore the Great Tetrastylon being a considerably large structure, dominated not only the square, but also became a significant features of the city skyline. The Great Tetrastylon set at the main crossroads indicated a new center of the town, or underlined the old one – the square of no name? In such a situation we should look closer at this crossroads. In fact a simple crossing of streets, of large dimensions did not allow enough room to build a bigger construction here. The Great Tetrastylon was set just next of it. But larger structures, decorated buildings and individual sculptured monuments were generally located at the Agora, in Greek towns a large square, architecturally defined by stoas. The Hermopolite Agora mentioned in ancient sources should have been located somewhere in the town center. The problem of Agora's position, as well as the location of other ancient monuments was studied by many scholars.[33] Most of them would see the Agora as a separate building or area, but there is not enough space for a such significant architectural complex, if it had been originally designed. Bailey in his study on the town center summed up previous studies and suggests an Agora location to the West of the Great Tetrastylon, diagonally opposite to the Komasterion.[34] J. Westerfeld studying the Hermopolitane toponymy supposed this idea as a speculative.[35] It seems sensible to analyze the Agora, not as an individual monument, but an open space area bordered with other buildings and temples. Aurelius Appianus document mentions only 'the stoa in the front of the Agora,'[36] but this is not made in any order listing Hermopolitane buildings along the Antinoe street from the eastern Gate of the Sun to the western Gate of the Moon. Moreover, the list does not cover other recognised ancient monuments of the town. The document is only a list of buildings to be restored, and here we should see the Agora not as an individual monument, but as an open space, difficult for direct indication. If so, should we consider the possible location of the Agora as the large square with the main crossroads featuring the dominant the Great Tetrastylon? When imagining a vibrant area around the Great Tetrastylon with the gate to the main temple, and elegant buildings nearby, as well as plenty of sculptured statues, such an interpretation seems plausible. However, the architectural form of the town center was not the result of a perfect design, its dynamic shape being achieved by numerous changes and additions, but seems to be impressive enough to called it, the Agora, 'an excellent ornament of our city,' as mentioned in an ancient papyrus from the 3rd century AD.[37] If so, historic development of the area was of an organic character, not architecturally designed composition, for example Hellenistic Agora at Priene or Miletus. The first suggestion seems more likely, when compare it with the Agora of Athens.

The Great Basilica Church of Hermopolis Magna is a milestone in early Christian architecture.[38] Until the discovery of the basilica in Marea of a similar plan and size, the Hermopolite Church was a unique monument. The construction of a great Basilica Church intended as a Hermopolite Cathedral needed two things: an architectural plan of adequate size, as well as the right location. The church plan features a standard transept basilica, with the addition of columned apses on the transept ends. Polish research and excavations confirmed the originality of this plan.[39] There were no later extensions especially at the junctions of the transept and side exedras. As many scholars suggest, its unusual plan was presumably a combination of a classical transept church building with a church that was popular in Middle Egypt with a three foiled central plan, an adoption of a martyrion building type common in early Christianity. General knowledge on transept adaptations to churches indicates its origin as 5th century. The colonnaded transepts should have been introduced a bit later, but transepts ending with side apses are an exceptional solution. The great church of Abu Mina in Egypt is a good example here, where these changes are visible and it is possible to

[30] Bailey 1991: 29-32.
[31] Bailey 1996: 157.
[32] Snape and Bailey 1988: 47.
[33] Meautis 1918; Schmitz 1934: 419-428; Baraize 1941; Schwartz 1977; Bailey 1991: 58-59; Pensabene 1993: 247-248.
[34] Bailey 1991: 56-58.
[35] Westerfeld 2012: 72.
[36] P. Vindob. gr 12565, line 177; Roeder 1959: 101 (H. Schmitz); Bailey 1991: 57.
[37] Wessely 1905: no. 102.
[38] Krautheimer 1986: 113-114; Grossmann 1989: 81-82, Atiya 1991/I: 285-288.
[39] Barański 1996.

date the colonnaded transept of the Great Basilica to the second half of the 5th century.[40] In Hermopolis, the development of such a plan successfully achieved both, a new idea for bigger church with columned transepts from the North, as well as locally accepted solution using apses known from churches in Deir el Abiad, Deir el Ahmar, or Dendera. The two storey basilica church that we have in Hermopolis confirms its relation to previously mentioned monastery churches. In such a context the Basilica of Ashmunein could not have been built earlier than in the second half of the 5th century. The discovery in Marea, close to the Alexandria, of an early 6th century basilica church with a very similar plan and size is most striking. Although, there are some differences between the two buildings, lack of a upper storey, the empora in Marea church, the general disposition of the plan and the same number of 44 columns seems interesting and worthy of consideration. The decoration of the Hermopolite basilica church is another component to be discussed. As mentioned, the project of a new cathedral church building got a full support of the local community and the bishop itself. Although it was obvious who appointed the main architect, his origin is more interesting. We have evidence of the participation of Hermopolitane bishops in the synods. Should these duty trips have been an inspiration to build an exceptional church? But after the Council of Chalcedon in AD 451, official contacts with Constantinople were drastically limited for more than century. Should we expect architectural inspiration coming from another direction? Was he a master from Egypt, Alexandria or was he brought in from the outside world, Greece, Asia Minor, or Roman Africa? This question is still a mystery to us. Accepting the plan and size of the church, His Eminence presumably also made efforts to get permission for a red granite monolithic columns reuse, which should appropriate splendor and appreciation to a building[41]. Presumably, official permission was given to re-use the granite trunks locally available in Hermopolis from closed and abandoned pagan temples.[42] Although there was an abundance of top quality building material, finding 44 monolithic granite column shafts of the same height was not an easy task. In neighbouring Komasterion there were plenty of shafts 16 ft long, but they were too small for a big church, where 20 ft shafts were needed. The Komasterion was converted to the St. Theodore Church, and such action was impossible. The South Church of Saint John the Baptist, built in the middle of the 5th century employed smaller shafts of a 14 1/2 Roman ft length. In Basilica, the problem was solved by collecting granite shafts from dismantled pagan buildings. It is worth mentioning that, the North Portico, a monumental side entrance to the Basilica, had four granite columns of 24 ft height. This construction caused the further destruction of a pagan building with a high portico or dismantle of a smaller tetrastylon. Although, in the case of the Great Basilica there is a bigger set of decorative elements, their analysis is not an easy task. The column capitals were of the 3rd century Corinthian type, but there were also capitals of another type. A similar problem also concerns the capitals of the upper row. A study on the Basilica capitals confirmed a lack of spolia that meant the need for new capitals. The normal usage of a new decoration carved in a contemporary style would be legible and easily distinguished. Therefore, the adopted solution was to carve new capitals, as a mixture of decorative forms with elements repeating to some extend the 3rd century style. As we can see, the masters were not good enough and presumably it was even impossible for them to repeat the delicate acanthus leaves of the Roman capitals. As we see, the new capitals adopted some Coptic motifs. These led to a mixture of some elements of Roman origin, for example the fleuron and cauliculi, while others are from the Coptic repertoire. The characteristic features here are the plain acanthus leaves. Therefore, the surviving corner capital of the church apse is of great importance to us, because it has more individual character than the modified replicas of the regular column capitals. The great variety of Coptic decoration forms discovered in Basilica area is not easy to be differentiated and explained. The elements of decoration to some extent reassemble those from churches in Bawit and Deir el Ahmar. There is a great similarity in the form of the Corinthian leafs. The Coptic decoration attributed to the Basilica is not homogenous. There are also some individual forms and, other decorative elements may have been brought from neighbouring buildings from a bishop complex or small shrines or chapels which may have existed in close vicinity or were presumably added later to the already existing church. Therefore both, the transept ended with apses and the characteristic decoration of purposely carved capitals are helpful to indicate that the erection of the Basilica Church occurred during the second half of the 5th century, and the end of the century should not be excluded. Pottery samples discovered in one of the archaeological sondages corroborate dating to the second half of the 5th century. Wace, while discussing the Ashmunein Basilica suggested it was constructed towards the end of the first half of the 5th century, indicating its original architecture and form with and atrium as an example of a Metropolitan built into the hinterland.[43] Török, have indicated the erection of the episcopal complex in Hermopolis, as a concerted action of the imperial government, the town council, and the bishop united to transform the symbolic pagan cult institution of a

[40] Grossmann and Kościuk 1992: 35-38; McKenzie 2007: 290-291.
[41] Barański 2002.
[42] Łukaszewicz 1984.
[43] Wace *et al.* 1959: 78, 82.

great prestige by the new great Cathedral.[44] Indeed, the Basilica Church architecture indicates that it was a spectacular investment of a scale surpassing other churches at that time in Egypt, but it seems that we have much more important elements of this project to be discussed.

Another interesting feature of the Basilica is its setting. Although, the centre of the city is a good location for the Cathedral, the chosen location is very intriguing. Archaeological research made in this area indicates the possibility that the Basilica was constructed in the area of Hermopolitane gymnasium, although on the opposite site of the Thoth Temple temenos there was plenty of free land to erect the most important church in town. Some scholars locate the Serapeion temple in the Gymnasium yard.[45] But excavation at western area of the site, exposed only a small foundation (approximately 10 × 18 m) from the Hellenistic era, and a few foundations for altars.[46] Therefore, we can broach the idea, that the construction of the Hermopolitane Cathedral, was the bishop's decision in order not to dismantled another pagan temple, that was already closed or even destroyed, but to opt for a site, that was an old symbol of public education and the local community organizational system. Building the great church and episcopal complex, in this particular place, caused 'those from the gymnasium' class to irretrievably lose their base. It was a Roger Bagnall, who said: 'It was Christians who actually turned Egyptian into a vehicle for a new Era. In that peculiar and narrow sense, the pagans indeed were the Hellenes.'[47] Strong a presence of paganism in society, even with closed temples, continued until the beginning of the 6th century.[48] There is numerous evidence of pagan scholars, teachers and officials who presumably got their basic education in the 5th century in gymnasiums although their temples were closed and emperors statues or, religious symbols had been stripped away or destroyed. Prosecution of pagan teachers in Alexandria in the period AD 474-491, also seems to be a possibility in Hermopolis.[49] Placing a cathedra of the new message at this particular site, where education and social organization had been conducted for centuries seems a very significant idea for change. Presumably building a Basilica church with an atrium formed by gymnasium stoas it is not only the effect of an adaptive reuse of former structures, but a kind of symbolism. This idea can be supported by the fact that the new great basilica building did not open directly to the main square, presumably the Agora of the town. Access to the Church was possible through the great monumental gate of the Gymnasium. Should we consider the Basilica setting as a significant symbol? The old gate and stoas of the Gymnasium now serve as background to new knowledge It seems that there is more evidence behind this idea. The apse of the Basilica is built on the partly dismantled Hellenistic foundation of a small sanctuary or a propylon. A crypt was built in the middle of the apse, adopting the original foundation walls. The irregular setting of the apse and its semicopula on the partly dismantled foundation seems to be a serious mistake from an engineering point of view. Was it important to incorporate, a substructure not visible to a general public, and risk the possible damage of the apse, a crucial element of building ? There was enough space to set the building outside the foundation, or dismantle the rest of it. But this was not how it was done. Should we consider it still important in the second half of the 5th century to set a Church building on the destroyed foundation remains of a pagan temple, although all the Basilica's foundations were constructed from the dismantled blocks of pagan buildings? Or was there a special reason to do so? It happened in one of the greatest Egyptian towns. Therefore, it could be a message to the people of Egyptian Chora, that not only are the pagan gods banned and their temples destroyed, but it also marks the end of a barbarian education and social system is already finished. This decision points to a bishop but of which see, Hermopolite or Shmun?

Developing Christianity as already proven found support mainly among the poor and slaves, but growing pressure on the upper classes meant that the Christian community in the 5th century significantly increased not only in Egypt, although a major section of the population continued with pagan cults.[50] In Egypt, the majority was poor and presumably had a limited command of the Greek language. However, there are plenty historic sources from the late period where individual names are of Greek origin, and this number is considerably bigger when compared with the situation 200 years earlier, yet we should not forget that behind those names is a majority of Egyptian origin. Bagnall sees the formation a new Egyptian society, the Copts as a decentralization process with vivid and encouraging contacts between Christian communities of towns and countryside.[51] The inclusive approach of local Christian communities of poor and non educated peasants could therefore be a factor for a bilingual society. Conversion of the official Greek to the Coptic language was the significant change. In the early Christian era, a Greek language still had the status of an official language of the educated class, but its role gradually diminished. In the new social situation in Christian Egypt presumably both names could be used simultaneously. It was J.F. Champolion, who proved

[44] Török 2006: 254.
[45] Pensabene 1993: 248-254.
[46] Barański 1996.
[47] Bagnall 1993: 324.
[48] Wipszycka 1988; Whitby 1991.
[49] Szabat 2011; Chuvin 2008: 125-131; Remondon 1952.
[50] Chuvin 2008: 110-140.
[51] Bagnall 1993: 322-323.

continuity of ancient Egyptian language in the Greco-Roman period, being written in demotic script and next spoken in Coptic. Soon, the Coptic took the role of national language introducing some ancient Egyptian words and meanings. Therefore, it seems plausible that a change can also be seen in the local toponymy. After almost 700 years, their pronunciation could be slight different from the original one, but the process of change seems significant. The Hellenisation of Egypt was connected with the process making old Egyptian town names easily understandable for the newcomers. Greek toponymy linked the Egyptian towns with local gods, who also changed their names. It was a perfect solution from the new settlers point of view, although it violated native Egyptians feelings. It seems that apart from the official Greek names, the local town names also survived, albeit with their pronunciation changed. Apart from Alexandria, in Upper Egypt the situation was very complex. For a long period local cults survived there supported by the paganism of the peasantry, generally illiterate and speaking the native language.[52] The rise of the Coptic movement in Upper Egypt was united with development the local Akhminic dialect. The cohabitations of two languages soon ended providing room for the development of the Coptic language. In the new social situation in Christian Egypt presumably both names, Hermopolis and Shmun could be used simultaneously.[53] A possible explanation for the change could be the creation of a native monophisite church of Egypt, as happened after the Chalcedon synod. Therefore we should see this as an intentional process of national Coptic church formation supported by a local language apart from the Byzantine orthodox church with its official Greek. The process of great and rapid changes was also stimulated by the diminishing role of the educated upper class (called 'those from the gymnasium' elite) in the local administration. In such circumstances, the usage of the local language could have prompted the replacement of Greek names into the previous ones of a late Pharaonic origin but with slightly different pronunciation and written in Coptic. We can presume that there could have been an official tendency or even pressure to change names, but we should take into account some other issues. Although, we cannot answer this question with certainty, the change did in fact happen.

Let us return to Hermopolis Magna in the Greco-Roman period, Khmunu, Unu in the Pharaonic epoch, Shmun in the Coptic. In Arabic, El Ashmunein protects the historic core of its original name as well. As previously mentioned, the developing Christianity in Egypt was connected with the abandonment of the Greek language abandonment in a favour of the local Coptic. Presumably, the local bishops could also have played a significant role to end the usage of Greek toponymy, and this could have been an independent initiative. Hermopolis, is a good example here, because after the ban of the Hermes-Thot cult, the continuity and remembrance of its name as a toponymy might well have been understood as a testimonial and perpetuation of evil. For a good Christian, such a situation would have been treated as sin, and no longer accepted. The town of a bishop seat with a name honouring a former god, now called evil, would not have been tolerated, especially by the bishop himself. This could be a local stimulant, which maybe independent in a general process of turning Egypt into Coptic language. However, the second explanation seems more likely as it is difficult to prove which factor was more significant, or may be both overlapped. Finally in Christian Egypt towns lost their Greek names, especially those honouring previous gods. Forgetting the Hermopolis Magna name forever would have been the best solution, but there were some other obstacles. The name may be changed, but it is difficult to forget the famous miracles of the pagan gods of local origin. For centuries those miracles had provided income from visitors and pilgrims. It was Jan Partyka who studied apocryphal texts related to Hermopolis, and confirmed that local bishops approved or even inspired some new miracles related to the visit of the Holy Family to this town.[54] According to these stories, local pagan gods and demons recognised and honoured Jesus. This tricky idea was presumably requaired by the local community not to annihilate, but to continue with former legendary gods as participants in the new miracles. Historic documents confirms survival of numerous shrines of healing in Christian Egypt.[55] Most of them were connected with the cult of Asclepius and Sarapis. Hermopolis recognized that a powerful site with numerous miracles and healings should attract income from hundreds of pilgrims. Should we consider this as a one more reason for delaying the total destruction of the Sarapis cult facilities apart from the already closed Sarapis Temple? Finally, the pagan temples and gymnasium were destroyed, and the name of Hermopolis Magna vanished, which may confirmed the total end of the long lasting transition period. Should we see the building in that period of a Great Basilica with a crypt as a significant example of the new interpretation of the cult of the saints, which had replaced the old healing system and offered from now on, a new pilgrimage center where Christian miracles occurred.[56]

The subject of our academic seminary was to look closer at the main crossroads in Greco-Roman towns where

[52] Borkowski 1990.

[53] In Professor Adam Łukaszewicz's opinion the simultaneous usage of the both names is very probable, but this needs further comparison studies of Coptic, Greek and Arabic texts.

[54] Partyka 2002.

[55] Rees 1950.

[56] Török 2005: 177, 180-181.

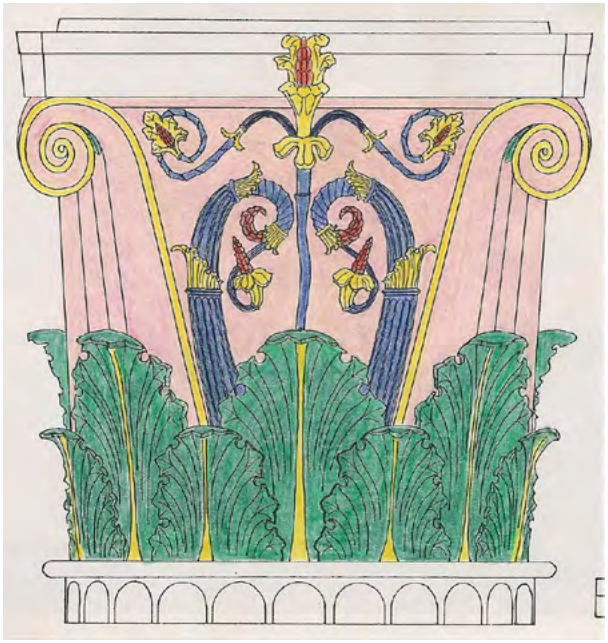

Figure 1. Hermopolis Magna, Corinthian capital (*c.* 250 BC). Reconstructed colour scheme (*Drawing M. Barański*)

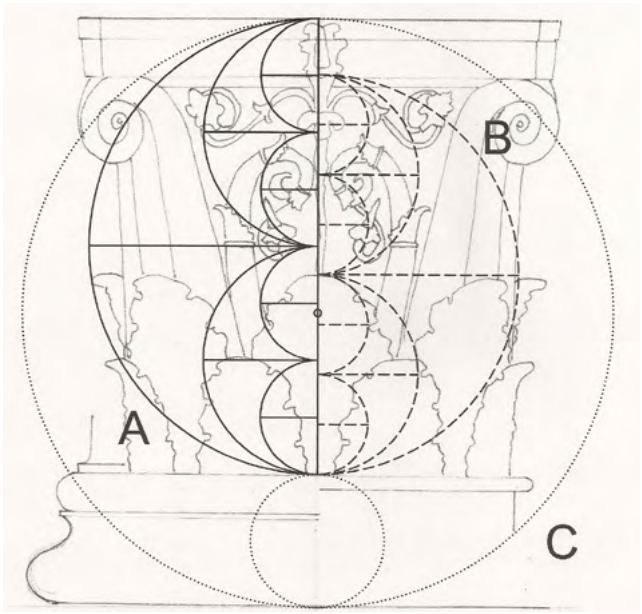


Figure 2. Hermopolis Magna, Corinthian capital. General design scheme: A – circle equal to the capital height. The circle is equal to the top diameter of the capital, and the lower diameter of the column; B – circle size diminished by the abacus height. The circle is equal to the lower diameter of the capital, and the top diameter of the column; C – circle size enlarged by the height of the column base. The column base height is equal to 1/3 of the circle B. The C circle is equal to the column base diameter (*Drawing M. Barański*)

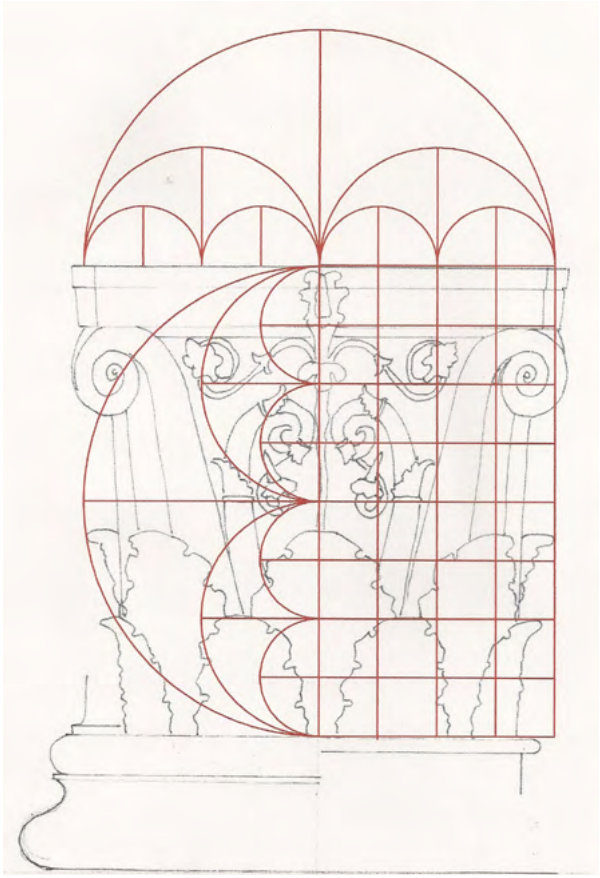

Figure 3. Hermopolis Magna, Development of the A circle grid scheme (*Drawing M. Barański*)

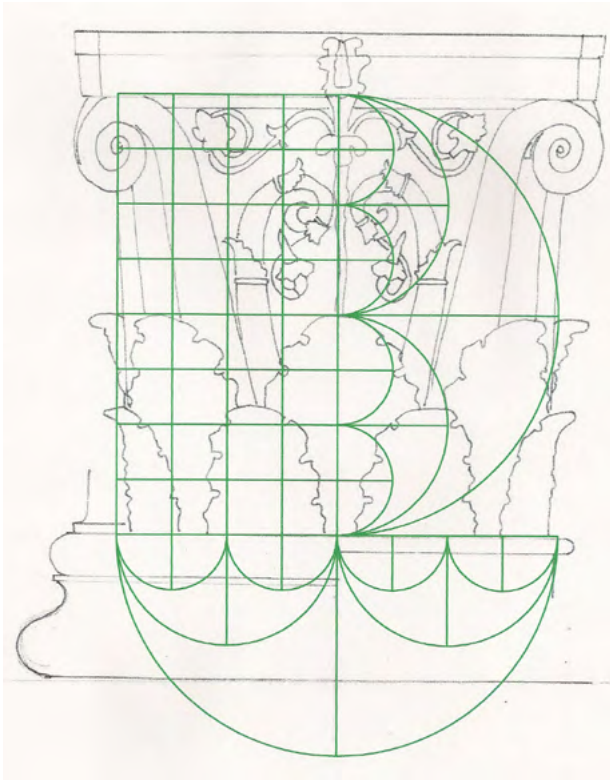

Figure 4. Hermopolis Magna. Development of the B circle grid scheme (*Drawing M. Barański*)

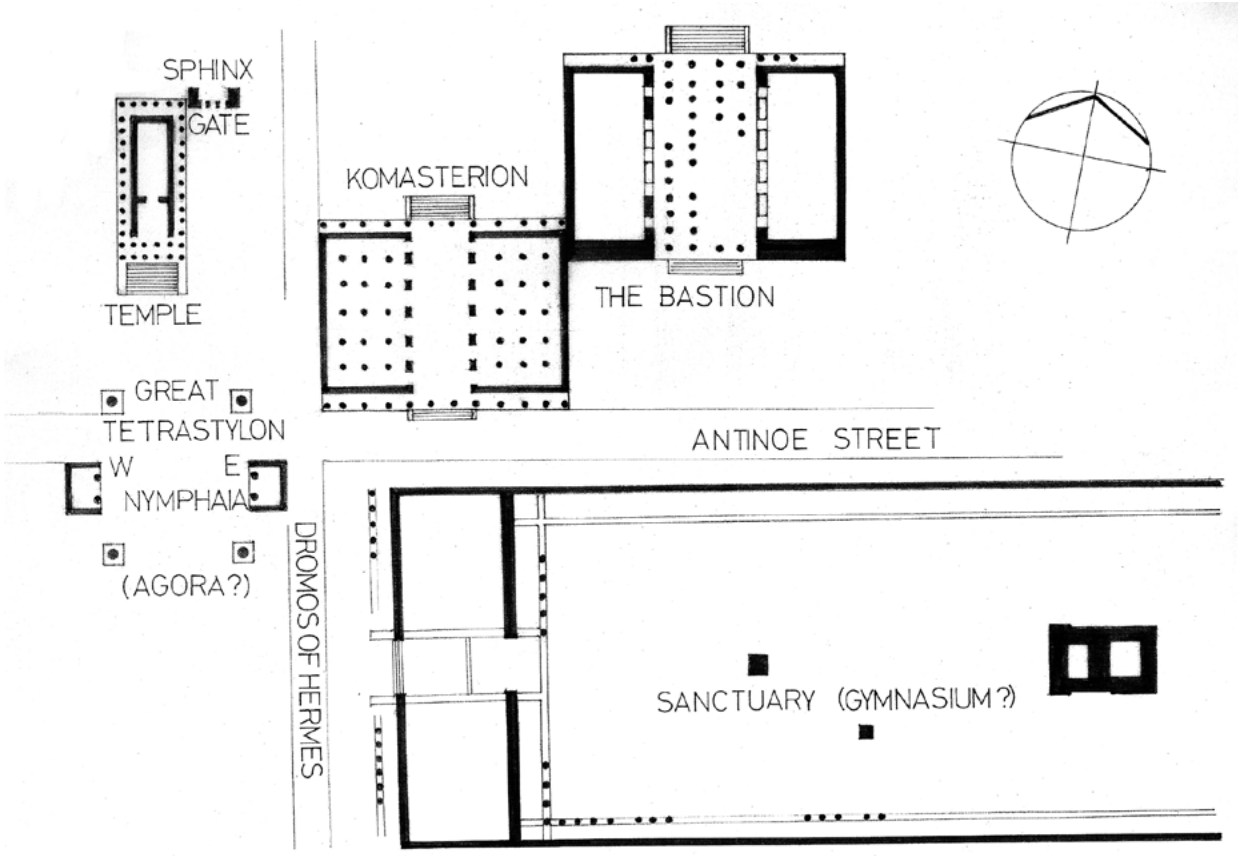


Figure 5. Hermopolis Magna. Reconstructed town center (Bailey, 1991, pl. 109) with Hellenistic Sanctuary(Gymnasium?). Possible setting of the Agora (*Drawing M. Barański*)

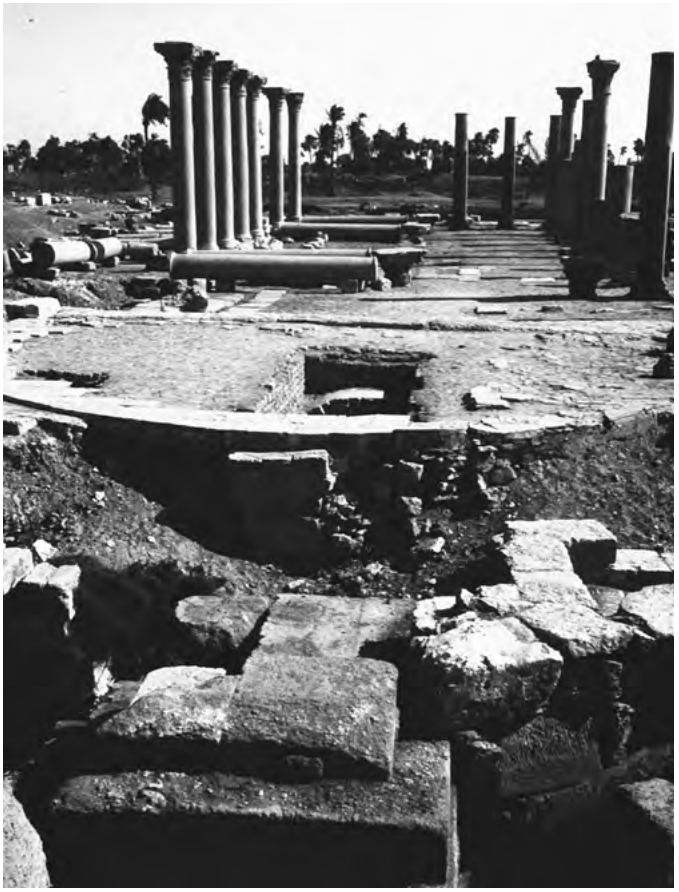

Figure 6. Hermopolis Magna / Schmun. The Great Basilica seen from the East (*Photo M. Barański*)

cultural movements intersected. Individual crossroads are designed to serve different purposes. Sometimes they are helpful in terms of controlling movement from a different direction or to assure preference to a main direction. The presence of green and red lights are a very useful solution, especially for beginners on the old roads of a great movement. There are also T junctions where road split and head on in different destinations, or which are helpful in combining movement from different directions. We also have the roundabout, which enables travel and return after making a full circle. From this perspective Greco-Roman towns in Egypt featured many more crossroads of different forms, than in the Pharaonic period. They allowed acceleration and secured cultural transfers depending on the movement, sometimes coming from a different directions. In Egypt, the option to create the possibility to return was also welcomed.

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# Marina el-Alamein, Greco-Roman Town in Egypt

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**Summary**
An ancient town existing from the 2nd century BC to the 6th century AD, the remains of which were discovered on the site of today's Marina el-Alamein on the northern coast of Egypt, developed under the influence of several civilizations. Its location on trading routes connecting nearby Alexandria with the west favoured a merging of cultures. The Hellenic civilization, to which the town owns its origin, was gradually replaced by the Roman. Impacted significantly by ancient Egypt, Christianity finally arrived there. The syncretism prevailing there manifested itself in art, architecture, religion, beliefs and customs. The following study analyses one by one the presence of the four cultures mentioned in the ancient town, the different intensity of their manifestation, as well as their sources and merging. The observations are made referring to various areas and aspects of the culture and life of the ancient town.

**Keywords**
Marina el-Alamein, Greco-Roman town, architecture, art, religion, necropolis, public buildings, dwelling houses

The ancient town discovered on the site of today's Marina el-Alamein[1] functioned under the influences of several cultures. The Hellenic civilization, to which the settlement owes its emergence, later replaced by the Roman civilization were both favoured in the town by its position on the land and sea trading routes connecting Alexandria with different regions, mainly Cirenaica and Africa Proconsularis. Egyptian influences, however, are equally strong. Over time the city became the seat of a Christian bishopric. The name of the town and the port, probably connected over time, Antiphrae or Leucaspis can only be assumed on the basis of the descriptions of the coast made by ancient geographers. They are first of all Strabo and Claudius Ptolemy[2]. In accordance with the archaeological material it can be concluded that the town developed from the second century BC to the 6th century.[3] The most intensive development took place when Egypt became a Roman province. Most of the preserved relics of urban structures date from this period – from the 1st to the 3rd century, including both residential and public buildings.[4] The questions we wish to ask are as follows. In what area did the Romanization of the settlement proceed the most rapidly and most distinctly? What were the later Christian influences? In which aspect, on the contrary, did the older Hellenistic and Egyptian traditions last the longest? These observations are made in relation to topography, architecture, art, religion and daily life.

The ancient settlement located on the site of today's Marina el-Alamein was situated in Egypt, but also on the Greek and later Roman trading routes and first of all within Alexandria's strong sphere of influence. The Hellenistic cultural syncretism prevailing there integrated elements of Greek and Egyptian architecture, art, ideology and religion. The town developed in the Hellenistic times and this reflected the predominant culture of its inhabitants from the beginning until the end of its existence, also during Roman domination. Hence, in referring to the Egyptian tradition we describe and characterise only the presence of its elements in different spheres of the life of this Hellenistic town. The integration of Egyptian traditions manifested itself most evidently in beliefs. Syncretic gods, whose depictions were found, used to be first of all Egyptian gods or originated from them. As yet no temples or inscriptions have been found that might teach us more about the religious life of the settlement at that time. Relics of architecture, art and everyday items remain, and on their basis we can hypothesise as to what the beliefs, cults or rituals were. Our research is only founded on some relics; the settlement remains mostly unexamined; perhaps further finds will change our outlook on the religion and everyday life of the inhabitants. On the basis of the works of art or utilitarian articles which have survived, we can point to the relatively extensive popularity of Egyptian gods.

It is more difficult to find an influence of the ancient Egyptian tradition in the architecture. One distinct manifestation of this is especially important. The spatial

[1] Daszewski 1995b: 14.
[2] Strabo. 17.1.14; Ptol. *Geog*. 4.5.7.
[3] Daszewski 2011: 423.
[4] Medeksza 1999: 125-127; Daszewski 2002: 86.

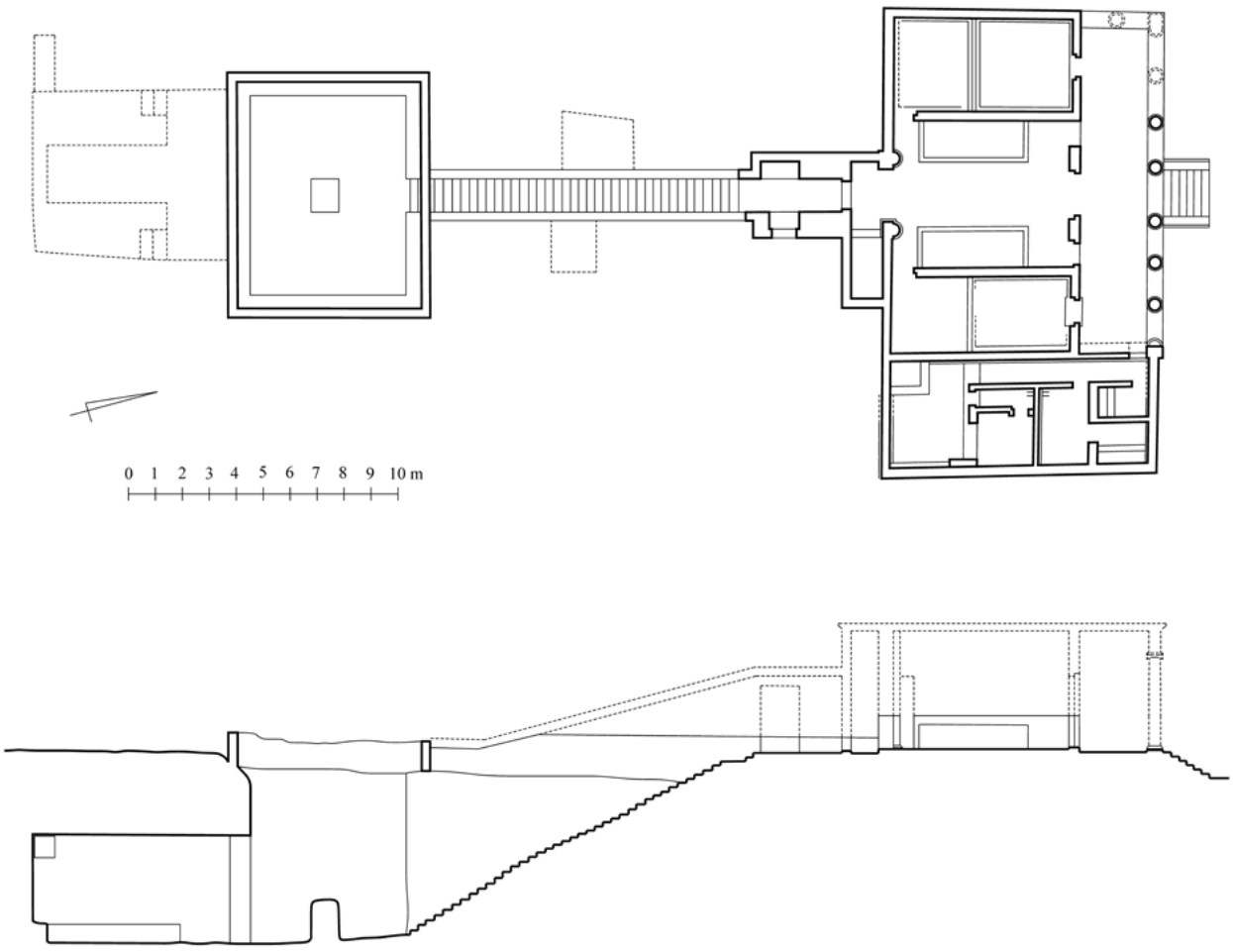


Figure 1. Marina el-Alamein. Hypogeum tomb T6 (*Drawing R. Czerner, after inventory by S. Medeksza*)

layouts of the vast hypogea seem to have been derived from the Egyptian tradition [Figure 1]. Their basic spatial solution repeats and is similar to those known from Alexandria. The architecture of its monumental tombs is the first place where the researchers find the influences mentioned. The hypogea in Marina basically repeat their solutions, remaining slightly different though, usually more extended. Abou El-Atta[5] and Daszewski[6] observe that Alexandrian peristyle hypogea and similarly those in Marina[7] are comparable, with respect to structure and function, to known layouts of underground Egyptian tombs from the 25th and 26th dynasties, that is 8th-6th centuries BC – for example, in the Assasif Valley in Western Thebes. In terms of the features that determine the resemblance of the Alexandrian hypogea to them, Abou El-Atta points to an underground courtyard surrounded on three sides by burial chambers and the fact that the tombs were hewn into rock. Moreover, he also refers to Egyptian tombs from earlier periods, for example to the tomb of Queen Tyti in the Valley of the Queens and the tomb of Ramose in Thebes, both from the New Kingdom. Daszewski points out the axial symmetry of the tombs in Marina, which starts with the monumental steps leading down to the courtyard, with a peristyle or without, and an altar in the middle, which ends in a burial chamber. These characteristics of the hypogea in Marina would make them a Greek reinterpretation of the Egyptian funeral tradition.[8] Entrances might have also led from the courtyard to other chambers situated on the sides. That is the case in the majority of examples. The tombs in Marina are certainly similar to the hypogea in Alexandria or others remaining under the influence of the latter – for example, from the necropolis in Plinthine, Paraetonium (Marsa Matruh) or Nea Paphos. However, the biggest hypogea in Marina were preceded by an extended above-ground section, which might also have been a reference to the Egyptian tradition. In the other places mentioned no remains of such structures

[5] Abou El-Atta 1992: 17-18.
[6] Daszewski 1993: 30-31; 1994a: 57
[7] Daszewski 1993: 31.
[8] Daszewski 1994a: 57-59.

have survived.[9] In this way, the solution is unique to the necropolis in Marina. Daszewski praises the importance of Marina's relics for the correct interpretation of Alexandrian tombs which are also expected to have had above-ground parts. Other, usually smaller hypogea in Marina, were entered through more modest above-ground kiosks, but also keeping the axial symmetry of the layout.

In a concluding paper from 2013 Savvopoulos distinguishes two groups within the elite of Ptolemaic Alexandria and consequently two kinds of monumental Alexandrian tombs.[10] The first one refers to Greeks from Alexandria, born, living and finally buried in Egypt. On the one hand they referred to their origin, national identity and current high status. On the other hand, they already had their own syncretic culture, art, architecture and religion, originating from a merger of Greek and Egyptian influences. The hypogea from the 3rd century BC from the necropolis of Mustapha Kamel belong to this group of tombs. They reflect the Greek style. Although they lack the form of Egyptian architecture, Egyptian shapes and layouts are visible in them, either directly or in a form of adaptation to the Hellenistic versions. They match both Greek and Egyptian funeral rites. The hypogea at the Plinthine necropolis made by the first generations of Greeks settled in Egypt could also be included into this group, although Egyptian decorative motifs can also be found in them besides the architectural layouts.[11] Such a trend is more distinct in the second group. It consists of Egyptians who entered the elite as a result of an intensive process of Hellenization in the 2nd and 1st centuries BC. Examples of their tombs are the hypogea at the Anfushi necropolis.[12] Apart from being a meeting place of the worlds of the living and the dead, they serve another important role, new to Alexandria: they were places where mummified body was kept awaiting their resurrection, according to Egyptian beliefs and tradition. Due to that, besides the architectural form referring to tombs in Egypt, they were sumptuously equipped with Egyptian decoration and iconography. These customs and solutions, developed in Hellenism, were continued in the times of Roman domination when the political independence of Alexandria and Egypt finished.

It is interesting to which group – in the context of the division outlined above – the monumental hypogea from the 1st century AD (occasionally from the 1st century BC) from the area of the necropolis in Marina el-Alamein should be classified. Given on the basis of architectural solutions' analysis, the answer may also bring us closer to the explanation of origin of the elites whose representatives inhabited the town and were buried there. The wealth of the town and presence of elite representatives is proven by the high level of architecture and the quality of the objects found.[13]

Figure 2. Kiosk-shaped tomb situated in the desert south-west of Marina el-Alamein (*Photo M. Mrozek-Wysocka*)

The architectural solution of monumental hypogea at the necropolis in Marina indicate that the former is the case. This means they represent layouts, which – as mentioned above – refer strongly to Egyptian solutions and correspond not only to the tradition of Greece but also to the customs of Egypt. We fail to directly find in them, however, forms of architectural decoration of Egyptian origin, similar to those known, for example, from the necropolis in Plinthine,[14] Marsa Matruh,[15] or from the tomb in the shape of a kiosk situated in the desert south-west of Marina [Figure 2]. The only example of such decoration is a small-scale altar ornamentation, including among other things a segmental pediment with a solar disc supported by dentils referring to classical forms, but with an Egyptian cavetto with a torus directly under it. Nota bene, the architectural decoration in the extended tombs in

[9] Daszewski 1993: 30-31.
[10] Savvopoulos 2013: 105-108.
[11] Boussac and Georges 2010: 111, figs 3 and 4.
[12] Savvopoulos 2013: 108.
[13] Venit 2002: 170-171.
[14] Venit 2002: 170, fig. 145; Boussac and Georges 2010: fig. 4.
[15] Pensabene 1993: 134, no. 3, Pl. 117: 8; Venit 2002: 172-173, fig. 149; Grawehr 2017: 112, fig. 9.

Figure 3. Marina el-Alamein. Underground courtyard of hypogeum tomb T18 (*Photo R. Czerner*)

Marina was modest in general, and particularly in their underground areas: the hypogea, almost absent. Even the three-span porticos, through which the burial chambers open into an underground courtyard in the most developed examples (e.g. tombs T10A, T18), are cut directly into rock and lack any capital or cornice decoration [Figure 3]. Only simple rock-hewn columns and supporting ceilings of chambers in two hypogea (T13 and T20) had a decoration in the form of schematic Doric capitals. Indeed – as previously mentioned – it is impossible to find Egyptian elements of architectural decoration in Marina, but in hypogea examples of Egyptian iconography are present on the slabs closing the *loculi*, rather rarely but still as a prevailing one.

Apart from hypogea, at the necropolis monumental or more modest monuments with typical Greek solutions can be found. However, to distinguish the tombs it is impossible to use the chronological criterion – that is to say, the older ones belong to the Egyptian tradition, and the later ones (perhaps connected with newcomers) were Greek. Indeed, Daszewski established the sequence of the different types of burial appearance at the western necropolis in Marina, from simple trenches cut into a rock bed, through solutions of Greek origin to monumental hypogea with extended above-ground parts, which – although typologically they refer to an older tradition – appear in this chronological sequence as the youngest ones.[16] However, the whole development took place in the period from the 2nd century BC to the 1st century AD with the biggest intensity at the turn of the eras. Therefore – from the point of view of the issue under scrutiny – the tombs of both kinds were built virtually contemporaneously with each other; the hypogea are often among the youngest structures, while some solutions with Greek origin belong to the oldest. Perhaps the situation was reverse then: in contact with the tradition of Egypt the imported solutions may have been abandoned. However, in case of the latter they are indeed solutions of Greek origin but unknown in this exact form in Greece. They are also unique to the necropolis in Marina, so perhaps they developed there. The cultural criterion also fails to serve as the distinguishing feature, since different motifs merge and, for example, most Horus' depictions came from monuments, whose architectural form is of clearly Greek origin.

The majority of relics found at the necropolis refer to Egyptian beliefs.[17] Most frequently appears a depiction of the god Horus in the form of a falcon. The best preserved is a statue which was originally placed at the

[16] Daszewski 1995a: 36.
[17] Bąkowska-Czerner 2012a: 125-140.

Figure 4. Marina el-Alamein. Pillar tomb T12 topped with a statue of the god Horus in the form of a falcon (*Photo R. Czerner*)

top of a pillar tomb (T12) [Figure 4].[18] The falcon's head is decorated with a Double Crown. Several fragments belonging to similar sculptures were found in the rubble in the vicinity of pillar tombs,[19] as well by a tomb in the form of a pyramid (T2).[20] One more representation of Horus in the form of a falcon was discovered on a slab closing a loculus in one of the hypogea (T29).[21] So his images appear in various types of tombs. Popular in the Greco-Roman period, the god was also worshiped at the necropolis in Marina. The strong relationship between Horus and his father Osiris, the Egyptian god of afterlife, rebirth and regeneration should be recalled here. Horus was a guarantor of Osiris' eternal life; the Pyramid Texts mention as much.[22] Statues of the sky god located at the top of tombs led to believe that the deceased, on his way to join Osiris, is looked after by Horus. The Egyptian god also watches over the dead buried in the tombs of Greek type.

At the necropolis, a depiction of another god popular in the Greco-Roman period – Anubis, guardian of tombs and the dead, involved in Osiris's judgement – was also found. The image depicted on a slab closing a loculus in the pillar tomb T1B is probably his.[23] Heavily damaged, the low relief shows the bust of a man with a dog's head.[24]

Among Egyptian gods, Agathos Daimon also appears, strongly associated with Alexandria but originating from the Greek tradition, a guardian of abundance, protector of the house and guide of the dead. His depiction in the form of a snake decorates a slab enclosing a loculus in the pillar tomb T1D.[25] Serapis was also shown in the form of a snake; this used to be a way to emphasise – among other things – his chthonic features. A snake was often depicted with the head of this god, connecting him with Agathos Daimon.[26] Numerous relics discovered in the area of the town may suggest the existence of a Serapis cult in Marina. The T1D tomb also contains a sculpture of a prone man. It is supposed that it may be an image of a priest who served some Egyptian god.[27] The depiction of the deceased on a bed in a half-lying position refers to Greek and Roman traditions and is typical of funerary monuments. A second similar sculpture was located in a niche created in a shaft of another pillar tomb (T1K) [Figure 5]. Statues of the dead in a standing position were also placed on the tombs. An example is a sculpture of a woman from the tomb T30.[28]

Monuments and representations of gods which have been discovered so far prove the inhabitants' strong belief in an afterlife connected mainly with gods and the Egyptian religion.

At the necropolis various kinds of burials were found, both skeletal and mummified forms. Cremation was also used, although very rarely.[29] This type of burial was found in two hypogea (T13 and T28).[30] Alien to the pharaonic culture, it appears in Egypt primarily through the agency of the Greeks. In the hypogeum T28, a cartonnage of a mummy was discovered in fairly

[18] Daszewski 2011: 437-438, fig. 17.
[19] Daszewski 1990: 21, fig. 11b.
[20] Daszewski 1994b: 27.
[21] Daszewski 2003: 55, fig. 9.
[22] Assmann 2002: 128-129.
[23] Daszewski 1991b: 99-100, fig. 4.
[24] Daszewski 1991b: 99.
[25] Daszewski 1991b: 96-97, fig. 1.
[26] Pietrzykowski 1978: 956-966.
[27] Daszewski 2013: 164, fig. 2, 3.
[28] Daszewski 2013: 167, fig. 4.
[29] Zych 2008: 621.
[30] Daszewski 2011: 441.

Figure 5. Marina el-Alamein. Sculpture depicting the deceased on a bed in a half-lying position placed in a niche created in the shaft of a pillar tomb T1K (*Photo R. Czerner*)

good condition.[31] The gods and scenes depicted on it are closely associated with the Egyptian tradition. In the hypogeum T6 a mummy portrait has survived.[32] Referring to the pharaohs' times, this tradition was also popular among the Roman community in Egypt, perhaps among the Greek one too. The origin of the population inhabiting Marina is unknown. It included Greeks and Egyptians, and Romans were certainly included too. A port town, at the intersection of routes, not far from Alexandria must have accommodated merchants and sailors from different parts of the world. Egyptian beliefs promised more than Greek or Roman tradition. The inhabitants preferred Egyptian traditions, but they also sought the help of the Greek gods.

In the mummy portrait mentioned above, the man's head is decorated with a wreath of golden leaves. They are probably leaves of ivy, which used to be a symbol of Dionysus. Flat golden pieces in the shape of leaves were also found in several tombs, mostly hypogea; they were put on the lips of the dead.[33] Leaving an obol with the deceased, the Greeks would equip him for the onward journey. In Marina this Greek custom is also associated with the Dionysus cult. At the necropolis lamps were also found with images referring to Dionysian traditions. The god's cult can also be considered as a link with the Orphics,[34] who believed in the immortality of the soul.

The burial equipment was modest: lamps, pottery and glassware (unguentaria among other things). Two

[31] Daszewski 2002: 75-77, fig. 3.
[32] Daszewski 1992: 34, fig. 3; 1997: 59-65.
[33] Zych 2011: 624.
[34] Zych 2010: 341-342.

gypsum mortar female figurines and an amulet with a depiction of Aphrodite Anadyomene[35] were also found. Aphrodite's images are relatively frequently found in the houses. The cult of this goddess must have been popular among the inhabitants. Female figurines might have belonged to the deceased in their lifetime and were to accompany them in their future life,[36] or – which seems to be more probable – they refer to the Egyptian tradition, to the cult of fertility or magical and medical rituals.[37]

In the tombs and in front of them bigger and smaller altars were found, which are connected more with the Greek tradition. On some of them marks of burnt offerings have survived. On the top of one of sacrificial tables, food offerings were depicted as in the Egyptian tradition (T1GH),[38] which were thought to materialise magically. Evidence of libations are also present.[39] Food offerings were very important in Egyptian beliefs,[40] to sustain the soul. It should be added that at the hypogea banquet halls, banquet couches, kitchens and even latrines were present [Figure 1]. The inhabitants must have often visited the deceased and spent a great deal of time among them. It proves a lasting bond between the living and the dead. Banquets and the offerings made would connect them and help to believe in the further existence of the deceased's soul. Burial customs in Marina el-Alamein strongly referred to Egyptian tradition, but they also drew on the Greek one. The examples of burials show how cultural traditions mixed in the provincial port town.

Egyptian influences can also be found in architectural decoration. It takes the forms known from the architecture of Hellenistic Alexandria with a typical baroque feel. What should be understood by this is that the architecture becomes a decorative facade and, as a result, it contains elements that lose tectonic meaning – for example, half-columns, offset cornices, half-pediments, pediments with raised corners.[41] Present among these forms, the segmental pediment is modelled on the architecture of Egypt, dating back to time immemorial.[42] In Marina, the wall aediculae from the main reception halls in some houses (H9, H21c, H21'N') were topped with such pediments [Figure 6]. In terms of function, however, the niches refer to the Roman tradition. A fragment of painting depicting three gods[43] and covering the back wall of a niche, which was discovered in the house H10 [Figure 7] confirmed the assumption that the aediculae were intended for religious purposes. Hence they would serve as the main *lararia* in the house. And the depiction of Serapis, Harpocrates and Helios itself is a perfect example of religious syncretism. Small simple niches were also found in the houses, and some of them used to be *lararia*.[44]

More often than anywhere else, in Marina the Hellenistic decoration appears in its geometricised form. It is also known from Alexandria and similar to the one coming from other places: Cyprus, Faiyum, Aswan, or first of all related to the so-called Nabataean. Among other things it is characterised by cornices with flat grooved modillions and square hollow modillions [Figures 5 and 6], also called 'a travicello,' popularly used here and typical of the architecture of Hellenistic Alexandria, and most of all by geometricised pseudo-Corinthian [Figure 6] and pseudo-Ionic forms of classical capitals.[45] In Marina – unlike in Alexandria – these forms prevail. The excavations carried out so far only proved an occasional presence of different decorations. This is why the discoverer of Marina suggests calling them capitals of a Marina type.[46] It should be noticed that these geometricised forms remain close to the massive monolithic structure of the ancient Egyptian architecture. Bigger architectural forms resemble this even more clearly: massive pillar and column monuments [Figure 8], or rather simple and regular facades of burial chambers in the underground courtyards of the hypogea [Figure 3]. The similarity of the latter's architecture to the Egyptian style in terms of its geometricised massiveness is clear and definitely stronger than it can be seen in the Alexandrian prototypes of hypogea.

Hence, a considerable number of tombs in the necropolis in Marina are of Greek origin, including simple above-ground box-shaped graves, single under-ground ones and, moreover, large monuments built above these two types of graves [Figure 8]. This design with a monument situated above the burial is characteristic of Greek funerary architecture and was executed on different scales. At the necropolis in Marina these monuments may have taken on the form of an architectural sarcophagus. Two such examples were found: tombs T1C and T17 [Figure 9]. They are cuboidal and covered by a gable roof with endings in the form of a pediment. In one case (T17) the lower cornice of the pediment was supported by two pilasters on both sides of the facade. The form of the monuments recalls the so-called 'sarcophagus tombs' known from Cyrene, where they are usually dated to the Hellenistic times and their size is significantly bigger.[47]

[35] Zych, 2011: 621, fig. 2.
[36] See interpretation of Higgins 1986: 65.
[37] Pinch 2006: 131.
[38] Daszewski 2011: 447, fig. 19.
[39] Zych 2011: 629-630.
[40] Ikram 2011: 361-371.
[41] McKenzie 1996: 116-117; 2007: 93-94; Pensabene 2010: 2006.
[42] Pensabene 2010: 206.
[43] Medeksza, Czerner and Bąkowska 2015: 1747, 1756-1757, fig. 11.
[44] Bąkowska-Czerner and Czerner 2017: 141-142.
[45] Czerner 2009.
[46] Daszewski 2011: 440.
[47] Daszewski 1992: 31.

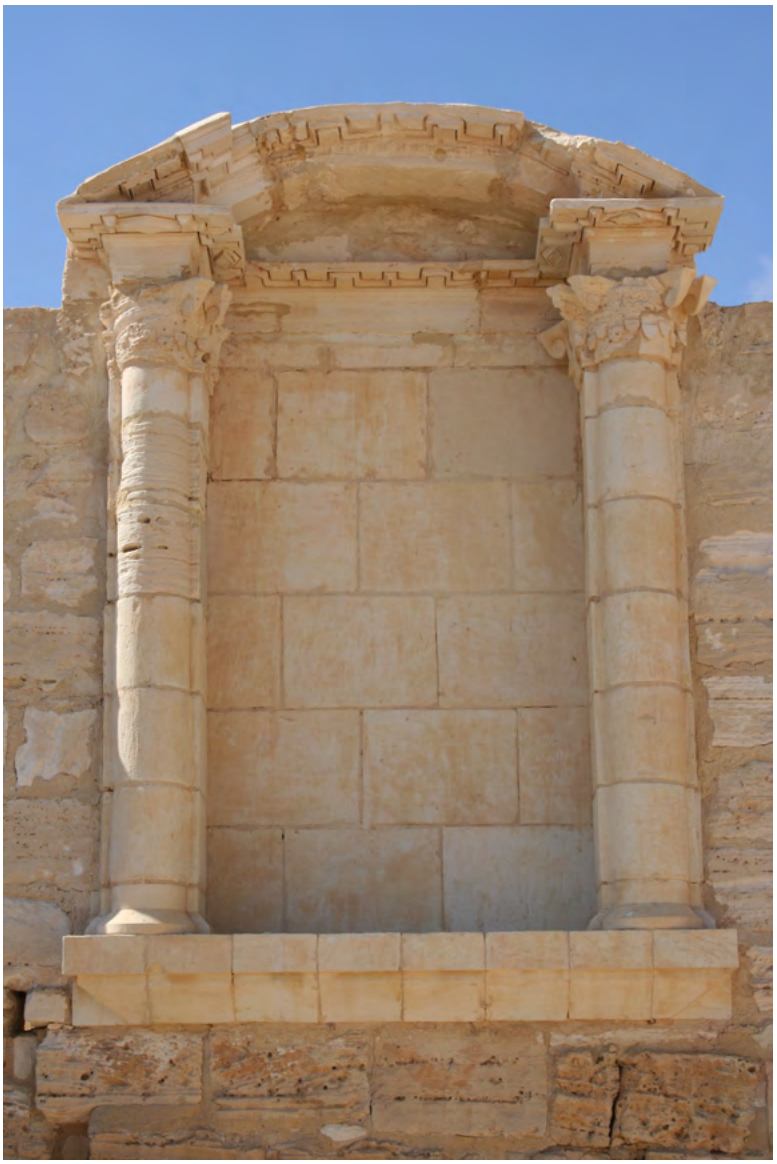

Figure 6. Marina el-Alamein. Wall aedicula from hall H21'N', decorated with flat grooved modillions and square hollow modillions, and with pseudo-Corinthian capitals (*Photo R. Czerner*)

Figure 7. Marina el-Alamein. Fragment of painting depicting three gods: Helios, Harpocrates and Serapis, and covering the back wall of a niche, discovered in house H10 (*Photo archives of the Polish-Egyptian Conservation Mission Marina el-Alamein*)

Figure 8. Complex of monumental tombs from the necropolis of Marina el-Alamein: T1J, T1, T2 (pyramidal tomb), T1B, T1C (sarcophagus tomb), T12, T1K (*Photo R. Czerner*)


Figure 9. Sarcophagus tombs T1C and T17 from the necropolis of Marina el-Alamein (*Photos R. Czerner*)

Superstructures in the shape of a massive square pillar or column almost 5 m high are characterised by their particular monumentality [Figure 8]. The various solutions differ from one another. However, a *krepidoma* of several steps is always present with a column or pillar above it, or a pillar with pilasters or half-columns next to it. Above the capitals of the columns or pillars, entabulature with a cornice and a finial are situated. The latter could take the form of another tiny pillar or a figure.

A type of monument also exists with a *krepidoma* featuring only a low pedestal. Since in terms of proportions these tombs resemble a pyramid, that is how their discoverer W.A. Daszewski identifies their form and calls them 'stepped pyramidal tombs.' So they

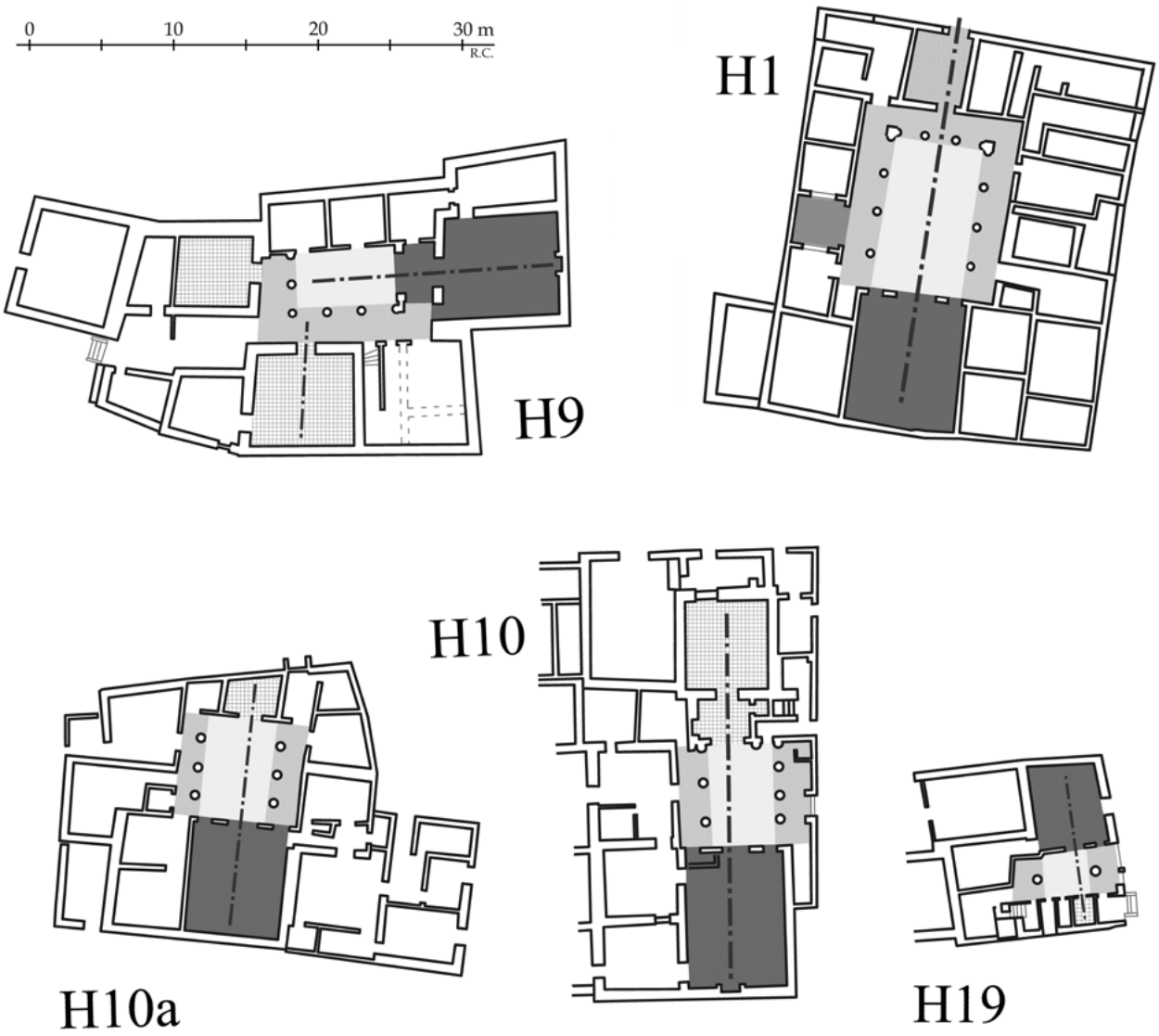


Figure 10. Schematic plans of largest houses of Marina el-Alamein (*Drawing R. Czerner, M. Krawczyk-Szczerbińska*)

also may have referred to the Egyptian tradition. On the other hand, a possibility exists that these monuments constitute the lower parts of higher pillar monuments, whose upper parts failed to survive. A similar situation was considered by Daszewski while looking for prototypes of pillar tombs in Marina. He assumed theoretically that some step bases of Hellenistic tombs in Alexandria in their upper parts that failed to survive may have had a similar pillar on their top.[48]

The residences from the excavation site in Marina are marked by Hellenistic solutions and so, probably, was the lifestyle, remaining the same for most of the time the ancient town existed. They were different variants of *oikos* houses [Figure 10]. In the bigger, extended examples, the houses, whose remains are known from Marina, were organised around a courtyard paved with flagstones [Figure 11]. The courtyard had a portico or porticos on one, two or even three sides. In the latter case it would clearly take on the form of a peristyle. So far one such example is known (the house H1 in the northern part of the town). In one case known (the house H9) two porticos were situated at a right angle to one another. More often they were situated opposite each other (the houses H10, H10a, H19). Onto the courtyard, in most cases with a slight shift of axis, opened the main reception hall: *oikos*. On the opposite side of the courtyard, a second smaller hall was usually located. One example is known (the house H9) with a third stately hall on the perpendicular axis. Originally it probably used to be an *andron*, later might have served as a *triclinium*.[49] In a later phase a room situated beside

[48] Daszewski 2011: 440.

[49] Medeksza 1999: 125.

Figure 11. Marina el-Alamein. Main areas of houses H10 and H10a (*Photo R. Czerner*)

used to be a kitchen. Examples also exist of a solution of *prostas* type with a wide vestibule between the courtyard and the stately hall (the houses H9, H10), and of *pastas* type (H9).[50] The house H9, is the only one discovered so far having two porticos of the courtyard situated perpendicularly on the western and southern side, and also with a *prostas* vestibule before the *oikos* hall situated east of the courtyard and a southern portico elongated into a *pastas* form, thereby presenting a spatial solution typical of Greek architecture.[51] The portico courtyards – on account of their small size and a lack of gardens inside (they were paved with flagstones instead and had a cistern below) – fail to be peristyles known from Roman Republican houses, being Hellenistic.

Although the spatial solutions of most houses belong to the Hellenistic tradition, the more extended ones, those more axial and leaning towards peristyle layouts corresponded to the outlays known from western Roman houses from the times of the Empire.[52] Certainly, it should also be remembered that the western Roman peristyle developed under the influence of the Hellenistic East and a tradition which had earlier been present in this part of the Mediterranean. However, the small sizes of the courtyards lined with porticos and entirely paved with flagstones as well as the layouts of the rooms surrounding them, made their functions resemble the Republican atria [Figures 10 and 11]. Such a situation is also known from peristyle houses in the western provinces of the Empire.[53] The only – although not complete – peristyle known from Marina mentioned above and belonging to the house H1, evokes a comparison with houses from certain cities in Africa (e.g. Volubilis).[54] It had three two-storey porticos, an axial entrance opposite the main hall and an exedra opening into a side portico [Figure 10].[55]

Walls in the houses were decorated with paintings, which of varying quality and with different images in them: from simple floral motifs, not always sophisticated and carefully executed, through geometric patterns, to figurative depictions.[56] Especially the latter stand out with their high-level workmanship technique and their style refer to Hellenistic painting. In the paintings which have survived, mainly gods are depicted. They are syncretic deities belonging to the Egyptian, Greek and Roman

[50] Medeksza 1999: 122 and 125; Daszewski 2011: 431.
[51] Medeksza *et al*. 2015: 1745.
[52] Medeksza 1999: 122.
[53] Meyer 1999: 109-110.
[54] Étienne 1960: 34 ff., 44 ff. and 129-130, Pl. XXXIV-1.
[55] Czerner 2011: 133-140.
[56] Medeksza *et al.* 2015: 1754-1755.

traditions,[57] wearing Greek and Roman clothes, and are accompanied by different attributes. Harpocrates' head is decorated with an Egyptian Double Crown [Figures 7 and 14], Helios' with rays [Figure 7], and Heron is holding the horn of plenty.[58] The gods' heads are surrounded by nimbuses. On a wall in the house H10a typical Dionysian motifs were placed.[59] Their style resembles Pompeian painting,[60] similarly to those geometric ones from house H9.[61] It remains unknown, however, if the paintings refer to Italian art, or quite the opposite – Roman workshops drew on the Alexandrian art. Certainly, the roots of this kind of depictions, style and technique should be sought primarily in Hellenistic painting.

In the area of the town, fragments of sculptures were also found[62] that decorated houses, and some of them perhaps also temples. In house H1 a pedestal has survived, on which a large sculpture used to stand.[63] A marble male arm found in the cistern of this house probably belonged to a statue standing on this pedestal. In the same building a marble female foot was discovered.[64] It is unknown what kind of statues used to decorate the house – if they were sculptures representing mortals or rather deities. In house H19, fragments of a small marble sculpture depicting Aphrodite were discovered.[65] A bronze figurine of the goddess was also found in house H21c [Figure 12].[66] The many lamps with images referring to Aphrodite's cult may also prove how popular she was. Apart from depictions of the goddess herself, the image of Amor, dolphin or shell appears. Another Greek god whose representations are numerous in Marina was Dionysus. This is proved not only by Dionysian motifs running through the painting, on lamps and a gem, but mainly by a marble statue of the god.[67] Dionysus' cult had survived in Marina until the Late Antiquity, when Christianity was already developing there. This would be indicated by a medallion with his depiction found in the area of one of the houses [Figure 13].[68] It is unknown where the Dionysus' statue used to stand originally or if it can be connected with public or private cult. The case of an Isis statue is similar, with only her head surviving;[69] perhaps the sculpture of the goddess used to stand in a temple still undiscovered or in some of the houses. Besides Aphrodite, this is the second goddess whose depictions are relatively often found on various relics.

Figure 12. Bronze figurine of Aphrodite found in house H21c (*Photo P. Zambrzycki*)

Figure 13. Bone medallion with depiction of Dionysus found in the area of house H1 (*Photo P. Zambrzycki*)

Isis shown on lamps is holding little Harpocrates in her arms.[70] Looking at the number of relics depicting this god, one could speak about his domination in Marina.[71] Apart from an image in a *lararium* or on lamps, several

[57] Medeksza *et al.* 2015: 1755- 1756, fig. 11.
[58] Kiss 2006: 166-169, fig. 2.
[59] Medeksza *et al.* 2015: 1757-1758, fig. 12.
[60] Moormann 1988: 186, no. 220/1.
[61] Daszewski 1995a: 24, fig. 14; Medeksza *et al.* 2015: 1754.
[62] Daszewski 2013: 163-172, 163-172, fig. 9.
[63] Bąkowska-Czerner 2014a: 316.
[64] Bąkowska 2007: 112.
[65] Bąkowska-Czerner 2012b: 99-100, fig. 1; Daszewski 2013: 168-170, figs 5-8.
[66] Bąkowska-Czerner 2012b: 101-104, figs 2 and 3.
[67] Daszewski 2013: 172.
[68] Bąkowska-Czerner 2014a: 319, fig. 2.
[69] Daszewski 2013: 172, fig. 9.
[70] Bąkowska-Czerner 2012a: Tav. I, fig. 3.
[71] Bąkowska-Czerner 2014b: 265-271.

Figure 14. Bronze pendant depicting Harpocrates with the Horn of Plenty. A surface find (*Photo P. Zambrzycki*)

Figure 15. Reconstruction of the form of commemorative monument from house H21c with an inscription mentioning Commodus (*Reconstruction S. Medeksza and R. Czerner*)

amulets with his representations were also found.[72] Some of the depictions refer to the Egyptian tradition, while others recall Greek and Roman ones [Figure 14]. Images of Serapis are also frequently found. He is shown in a painting next to Harpocrates and Helios, and also on terracotta and lamps.[73] His depiction also decorated a bronze ring.[74] Another ring shows a god with horns and kalathos; it is Zeus/Serapis-Ammon,[75] worshiped among other places at the Siwa Oasis and in Cyrenaica. Relative closeness of those places may have influenced the development of the god's cult in Marina.

The inhabitants of the town used to collect terracotta figurines in their houses. Several of them depicted a ram.[76] One of the altars was also decorated with an image of the god Amun in the shape of a ram.[77] It can be supposed that a private cult of the god existed. A fragment of a figurine showing a head of a bull was also found.[78] It was probably a depiction of the god Apis, worshiped in Memphis.

It should be noticed that the inhabitants of the town described spoke Greek. Inscriptions found on funerary monuments are in this language. Stonemasons numbered architectural elements with Greek letters. The relics found in the houses also provide some evidence of that. In the Roman period, Greek was still in use. Inscriptions referring to Roman authorities were written in that language. It remains unknown if the Emperor cult was also popular here. This could be proved by a big monument in house H21c with an inscription mentioning Commodus [Figure 15].[79]

Not many relics refer directly to the Roman culture. Even motifs on lamps most often draw on the Greek tradition. More interesting representations which can be associated with the Roman culture are a depiction of a

[72] Bąkowska 2012a: 132-133, Tav. II, figs 2-4; Bąkowska-Czerner 2014b: 265-271.
[73] Kiss 2006: 163-166, fig. 1.
[74] Bąkowska 2004: 100, 105, no. 1, figs 1.1 and 2.1.
[75] Bąkowska 2004: 100-102, 105, no. 2, fig. 2.2.
[76] Bąkowska-Czerner 2012a: 130, Tav. I., fig. 1.
[77] Daszewski 1991b: 100-101, fig. 5.
[78] Bąkowska-Czerner and Czerner 2015: 1620-1621, fig. 3.
[79] Łajtar 2003: 177-179.

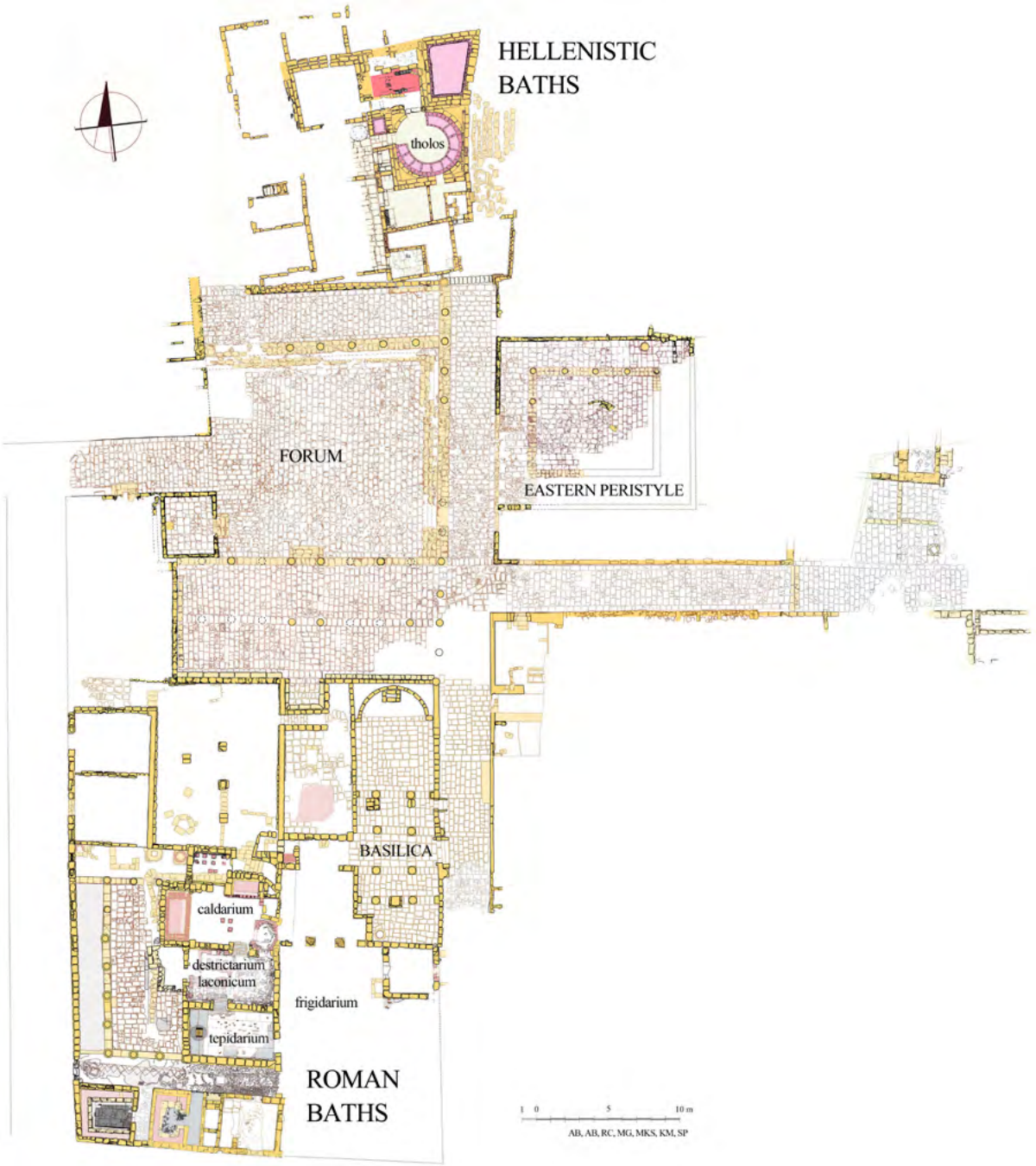


Figure 16. Marina el-Alamein. Plan of the ancient town centre (*Drawing A. Błaszczyk, A. Brzozowska, R. Czerner, M. Grzegorek, M. Krawczyk-Szczerbińska, K. Majdzik and S. Popławski*)

personification of Africa or of an eagle.[80] The prevalence of lamps with Greek iconography was connected with their superior availability. They were brought here by merchants together with other commodities: amphorae, pottery and glassware which come mainly from the eastern Mediterranean or from Alexandria.

The clearest expression of Greek architecture and functional solutions are the public baths built at the beginning of the 1st century AD[81] which, however, operated longer, including in the times of the Empire. They are situated north of the main square of the town, whose current architectural form was shaped after they were built [Figure 16]. Still, the square is probably situated in the same place as an earlier centre.

The main findings concerning the functioning of the baths (in two or more phases) were made at the time of

[80] Bąkowska-Czerner and Czerner 2015: 1619-1620, fig. 2.

[81] Daszewski 1991a: 16; 1995b: 18, fig. 4; 2011: 429; Fournet *et al.* 2013: 326.

Figure 17. Remains of the main room (*tholos*) of the Hellenistic baths of Marina el-Alamein (*Photo R. Czerner*)

discovery in 1987[82] and completed with details during the research in 2014-2016.[83] In the middle of the eastern part of the complex, the main bath room (*tholos*) was situated with nine hip-bathtubs and one bigger, perhaps immersion bathtub, by the walls [Figure 17]. The *tholos* was entered through a small room neighbouring to the west with an immersion bathtub placed in its northern section. A large water tank set on a high substructure neighbours the *tholos* to the north. The remains of a heating appliance have survived in a room to the west, also situated north of the *tholos*. A room situated further to the west might have been fitted with recreational equipment. The main entrance to the baths led probably from the west, from a street running northwards from the north-western corner of the town's main square. More complicated is the layout of other rooms, south of the *tholos*. It still requires clarification. The waterproof mortar on the floor in one of them also indicates that it was used for bathing and recreational, while the remains of a duct indicate a sanitary function. In two places in the building stairs led to a higher level.[84]

The main part of the baths was typical of this kind of building, which were known in Egypt during the first centuries of Roman rule.[85] They housed a set of main rooms typical of the Hellenistic baths from the eastern Mediterranean developed in Egypt, which corresponds to the second model proposed in Monika Trümper's classification.[86]

It is not surprising that the strongest Roman influences can be observed in the architectural layout of the town centre and in the set of public buildings, as well as in their forms. The new state forced changes in the public sphere and the life of the residents and the town.

Situated in the centre, the baths of the Greek type underwent alterations in a later phase, in the second half of the 1st century. The purpose was to adapt them to the new Roman bathing tradition and to introduce modern technical solutions, which were also a Roman achievement. The preserved remains of a room in the north-western part of the baths have walls with independent structure, erected within the perimeter of the outer walls of the building. It is probably a result of the alteration. The discoverers mention a large number of red bricks found in that room, most likely

[82] Daszewski 1991a: 16; 2011: 429; Fournet *et al.* 2013: 326.
[83] Czerner *et al.* 2016: 167-171, 177-179.
[84] Czerner *et al.* 2016: 177-178.
[85] Daszewski 1995b: 18-19, figs 3 and 4; Breccia 1923; Yegül 1992: 24 and 29.
[86] Trümper 2009: 149 and 152.

the remains of a hypocaust, which means that the baths were modernised.

At the same time, however, or slightly later, south of the Hellenistic baths a square was developed surrounded by new architecture, while on the opposite side of it a new public baths building was erected. The functional solutions and the layout applied there were already typical of Roman architecture. They employed new technical achievements in a developed way and were adjusted to the new bathing tradition. Approximately a century later, the Roman baths became extended and modernised.

Besides the baths, more buildings created under the influence of the Roman civilization appeared in the newly arranged centre. The square itself, surrounded by porticos with pseudo-Ionic columns on the northern, eastern and southern side, and paved with flagstones is cautiously identified by the discoverer W.A. Daszewski as a *forum* or rather alternatively as an *agora* (belonging to the Greek tradition).[87] Still, he remains inclined toward the former interpretation. The argument in favour of identifying the square as an *agora* is supported by the balanced proportion of the plan in an approximate square shape (however not completely regular, slightly trapezoidal, probably resulting from adjusting to previous layouts). And yet the main square is accompanied by neighbouring layouts [Figure 16]. A broad paved street opening into the middle of the western frontage of the square and a peristyle neighbouring the square directly to the east used to elongate the whole layout dynamically from east to west. At the eastern end of this peristyle, and therefore the whole complex at the same time, a stately building was situated, perhaps a temple in a typical spot. Its remains in situ have so far eluded discovery. However, elements of its architectural decoration of considerable size are known.[88]

Such clearly oriented layout, beginning with a broad street and closed with a stately building imparts a character of a Roman *forum* to it, confirmed by the presence of other public buildings on the square, usually situated around a *forum*. The southern portico stands out in the precincts of the main square. It has a double width with northern and southern aisles divided by a row of columns, and used to be a separate building, to which the eastern portico was added later. The entrance from the square is different to the other porticos: it leads up three steps through the middle span only. At the end of an axis determined by it, an exedra is situated in the middle of a back wall. Fragments of a marble inscription dedicated to Trajan or Hadrian[89] found in the vicinity suggest that a spacious hall in the forum might have served the imperial cult.[90] Hence, despite the extended spatial layout and required location, this building should probably fail to be identified as a basilica in the Roman sense. Such was, however, the three-aisled hall oriented from north to south, situated slightly further to the south in the same block of buildings, in its eastern part, along the street [Figure 18]. To the west the basilica neighboured the previously mentioned Roman baths, which occupied the rest of the block. The two buildings were connected.[91]

The building of the basilica was erected in a later phase, associated with extension of the baths and might also have served as a *basilica thermarum*. The extension is dated based on a fragment of an inscription placed in the passageway from the basilica to the baths. The inscription includes a date: the 14th year of the Emperor Hadrian, that is AD 129.[92] Originally a communicating passage existed between the space occupied later by the basilica and the double-aisled southern portico of the *forum*. In its eastern part, the latter building bears traces of an alteration associated with the erection of the basilica as well as other modifications and restorations, while at the western end of the portico, a relatively small, almost square building was added to its northern side, with an entrance from the square situated in the middle of its eastern wall. Opposite, by the western wall remains of a stone plinth have survived. The building may be perhaps identified as a shrine, which in turn may have belonged to the Egyptian tradition.[93]

The set of buildings and porticos surrounding the square described create an image corresponding to a Roman *forum* and the Roman tradition. However, its clearest expression is the building of the public baths from the 1st century AD previously mentioned, situated south of the *forum*. Occupying almost the whole block in the dense urban fabric, these baths with an unsymmetrical layout are typical Roman *balnea* [Figure 16].[94] Considering the layout of the rooms serving the main functions, they are baths of a row-type.[95] Originally in their middle part, a *caldarium*, *tepidarium* and probably a small *frigidarium* were classically arranged in a row. After alternations these rooms housed a *caldarium*, *destrictarium-laconicum* and *tepidarium*, while to their west a peristyle courtyard was situated, and a vast two-hall *frigidarium* to their east.

Numerous technical solutions were applied in the baths – Roman achievements, many of them invented

[87] Daszewski *et al.* 2007: 77; Daszewski 2011: 423.
[88] Czerner 2012: 114-116.
[89] Daszewski *et al.* 2005: 86, fig. 18.
[90] Pensabene 2010: 203.
[91] Daszewski *et al.* 2007: 83; Daszewski 2011: 429, fig. 8.
[92] Łajtar 2005: 99-108.
[93] Pensabene 2010: 203.
[94] Nielsen 1990: 3.
[95] According to the classic Krencker's definition: Krencker *et al.* 1929: figs 234-240; Nielsen 1990: 87.

Figure 18. Marina el-Alamein. Remains of civic basilica neighbouring the Roman baths (*Photo R. Czerner*)

to meet the needs of the Roman bathing culture. Relics have survived of a *hypocaustum*, a tubuli system taking away the smoke under the facing of walls and heating them additionally, an underground cryptoportico before a *praefurnium*, developed methods of water distributing and heating, carrying used water away, flushing latrines. The relics preserved indicate that at least some bath rooms were roofed with barrel vaults. The interior design of the baths, and not only of the stately rooms (but also, for example, the latrines) was rich. Marble slabs or smaller pieces, or mosaics of big limestone *tesserae* formed floorings. The walls were also covered with marble slabs up to different heights or polychromed. The painting decoration had motifs typical of the Roman architecture.

The Crisis of the Third Century also affected Egypt. It seems, however, that at the site in Marina el-Alamein this is not obviously manifested until the second half of the 3rd century[96] and is also associated with another event. Many damages are dated to this period, probably resulting from an earthquake. In the 3rd century, Christianity developed rapidly in Egypt.[97] Not only religious but also social, political and economic changes took place. Towards the end of the 3rd century Diocletian introduced a new division of the empire into provinces. The site described belonged to Libia Inferior.[98]

As a consequence of accepting the interpretation associating the ancient settlement with the names Leucaspis and Antiphrae, a historical reference should be noticed about Menas, the bishop of Antiphrae (Μῆνας Ἀντίφρων), who was one of the signatories to the Athanasius' Epistle to the Antiochians from 362.[99] It would therefore be a confirmation of the existence of a Christian community in the 4th century in the town on the site of today's Marina. A basilica situated within the eastern outskirts of the ancient town would provide an architectural conformation [Figure 19]. It was erected in an originally non-built-up area, which separated the town and the necropolis, thus in a place typical of those times.[100]

The basilica is around 19 m long and 10 m wide, built with limestone blocks. A broad central nave is separated from much narrower side aisles by three pseudo-Corinthian columns on each side. The church is oriented canonically from west to east. The entrance

[96] Bąkowska-Czerner 2014: 314.
[97] Wipszycka 2000: 53.
[98] Lallemand 1964: 48.
[99] Athanas. *ad Antioch.* 10.2.
[100] Medeksza 1999: 121.


Figure 19. Marina el-Alamein. Remains of Christian basilica in the eastern outskirts of the ancient town (*Measuring and elaborating M. Drab*)

was preceded by a narthex, and two pseudo-Ionic columns stood in the entrance to the latter.[101] Basing on the numismatic material, the church is dated to the end of the 4th or the beginning of the 5th century.[102] It is interesting that in the architectural decoration of the basilica the same forms of Hellenistic origin characteristic of Marina were used. Only their canon of proportions, earlier quite carefully respected, had been lost.[103]

Not many signs from the Late Antiquity period have survived at the necropolis. It was noticed, however, that some tombs at the western necropolis dated to the 1st and 2nd centuries were still used in the 3rd-5th centuries.[104] Tombs at the necropolis south and south-east of the town's centre are yet to be examined. But in the area of the town traces of alterations dated to the 4th century are visible, among other places in the forum[105] and in the baths.[106] In this period, a similar situation can be observed in many towns in Egypt.[107] Public buildings, also religious ones, were abandoned, often also their function was changed. In Antiphrae former public buildings changed their purpose, and large houses were divided into smaller ones.[108] Door openings were walled up; rooms were also divided, and their purpose changed.

[101] Daszewski *et al.* 1990: 36; Łużyniecka 1997: 47-49; Grossman 2002: 392-393; Daszewski 2011: 435.
[102] Daszewski 2011: 435.
[103] Czerner 2014: 325-329.
[104] Daszewski 2011: 434-435; Daszewski *et al.* 2007: 84.
[105] Daszewski 2003: 65; Daszewski *et al.* 2005: 92.
[106] Bąkowska-Czerner 2014a: 315, fig. 1.
[107] Baldini 2007: 200-201.
[108] Bąkowska-Czerner 2014a: 313-332.

Among the relics from that period, besides ceramics and coins, several fragments of lamps were found. On some, dated to the 4th-5th centuries, an image of a cross appears[109] – Greek equal-armed crosses, some small while others cover the whole surface of the discus. Perhaps the lamps were used by the Christians living here. However, belief in pagan gods still remained. The medallion with a depiction of Dionysus mentioned above and dated to the 4th century stand as proof of that [Figure 13].[110]

The inhabitants were noticeably poorer in that period. Trade developed to a smaller extent. In Antiphrae a new religion appeared and under its influence a different culture was shaped. In 365 the settlement was again destroyed by a huge earthquake. Towards the end of the 5th century or at the beginning of the 6th the town collapsed entirely and was abandoned.

Marina el-Alamein is a site with similar cultural, political and religious changes to those that were taking place in other towns of the Mediterranean. However, Alexandrian culture had the greatest influence on the development of the town. What was happening in Marina el-Alamein reflects events in Alexandria, only on a smaller scale. Of great significance were also the proximity of Cyrenaica and intense trade relations with the Aegean Islands, Cyprus and other regions in the eastern part of the Mediterranean.

Greek architecture with Egyptian elements changed smoothly, adopting features of Roman, and later Christian architecture, one example of which is a basilica. New architectural solutions and technical innovations arrived and were rapidly applied here. The inhabitants adjusted them to their needs. The well-preserved architecture of houses and tombs make it possible to imagine how they may have looked in Alexandria, although on a much larger scale, and also how to interpret the relics which have survived there partially. Some particular solutions in the architecture or architectural detail employed in Marina are unique and cannot be found at other sites. Perhaps they are inventions of the locals or their creators still remain unknown. The inhabitants used to surround themselves with works of art – sometimes paintings or sculptures of high quality. The sculpture at the necropolis is different from the town, not only in terms of the subject matter, but also the style and the quality of the workmanship. Images at the necropolis were primarily supposed to have religious power. The sculptures and low reliefs that have been discovered so far indicate a predominance of Egyptian gods, often already Hellenised. Furthermore, Egyptian burials and rituals prevail, although Greek ones, referring to the Dionysus cult, are present too. Belief in Egyptian gods was no obstacle to worshipping the Greek god who in the Greco-Roman period was associated with Serapis. Egyptian and Greek traditions appear in the same tombs.

A distinctive feature of Marina is the predominance of two Greek gods: Dionysus and Aphrodite. The Ptolemaic dynasty supported the cult of those deities. Kings sometimes identified themselves with Dionysus, and their wives with Aphrodite-Isis. Perhaps the popularity of Dionysus in Marina was connected with the activities of the locals, with growing grapes and making wine. Aphrodite, the goddess associated with the sea and navigation may even have been a patron of the port town.

Among the Hellenised Egyptian deities, Isis, Serapis and Harpocrates predominate. Similarly to the necropolis, the depictions of different gods can be found in the houses. It is impossible to say that in one house Egyptian and in another one Greek gods predominate. The inhabitants accepted a syncretic religion. Changes in architecture were responded to quickly; the consciousness, the beliefs of the inhabitants changed more slowly. No evidence is present to confirm a cult typical of Roman gods, but it seems the Emperor cult may have existed.

The majority of the town's inhabitants must have been Greeks who had earlier lived in Egypt, which may be evidenced by architecture with Egyptian influence that is visible from the very beginning, as well as the popularity of depictions of Egyptian gods, mostly Hellenised. The inhabitants of this port town were constantly open to changes and new trends, which they rapidly adapted to their needs.

[109] Bąkowska-Czerner 2014a: 328, figs 6b and 6c.
[110] Bąkowska-Czerner 2014a: 328, fig. 7.

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# The Roman Thermae in the Citadel of Chersonesus Taurica

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**Summary**
The military thermae in Chersonesus Taurica considered in the paper represent the most typical design and execution of this widespread Roman facility. Moreover, they also testify to the scale of the Roman influence on the distant outskirts of the Ancient world. The architectural models and techniques of construction developed in the Roman Empire were applied throughout its territories, including such peripheral and neighbouring areas as Chersonesus Taurica.

Keywords
Chersonesus, Taurica, thermae, citadel, Roman period

The ancient city of Chersonesus in the south-western part of the Tauric Peninsula was founded by Greek colonists from Heraclea Pontica in the years 422/421 BC on the site of an earlier settlement from the late 6th century BC [Figure 1]. The incorporation of Chersonesus into the sphere of Roman influence began in the second half of the 2nd century BC following an agreement with the Pontic king Pharnaces I concluded in the year 179 BC.[1] Because of its geopolitical interests, the Empire considered Chersonesus a convenient strategic transit point for the relocation of the Roman armies to Asia Minor. For a short time in the 1st and early 2nd century AD, Chersonesus was a part of the Roman Empire within the Regnum Bosporanum. In AD 145, Chersonesite diplomats managed to convince the Roman authorities to grant *eleutheria* to the city; accordingly, Chersonesus became a free Grecian city, an ally of the Roman Empire. However, the activity of the municipal authorities brought about a political, economic and military dependence on Rome, which may also be inferred from the citizens' daily life.

With the arrival of the Romans in Chersonesus, one may associate the erection of the thermae that, rather than being a mere hygienic facility, were a venue of daily ritual including bathing. Unfortunately, no municipal thermae have been unearthed within the territory of the city from the 2nd century AD. Testimony of the existence of such an establishment is the building inscription accidentally discovered in 1912.[2] This epigraphic relic (no. 34863) is only partly extant (height 22 cm, width 14 cm, thickness 1.6 cm) [Figure 9.1]. The original size of the plaque was 34 × 26 cm. A peculiarity of the text is that it consists of alternate long and short lines. The aim of this device was to embellish the plaque that, judging by its thinness, was intended to be attached to a building. The text of the inscription is reconstructed as follows:

Δημή[τριος]
Σαμ[ίχου]
βαλα[νεῖον]
τ[ῇ πόλει]
[ἐχ τῶν ἰδίων]
[ἐποίς]

Translation: 'Demetrius, son of Samichus (?), erected the thermae for the city using his own means.' Paleographic data suggest that the inscription comes from the 2nd century AD.[3]

In the late 2nd century AD, thermae were also established in Olbia, as another building inscription suggests.[4] Beside Chersonesus, thermae have also been discovered in Charax and Panticapaeum.[5]

Roman troops began to be stationed in Chersonesus and its vicinity in the mid-2nd century AD. The military presence of Rome lasted a hundred years, until the mid-3rd century AD. The principal force of the *Vexillatio Chersonessitana* was posted in the immediate vicinity of Chersonesus (contemporary Balaklava, Symbolon Limen) [Figure 2]. In the second half of the 2nd century AD, Chersonesus became the headquarters of the commander of the *Vexillatio Chersonessitana* stationed in the citadel [Figure 3]. The permanent stationing of Roman legionaries promoted a degree of Romanisation of the Chersonesite population and affected many aspects of life in the city. The Roman standards of daily

[1] Лепер 1912: 23-39.
[2] Соломоник 1973: 116, no. 133.
[3] Соломоник 1973: 117-118.
[4] Латышев 1916: no. 174.
[5] Блаватский 1951: 283-288; Карасев 1955: 204.


Figure 1. A map of the eastern basin of the Black Sea indicating the location of Chersonesus Taurica *(Drawing E. Ju. Klenina)*

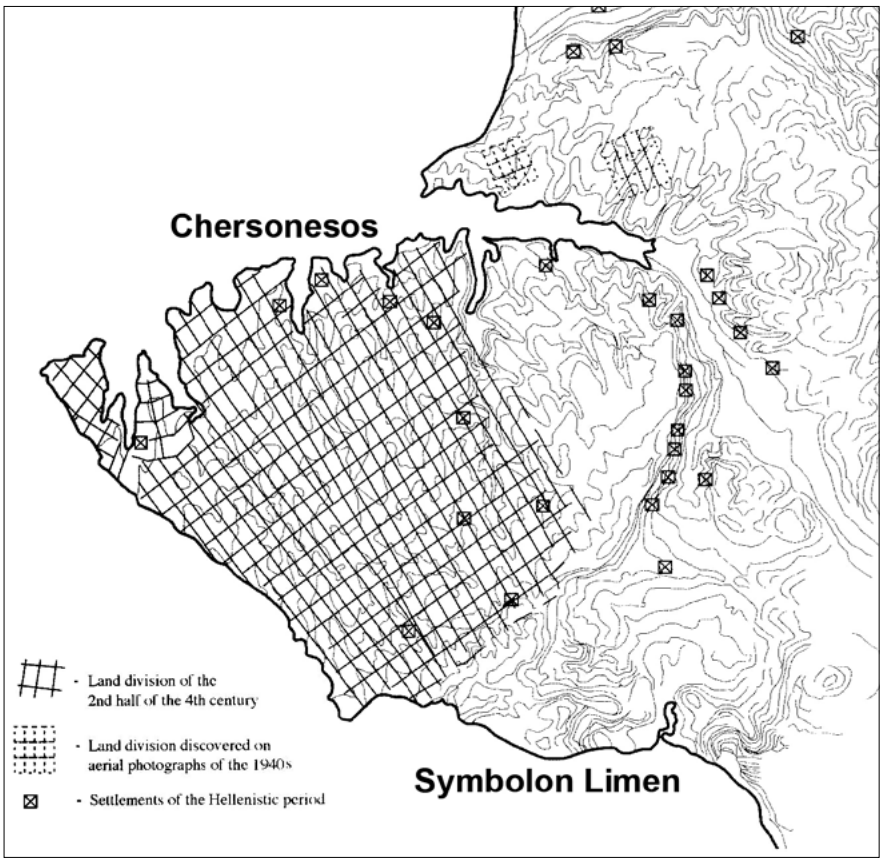



Figure 2. A map of the Heraclean Peninsula (*After Nikolajenko 2006: 109, Figure 18*)

life required the presence of baths somewhere in their deployment.

The area of the citadel included a large building (the *principia*), quarters and thermae from the 2nd-3rd centuries AD [Figure 4]. K.K. Koscjuško-Valjužinič discovered the *thermae* and the rest of the citadel in 1906, but they were not fully investigated at that time [Figure 5]. I.A. Antonova explored these relics further in 1970-1971 [Figure 6]. The building of the Roman thermae was annexed to Tower XIX, erected in the Hellenistic period. The tower, located east of a doorway leading into the city, was demolished between the 1st century BC and the 1st century AD, when the city's south-eastern defence line was in the process of reorganisation. The actual building of the thermae was rectangular in shape with its longer sides running from the south-east to the north-west. K.K. Koscjuško-

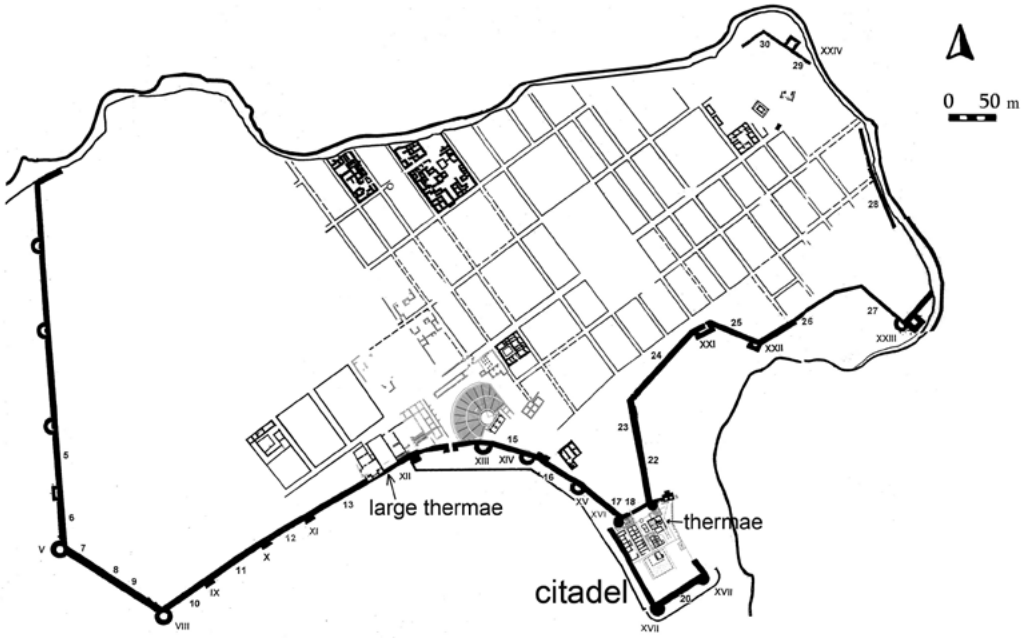



Figure 3. A plan of Chersonesus Taurica in the Antiquity (*Drawing E. Ju. Klenina*)

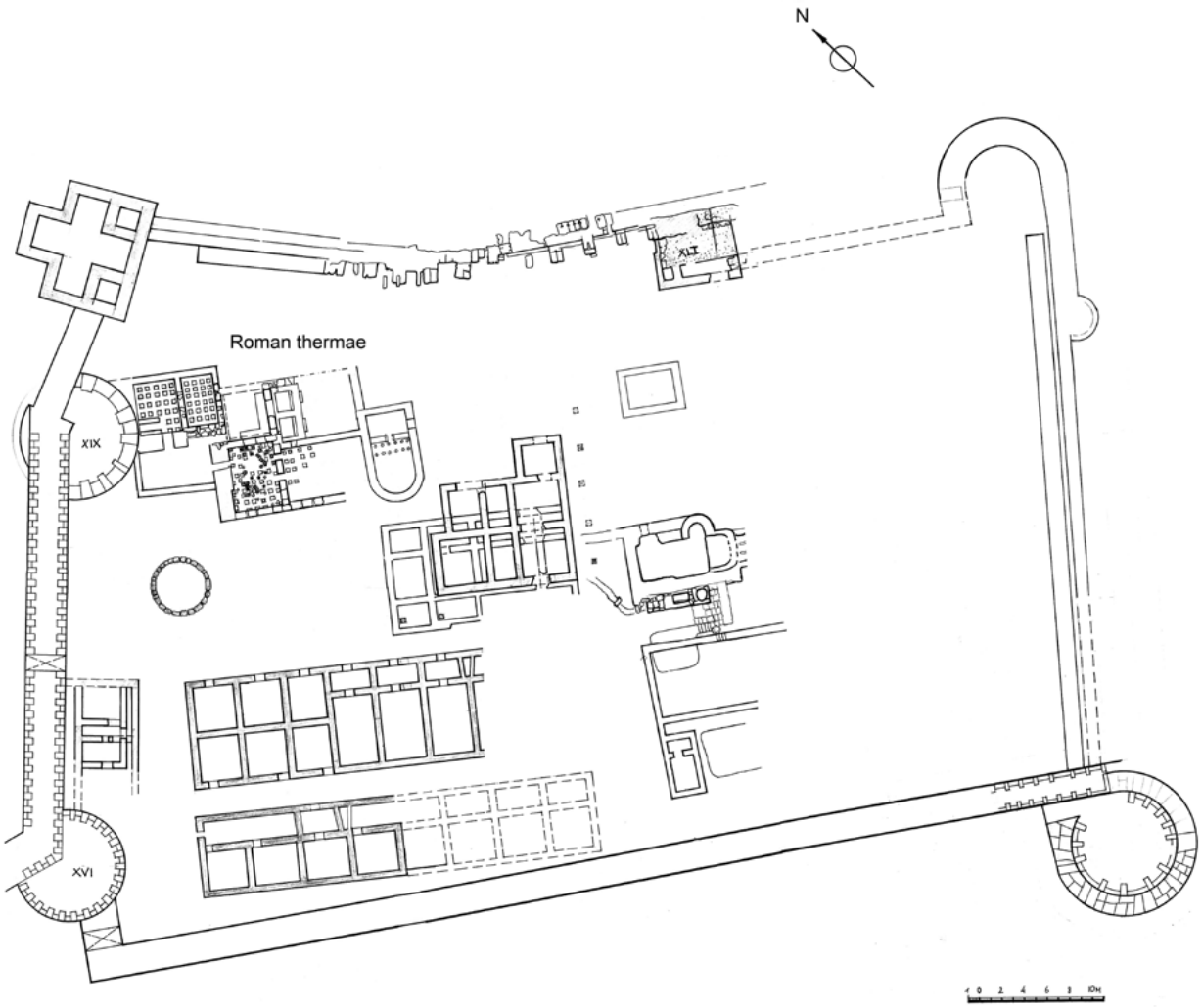



Figure 4. A plan of the citadel (*Archives of the SMP 'CT,' no. 4527*)

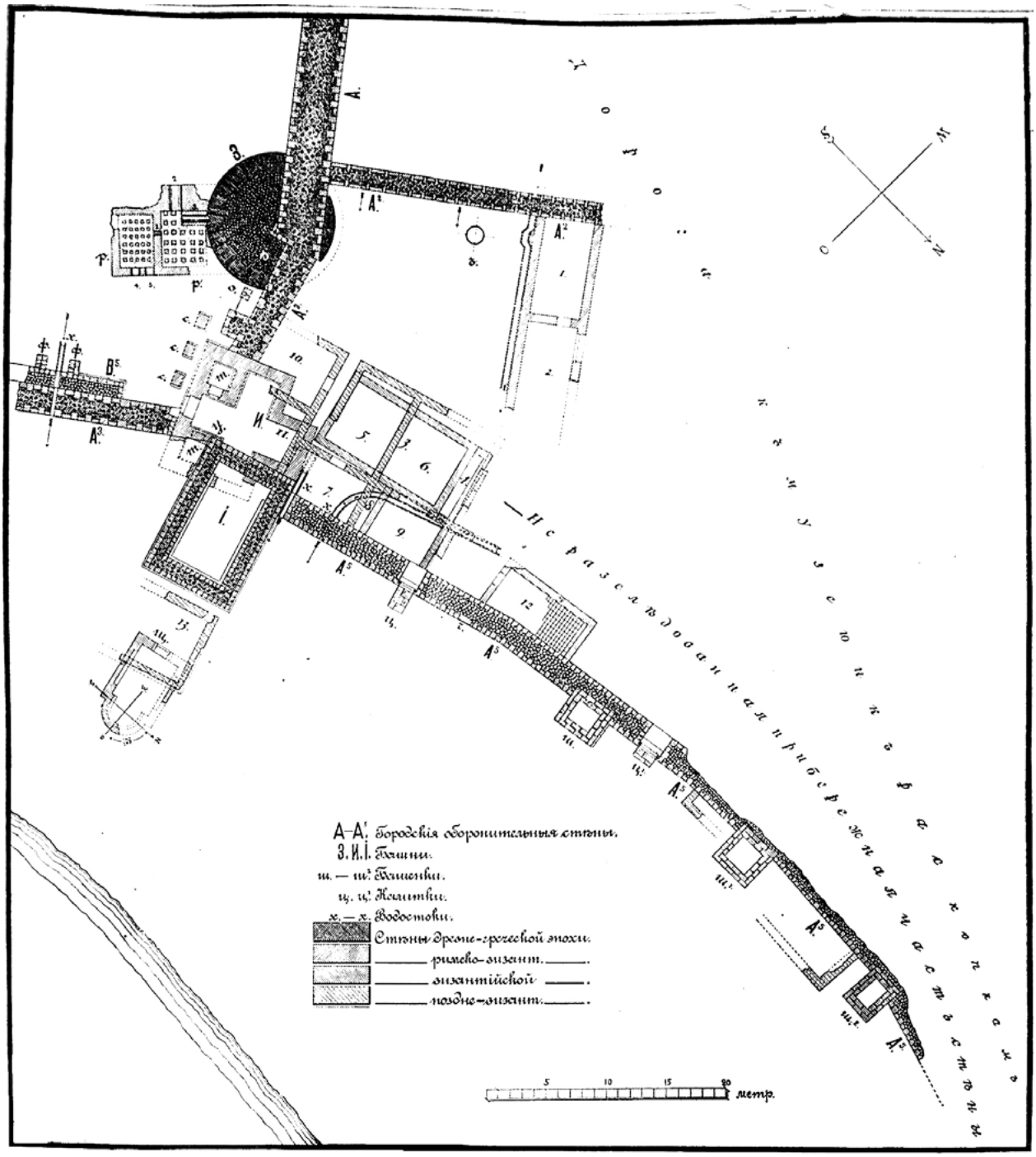



Figure 5. A plan of the thermae within the citadel (*After* Косцюшко-Валюжинич *[Koscjuško-Valjužinič] 1909, 58-83, Tab. III*)

Valjužinič unearthed two rectangular rooms with dimensions of 3 × 4.5 m (no. 8)[6] and 3.8 × 4.5 m (no. 9), whose corners pointed at the directions of the compass rose [Figure 5.p-p]. The walls were made of rough stone and plastered with rubble mortar (*caementum*); their thickness amounted to 0.65 m. Twenty-four support posts (four rows of five, as well as four extra posts) of a maximum extant height of 0.44 m were preserved *in situ* in room no. 9, and another thirty posts (six rows of five) in the adjacent room no. 8.[7] Two heating ducts (nos. 2 and 3) running from the furnaces of the hypocaust, were identified in room no. 9; the vaults of the ducts were lined with baked bricks. Only the vault of duct no. 3 is fully extant. Its total height amounted to 0.48 m, and it ran toward the demolished Hellenistic Tower XIX. Duct no. 2 ran toward room no. 2, which served as a *praefurnium*. In the south-west, rooms nos. 8 and 9 ended in a wall 1.1 m thick. This partly extant wall had

[6] The rooms are numbered after Зубар and Антонова 2001: fig. 1.

[7] Косцюшко-Валюжинич 1909: 63.

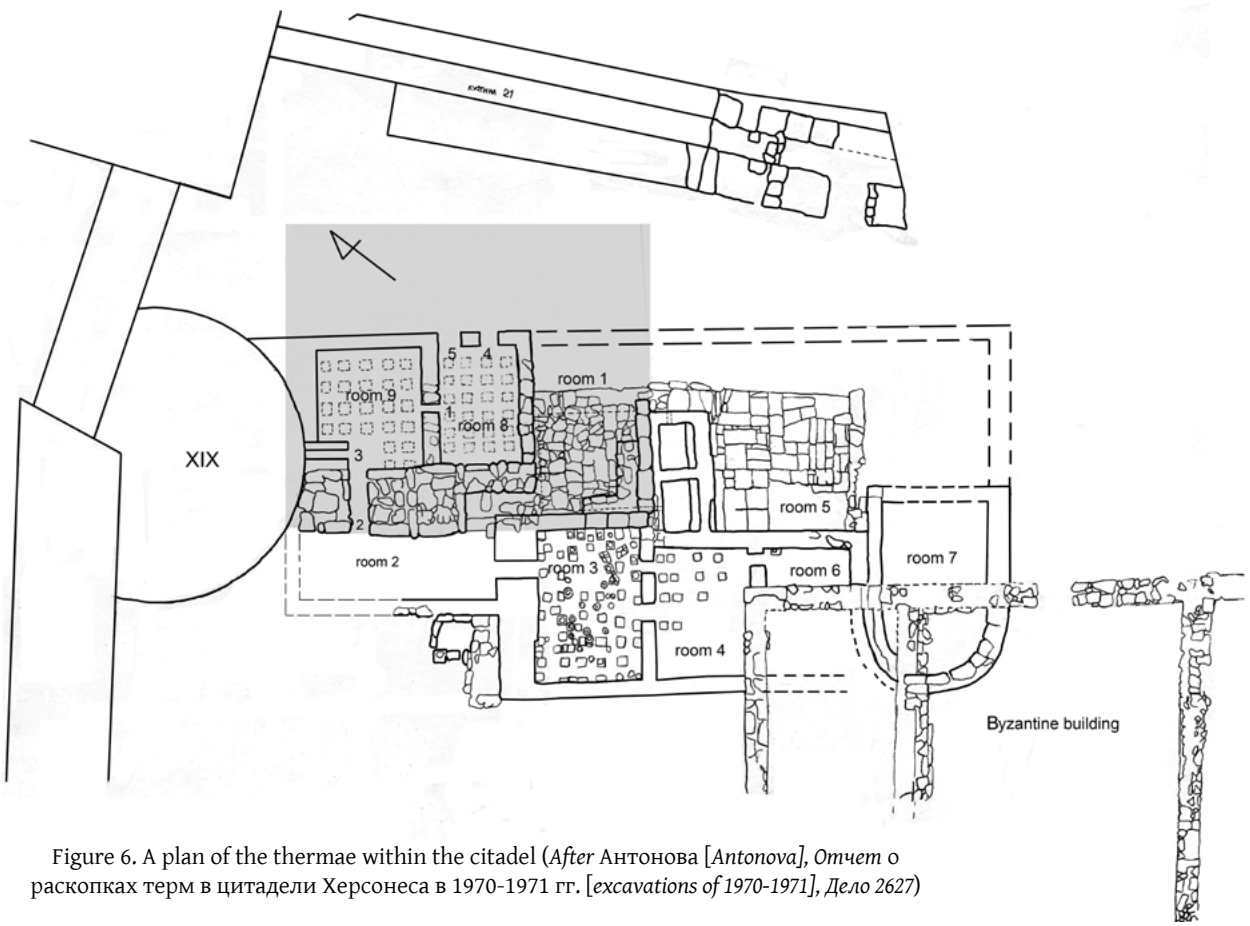



Figure 6. A plan of the thermae within the citadel (*After* Антонова [*Antonova], Отчет* о раскопках терм в цитадели Херсонеса в 1970-1971 гг. [*excavations of 1970-1971], Дело 2627*)

constituted curtain 21 in the Hellenistic period. Its front surface on the side of rooms nos. 8 and 9 is extant, while on the side of the *praefurnium* (room no. 2) most of the wall was pulled down to accommodate the room.[8] Only at the furnace was the wall left at its original thickness of 2.7 m. The size of the wall and the presence of the heating ducts (nos. 2 and 3) suggest that bronze tanks with hot water were located at this site, used to fill the pool in the *caldarium* (room no. 9) [Figure 6].

At the level of the hypocausts in rooms nos. 8 and 9, hot air was able to circulate thanks to orifice no. 1 in the wall between the rooms. Room no. 8 constituted a *tepidarium*; in its north-eastern wall there were another two orifices (nos. 4 and 5) for the passage of hot air [Figure 6].

South-east of room no. 8 there was room no. 1. Below the level of the stone floor of the 2nd period of construction, stone floor of the 1st period has been identified. Room no. 1 was apparently an *apodyterium*; unfortunately, it has not been possible to determine its size.

South-west of rooms nos. 8 and 9, there was the *praefurnium*, which in the 1st period of construction was an open one. The stratum related to the operation of the furnace is saturated with soot. Coins have been encountered within in, dated to the third quarter of the 2nd century AD and the years 180-185 and 211-217, as well as a table mug of Type 1 with a conventional plant ornament executed in white paint on its body, dated to between the second quarter of the 2nd and the mid-3rd centuries AD[9] [Figure 13.13].

Water was supplied to the facility from a well located 5 m south-west of rooms nos. 8 and 9.

Rooms nos. 8 and 9 (the *caldarium* and the *tepidarium*), as well as nos. 1 and 2 (the *apodyterium* and the *praefurnium*) of the 1st period of construction should be dated to between the second half of the 2nd and the first quarter of the 3rd century AD. North-east of rooms nos. 8 and 9, presumably there was a *frigidarium*; this area has not been investigated yet, though.

During the first three decades of the 3rd century AD, the thermae and the citadel were extended and reconstructed, apparently due to an expansion of the Roman military garrison in Chersonesus Taurica.

In the 2nd period of construction, room no. 1, located south-east of room no. 8 [Figures 6 and 8.4], was

[8] Антонова 1970-1971: 11.

[9] Антонова 1970-1971: 46, App. 1, nos 1, 13, 25; Кленина 2004: 63-64.

4.0 m wide and is extant at a length of 4.5 m.[10] I.A. Antonova investigated room no. 1 in 1970. Rooms nos. 1 and 8 communicated by means of a doorway 1.1 m wide featuring a threshold stone, extant *in situ* and considerably worn, set a meter above the level of the hypocaust of room no. 8. In room no. 1 at the doorway, another extremely worn block of stone has been discovered, apparently used as a step.[11] Another narrow passage allowed communication between room no. 1 and the *praefurnium* (room no. 2).

The floor of the 2nd period of construction in room no. 1 was laid with limestone slabs of various shapes, carefully fitted together. The north-western, south-western and south-eastern walls are made of rough-hewn rectangular blocks of limestone; the north-eastern wall has not been unearthed yet. A stone bench was set up at the south-eastern and south-western walls.[12] Under the stone floor along the north-western and south-western walls, a drain with a stone bottom has been discovered, with dimensions of 0.2 × 0.15 m; it was used for removing water from the western pool in room no. 5 [Figure 6]. A larger drain (0.3 × 0.4 m) was located in the north-eastern part of the room, originating in room no. 5. This drain II is covered with stone slabs level with the floor, one of which has turned out to be a fragment of a limestone tomb plaque of a Roman legionary from the 2nd century AD, with an extant height of 0.61 m, extant width of 0.38 m and a thickness of 0.13 m. A section of the frame is preserved on its left side. The text of the inscription is reconstructed as follows [Figure 9.2]:

1 [---vix]it an[n(is)]
LV mil[it(avit)]
ann(is) XX[...]
Auluz[e-]

5 nus C[o-]
cleiu[s]?
here[s h(uius)]
[fecit].

Translation: '[NN] lived for 55 years, served for 20 years. Set up by Auluzenus Cocleius, [an] heir.'[13] This find proves that the floor of the 2nd period of construction and the drains were built not earlier than in the beginning of the 3rd century AD.

After the demolition of the thermae, a deposit of broken pottery accumulated on the floor of room no. 1, among which several coins have been found, dated to the years AD 98-117, 180-211 and 211-217.[14] These coins from the stratum of the demolition were obviously immured at the time of the construction and fell out of the walls when the facility was being pulled down. Accordingly, one may deduce that the 2nd period of construction of room no. 1 took place not earlier than in AD 217.

In the débris above this deposit of rubble, pieces of light-coloured narrow-necked Heraclean clay amphorae have been found, of types C and D from between the second half of the 2nd and the 3rd century AD and of types Zeest 72, 73 and 76 from the 2nd-3rd centuries AD.[15]

The *praefurnium* (room no. 2), which K.K. Koscjuško-Valjužinič partly explored and I.A. Antonova further investigated, was located – as already mentioned – south-west of rooms nos. 8 and 9. In the 2nd period of construction, this facility took up an area of 7 × 5 m and served two furnaces, which heated rooms nos. 3 and 9. In the south-west and north-west, it was enclosed by plastered walls of rough stone 0.65 m thick; in the south-east, the *praefurnium* shared a wall with rooms nos. 2 and 3, of a thickness of 1.1 m, increased to 1.35 m at the heating duct of the furnace, the latter 0.7 m wide.[16]

In the stratum of débris in room no. 2, pieces of light-coloured narrow-necked Heraclean clay amphorae have been found, of type D from between the second half of the 2nd and the 3rd centuries AD and type Zeest 73 from the 2nd-3rd centuries AD, as well as of brown clay amphorae of type Zeest 79 from between the 2nd and the mid-3rd centuries AD.[17] The stratum also featured coins from the mid-3rd century AD.[18]

At the southern inner corner of room no. 2, there was a well, which apparently supplied the thermae as early as in the 1st period of construction.[19]

In the first three decades of the 3rd century AD, south-east of room no. 2, room no. 3 with an area of 4.0 × 5.6 m was constructed, which constituted a *caldarium* [Figures 6-7]. The walls of its hypocaust were made with medium-sized stones (0.25 × 0.15 m) bound with rubble mortar. The upper layers of the masonry were blocks cut out of limestone with dimensions of 1.0 × 0.6 × 0.2 m and 0.7 × 0.6 × 0.2 m, possibly originating from demolished Hellenistic structures, including a curtain 21. The walls were 0.65-0.70 m thick, except for the north-western one, of an overall thickness of 1.1 m, reaching 1.35 m at the height of the heating duct of the furnace. A Chersonesite coin from the third quarter of

[10] Archives of the SMP 'CT,' drawing no. 4460.
[11] Антонова 1970-1971: 12.
[12] Антонова 1970-1971: 12.
[13] Соломоник 1983: 54-55, no. 26.
[14] Антонова 1970-1971, App. 1, nos 4-6, 8-9.
[15] Антонова 1970-1971: 37-38; Кленина 2004: 19-24, 32-34.
[16] Антонова 1970-1971: 14.
[17] Зеест 1960: 112-114; Кленина 2004: 19-24, 32-34; Алексеева 2008: 18-19, fig. 17.
[18] Антонова 1970-1971: App. 1.
[19] Антонова 1970-1971: 11.

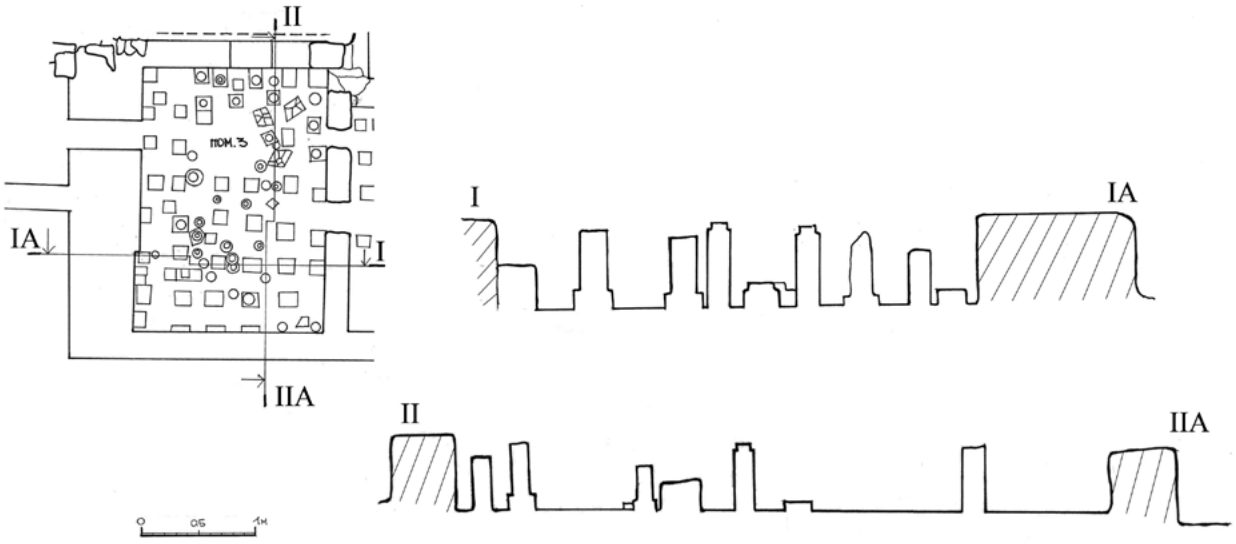



Figure 7. The thermae in the citadel. A floor plan and cross-sections of room no. 3
(*After* Антонова [*Antonova],* Отчет о раскопках терм в цитадели Херсонеса в 1970-1971 гг. *[excavations of 1970-1971], Дело 2627*)

the 2nd century AD has been found beside the furnace.[20] The thickening of the wall might have been related to the fitting of a tank for the water which the furnace heated.

The T-shaped iron braces encountered in the stratum of débris constituted elements of a system for fastening the ceramic plinths at a certain distance with a view to the heating of the walls of room no. 3. The braces occur in two sizes [Figure 10]: nine with 10 cm long shafts and with cross-sections of 3 × 2.5 and 1 × 1.5 cm, their cross-pieces 10 cm long and 2 cm wide; there are another nine with 8 cm long shafts and with cross-sections of 1.5 × 2 cm, their cross-pieces 6 cm long and 1.5 cm wide.[21] Further items making up the wall-heating system were small ceramic *tubuli* 9-10 cm tall [Figure 11].

The hypocaust system in room no. 3 is excellently preserved and shows signs of repair. Support posts cut out of solid blocks of sandstone were placed on the floor of the hypocaust, on which rubble mortar had been poured [Figures 6-7 and 8.1-3]. The posts were fairly stout, with diameters of 0.25-0.30 m and heights of 0.50 ± 0.03-0.05 m. They ended with rectangular cross-pieces (0.40 × 0.40 × 0.22 m) and props (0.38 × 0.35 × 0.10 m). A total of forty-eight posts (six rows of eight) were erected. The spacing of the posts was 0.25 × 0.30 m [Figure 7]. Due to the excessive heat, some posts were damaged; several of these were replaced or strengthened with recycled water-supply pipes, under or over which pieces of pottery were inserted to make up for their insufficient length [Figures 7 and 8.2]. Some of these pieces of pottery bear the marks 'LEG V MAC,' 'LE XI CL' and 'VEMI,' which date them to between the second half of the 2nd and the first half of the 3rd century AD.[22] In some instances, pieces of stone, among them bases of columns, were placed at their bottoms. A total of 35 ceramic pipes with fluted or smooth surfaces have been identified. The repair took place not earlier than at the time of the Severan dynasty (193-235); the present authors' view is that it occurred between the years AD 230 and 250, when the Roman military garrison of Chersonesus had been relocated to the Danubian *limes* and its thermae were not maintained properly.

A radiocarbon analysis of the carbon from the hypocaust of room no. 3, conducted by Dr. L.V. Firsov at the Laboratory of Geochronology of the Siberian Branch of the Institute of Geology and Geophysics of the Academy of Sciences of the USRR, established that the thermae had been demolished in AD 325 ± 40.[23] The items found in the stratum of débris include numerous fragments of marble wall-facing slabs, plinths, bricks and other pottery, as well as pieces of rubble mortar from the floor and shards of amphorae of types Zeest 72, 75, 76, 80, 83, 94 and 101, as well as red-slip vessels from between the second half of the 2nd and the 3rd centuries and the 3rd-4th centuries AD[24] [Figure 8.2].

Room no. 4 (the *tepidarium*), with an area of 3.5 × 4.7 m, was located south-east of room no. 3 (the *caldarium*) [Figures 6 and 8.3]. It has been partly preserved due to

[20] Антонова 1970-1971, App. 1, no. 10.
[21] Антонова 1970-1971: 61.
[22] Сарновски 2005: 126.
[23] Archives of the SMP 'CT,' no. 1414, 1.
[24] Зеест 1960: 121; Кленина 2004: 18-19, 24-25, 28-30, 32-33, 39-42 and 52-54.

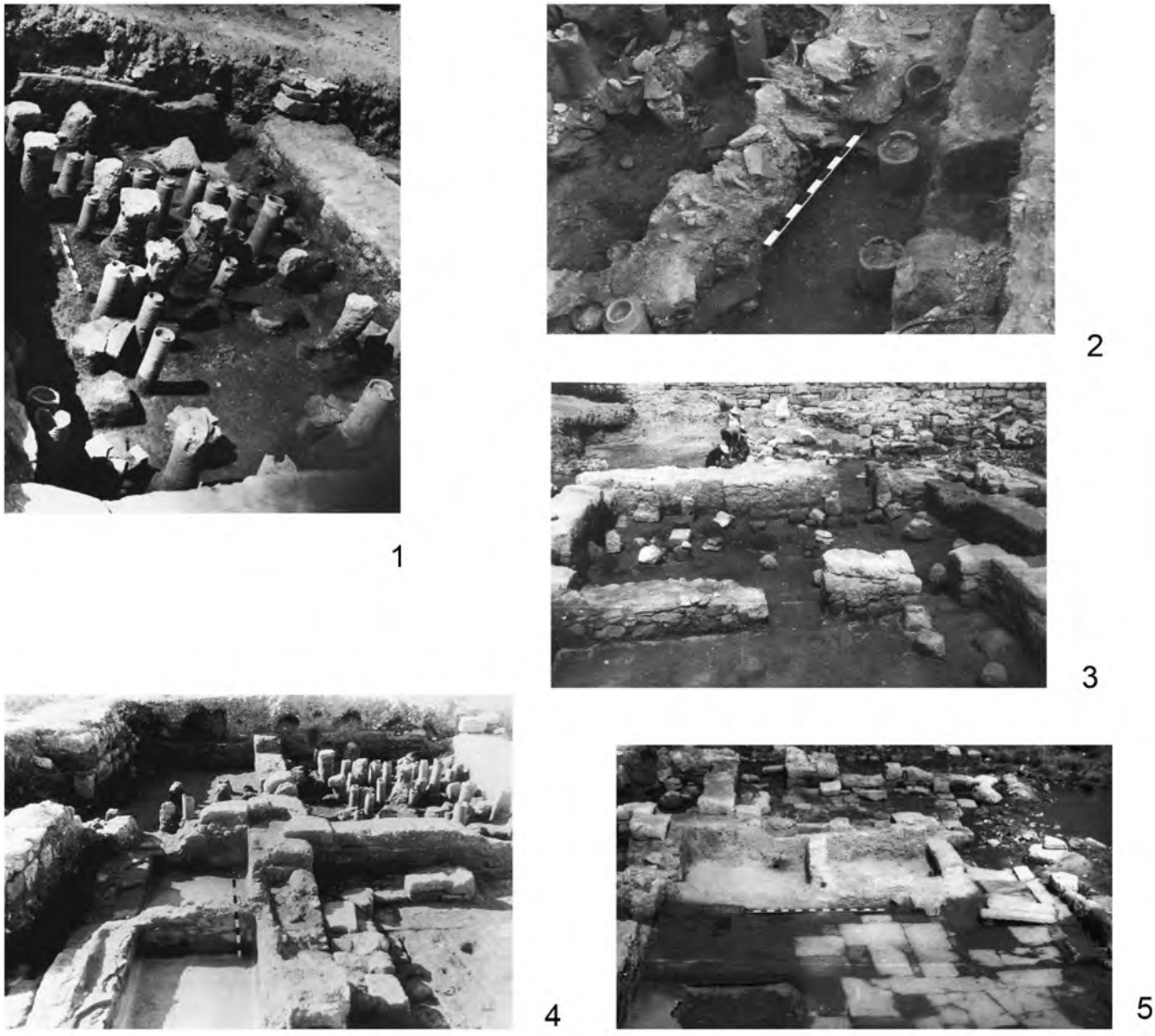


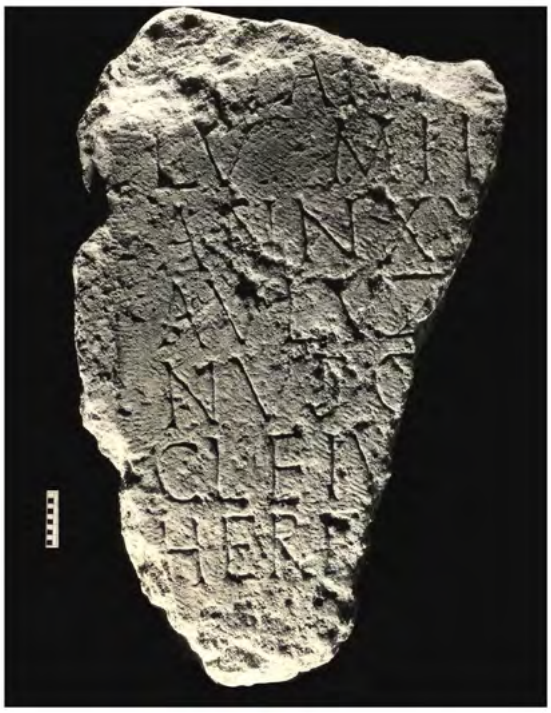

Figure 8. The Roman thermae in the citadel of Chersonesus: 1 – Room no. 3, the hypocaust, view from the north-east (*Archives of the SMP 'CT', negative no. 24978/1-2*); 2 – Room no. 3, the filling of the hypocaust (*Archives of the SMP 'CT', negative 24976/8-9*); 3 – Rooms nos. 3 and 4, view from the south-east (*Archives of the SMP 'CT', negative no. 24996/12, 15*); 4 – The overall view of the thermae from the north-east (rooms nos. 3-4, 1 and 5) (*Archives of the SMP 'CT', negative no. 24990/3-4*); 5 – Room no. 5, view from the south-east (*After* Антонова *[Antonova], Отчет о раскопках терм в цитадели Херсонеса в 1970-1971 гг. [excavations of 1970-1971], Дело 2627*)

the erection of an administrative building on this site in the 9th century and the installation of drains. In the north-western wall, shared by rooms nos. 3 and 4, there were two orifices allowing the circulation of hot air, 2.4 and 3.13 m away from the western corner of room no. 4. The respective widths of the orifices were 0.65 and 0.50 m. The bottom of one orifice was at floor-level of the hypocaust in room no. 4, and of the other, 0.15 m over this level. A substantial accumulation of soot has been noted at the orifices. The floor of the room was supported by stone posts similar to those in room no. 3, as described above. Thirteen out of thirty posts have been preserved *in situ*. In the course of repair work, a post in the second row was replaced with a water-supply pipe. The débris in room no. 4 contained fragments of amphorae of types Zejest 72, 73, 75, 79, 80 and 94 from the 3rd-4th centuries AD,[25] red-slip vessels made in Chersonesus in the 2nd-3rd centuries AD and balsamaries. Fragments of marble wall-facing slabs have also been encountered.

The next, adjacent room no. 6, with an area of 3.5 × 2.0 (?) m, was south-east of room no. 4 [Figure 6]. It was considerably damaged during the erection of an

[25] Кленина 2004: 19-29, 32-33.


1



2

Figure 9. Epigraphic finds: 1 – A fragment of a tomb stone from the 2nd century AD from room no. 1; 2 – A fragment of a marble stone with an inscription about the erection of the thermae (*Archives of the SMP 'CT,' no. 34863*)

administrative building in the 9th century. The wall between rooms nos. 4 and 6 featured an orifice with a width of 0.85 m allowing the circulation of hot air. In the hypocaust, stone posts have been discovered, similar to those in rooms nos. 3 and 4, with vestiges of brick arches between them. Two bulky stone posts with a square cross-section (0.3 × 0.3 m and 0.5 × 0.5 m) have been encountered in the south-western part of the room, 0.5-0.6 m away from each other. They were topped by a brick arch, and the space between them was filled with soot. Apparently, this was a heating duct of a furnace; the actual *praefurnium*, located under the Byzantine edifice, has not been explored. The remnants of the walls and the arches of the hypocaust suggest that a shallow pool with hot water was located at this site.

Coins from the 1st century AD and three coins from the 2nd century AD (dated to 145-150, 150-155 and 180-185) have been found in the stratum of ceramic rubble in the hypocaust, and Chersonesite coins from the third quarter of the 2nd century AD and from AD 240-250, at floor-level.[26] The rubble also included pieces of amphorae of types Zeest 73 and 75 and two fragments of an arch of a chimney conduit.[27]

The following, adjacent room no. 7 featuring an exedra (a *sudatorium*?) in its south-western part, was located south-east of room no. 6 [Figure 6]. Its width amounted to 4.0 m, and its length along the central axis, to 8.5 m. The hypocaust of the exedra was separated from the rest of the room by a wall with an orifice allowing the circulation of hot air in the middle. Twelve ceramic pipes arranged in two rows are extant in this section of the room. A niche served as a steam bath. In the Byzantine times, the room was used as a storage cellar.

North-east of rooms nos. 4 and 6, sharing a wall with them, room no. 5 was located, apparently constituting a *frigidarium*, or a room for cold baths.[28] The *frigidarium* took up an area of 7.0 × 5.7 m [Figure 8.5]. Its walls are badly preserved due to reconstructions in the Byzantine times; the north-eastern one has not been unearthed at all. The floor is laid with carefully fitted limestone slabs, making up a small ridge along the north-eastern and south-eastern walls in a design typical of *frigidaria*. In the northern part of the room, a drain with a rectangular cross-section (0.3 × 0.4 m) has been discovered under the slabs of the floor. The inlet of the drain was covered with two slabs cut out of stone, one of which could be lifted to adjust the flow of water. The drain continues into room no. 1, passing along its north-eastern side, and turns eastwards toward the Roman curtain 21 [Figure 6].

In the mid-3rd century AD, a rectangular cold-water pool was installed along the north-western wall of room no. 5, of the inner perimeter with dimensions 2.0 × 4.06 m. The south-western wall of the pool was made of recycled rimless tiles and bricks bound with rubble mortar, laid along a stone wall shared by rooms nos. 4 and 5; the north-eastern and south-eastern walls of

[26] Антонова 1970-1971, App. 1, nos 2, 8-11, 17-20.
[27] Кленина 2004: 21-25.
[28] Antonova 1970-1971: 17-18.

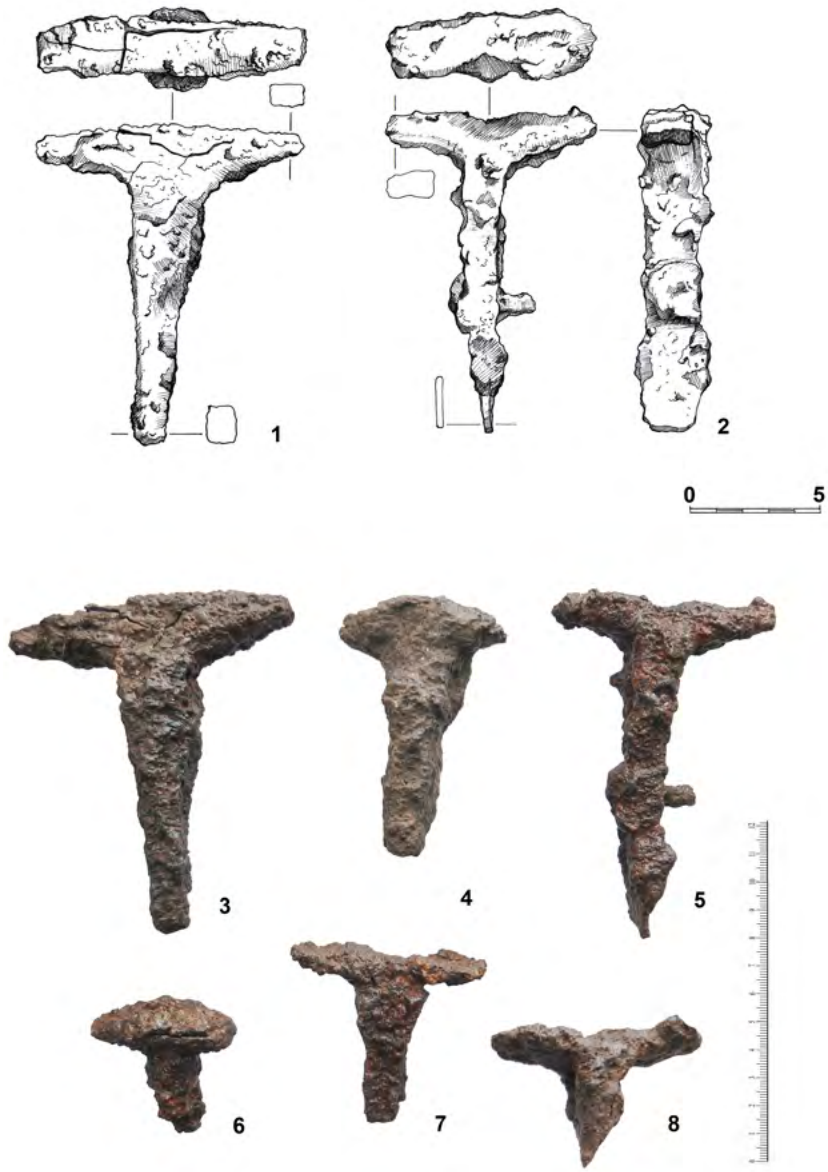



Figure 10. The braces of the heating system in the *caldarium* (room no. 3) (*Drawing I.V. Michadjuk, photo K.V. Zykova*)

the pool were built in the same way. All the walls along with the bottom, were plastered with rubble mortar. A Chersonesite coin from the years AD 240-250 has been discovered in the masonry of the south-western wall.[29] During the time of the operation of the pool, its walls were repaired once, and its bottom, twice. The total thickness of the plastering was 1.5 cm. 0.55 m east from the northern corner, there was a drain hole in the bottom, of a diameter of 0.10 m, which removed water directly to the drain in the described room no. 5.

In the second half of the 3rd century AD, the pool was divided into two smaller ones (1.78 × 1.40 m and 1.9 × 1.40 m) [Figures 8.4-5] by means of a partition wall 0.35 m wide, made of tiles and bricks bound with rubble mortar and plastered on either side, set on a stone foundation. The extant height of this structure is 0.44 m. Outside each new pool, along the south-eastern wall, two steps were installed, with a length of 0.75 m and a height of 0.33 m. The outer wall and the steps were also carefully plastered with rubble mortar. Inside the pools, steps-*cum*-benches were set up, made of rimless tiles in the north-eastern one and of bricks in the south-western one, with widths of 0.35 m and heights of 0.33 m. A drain hole for the south-western pool was in place in the stone wall between rooms nos. 1 and 5, removing water into a drain 0.15 × 0.15 m in size.

Room no. 5 ceased to be used during the reign of Constantine the Great (306-337), as proven by the find of a coin on the bottom of the pool.[30] Further coins identified in the eastern part of the room at the level of the stone floor are three Chersonesite ones from the 2nd century and the years AD 211-217 and a Roman one from the 4th (?) century AD.[31] In the stratum of débris above the floor and directly on the floor, more than 600 fragments of amphorae have been encountered, of the Zeest 72, 73, 75 (2nd-3rd centuries AD) types and Zeest 79 (3rd-4th centuries AD) and Zeest 95 (4th century AD), as well as light-coloured narrow-necked clay amphorae of type D and red-clay funnel-necked ones from the 2nd-3rd centuries AD.[32] Other finds include bricks 28 × 28 × 10 cm in size, plinths with a zigzag ornament on one side, used for wall-facing, and 11 fragments of marble wall-facing slabs 0.02 m thick.

Following the demolition of the Roman thermae between the late 3rd and the early 4th century, smaller baths were set up in the north-western part of room no. 5 on the site of the pools. An orifice was made in the south-western wall at the level of the western pool

[29] Антонова 1970-1971, App. 1, no. 15.

[30] Антонова 1970-1971, App. 1, no. 17.

[31] Антонова 1970-1971, App. 1, nos 14, 16, 17, 20, 21 and 26.

[32] Зеест 1960: 118-119; Кленина 2004: 19-28, 32-33.

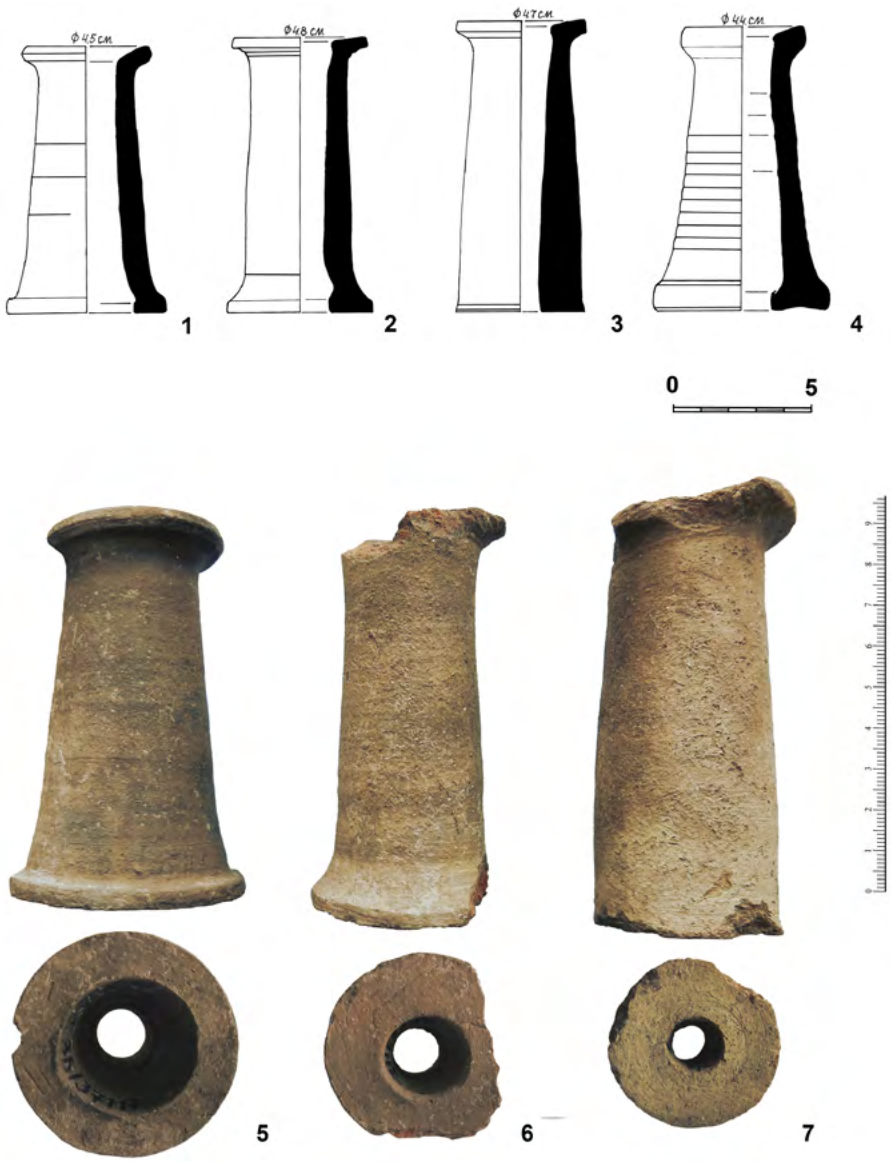



Figure 11. Tubules fastening ceramic panels to the walls of the *caldarium* (room no. 3) (*Drawing I.V. Michadjuk, photo K.V. Zykova*)

allowing the circulation of hot air between room no. 4 and the latter pool, and posts were placed on its bottom to support its ceramic floor. According to I.A. Antonova, these small baths were used until the 6th century;[33] analyses of the material from the débris filling the pools contradict this postulate, though.

Two coins from AD 240-250 have been found in the débris of a pool.[34] The pools of the *frigidarium* were filled mainly with pieces of tableware and of five lamps. The tableware consisted of shards of red-slip bowls of type 1, cups of type 1 and jugs of types 1-3 made in the local workshops of Chersonesus between the second half of the 2nd and the mid-3rd centuries AD, and a simple table jug (*oenochoë*) of type 4 made in the Aegean[35] [Figures 13.1-2, 3, 4-5 and 7-12]. This constituted a typical assortment of tableware used in provincial Roman thermae.

The oil lamps encountered in the filling of the pools have designs which were common in the 2nd-3rd centuries AD on the western coast of the Black Sea, including the province of Moesia Inferior. The most numerous ones belong to type Loeschke VIII (1919), whose characteristics were a rounded shape, a short and rounded nozzle, and a large, rounded and somehow bent central disk, decorated with a bas-relief. Lamps of this shape were used from the second quarter of the 1st century AD, and the peak of their popularity occurred in the 2nd century AD. In the late 2nd and the 3rd centuries AD, their designs began to deteriorate.[36] The last phase of the application of these lamps was in the early 4th century. It has been possible to identify some workshops which produced lamps of the Loeschke VIII

[33] Зубар and Антонова 2001: 85.
[34] Антонова 1970-1971, App. 1, nos 22 and 24.
[35] Кленина 2004: 39-42, 52-54, 57-58, 66-67.
[36] Кузманов 1992: 22.

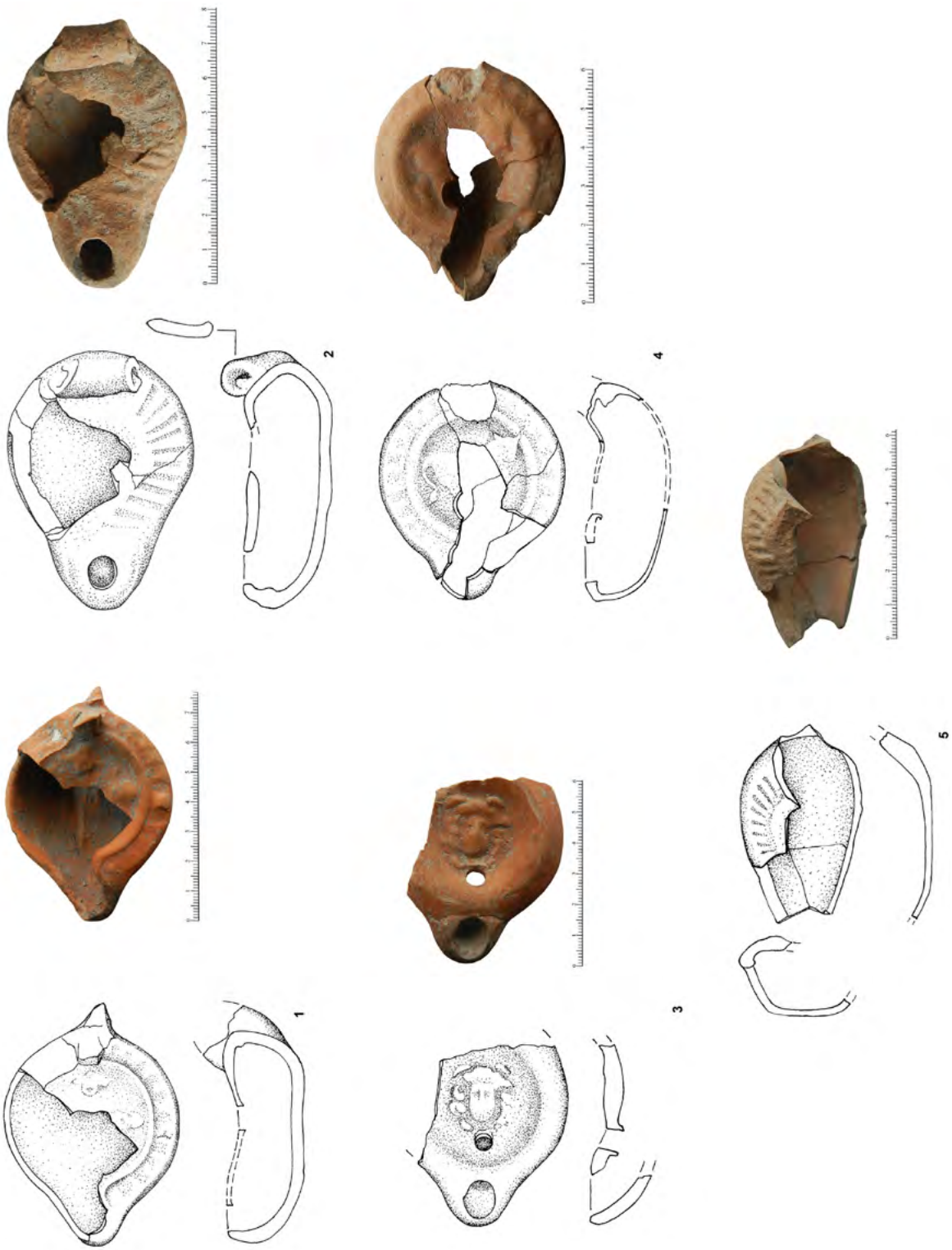



Figure 12. Oil lamps from the filling of the pool in room no. 5 (*Drawing I.V. Michadjuk, photo K.V. Zykova*)

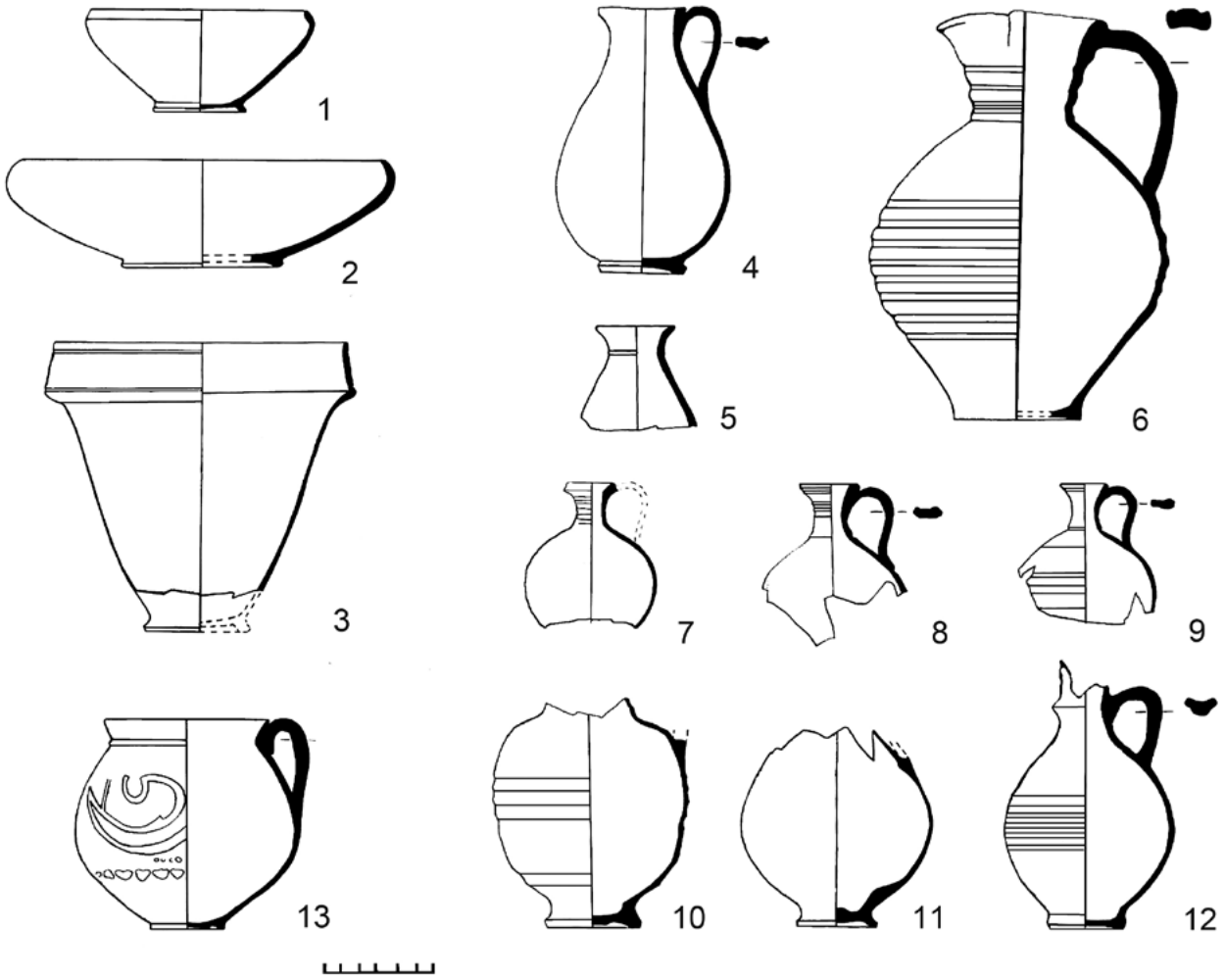



Figure 13. Tableware from the filling of the pool in room no. 5 (*Archives of the SMP 'CT,' no. 2626/1*)

type in the 3rd and the early 4th century.[37] Among the lamps found in the pools, three[38] belong to this type. All the discovered lamps are made of light-red clay (2.5YR 6/6), containing lime and small particles of mica. The disk and some of the body are covered with red slip (2.5 YR 5/8). The lamp-black on their nozzles proves that they were used for their intended purpose. One lamp is almost entirely preserved, with the exception of a section of the disk and the protruding handle [Figure 12.1]. The disk bears a stamped image, very unclear as the stamp was apparently worn out. From another lamp of this type, a part of the disk and the nozzle are extant. The disk bears a stamped image of Medusa [Figure 12.3]. The next lamp is also only partly preserved, lacking a section of the disk and the handle. The disk bears a stamped image of a bull turned to the right [Figure 12.4].

Moreover, the filling of the pools included two broken lamps of a type popular in the 3rd century AD, called 'fluted' on an interim basis. These were the most common sources of light in the first centuries AD on the northern and western coast of the Black Sea.[39] Such lamps were produced in several centres of the north-western coast of the Black Sea, including the workshops of Moesia Inferior, between the 3rd and the early 4th century AD.[40] One of the lamps found in the pool is almost entirely preserved, with the exception of a section of the disk [Figure 12.2]. It is made of evenly baked, slightly porous reddish yellow clay (5YR 7/6), containing small particles of mica and some lime. Its slip, dull and of a poor quality, is red (2.5YR 5/8). This lamp was made at a workshop in Moesia Inferior in the 3rd century AD. Another fragment of a 'fluted' oil lamp represents a later variety. The disk, the shoulder

[37] Кузманов 1992: 24.
[38] Archives of the SMP 'CT,' no. 47/37117.
[39] Зубарь et al. 1990: 11; Кузманов 1992: 24-28, 42-43; Chrzanovski and Zhuravlev 1998: 134; Кленина 2004: 70-71; Кленина and Бернацки 2015: 271-272.
[40] Кузманов 1992: 24.

and the bottom are partly extant. The clay is unevenly baked, reddish grey and red (10R 6/1, 5/6), containing a small amount of lime; the *engobe* is pink (5YR 7/4). An analysis of the clay has identified this lamp as a product of a Chersonesite pottery workshop. The 'fluted' lamps were common from the second quarter of the 3rd to the late 4th century AD.[41] A comparison of the data has established that most of the encountered lamps were used in the thermae from the second quarter to the end of the 3rd century AD.

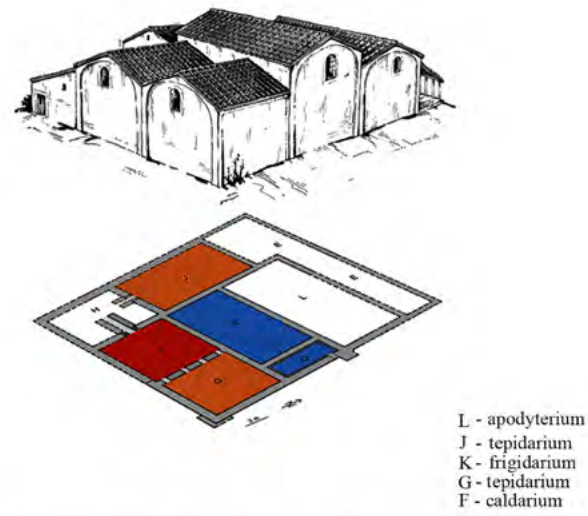
The occurrence of individual items dated to the 4th century AD in the stratum of débris in room no. 5 and in the pools suggests that some parts of the thermae, including rooms nos. 3 and 5, still existed at that time.

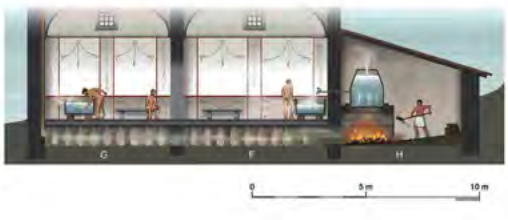
Thus, when summarising the collected data, it may be tenably postulated that the thermae and the citadel were erected in the second half of the 2nd century AD. Other scholars agree with this dating.[42] During the first three decades of the 3rd century AD, the building of the garrison bath was expanded, incorporating rooms which adjoined it to the south-east. The *thermae* were apparently partly destroyed by an earthquake around the years AD 236/237,[43] but soon became operational again after a period of repairs in 240-250. Most rooms of the garrison bath ceased to exist in the late 3rd century, as proven by a radiocarbon analysis of charcoal found on the floors of hypocausts, which yielded a date of AD 285-365.[44] Most scholars agree that the facility fell into disuse at that time.[45] In the 4th century AD, at the site of the demolished, or rather abandoned thermae, some small rooms with hygienic facilities functioned. The considerable reduction of the area of the garrison bath resulted from a decrease in the number of the stationed troops.

The thermae in the citadel of Chersonesus Taurica represent a widespread rectangular design of baths with a reduced number of rooms, laid out in parallel rows.[46] The design was based on Greek public baths, which served as hygienic, health and social facilities. In spite of the lack of a complete field documentation of the excavations of 1906 and 1970-1971, based on the published results of the field work[47] one may identify the functions of the various rooms of the *thermae* and the possible pattern of the movements of their users. The thermae were initially a small square-shaped building located directly at the south-eastern defensive wall of the city, with an area of some 100 sq. m. In the 3rd century AD the baths were expanded, incorporating some auxiliary rooms, and their area increased to some 270 sq. m.

Taking into account the size, the layout, the organisation and – most importantly – the location of the discussed thermae, they may tentatively be classified as small military baths. They represent type III (parallel row type) according to Krencker.[48] Baths of this type first appeared in the second half and at the end of the 2nd century AD, and were usually built in the provinces of Dacia and Moesia Inferior, as well as in the Roman *castella* on the Rhine and the Danube in Noricum and Raetia. Conspicuous examples are the baths in Chester (Britannia), Turicum (central Switzerland), Bumbeşti and Slaveni (Dacia), Dinogetia (Moesia Inferior), Boudobriga (Germania Superior), Lauriacum (Noricum) and Iciniacum (Raetia).[49] The location of the *sudatorium* must be emphasised. The rectangular *sudatorium* was typically either a side room accessible from the *frigidarium*, often via the *apodyterium*, or a room placed between the *tepidarium* and the *caldarium*, the former location being the more common. While the location of the *sudatorium* within the discussed *thermae* of Chersonesus Taurica in the 2nd period of construction (mid-2nd century) is not known, after the reconstruction of the first three decades of the 3rd century it was presumably located in the south-western corner and accessible from the *frigidarium*. According to I. Nielsen,[50] such a position was often adopted in military baths. The other layout, with the *sudatorium* placed between the *caldarium* and the *tepidarium*, occurs, for example, in the baths of Bumbeşti, Slaveni, Biriciana, Niderbieber, Dinogetia and Čačak [Figure 14].[51] In the thermae of Chersonesus Taurica, where the *sudatorium* was accessible from the *frigidarium*, the front section of the former served as a heat trap which, in the plans of military baths in Roman *castella,* appears as a small rectangular space, sometimes additionally heated, between the *frigidarium* and the *sudatorium* or the *frigidarium* and the *tepidarium* (usually the latter).[52] Roman architects, taking into account the local weather conditions, provided for a heat trap when designing the *castella* and camps on the Rhine and the Danube. Another significant feature of a military bath in a Roman *castellum* was the *apodyterium*. In the 1st century AD, these were often built of wood, occasionally with an underpinning brickwork foundation. From the beginning of the 2nd century, the *apodyteria* in newly constructed baths were rectangular rooms transverse to the *caldarium* and the *tepidarium*. When older baths were being reconstructed

[41] Кленина and Бернацки 2015: 272.
[42] Зубар and Антонова 2001: 85; Буйских 2008: 226; Karasiewicz-Szczypiorski 2015: 37.
[43] Зубарь and Антонова 2000: 69.
[44] Archives of the SMP 'CT,' no. 1414, 1.
[45] Зубар and Антонова 2001: 85; Буйских 2008: 226; Karasiewicz-Szczypiorski 2015: 38.
[46] Nielsen 1993: fig. 1.
[47] Антонова and Аркадова 1971: 270-271.
[48] Krencker et al. 1929: Abb. 234-240; Nielsen 1993: fig. 1.
[49] Nielsen 1993: 76.
[50] Nielsen 1993: 78.
[51] Nielsen 1993: 79; Tudor 1968: 326, 334, fig. 96; Krencker et al. 1929: 237, Abb. 354; Barnea 1967: fig. 2; Jeremić and Gojgić 2012: 11-18, fig. 7.
[52] Nielsen 1993: 79.

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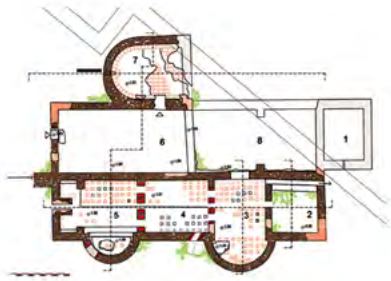

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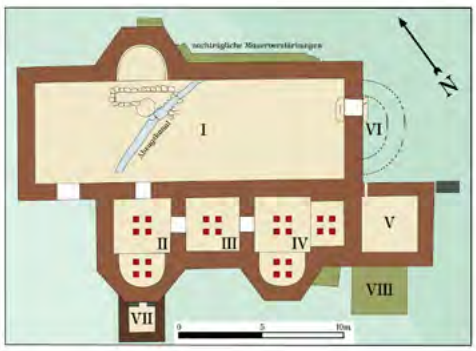


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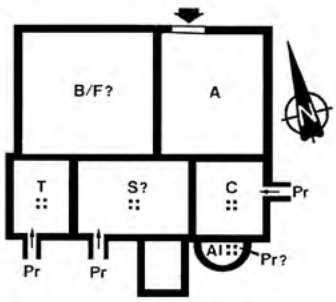


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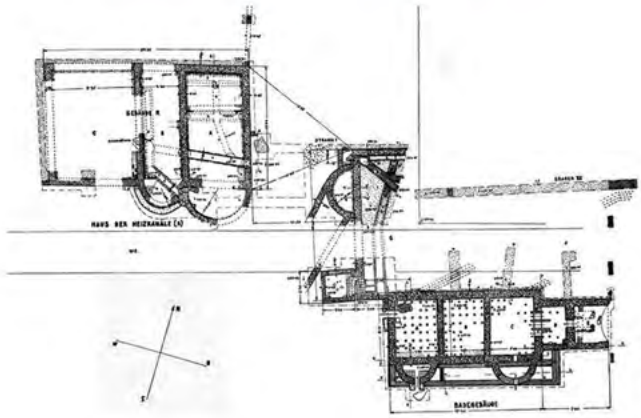

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Figure 14. Roman thermae: 1 – A three-dimensional reconstruction, a floor plan and a cross-section of the Roman thermae from the late 2nd-early 3rd centuries AD in Turicum (*Retrived from: www.stadt-zuerich.ch/hochbau*); 2 – A plan of the thermae in Chester Fort in northern Britannia, 2nd century AD (*Retrived from: http://www.odysseyadventures.ca/articles/hadrian-wall/chesters_baths.htm*); 3 – A plan of the thermae in Čačak, 3rd-4th centuries AD (*After Jeremić and Gojgić 2012*); 4 – The thermae in Dinogetia, 3rd-4th centuries AD (*Retrived from: https://commons.wikimedia.org/wiki/File:Kastell_Dinogetia_Kastellbad.png*); 5 – The thermae in Bumbeşti, 2nd century AD (*After Nielsen 1993, Figure 142*); 6 – The thermae in Lauriacum, 2nd century AD (*Retrived from: http://www2.rgzm.de/Transformation/Noricum/Lauriacum/Lauriacum.htm*)

during the same period, the wooden *apodyteria* were usually replaced with smaller rooms built entirely of stone. This development resulted from practical issues: stone was more resistant to seasonal changes of weather, and the custom of gymnastic exercises prior to bathing in military facilities was being phased out. It was particularly due to the latter consideration that the dimensions of *apodyteria* in military baths were reduced. At the same time, small rectangular latrines appeared next to *apodyteria*, flushed by a secondary circulation of water from the pool by the *frigidarium*.[53] While no latrine has been encountered in the thermae of the citadel of Chersonesus Taurica, it may be validly assumed that there was one north of the *apodyterium*, where a large drain ran, removing water from the pools outside the citadel, toward the Quarantine Bay.

The military thermae in Chersonesus Taurica represent the most typical design and execution of this widespread Roman facility. Moreover, they also testify to the scale of the Roman influence on the distant outskirts of the Ancient world. The architectural models and techniques of construction developed in the Roman Empire were applied throughout its territories, including such peripheral and neighbouring areas as Chersonesus Taurica.

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[53] Nielsen 1993: 80.

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SMP 'CT' – the State Museum-Preserve 'Chersonesus Taurica'.

# Reconstruction of the Western Courtyard of the 'Hellenistic House' in Nea Paphos, Cyprus

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**Summary**
The paper discusses recent studies on the Western Courtyard uncovered in the 'Hellenistic House' during excavations in Nea Paphos in 2008 and 2009. It was equipped with a set of devices for collecting water, among others a basin in its central part with the remains of four columns in its corners. The remnants of the architectural decoration were found in the rubble filling the central part of the room: fragments of the *triglyph-metope* frieze, a cornice containing a gutter, floor slabs, pieces of a balustrade and a column. Its capital was characterised by a blocked-out form resembling the so-called pseudo-Ionic columns known from Petra. The whole structure most probably took a form similar to the Vitruvian *tetrastylos*, with the second floor of the *atrium* which possibly served as a utilitarian terrace.

**Keywords**
Nea Paphos, 'Hellenistic House,' Western Courtyard, Atrium

The subject of this paper is a reconstruction of the *atrium* whose relics were uncovered during the excavations of Polish Archaeological Mission of the University of Warsaw in Kato Paphos (under the supervision of Dr Henryk Meyza) carried out in 2008 and 2009 in the western part of the 'Hellenistic House' in Nea Paphos, an ancient city on the south-west coast of Cyprus[1] [Figure 1a].

In Hellenistic times, the southern part of the ancient Nea Paphos was divided by a grid of streets into a number of *insulae*.[2] The 'Hellenistic House' was built in the area of one of those *insulae*, limited by streets A, A', 9 and 10. The building was erected as an extensive, luxurious edifice with two courtyards: the main one in the central part, and the side one, considerably smaller, in the western part [Figures 1b and c]. The reconstruction of the latter is the topic of this article.

## The Western Courtyard of the 'Hellenistic House'

The excavations conducted in the western part of the 'Hellenistic House' uncovered some extensively damaged relics of a courtyard (room 13) [Figure 2]. The time of its construction is still a matter for further inquiries, but it is known to have been built and rebuilt in several phases. The destruction of this part of the 'Hellenistic House' is dated to the end of the 1st and the beginning the 2nd century AD.[3]

Room 13 was almost square, with dimensions of about 10.15 m (E-W) by 9.8 m (N-S), and was bordered by walls (approximately 50 cm in width). In those walls there are the relics of several doorways connecting the courtyard with the surrounding rooms. In the vicinity of the room stand the remnants of two staircases leading upwards on its western and eastern sides [Figure 2].

Within room 13 there are the relics of a set of devices for collecting water: a vertical pipe installation, two cisterns under the floor of the courtyard and a basin in its middle [Figure 2]. The cistern in the western part of room 13 has a very wide, nearly rectangular vertical shaft terminated with a wellhead (160 × 70 cm) made of regular blocks. The second tank has an entrance to the north of the courtyard, but it lies mostly under room 13 with an irregular oval shape. It has, however, a second shaft in a form of a vertical, round shaft hewn in the rocks underneath the courtyard in its northern part. Some relics of a vertical pipe leading to an underfloor channel were discovered in the north-eastern corner of room 13.

In the central part of room 13, there was a basin whose shape reflected the outline of the room on a smaller scale: the reservoir was almost square with a side of 3 m. Due to such an arrangement of the room and the basin, the space between the reservoir and the walls from all four sides was nearly the same, with a width ranging from 300 cm to 335 cm.

Below the south-western corner of the basin there is a wide slab constituting an original framing of the *impluvium*, which later was heightened. Then the basin was encircled by a low wall (46 cm in width) of only one layer of blocks. Later the wall was raised to a height of *c.* 0.5 m with small irregular stones. A clear border between the first, bottom level of the wall, and the second shows one of the many phases of rebuilding the courtyard. The interior of the basin was covered with a

[1] Meyza *et al.* 2012: 407-422.
[2] Młynarczyk 1990: 163-164, 170-171; Daszewski 1998: 9.
[3] Information obtained from Dr Henryk Meyza.

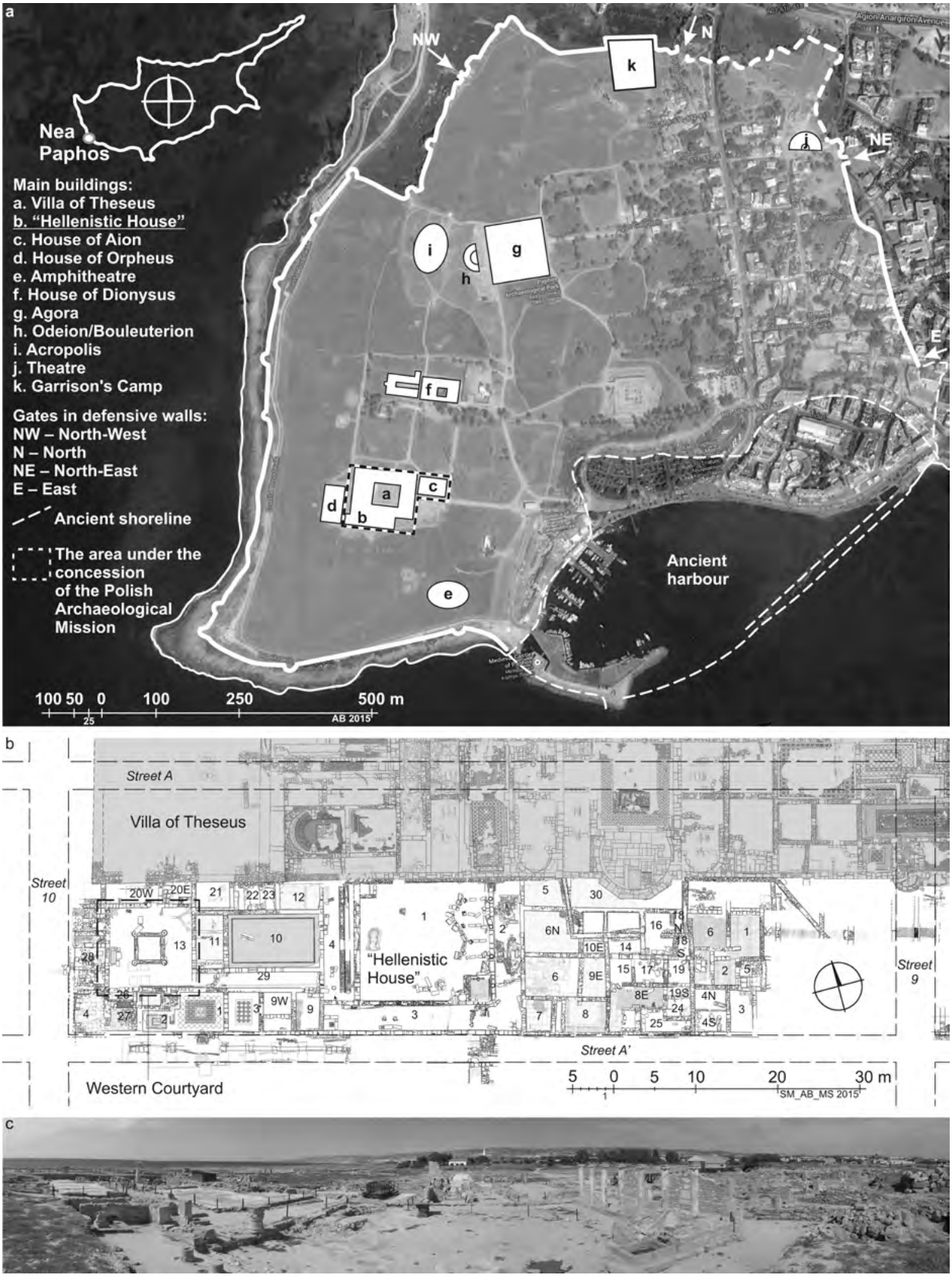


Figure 1. a. Plan of Nea Paphos during Hellenistic and Roman times (*After Medeksza 1998: 37, Figure 1; retrived from Google Earth, status as of Oct. 5th, 2014*); b. Map of the 'Hellenistic House' (*Processing S. Medeksza, M. Słowińska and A. Brzozowska*); c. The 'Hellenistic House' seen from the south (*Photo A. Brzozowska*)

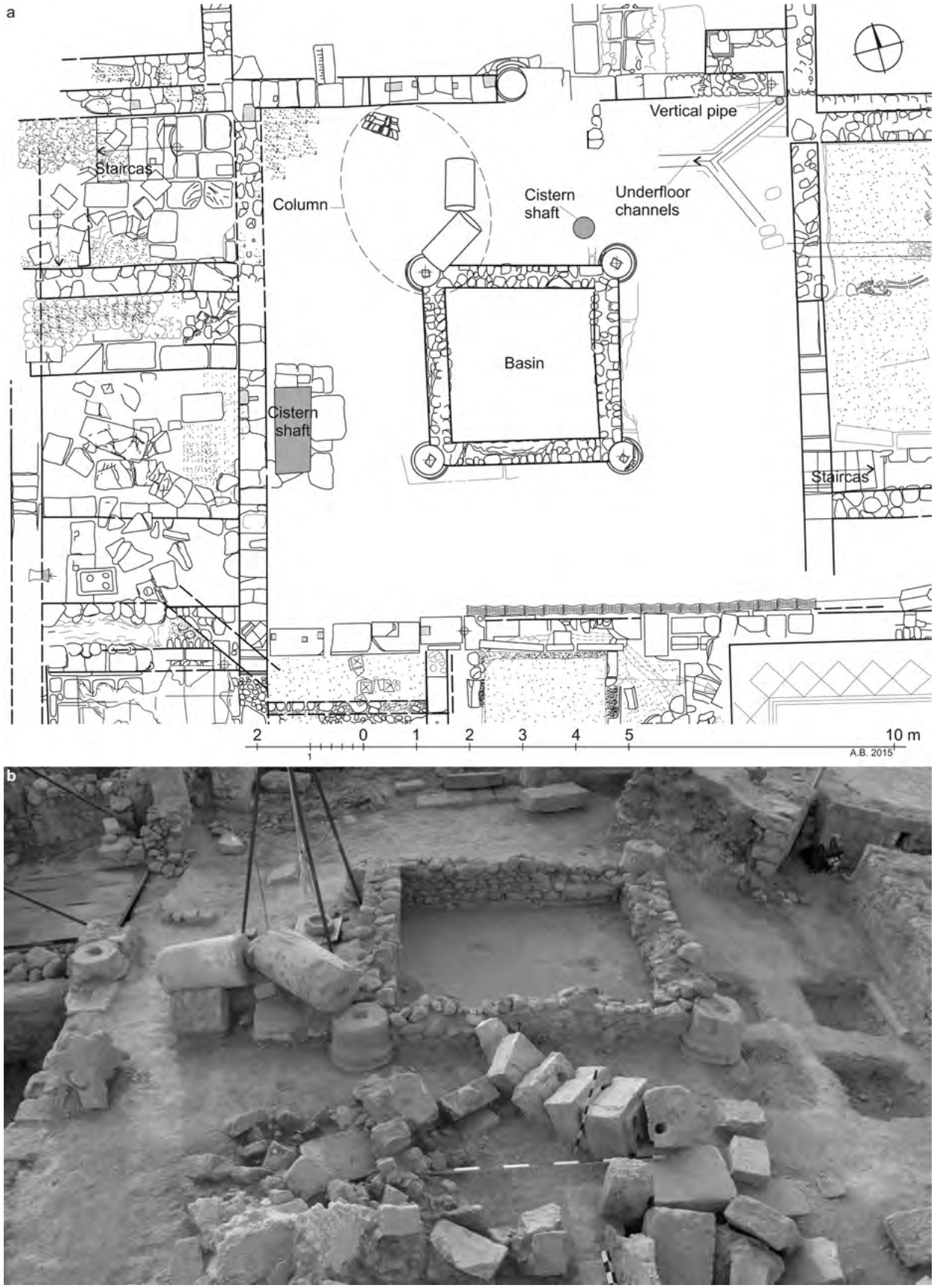


Figure 2. The Western Courtyard of the 'Hellenistic House': a. inventory plan (*Processing S. Medeksza, M. Słowińska and A. Brzozowska*); b. during excavations (*Photo H. Meyza*)

hydraulic floor (in which there was a pipe outlet) with the surface rolled up at the edges next to the wall. The wall itself was not plastered, or at least no traces of plaster were found on wall faces. The level of the floor in the basin lies several centimetres below the level of the courtyard.[4]

Four bases with fragments of column shafts were preserved in the corners of the wall surrounding the basin, the one from the south-western corner had been standing on the slab surrounding the *impluvium* mentioned above. The bases extend outwards from the axis of the basin wall – having their centres at the section of its external edges. As a result the basin has a uniform interior – the bases of the columns do not break the wall that forms its outline but are embedded with only a quarter of their volume. The *intercolumnium* of the bases extends from 354 cm (the western side of the basin) to 361 cm (the northern one) to 364 and 365 cm (the eastern and southern sides of the basin respectively) [Figure 2].

All the bases have the same shape. They are formed by three parts of more or less equal height: the *torus*, the *trochilus* and the truncated cone. The *torus* stands on the floor and turns into the *trochilus* that is crowned by a fragment of the cone narrowing towards the top. The height of the base is 24.5 cm and the fragment of a shaft measures 28.5 cm. The diameter of the base at the bottom is 73.5 cm and 59.5 cm at its top. There are shallow sockets almost square in form (of a side approx. 13 cm) on all four bases.

The rubble with pieces of architectural detail was uncovered in the basin and its surroundings. It contained fragments of the support and the entablature, mostly in a very poor state of preservation.

***The column from the Western Courtyard***

Only one support, out of four columns, has been preserved, but regrettably it is incomplete [Figures 2 and 3a-c]. The northern part of room 13 brought the discovery of drums of a smooth shaft that was coated with a thin layer of plaster. The shaft might have been originally composed of three drums, but only two were found. The diameter of the lower drum precisely matched the base, which confirmed that the column was originally placed at the north-western corner of the basin. The drums are characterised by a slight convergence and their length is 90 and 113 cm. They have sockets for connecting rods, probably pivots from a material that has not survived till our times (possibly wood or metal).

The capital of the column, which is its most interesting part, was found in the vicinity of the drums [Figure 3a]. It is created by a wide cylinder with four cuboid corners projecting in its upper part. The upper part of the capital widens to form an *abacus*. The capital core is encircled by a ring of a quarter-circle cross-section at 1/2 of the height of the corners. The flat surface of the ring is turned upwards with a very small slope. A geometrical projection in the shape of a cuboid wedge rests upon the ring in between the adjacent corners. The height of the capital is 36 cm, with a width of 82 cm. This almost complete capital allowed us to classify two corners that had been discovered previously as elements of such capitals [Figure 3c]. Their main features are advanced simplification, blocked-out form and reduction of ornamented elements, which closely relates them to the Nabatean style [Figures 5b-d].

It is worth mentioning that a few examples of blocked-out capitals were found in ancient towns on the southern coast of Cyprus, among others in Paphos, Kourion, Amathous, Larnaka and Salamis. They were all connected with the Nabatean Capital type 1 whose origin is associated with the architectural decoration from Alexandria, especially with the Floral Capital, type 1.[5] However, there is also a very specific type of capital, whose genesis is derived from the Ionic order – the so-called pseudo-Ionic capital known from Petra[6] [Figures 5b-c]. Our capital resembles this form very closely[7] but for small differences as far as the shape of corners is concerned. The corners from Petra are rounded in their lower parts and they are as high as the whole capital, whereas the corners from Paphos measure 5/7 of the height of the capital and are cuboid in shape. Although they are considered to be a derivative of the capitals of the Ionic order, in our opinion this hypothesis is somewhat controversial.[8] Nevertheless, the Nabatean connections are unquestionable. That is why we suggest using the following term: a pseudo-Ionic blocked-out Capital at Nea Paphos.[9]

The capital and drums of the column described above and, first of all, their convergence, allowed Dr Henryk Meyza to reconstruct its original height, which equalled almost 4 metres.

[4] Meyza *et al.* 2012: 413-414.

[5] Scranton 1967: 22-23; Wright 1972: 175-177, Pls XXXII-XXXVII; Hermary and Aupert 1982: 745-751; Hermary and Schmid 1985: 279-286; Soren 1987: 127-152; Callot 1988: 219-228; Sinos 1990: 220, 227-229, fig. 250; Wright 1992: 460-462, Pl. 308.1, 308.2, 308.3, 309, 310 and 311; Czerner 2009: 11.

[6] McKenzie 1990: 117, 132, 160, 162-164, 167, 184; 2001: 100-102.

[7] Meyza *et al.* 2012: 413.

[8] Compare in: Schmidt-Colinet 1983: 307-312; McKenzie 1990: 117; 2001: 100-102; Patrich 1996: 197-218.

[9] Research and discussion concerning the pseudo-Ionic capital from Petra and the pseudo-Ionic blocked-out Capital at Nea Paphos were presented in the author's another article (Brzozowska 2016).

The architectural details that were found in room 13 of the 'Hellenistic House' included, apart from the column, some elements of the entablature. Blocks from a frieze and cornice were found in the basin whereas the balustrade blocks were mainly around the basin.

***Blocks from the frieze with* triglyph-metope *decoration***

Forty-five cm high and 28.5 wide blocks with *triglyph-metope* decoration constituted the frieze[10] [Figures 3d-f]. The condition of the majority of blocks does not allow us to determine their original length. Only two fragments have maintained their original dimensions – i.e. they are 103 and 107 cm long. The rhythm of the *triglyph-metope* frieze is continuous and does not correspond to the length of blocks – the vertical edges of the blocks are found either in the *triglyph* or in the *metope* space.

The *triglyph* takes the shape of a rectangular slab divided by two vertical channels of a triangular cross-section into three mouldings which were bevelled from the outside to get half-splays. Between two adjacent *triglyphs* there is an empty space, a *metope.* Its width and *triglyph* width are correlated to a more or less 2 to 1 ratio. A double moulding is formed by the upper part of the frieze blocks that protrudes a little from the face. A kind of a capital with an oblique cut-in profile is formed above the *triglyph* by this carving which is additionally broken forward. Therefore, a sort of discrepancy can be observed between this carving and the classical Doric entablature in which the carvings above the *triglyph* were cuboid. The proportions of particular decorative elements differ also from the classical prototype suggested by, among others, Vitruvius in his work *De architectura* – e.g. the *triglyph* is narrower and slimmer and the *metope* is rectangular and square.[11] Similar phenomena may be observed in friezes of edifices from Petra and Roman Egypt from the same period.[12]

The frieze blocks from the 'Hellenistic House' are terminated with a simple edge. They lack a classical *taenia*, viz a moulding separating the architrave from the frieze. Additional elements of the *taenia*, i.e. *regulae* (small mouldings) with six *guttae* (tears) that imitate fastening nails, are also missing.

There are small decorative elements on the outside surface in the upper part of the *triglyph* [Figure 3f]. Their height is about 1/5 of the height of the whole *triglyph*; they resemble elongated 'tongues' or leaves of a vertical cross-section in a form of a strongly flattened letter S that is slightly rolled outwards and narrowed in the upper part. The form of these elements is unique as no analogy has been known in other *triglyph-metope* friezes.

The back upper part of the blocks of the *triglyph-metope* frieze presents many sockets that were cut out perfunctorily, probably for wooden ceiling beams [Figure 3e]. The sockets have the shape of cuboid hollows. Its form, size and rhythm suggest the usage of beams with a great cross-section (average 16 × 27 cm) and a rather dense socket spacing (average every 30 cm).

There were some mason's marks preserved at the side surfaces of the frieze blocks, which could have indicated the block position in the frieze.

***Blocks from the cornice***

Excavations in the basin and its vicinity resulted in finding some fragments of the crowning cornice [Figures 4a-c]. The bottom of the massive *geison* (35 cm in height, 75.5 in width) was chiselled into several mouldings with a cross-section of alternately a concave quarter-cylinder and a rectangle. A protruding profile composed of flat grooved modillions alternating with square hollow modillions was moulded in the upper part of the *geison*. The width of the former is constant and equals 9 cm whereas the width of the latter is difficult to estimate unequivocally, because there are too few complete square hollow modillions. Their known measurements are 25, 27.5 and 34.5 cm. The cornice pertains to the Alexandrian style of a Corinthianising order with modillions.[13]

A flat moulding and a convex quarter-cylinder with a firmly protruding *cyma recta* were above the modillions crowning the cornice. The profile projected outwards on the distance of more than 35 cm.

In the outer side of the cornice blocks, above the profile, there was a *sima* – i.e. a gutter for rain water [Figure 4c]. Two corner blocks displayed the remnants of shabby gargoyles or outlets that used to carry rain water from the roof into the *impluvium*. The cornice decoration on the *geison* was adjusted to the corners blocks, where two flat grooved modillions are crossed [Figure 4b].

The surface of most of the *geison* fragments was covered with debris of a thick layer (about 3-4 cm) of hydraulic mortar. Those remains were found inside the outlet as well as on a part of the block resting on the frieze. Sometimes the back vertical face was covered with

[10] Meyza *et al.* 2012: 414.

[11] Vitr. *De arch.* 4.2. All references to Vitruvius refer to the work: Vitruvius (Marcus Vitruvius Pollio), *De Architectura libri decem*, ed. M. Hicky Morgan, *The Ten Books of Architecture*, Harvard University Press, Cambridge 1914 [Polish edition: *O architecturze ksiąg dziesięć*, ed. K. Kumaniecki, Warszawa, 1956].

[12] McKenzie 2001: 103-105.

[13] Meyza *et al.* 2012: 414.


Figure 3. Architectural elements found in the Western Courtyard of the 'Hellenistic House': a. the pseudo-Ionic blocked-out capital at Nea Paphos; b. the column; c. the corners from the pseudo-Ionic blocked-out capital; d. blocks from the frieze with *triglyph-metope* decoration; e. the back part of the frieze block; f. small decorative elements in the upper part of the *triglyph* (*a. Prepared on the basis of the 3D model A. Kubicka*; *b-f. Photo M. Jawornicki*)

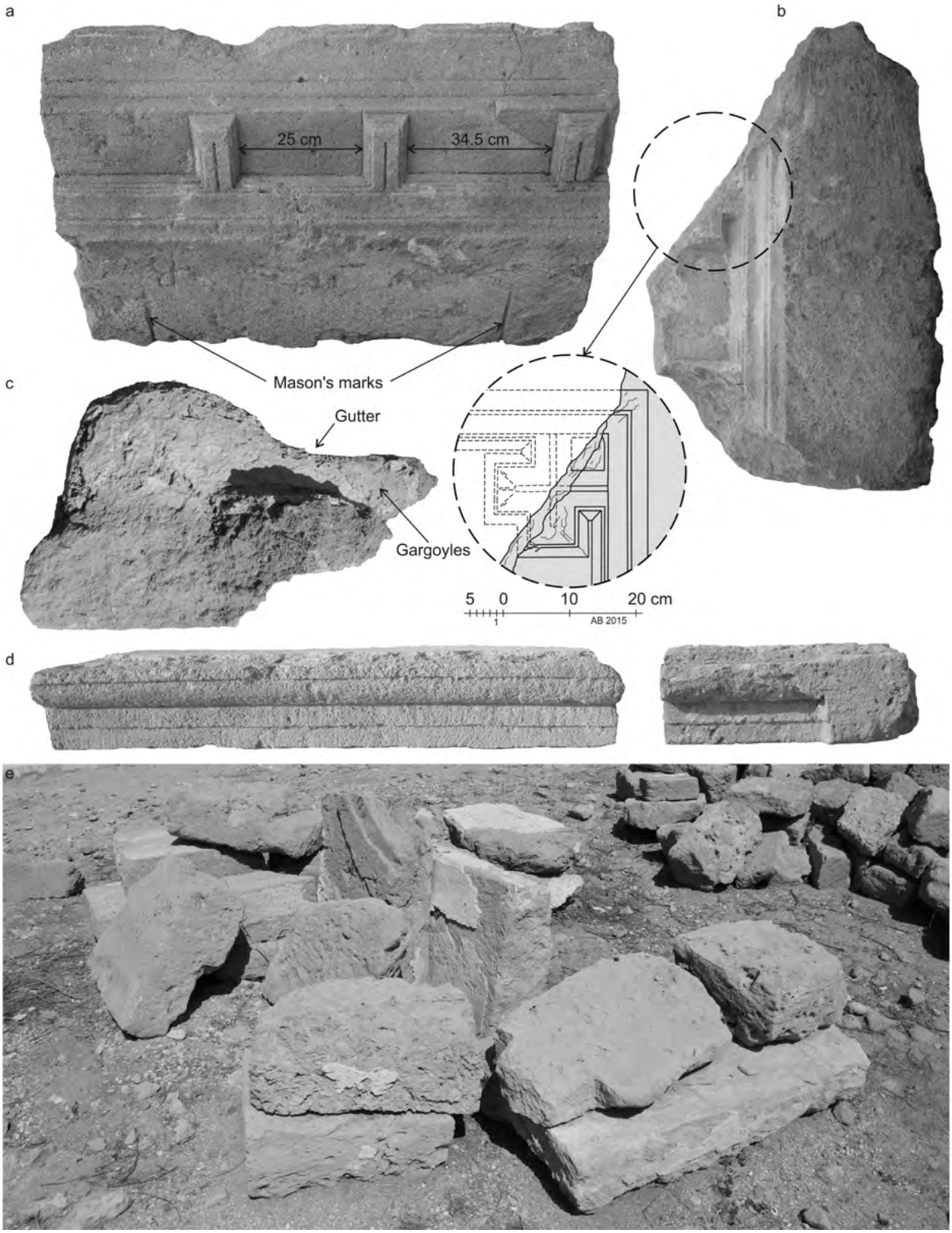


Figure 4. Architectural elements found in the Western Courtyard of the 'Hellenistic House': a. block from the cornice; b. corner block from the cornice with crossed modillion decoration; c. corner block from the cornice with remains of gargoyles; d. balustrade blocks; e. floor slabs (*a-e. Photo M. Jawornicki; b. Drawing A. Brzozowska*)

mortar, as far down as the height of about 1/2 of the block only to be rolled outwards [Figure 4c].

Some mason's marks were preserved on the biggest cornice block. They may indicate the block position in relation to the frieze blocks lying below. Unfortunately, the lack of a set of such blocks and the bad condition of those preserved do not allow us to verify this assumption.

As in the case of the frieze, the rhythm of decoration (modillions) does not correspond with the length of the blocks.

***Stone floor slabs and blocks from the balustrade***

The next fragments of architectural detail that were found in the vicinity of room 13 included massive stone slabs of average dimensions: width 45 cm, length 60 cm, height almost 20 cm [Figure 4e].

40 fragments of small cornices including four inner corners constituted the final pieces of the architectural decoration found in room 13. They may have created a handrail of the balustrade, since their upper surface is smooth and slightly convex [Figure 4d].

A local stone, calcarenite, was used to make all the elements of the architectural details.[14] The characteristics of the stone – i.e. weak durability as well as great absorbency – contributed to the erosion and deterioration of the blocks. Covering their surface with a thin layer of whitewash, might have been an attempt to protect them against adverse environmental effects, while at the same time giving them a white-beige colour.

The plastered pieces could also have been painted, although there are no signs of paint preserved on those elements. Such a situation may be a result of the bad condition of the fragments, as we do have other pieces of architectural decoration with polychrome from the 'Hellenistic House.'

**Reconstruction of the Western Courtyard**

The remains of the walls, basin and fragments of architectural elements described above were the basis for the reconstruction of the Western Courtyard in the form of an *atrium* – an inner courtyard surrounded by adjacent rooms, equipped with a basin, a classical Roman *impluvium*, and a *compluvium* above it (an opening in the central part of the ceiling which let in light and enabled the collection of rain water). Because the complete set of *atrium* elements has not been preserved, it will be necessary to refer to some analogies in order to reconstruct its full form [Figure 5].

Vitruvius gives us a very precise description of the *atria*: 'There are five different styles of *cavaedium*, termed according to their construction as follows: Tuscan, Corinthian, *tetrastyle*, *displuviate*, and *testudinate*'[15]. The relics from room 13 (the remnants of columns and the entablature) correspond almost perfectly to the third type – *tetrastylos* which is described by Vitruvius as follows: 'In the *tetrastyle*, the girders are supported at the angles by columns, an arrangement which relieves and strengthens the girders; for thus they have themselves no great span to support, and they are not loaded down by the crossbeams'[16] [Figure 5a].

According to Vitruvius all five types of *atria* should have a rectangular outline. The proportions of its sides may be obtained in three different methods using the ratio of: 3 to 5; 2 to 3; or 1 to 1.415.[17] Vitruvius also gives very exact information about the height of the *atria*: 'Their height up to the girders should be one fourth less than their width, the rest being the proportions assigned to the ceiling and the roof above the girders.'[18]

The basic difference between the *atrium* in the 'Hellenistic House' and the Vitruvius' *tetrastylos* is its shape – almost a square outline instead of rectangular. All his further recommendations referring to this outline, for example the proportions of the *compluvium*, are in this situation irrelevant.

Another difference concerns the height of the *atrium*. The height of the column discovered in room 13 is almost 4 m, which constitutes 1.1 length of the *atrium*, and not 3/4 as Vitruvius suggested [Figure 5a]. The whole height of the *atrium* together with the entablature (their reconstruction will be described below), considerably exceeds the recommended value that equals the *atrium* length – 365 cm in this case.

The only surviving column was the crucial element in the whole process of the *tetrastylos* reconstruction [Figure 3b]. It gave us the height and the type of the *atrium* decoration. As mentioned above, the column was provided with a pseudo-Ionic blocked-out capital related to the pseudo-Ionic columns from Petra which is the sole example of such a capital not only in Cyprus, but also outside Petra.

According to the classical Ionic order, the height of the column equals 8 to 9 modules (i.e. the lower diameter of the shaft). In the case of the monuments from Petra,

[14] Calcareous conglomerate, 2.6 g/cm$^3$, with grains of *c.* 2-0.1 mm, of a structure resembling sandstone. Information obtained from a geologist, Michalina Dzwoniarek-Konieczna.

[15] Vitr. 6.3.1.
[16] Vitr. 6.3.1.
[17] Vitr. 6.3.3.
[18] Vitr. 6.3.4.

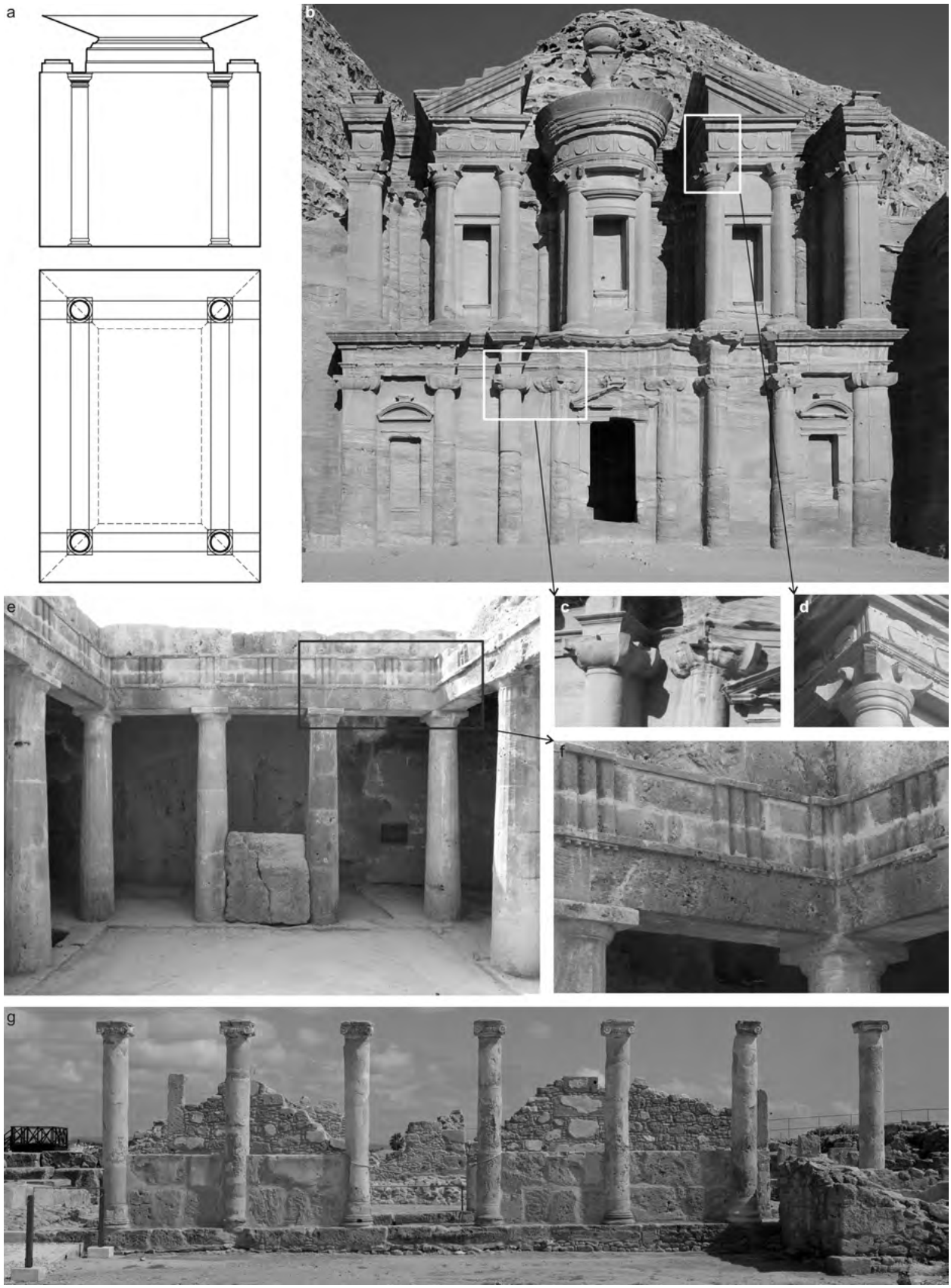


Figure 5. Architectural analogies helpful in the reconstruction of the *atrium* of the 'Hellenistic House': a. the Vitruvian *tetrastylos* (*Drawing A. Brzozowska; based on: Vitr. 6.3, Pl. XLI*); b-d. the Deir in Petra (*Photo M. Kwaśnik*); e-f. Tomb nr 3 in the Tombs of the Kings necropolis; g. the eastern Ionic portico of the main courtyard of the 'Hellenistic House' (*Photo M. Jawornicki*)

the height of the pseudo-Ionic columns is 7.75 and 7.4 modules, for the supports from the Deir [Figure 5b] and the Palace Tomb respectively.[19] The height of the Ionic columns of the eastern portico from the main courtyard of the 'Hellenistic House,' which preserved the full form, follows the ancient architectural canon (8 modules) [Figure 5g]. The height of the reconstructed column from the *atrium* of the 'Hellenistic House' equals 6.6 modules, which makes it look rather squat in comparison to the analogous supports mentioned above. And so various attitudes to the classical canon may be observed within the 'Hellenistic House' itself.

The columns bore the entablature and ceiling, clearly emphasising the corners of the *impluvium* and *compluvium*.

No traces of an architrave were found. The lack of preserved examples of stone beams of an extensive length and cross-section as well as *intercolumnium* of the atrium of the span of 365 cm explicitly show that the architrave must have been wooden. Such beams have not been preserved, so the architrave cross-section remains unknown and its reconstruction requires reference to some analogies.

In the examples from Petra described above (the Deir and the Palace Tomb) the pseudo-Ionic columns support the Ionic entablature[20] [Figures 5b-c]. Because of this type of crowning, those examples rather cannot serve as analogies. The frieze with *triglyph-metope* decoration appears, however, in those monuments in porticoes provided with the Nabatean capitals type 1; the ratio of the height of the architrave to the height of the frieze is only 0.32[21] [Figures 5b and d].

There is also a local analogy – the Hellenistic necropolis called 'the Tombs of the Kings.' In this cemetery there are tombs that imitate the interior of houses with *atria* [Figures 5e-f]. They differ from the *tetrastylos* from the 'Hellenistic House' in the number of supports, as they usually consist of twelve columns, but they do have the Doric entablature – i.e. in Tomb number 3 the entablature includes a flat architrave, a frieze with *triglyph-metope* decoration and a cornice, which is unfortunately completely devastated. The architrave measures about 0.69 of the height of the frieze.[22] It is almost consistent with the classical Vitruvian canon in which the architrave height is about 0.66 of the frieze.[23]

For us the ratio between the architrave and the frieze could be of crucial importance, as it might help to recreate the possible height of the missing element. However, the examples given above clearly show that particular solutions are differentiated and do not necessarily hold on to the classical canon of architecture.

Therefore, we had to refer to other indications, mainly concerning the structure and construction of the atrium. There were two basic assumptions for the reconstruction of the architrave. Firstly, a beam of a square cross-section was most probably used, as it is the easiest to obtain from a round tree trunk and the losses of material are the least. Secondly the beam should rest axially on the columns.

The strength of the hypothetical wooden beams serving as an architrave was verified by a civil engineer – Mr. Mieczysław Michiewicz. We assumed that cedar was the most probable type of timber used for architrave beams. Mr. Michiewicz checked several types of loadings (transverse, axial, torsional) and stress (compressive stress, shear stress, bending) for a cedar beam of approximate 400 cm in length. The calculations proved that even a beam of a cross-section of 30 × 30 cm could have born the weight of the stone entablature and a massive ceiling resting on it.

When an architrave is not preserved, the reconstruction of the frieze may help indirectly in its recreation. The basic assumption is that the faces of the architrave and the frieze were in one vertical plane. Its consequence is the equal length of the frieze and architrave on the inner side of the entablature – i.e. on the *compluvium* side. In the case of our *tetrastylos* from, where some blocks are missing, it is crucial to settle the rhythm and number of the *triglyphs* and *metopes*. This will result in the reconstruction of the whole frieze and consequently also the architrave.

Only 9 blocks with *triglyphs* were found, which constitutes about a half of the whole frieze. The majority was greatly devastated on the surface of both the face and sides. The degree of destruction of the blocks and the fact that the length of the blocks is not correlated with the rhythm of the *triglyph-metope* enables many different variants of the frieze arrangement.

***Arrangement of the frieze***

The degree of destruction practically does not allow us to state if any corner blocks are among the preserved fragments. Consequently, it becomes difficult to check how the whole frieze was composed – whether it was according to the so-called *triglyph* principle which, among other things, requires one *triglyph* to be placed above the entablature corner.

[19] Estimated author's measurement on the basis of the photogrammetric elevations of the Deir and the Palace Tomb published in McKenzie 1990: 146, Pl. 139.
[20] McKenzie 1990: 160, 163, Pl. 33a, 139, 163.
[21] The estimated author's measurement on the basis of the photogrammetric elevations of the Deir and the Palace Tomb published in McKenzie 1990: 146, Pl. 139.
[22] Estimated author's measurements.
[23] Vitr. 4.3.

The rhythm of the frieze pattern determines its length. This, in consequence, influences the position of the frieze and architrave in relation to the columns. This dependence is of crucial importance for the construction and the proper load-carrying of the *tetrastylos*.

The first proposition of the reconstruction is based on the assumption that there was a single *triglyph* above each corner of the atrium [Figure 6a]. Several frieze blocks have marks on the side surfaces, which might indicate that they were set together above the corner, and that would have created one broken *triglyph*. This reconstruction is optimal for the loadings and stress of the architrave and columns.

Another solution is to place two *triglyphs* above a corner [Figure 6b]. This was carried out in similar cases, among others in the Deir from Petra. This composition lengthens the frieze and so the centre of mass of the whole entablature (architrave, frieze and cornice) is moved outside the axis of the columns. Such a reconstruction is disadvantageous to the architrave and columns, which are not loaded in a symmetrical way.

The third solution is a variant of the first. The idea is taken from the local analogy mentioned above – *atria* in 'the Tombs of the Kings.' A single broken *triglyph* is placed above each corner of the *atrium*, but there is a change in the arrangement of the *metope* [Figure 6c]. The one next to the corner is significantly narrower than those in the middle of the frieze. It is necessary to mention that all the uncovered blocks of the frieze from the Western Courtyard had the *triglyph-metope* decoration of a uniform rhythm. If we accept the variant of a frieze with a change of *metope* width on the corners, it would mean that those particular blocks were not preserved in the obtained material.

Such a frieze reconstruction influences also the rhythm of cornice modillions, assuming that the sequence of the frieze is connected with the composition of the cornice modillions (this hypothetical dependence was described above). And so the spacing of modillions on the corners would differ from their rhythm in the middle part of the entablature. Unfortunately, the degree of destruction of the remaining fragments of the cornice makes this hypothesis impossible to be verified.

The last version of frieze reconstruction is even more disadvantageous than the previous one. The weight lying on the architraves rests in a very unsymmetrical way on the columns – far beyond their cores, loading them in a very dangerous way.

Taking into account all the presented propositions of the Western Courtyard reconstruction, it seems that the most probable is the first one, or at least this is the one that is the most accurate in terms of the proper construction [Figure 7a].

According to the first version, when the *intercolumnium* is known and measures 365 cm, the rhythm and size of the *triglyphs* and *metopes* allows us to reconstruct the whole frieze. It was composed of 4 metopes and 4 *triglyphs*, with 2 *triglyph* halves on the corners and 3 in between. The central *triglyph* was placed in the middle of the frieze on the entablature axis of symmetry. The whole length of the frieze was 322 cm.

As mentioned above, the frieze differs from classical examples – e.g. in the lack of *taenia* and *regulae* with tears at the bottom. They may have been included in the upper part of the architrave beam, but it cannot be verified due to the lack of the preserved architrave. Such an arrangement would have made the frieze lighter and the architrave higher by a few centimetres and as a result more durable. This solution would have been desirable for the *atrium* construction, because of the considerable weight of the massive entablature (stone frieze and cornice), heavy ceiling and wide *intercolumnium* of the supports.

Having reconstructed the frieze, we can proceed to the architrave. The first premise leading to its reconstruction was the assumption of a square cross-section of the beam and axial loading of the columns supporting the entablature. Correlating this hypothesis with the recreated decoration and length of the frieze, which equals the length of the architrave, we have its measurements and position in relation to the columns. The beam is 322 cm long from the *compluvium* side and its cross-section is 41.5 by 41.5 cm [Figures 7a and b: I-II].

The ratio of the architrave height to the frieze height was 0.78, which is a bigger value in comparison to *atria* from 'the Tombs of the Kings.' Perhaps different proportions resulted from the usage of wood instead of stone and misgivings concerning the strength of the material.

To return to the frieze, its blocks served as a support for ceiling beams which rested on the *atrium* entablature and the walls of room 13 closing the passage space. Vitruvius also writes about the width of the passage around the courtyards. Its value results from the size of an *atrium* and varies from 1/6 to 1/10 of its length.[24] All the examples he gives are much bigger than the *atrium* from the 'Hellenistic House' and have a rectangular shape instead of a square one. That is why it is difficult to compare those two different concepts.

[24] Vitr. 6.3.4.

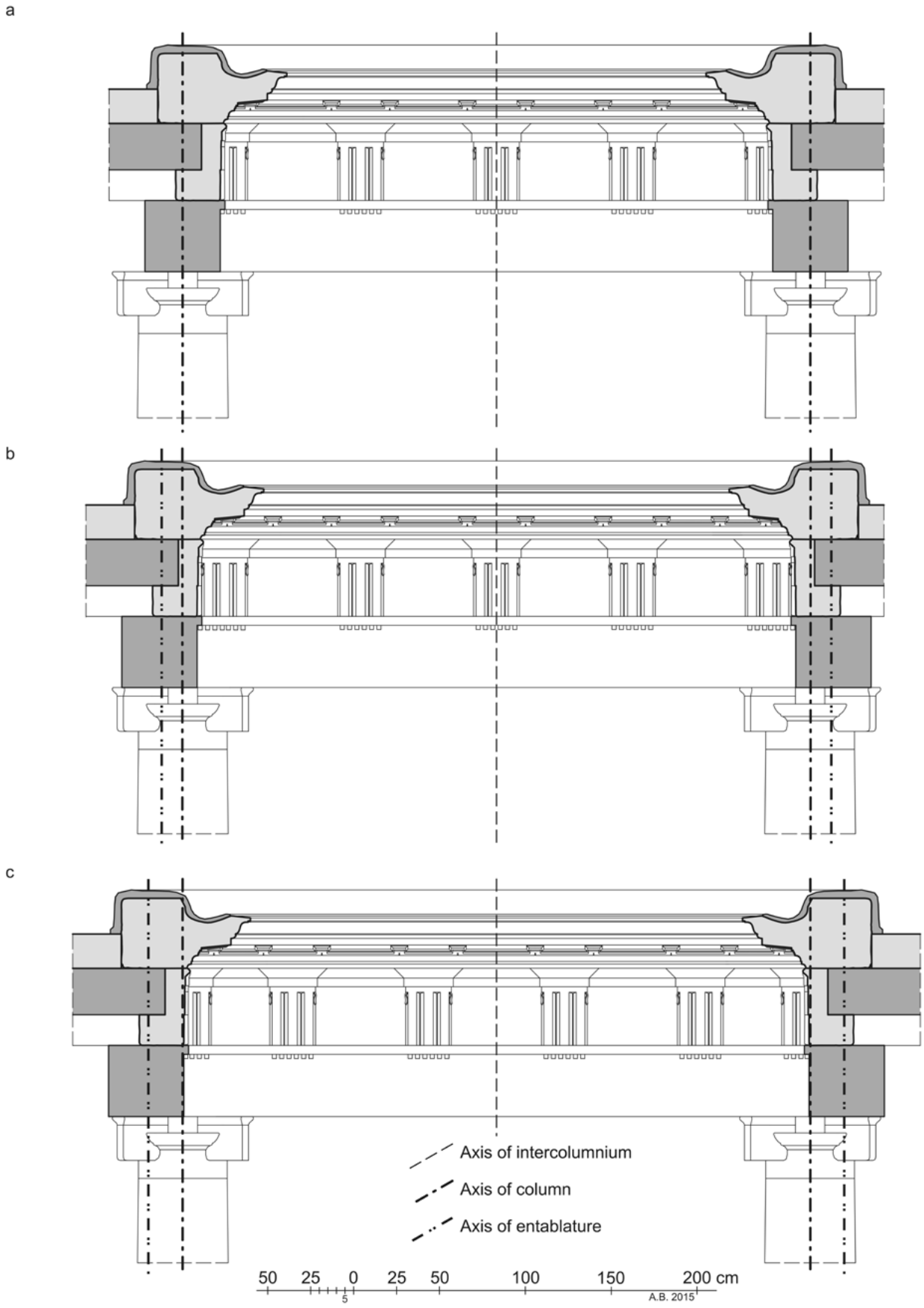


Figure 6. Arrangement of the *atrium* frieze: a. with one broken *triglyph* above the corner; b. with two *triglyphs* above the corner; c. with one broken *triglyph* above the corner and a narrower side *metope* (*Drawing A. Brzozowska*)

The width of the passage in the case of our *tetrastylos* varies from 300 to 335 cm which is almost the size of the *tetrastylos* side. It is also the range of the beams that rested in the sockets made in the blocks of the frieze and on the walls. The ceiling could support a considerable weight, because the beams were characterised by a great cross-section (average 16 × 27 cm) and dense span and they were relatively short. The beam reconstruction was accomplished taking into account sockets in the frieze blocks because, similarly to the architrave, the beams have not survived, being made of wood [Figures 7a and b: V].

The arrangement of the beams between the entablature of the *atrium* and the walls of room 13 was relatively easy to reconstruct. The difficulty arose with the corners of the passage which required additional support. The work of Vitruvius became helpful again, especially the drawings from the Polish edition that show the *tetrastylos* reconstruction[25] [Figure 5a]. As a solution, four additional beams were placed between the walls separating the passage from the neighbouring rooms and the final part of the architraves in the corner of the entablature. The beams extended along the line of the architraves and served as a support for the ceiling beams in the corners of the courtyard [Figures 7a and b: III-IV]. The upper surface of the additional beams reached the bottom of the sockets hammered in the frieze blocks, which guaranteed the ceiling beams the same level of support. Thanks to such a solution, the ceiling construction and cross-sections of its particular elements became uniform in the whole *atrium* area.

The next part of the entablature – the cornice – was resting on the frieze [Figures 7a and b: VI-VII]. Differences in the width of square hollow modillions, measuring about 7-9.5 cm as described above, seem to have been made on purpose and not accidentally. When they are compared with the rhythm of the frieze decoration, it may be assumed that the wider square hollow modillions (34.5 cm) were placed above the *metopes* and the narrower ones (25 and 27.5 cm) above the *triglyphs*, with a certain irregularity [Figures 6a and 7a].

Some massive stone slabs were placed on the ceiling beams next to the cornice [Figures 7a and b: VII]. They created a flat surface that was covered with hydraulic mortar forming in this way the second floor above room 13 serving as a utilitarian terrace [Figures 7a and b: VIII]. Its utilitarian usage may be proved by stairs leading to the second floor, remnants of which were uncovered near the Western Courtyard. However, there are no data suggesting the existence of a third floor.

The edges of the *compluvium* were protected by a railing which stood on the hydraulic floor [Figures 7a and b: VII-VIII]. The fragments of the stone handrail are the only existing proof of the balustrade. Its lower part has not survived, which may point to its wood origin, similarly as in the case of the architrave and ceiling beams.

The total length of the preserved fragments of the handrail is more than 16 m which is more than the length of the cornice, and this indicates that the balustrade was most probably placed on the floor slabs just behind the cornice blocks. The presence of the balustrade seems to contradict the possibility of collecting water from the roof to the *impluvium*, which is proved by fragments of gargoyles or outlets that were in two corner blocks of the cornice. On the other hand, fragments of the balustrade which rested behind the cornice on the terrace side show the necessity of its continuous support around its perimeter. This situation generates a certain controversy over the balustrade corners, because they should have been firm and stable and not 'suspended' over the open water outlets. The wooden beam itself, to which the balusters were attached, would have been systematically destroyed by constant contact with water. Since there are too few fragments of the terrace and those present are in a poor state, it is difficult to state unequivocally how proper roof drainage would have looked. Three possible explanations of this dilemma are presented below.

According to the first variant, an inlet (a sort of a channel) carrying water to the gargoyle was present in the ceiling slab lying directly under the corner of the balustrade (behind the corner of the cornice). It would protect the bottom wooden part of the balustrade from contact with water. The surface of the terrace would have to descend in the direction of the inlets [Figures 7a and b: VII].

The second variant considers the use of cisterns, which are near or inside the *atrium*, and not only the *impluvium*, to collect water from the roof. A gutter (*sima*) and the gargoyles of the *compluvium* would serve only to collect water from the cornice. Water from the whole roof would be directed to underground tanks through an independent installation whose relics were discovered in the north-eastern corner of room 13 [Figure 2a]. This solution may be justified by the volume of the cisterns, which are considerably large and required a proper supply of water – e.g. from the whole surface of the terrace. The *impluvium* was originally a relatively shallow basin of a small volume. Its function was to indirectly provide additional light to the *atrium* by reflecting the sunlight in a small pool and not to store rain water. In this solution the terrace slopes would have to be directed towards additional outlets. The remains of such an installation are a clay

[25] Vitr. 6.3.1, fig. XLI.

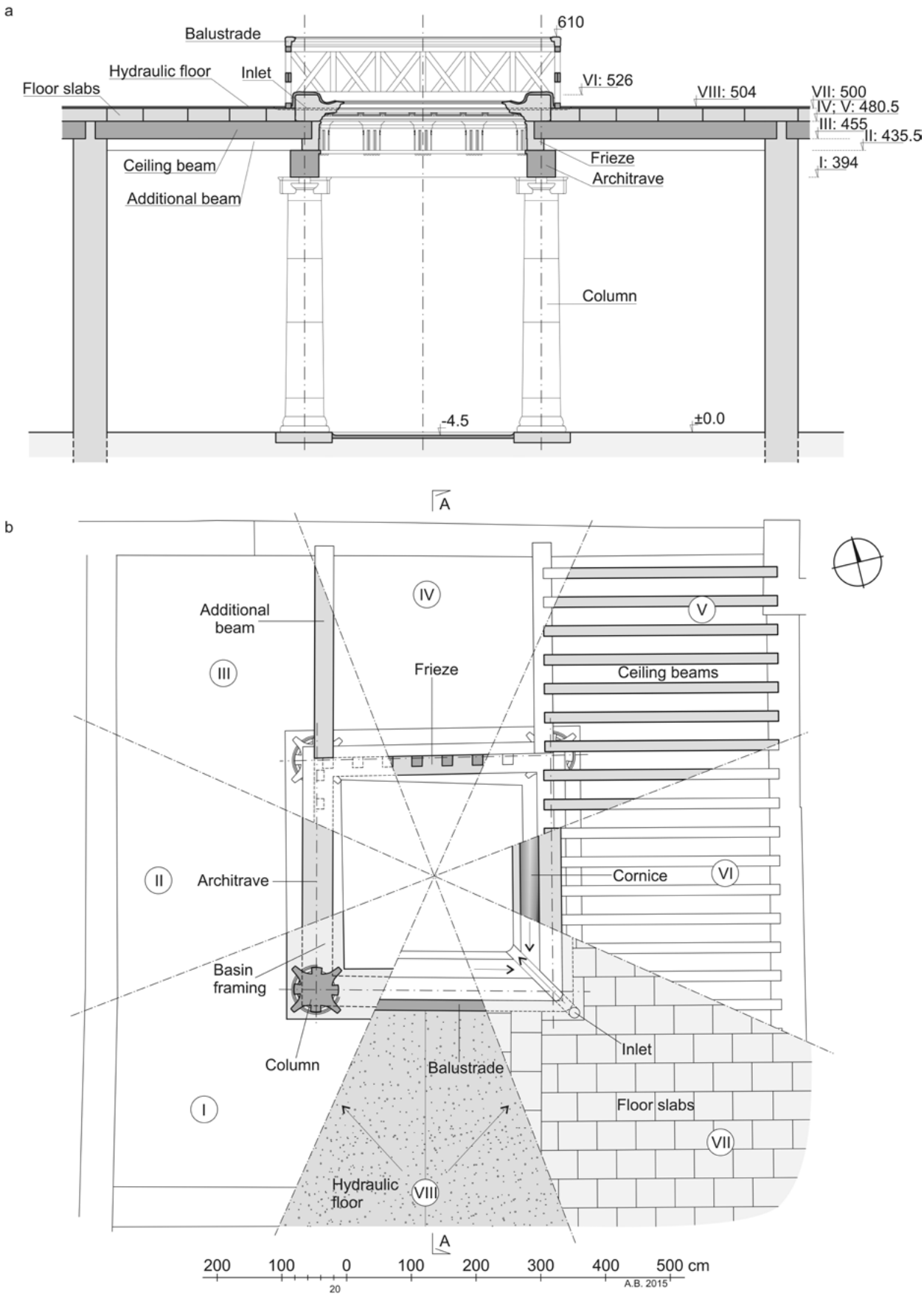


Figure 7. Reconstruction of the early phase of the *tetrastylos* from the 'Hellenistic House' with levels of: I – columns; II – architraves; III – additional beams; IV – frieze; V – ceiling beams; VI – cornice; VII – floor slabs; VIII – hydraulic floor and balustrade; a. section; b. plan (*Drawing A. Brzozowska*)

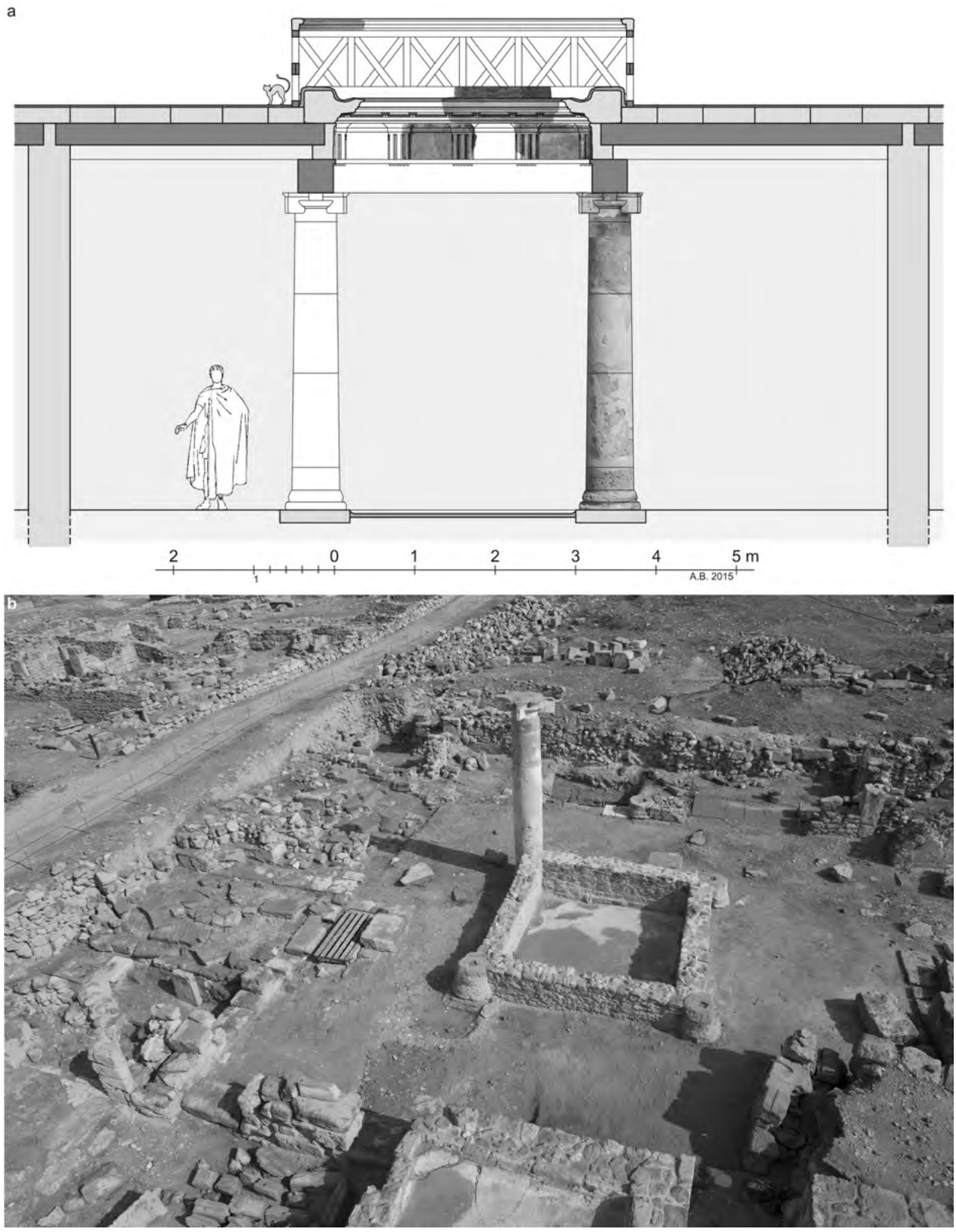


Figure 8. a. Reconstruction of the *tetrastylos* from the 'Hellenistic House' with a sample arrangement of the original blocks (*Drawing A. Brzozowska*); b. The *tetrastylos* with the column restored at the original site (*Photo M. Jawornicki*)

sectional pipe terminated by a large funnel which carried the water from the roof to the underfloor channel and perhaps further on to the cistern under the *atrium*. A similar installation could have directed water to a second cistern in the western part of room 13, which is indicated by the outlet of a channel in the northern side of the shaft.

There is also a possibility that the roof drainage was a combination of the two concepts outlined above, in which some water from the surface of the terrace was collected in the *impluvium* and some was carried to the underground tanks.

The verification of these variants of drainage installation as well as the indication of the original system is not possible nowadays due to some missing key elements and the poor state of the preserved relics of architecture. Perhaps further research and excavations will reveal new fragments of the *compluvium* and the terrace and will allow us to find a suitable solution.

* * *

While discussing the *atria*, Vitruvius also mentions their position in relation to other rooms of the house, among others the *tablinum* and *triclinium*.[26] Unfortunately, due to the degree of destruction of the western part of the 'Hellenistic House' and its numerous rebuildings, establishing the function of the rooms surrounding the *tetrastylos* is difficult and requires further studies.

According to Vitruvius, the presence of an *atrium* in a house indicated the status of the householder: 'for men of rank who, from holdings office and magistracies, have social obligations to their fellow-citizens, lofty entrance courts in regal style, and most spacious atrium and peristyles, with plantations and walks of some extent in them, appropriate to their dignity.'[27] In this way, the *tetrastylos* supplements the rich functional and spatial programme of the 'Hellenistic House' which is concentrated around the main peristyle courtyard and the great audience hall (room 10). The *atrium* may have been connected with the entrance zone of the 'Hellenistic House' from the western side. This solution would agree with another of Vitruvius' suggestions, who says that *atria* in cities are usually located close to the entrance.[28] Confirmation of this idea requires further research.

* * *

It is worth stressing once more that the *tetrastylos* from the 'Hellenistic House' differs from the one indicated by Vitruvius. It has a square outline instead of a rectangular one. The height of the whole *atrium* with the entablature is bigger than in Vitruvius' recommendations, although the columns themselves were rather massive and shorter than those from classical orders or even from the related examples from Petra. Although there are clear differences in the form of a Vitruvian and our *atrium*, its functions were the same: the communication and illumination of the surrounding rooms as well as collection and management of rain water.[29] Those features are easily observed in the western part of the 'Hellenistic House' which had two floors and a *tetrastylos* that served as a kind of a light-well and was used for collecting rain water, so precious in the Cypriot climate [Figures 7a and 8a].

The discovery of many fragments of architecturally decorated blocks helped us to recreate a highly likely hypothetical structure of the Western Courtyard of the 'Hellenistic House.' Its many relics allowed us a three-dimensional reconstruction which in Nea Paphos is rather rare because of the extreme extent to which the archaeological material was destroyed. A full physical reconstruction was not possible because there was no complete set of *tetrastylos* blocks. Only the north-western corner of the *atrium* was rebuilt by erecting the column (a missing drum was added). Unfortunately, the capital was mistakenly rotated by 45° in relation to its proper position [Figure 8b].

The *tetrastylos* from the 'Hellenistic House' is also an important monument because of the uniqueness of its architectural decoration. It combines the classical canon (the specific *triglyph-metope* frieze) with the Alexandrian style (the cornice with modillions) and oriental influences (the pseudo-Ionic blocked-out capital). In this way we can observe various interesting connections existing in the Greco-Roman World which are present in one antique interior.

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[26] Vitr. 6.3.5-6, 8-9.
[27] Vitr. 6.5.2.
[28] Vitr. 6.5.3.
[29] Wallace-Hadrill 1997: 231; Ellis 2000: 136-137.

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# Gonio-Apsarus (Short History and Architectural Review)

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**Summary**
The fort of Gonio-Apsarus was an extremely important and reliable stronghold for the Roman Empire at the eastern Black Sea. At the end of the 1st century AD, the Romans built a fort here and included Apsarus as a Roman frontier 1st-3rd century (the Pontic Limes). This fortress has survived intact to this day. It can be observed that the Romans established a military presence there with bath-houses, barracks, *principia,* a water supply system and, cisterns, which functioned and expanded during the 1st to 3rd centuries AD. This is confirmed by the archaeological excavation at this site. The fort of Apsarus was as important during the Byzantine times as it was during the Ottoman period.

**Keywords**
Gonio, Apsarus, Pontic Limes

Apsarus is one of the Roman world's outstandingly important monuments. The fortress dates to the second or third quarter of the 1st century AD and was one of the most important nodes of the unified security system known as the 'Pontus Limes.' The monument itself is of great scientific value and importance and a number of very interesting architectural complexes and a diverse range of cultural items have been discovered during archaeological research and studies there.

Modern Gonio, ancient Apsarus (the name Apsarus was retailed for the fortress until the 8th century AD, after which it was known as 'Gonio') 15 km south of city Batumi at a strategically important site, the junction of the roads leading eastwards (to Sebastopolis, modern Suchumi) and southwards (via the Chorochi river basin to Armenia minor and adjaristskali Gorge to eastern Georgia).

According to Plinius, Apsarus was already a functioning fort in AD 70: 'River Apsarus is at the distance of 140.000 paces of Trapizus, there being a fortress of the same name at its mouth,'[1] which is confirmed by archaeological evidence as well. Regarding Apsarus, there is a very important note from Arrian, who was the governor of Cappadocia and in AD 132 travelled along the Black Sea coast. He mentioned: 'There the five cohorts are stationed. I gave their pay to the army, and inspected weapons, rampart and ditch the men on the sick list, and the provisions available on the spot. The opinion I formed of them has been recorded in my letter in Latin.' He also notes: 'Apsarus, it is said, formerly bore the name of Apsyrtus, from the person who was murdered by Medea, and whose sepulchre is still shewn there. Its present name was corrupted by the Barbarians from the ancient one, as has taken place in many other instances.'[2]

There are other sources that also report on the Roman garrison at Apsarus. Accordingly, the majority of scholars have considered the Roman military units of Apsarus to have a legionary garrison. Thus, according to an inscription discovered in Abella, Italy, Marcius Plaetorius Celer, decorated by Trajan for his participation in the Parthian war in 113-117, had commanded *numerorum* stationed at Apsarus. It is also worth pointing out a fragment of a 2nd century AD papyrus discovered in Fayum, Egypt, whose text refers to the veteran Martial who had served in the cohors II *Claudiana*, stationed at Apsarus.[3] The validity of this evidence is confirmed by the stamped brick fragment found in the central part of the *castellum* of Apsarus at the a-level of the 1st-2nd century. The brick is local, fired, of reddish-brown clay and cast in a mould; while the stamp is square, the letters CO II being legible. The stamp is deciphered as: **CO**[HORS] **II** *[Claudiana].* It is known that this was an auxiliary cohort deployed in Cappadocia in the mid-2nd century. The other four cohorts named by Arrian in Apsarus are also considered to have been auxiliaries. It is notable that Arrian's *speira,* too, is a direct translation of the Latin *maniple*, being equal to one-third of a cohort or a unit of 150-200 men. As five *speirai* in theory form one and a half *cohorts*, the troops must have numbered 1000, which fully accords with the capacity of the *castellum* of Apsarus. Based on its dimensions (195 × 245 m), the Apsarus fort would have accommodated 1000 soldiers, which was a fairly large force to garrison Apsarus. It should be noted that this garrison far exceeded those of *Phasis, Sebastopolis and Pityus* in number. This points

[1] Plin. *NH* 6.12.

[2] Bosworth 1999: 226-275.

[3] Speidel 1985: 204-209.

to the special importance of *Apsarus* in the system of frontier fortification of the Black Sea and the Caucasus.[4]

Of particular interest is the *Tabula Peutingeriana*, which displays not only the name of the fort of Apsarus but its diagrammatic sketch as well (10.5), which is not the case for the other contemporary forts of the eastern littoral of the Black Sea the map specifies.

Procopius (6th century AD) notes: 'In old time this city was populous. It was enclosed with many walls and was embellished with a theatre and hippodrome, and it had many other things usually making up a large city' (wars 4.2.14-15).[5]

Now I would like to turn to the architecture of Apsarus. At the end of the 1st century and the beginning of the 2nd century AD, the Romans built temporary military camps of timber (pila Marilia) on the Colchian littoral. Probably, the *castella mureta* in Apsarus had been built earlier. Unfortunately, the architecture of this fort is not completely understood and therefore our knowledge is incomplete. According to V. Lekvinadze, the oldest structures brought to high to date are datable to the Roman period.[6]

At the end of the 1st century AD, the Romans built a fort here and included Apsarus as a Roman frontier time (the Pontic Limes). This fortress has survived intact to the present day. It occupies an area of 4.5 hectares and it is rectangular in shape. It is fortified with towers at each corner. The length of the eastern and western walls on the inside is 189.5 m, while the northern wall is 237.5 m and the southern wall – 239 m. The total length of the walled perimeter is 900 m. The height of the walls is 5 m – and 7 m – at the corners where the towers were erected. The average thickness of the walls is 1.5 m while that of the southern wall is 2.5 m. At present, the fort has 18 towers, although originally they numbered 22. The four main towers stand at the corners of the walls – with stone steps inside the fort. Formerly, the fort had four entrances but today all but the western gates have been bricked up. Near the gates, some flights of steps were built into especially thick portions of the walls, which made it possible for the defenders of the climb up onto the walls. To the east, the fort was protected by mountains, and to the north by the river, while it was relatively unprotected to the south. This, without a doubt, explains why the walls of the fort are mainly reinforced at the side. The ruins of the bath and the garrison mosque are preserved within the extant fort, as well as the water conduits of the sewer and cobblestone pavement [Figures 1-3].[7]

The walls built of rubble stones and bricks must be from Byzantine times, while the merlons were added

Figure 1. General view of Gonio-Apsarus (*From the archives, Gonio-Apsaros Museum*)

[4] Gamkrelidze 2014: 14-15.
[5] Miller 1916: 636-638.
[6] Lekvinadze 1961: 225-242.
[7] Kakhidze 2008: 302-332, figs 1-3.

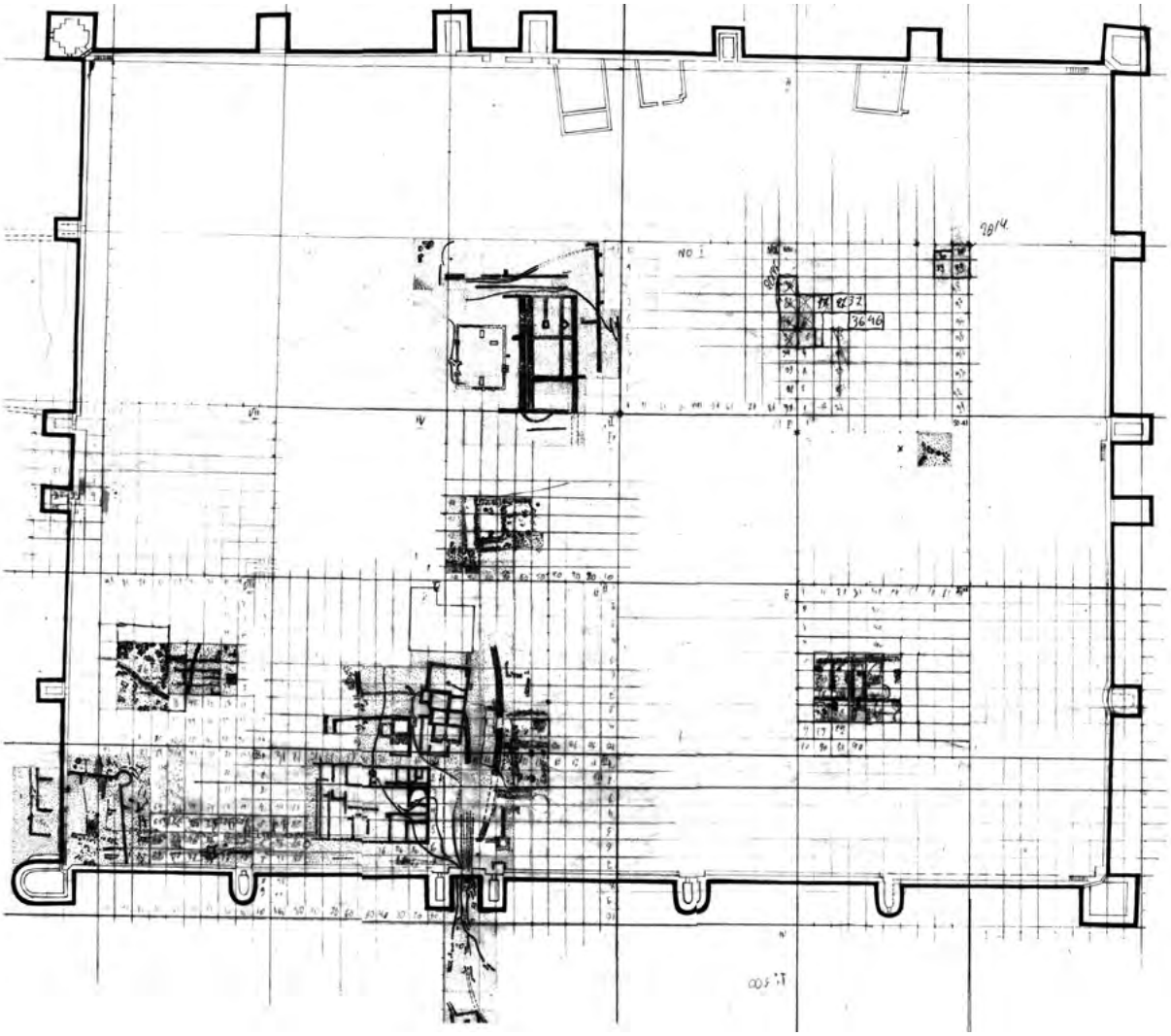

Figure 2. General plan of Gonio-Apsarus (*From the archives, Gonio-Apsaros Museum*)

Figure 3. Fort of Apsarus (*Photo retrieved from: saunge.ge*)

Figure 4. View of the bath-houses from 1st-3rd century AD (*From the archives, Gonio-Apsaros Museum*)

during Ottoman dominance.[8] Some scholars suggest that Apsarus may easily be compared with the early byzantine forts.[9] According to ancient sources and, especially, archaeological dates, the fort was not in use for about 250 years (from the 4th century to the early half of the 6th century AD). During the period of the Byzantine-Iranian war and afterwards, the importance of Apsarus was greatly reduced, and it seems that it had become absolutely impossible to rebuilt such a stand fortification.[10] The only possible exception may be the restoration of the fort after the Boranes. Invasions of the eastern coast of the Black Sea during either the second half of the 3rd century or the beginning of 4th century,[10] but this point of view needs further examination.

Remains of the tow bath-houses were discovered at the southern gate of the fort. One of them is small, with only a boiling room and sections for hot water. The other is monumental, probably designed for the garrison. The boiler room is in the southern part of the baths, with the surviving remains of bronze boiler. The boiler room is connected by a narrow tunnel to the cellar of the hot bath from where the mass of hot air spread and heated the floor and the walls of the hot bath (clay pipes were built in the walls). The first sections of the bath, the *caldarium,* was the hottest of all. The hot bath consisted of two sections and appears to have been connected to the warm baths, *tepidarium.* The letter, in its turn, also consisted of two sections. The dressed stone columns of the wall of the cold bath, the *frigidarium*, and the bathtubs have come to light. The exit and the waiting section, the *apodytarium*, was also here [Figure 3].[11]

Close to the baths stood the remains of the barracks. The walls were built of fine-stones using clay mortar. Three or sometimes four courses of stones are preserved on the plinth. The smooth side of the stones was on the visible sides of the walls. The space between them was filled with a mixture of comparatively smaller stones and mud. Most of the elevations are traditionally made of wooden material in both local and Roman buildings. There are cases when the outer part of wall is faced with plaster or limewash. The inner space of the walls is empty or partially nailed [Figure 4].[12]

[8] Plontke-Lüning 2003: 133-145.
[9] Dzaparidze 2000: 41-42.
[10] Braund 1994: 182.
[11] Kakhidze and Mamuladze 2004: 4-68, fig. 4.
[12] Mamuladze 2001: 39, fig. 5.

Figure 5. View of the barracks from 1st-3rd century AD (*From the archives, Gonio-Apsaros Museum*)

Nine utilities are identifiable in the *principia,* among them a hall for welcoming visitors and for festive events and ceremonies. The structure involves large-sized stone bases. The eastern and southern walls are consolidated with pylons. In some places rusticated quadrels are used [Figure 5]. A new structure is believed to have been erected on the remains of the principia in early Byzantine times. The composite bases must have been from the same period. The exact plan of the structure has not been determined so far. It had a gallery and a street paved with flagstones and tiles.

The water supply and draining systems were included in the initial general planning of the fort construction. A strong debit spring situated 1 km outside the fort walls was used to supply drinking water. To do so, a large pool was built first of all, its façade inlaid with stones while the inner face of the wall was plastered. There is no other water reservoir dated to this fort territory through the southern gate. The inner, as well as the outer territory of the fort, seems to have been crossed by the ramifications of the water pipes. It should also be noted that the water supply systems have been preserved in their original state [Figure 6].[13]

In general, the Apsarus water supply systems are similar to those found in numerous powerful centres of classical times. Mention should also be made of the fact that both the Romans and the local population used artesian wells.

The Romans enjoyed international fame for the construction of a drainage system as early as the 2nd century AD. In this respect, particularly interesting date were accumulated in the areas of the southern gate and the baths. The remains of the rectangular collector built with white-yellowish stone slabs were also identified. These standard slabs are not representative of any local types of stones. The walls of the collection are also inlaid with elaborated stones with wooden slabs at the bottom.

In general, Roman forts can be seen as stabilisers, which somehow even precipitated the process of 'urbanisation' in Lazica. Roman governance consolidated the political situation in the region.[14] A very important result of Georgia's relations with the Romans world was its Christianisation. At the dawn of the new era Southern Caucasus was compelled to participate in all the global historical processes

[13] Kakhidze 2002: 52, fig. 7.

[14] Kakhidze 2008: 302-332.

Figure 6. View of the *principia* (*From the archives, Gonio-Apsaros Museum*)

Figure 7. Water supply of the Roman, Byzantine and Ottoman period (*From the archives, Gonio-Apsaros Museum*)

against its will and many significant changes ensued. Of course, it was rather more convenient to pursue the new relationship within the boundaries of the Empire. The joining of the Eastern Black Sea coast to the Roman common frontier-defence system contributed to the introduction of elements of advanced Roman culture into the local culture, promoted the military, political, economic stability of Black Sea coastal towns and the surrounding area, while the invasions by Northern Caucasian tribes ceased. Roman traditions significantly defined the historical-cultural direction of ancient Georgia which was finally oriented towards the Christian world.

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# Three Ancient Cities of North Africa and their Roman Baths: Tiddis, Timgad, Tipasa. Actual State of Preservation

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**Summary**
Between 1st BC and 6st century AD the Romans created roads connecting some North African cities. These roads had been constructed by engineering units of the Roman legions. Prosperous North African cities were bastions of civilisation, as manifested by many public buildings of high social importance like the public baths. The baths were places for maintaining personal hygiene and also where the inhabitants could discuss, arrange some business or just feel like those from the upper social class. The remains of such structures still remind us of the splendour of past times. However, the challenge they face is lack of maintenance and conservation projects. Without necessary works, these wonderful World Heritage monuments would disappear during the next few decades.

**Keywords**
North Africa, Heritage crisis, public baths, *Numidia*, *Mauretania Caesariensis*

## Introduction

2011 was a very important year in the modern history of North Africa. It was the year of the Arab Spring which began in Tunisia and spread into other parts of the Arab world. The unstable political situation in many countries presented a grave danger for ancient World Heritage monuments, because of the lack of protection from governmental institutions. In such countries as Libya, Egypt and Tunisia, some groups of looters tried to rob archaeological sites and stores. Algeria is a country where no such events occurred but neither had much been done to protect the World Heritage Sites of high historical importance for all humankind. During my stay in Algeria in 2014 and 2015 I tried to record the actual state of preservation at some of the main archaeological sites. This paper is a short description of the preservation conditions in relation to some buildings of high social importance from the Roman Period. I focussed especially on remains of the public baths from 1st to 3rd century AD based on the example of three cities: Tiddis, Tipasa and Timgad where rare elements of architecture and decoration had been saved through the ages. In all of these three cities, public or private baths functioned between the 1st AD and 4th century AD, but they differed in size, scale of construction and decoration.

## 1. Governmental protection of World Heritage in Algeria

The Ministry of Culture of Algeria is responsible for the protection of all archaeological sites and monuments. The main tasks in the field of documentation, protection and preservation of the monuments are realised by the Direction de la Conservation et de la Restauration du Patrimoine Culturel. Archaeological monitoring, inspections and investigations are the main tasks of Centre Nationale de Recherche en Archéologie and Centre Nationale de Recherche Préhistorique, Anthropologique et Historique.[1] There are Heritage and Conservation Departments inside every Office of Wilaya. The main regional tasks of heritage protection are also the duty of branches of the National Museum and regional archaeological museums.[2] The authorities of Algeria try to keep the most important remains of the past in good condition, but because of insufficient funds, lack of specialists and various difficulties regarding the protection of the monuments, it seems to be a hard task.[3]

## 2. Roman presence in North Africa – a short introduction

The first settlements in North Africa were founded in the 10th century BC by the Phoenicians, as a part of an extensive network of trade cities in the Western Mediterranean. The first of them was Utica, followed by Carthage, Tipasa and many others some time later. The Roman Empire made consistent attempts to destroy the strong influence of Carthage in the Mediterranean region. The alliance with Numidian King Massinisa was one of the first attempts at Roman domination

[1] Republique Algérienne Démocratique et Populaire, Ministère de la Culture. Retrieved from http://www.m-culture.gov.dz/mc2/fr/ (status as of Jan. 25th, 2016).
[2] Ministère de la Culture 2007: 97.
[3] Oulebsir 2004: 304.

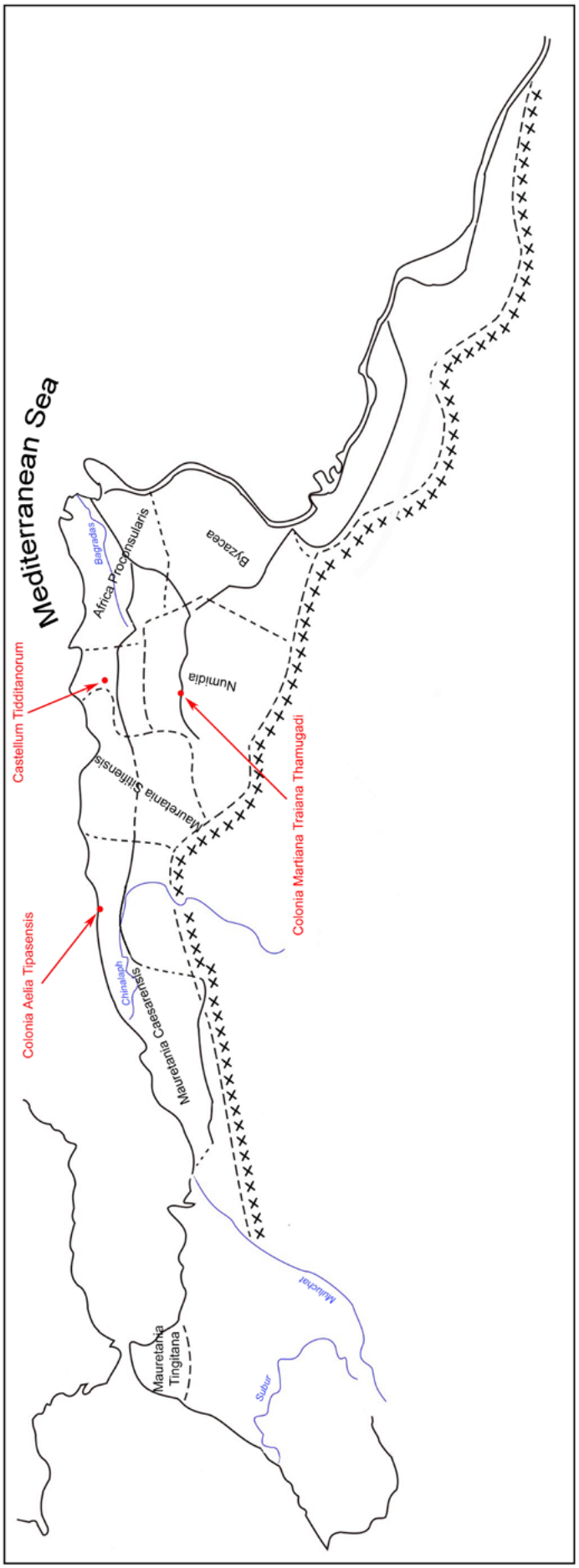


Figure 1. Map of North Africa with the cities Tipasa, Tiddis, Thamugadi marked (*Drawing K. Czapska and M. Czapski 2016*)

over the Punic civilization.[4] The end of the third Punic war in 146 BC and the sacking of the city of Carthage was the beginning of the Roman presence in North Africa.[5] With the beginning of the Empire Period, the mass Roman colonisation and Romanisation of North Africa became very intense. In 46 BC the Romans had created the province of East Numidia, which in 27 BC was connected to *Africa Proconsularis*.[6] After defeating the Kingdoms of the Moors, two new provinces were created: *Mauretania Tingitana* and *Mauretania Caesariensis* [Figure 1]. It happened between AD 40 and 42.[7] To control conquered territories a military presence was needed. That was the reason for transferring *Legio III Augusta* to the city *Ammaedara* and then in AD 81 to a new military camp in *Lambaesis*.[8] The presence of the permanent military base in North Africa was highly significant. *Legio III Augusta* was responsible not only for the protection of the cities and villages against the local nomadic tribes but also for bringing the Roman civilization into the various areas of North Africa. Soldiers constructed the roads, military posts and some structures inside the cities.[9] The Roman culture flourished in the cities that became symbols of the Roman Empire's power. Although the local tribes were temporarily present inside the territory of the provinces, the cities were well protected by a system of *limes africanus*. In AD 100 the city of Thamugadi was established as a colony for the veterans of *Legio III Augusta*.[10] In 2nd – 3rd century AD Romans had to face a few revolts by the Moors tribes, who did not want to accept Roman rules. By AD 288 a new province *Mauretania Sitifiensis* had been established.[11] The Roman presence weakened and stopped with the Vandals' conquest in 5th century AD. Despite the many attempts by the Byzantine army at controlling the North African provinces after the defeat of the Vandals, in AD 635 the Arab

[4] Meynier 2007: 41.
[5] Meynier 2007: 220.
[6] Benseddik 2012: 14.
[7] Kotula 1972: 147.
[8] Kotula 1972: 151.
[9] Le Bohec 2005: 45.
[10] Germain 1969: 32.
[11] Meynier 2007: 220.

Conquest put an end to the Roman history of the North Africa.

### 3. The role and significance of baths in Roman Cities

Roman cities were the centres of culture, education, religion and administration. There were many streets (*cardo maximus* and *decumanus*) in a typical Roman city as well as the system the water supply (*aqueducts*) and some public buildings of high importance like the basilica, capitol, theatre, amphitheatre and baths. The role of the Roman *thermae* was very important for the public life of the city. Great architectural projects for the construction of monumental baths were financed by the Empire. The meaning of such investments was always to show the power of the state and its Emperor. The buildings of the baths themselves were constructed with symmetry, beautiful decoration, high quality of the materials and allowed everyone the chance to see the splendour of the chambers. Architectonical order, beauty, cleanliness could be a kind of manifestation of the Empire's power.[12] The Baths could be also a symbol of the omnipotence of the Emperor and the dependency of the people. But from a sanitary point of view, perhaps the Empire tried to protect the citizens from diseases and epidemics via the popularization of using the baths.[13] People could come to baths to take a bath, wash their bodies, avail themselves of some beauty services like scrubbing or massages.[14] It was also a meeting place for different purposes: chatting, making business, dating. People from the low social strata could feel a little bit more affluent; they could feel equal to every other user of the bath. Use of the large public baths were free of charge for everyone. Although the upper classes had their own baths in their residences, using the public ones was a matter of good behavior.[15] In three North African cities Tiddis, Tipasa and Thamugadi we can find public baths constructed in the same period, but in different ways.

### 4. *Castellum Tidditanorum*

The city was founded by the local inhabitants of *Numidia*. Inscriptions discovered in the necropolis suggests that the city had Punic origins. Tiddis is located 35 km north from the city of Constantine (ancient *Cirta*), on a hill above the river Rhumel. It seems that the city was Romanised in 1st century AD and quickly developed as a part of the confederation of four cities including Rusicade, Milev, and Chullu.[16] At that time it was known as a local centre of pottery production. In 3rd century AD the greatest number of the public Roman buildings were constructed, for example: the Small Baths, Temple of Saturn, Basilica beside the Forum.[17] In the 5th century AD Tiddis was known as a seat of the bishopric. The city was still inhabited during the medieval period.

Archaeological research began in 1853 by the Société Archéologique de Constantine. Five sites nearby the city of Constantine were place of research. In one of them, a large stele with a Latin inscription *RESPUBL. TIDDITANORUM* was found by Léon Renier and Colonel Creully. Then in 1863 the first large excavations were organised by Professor Cherbonneau who discovered 87 different tombstones with inscriptions in the city necropolis and one stele with an inscription dedicated to Septime Severe and his son.[18] L. Féraud in 1864 discovered several dolmens and a round construction on the mausoleum nearby Tiddis. The first map of the hill with the remains of the city was created by Colonel Génie Brunon in 1876. In 1897-1898 Stéphane Gsell worked on the inscriptions discovered in Tiddis. In 1935 the first aerial photography of Tiddis was made from a small plane flown from the aero-club of Constantine.[19] Different archaeological and epigraphical works were made between 1940 and 1948 by André Berthier, Jérôme Carcopino and Louis Leschi. The first was the main researcher in the history of excavations in Tiddis. Berthier studied the history of Tiddis until 1970 when he left Algeria and moved to France. The total area of the site excavated from 1853 until 1970 is 42 ha including the necropolis situated beside the city from its eastern side.[20]

The city is divided into three main parts: the lower, main and upper [Figure 2]. The lower city is the place when several pottery workshops, some houses and remaining of the Great Baths were found. The main part, the so-called 'plateau' was constructed on the side of the hill, where the *cardo maximus* was built along with many public buildings throughout the main street. In the middle part of the plateau we can find the Forum, Christian Basilica, Small Baths with *castellum aquae* above it. In the highest part of Tiddis some remains of the Temple of Saturn and a Roman citadel are still visible. Along the *cardo* many stelas with Latin inscriptions were placed in non-original positions. The Small Baths are situated a few meters above the Forum. It is not a big construction but one of the best preserved within the whole city. *Castellum aquae* and probably The Small Baths were constructed by order of the curator of the city *Cirta Marcus Cocceius Anicius Faustus Flavianus* in the period of Valesianus and Gallius.[21] That is an excellent artifact which allows the construction of the Small Baths to be dated between AD 249 and 251. The inscription is now partially destroyed [Figure 3] and is

[12] Zajac 1999: 101.
[13] Zajac 1999: 100.
[14] Rook 1992: 8.
[15] Rook 1992: 20.
[16] Lepelley 1981: 43.
[17] Berthier 1951: 10.
[18] Berthier 2000: 20.
[19] Berthier 1951: 24.
[20] Benseddik 2012: 34.
[21] Berthier 2000: 136.

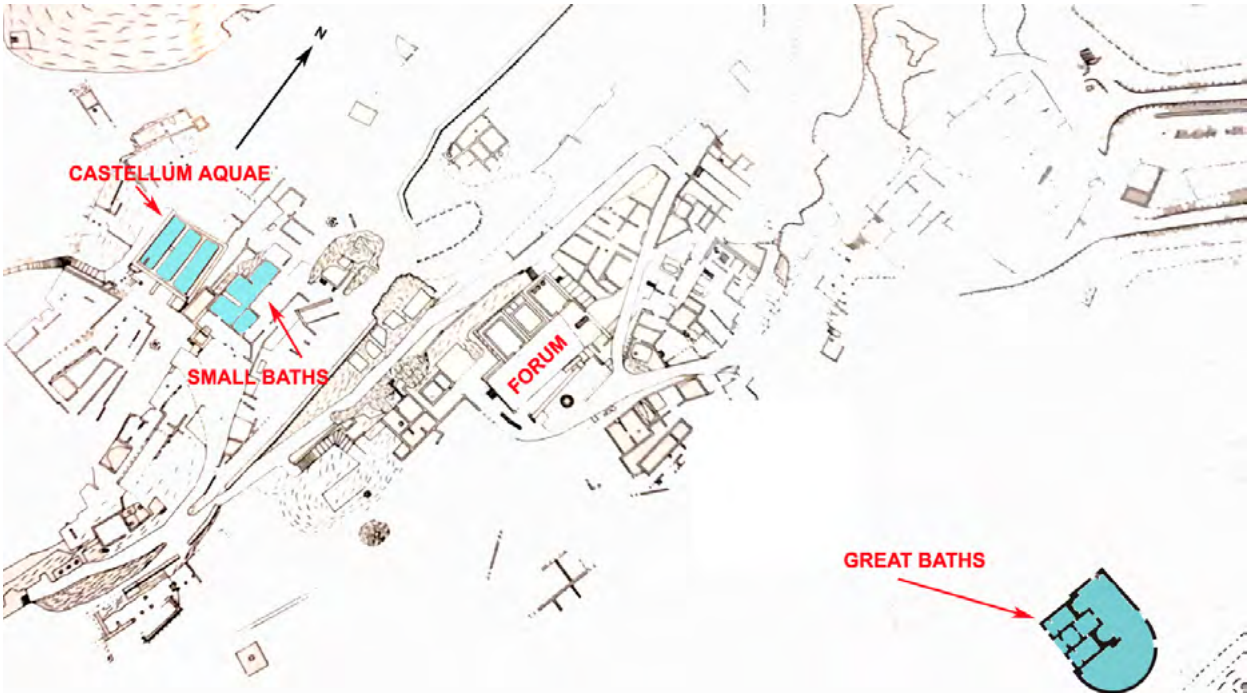


Figure 2. *Castellum Tidditanorum*, plan of the city (*Drawing M. Czapski based on Berthier 1951*)

situated just beside the Baths. The *thermae* itself are not very big and contain just a few necessary chambers like the *caldarium* which is divided into two parts of 6 × 4 m and 4 × 6 m, a *tepidarium* of 5 × 7 m and a vestibule of 4 × 15 with one side open to the pool side. The *opus africanum* is clearly visible on the southern side wall beside the entrance [Figure 4]. The remains of the *hypocaustum* are preserved inside the building. They are in a much worse state than in the old photographs from the French excavations. Water was supplied by an aqueduct on the upper part of the hill. Just a few meters of it has survived. Water used to flow to the *castellum aquae*, was divided into three containers and from there went directly to the Baths. Some conservation work was done but the object still requires further endeavors.

The Great Baths of Tiddis are not well preserved and are located in the lower part of the city. They are divided into many chambers: 2 pools of 3.10 m × 3.75 m, one large chamber of 14.7 × 8 and 4 smaller rooms. Two of them were probably the *caldarium.* Berthier[22] thinks that this structure is older than *castellum aquae* and the Small Baths and was partially destroyed by order of *Marcus Cocceius* to use the material for the construction of these two buildings.

The site of *Castellum Tidditanorum* lies far from the main tourist routes and is only sporadically visited by them. This is perhaps why the local authorities did not put enough emphasis on the conservation and popularization of this place.

### 5. *Colonia Aelia Tipasensis*

The ancient city of Tipasa was established in 6th century BC as a trading port on the route to the Eastern part of the Mediterranean. Until 2th century BC it was a territory of intense Punic influence and traders from Carthage very often visited the city.[23] About 39-40 BC Tipasa was incorporated into the Roman territory and in AD 46 Emperor Claudius raised the status of the city to *municipium*.[24] After that in AD 145-150 Great Enclosure of the city was constructed not long after Antoninus Pius had raised the status of Tipasa to *colonia*. Since then the city was known as *Colonia Aelia Tipasensis* and huge construction works began to adapt the city's architecture to the Roman style.[25] This was a period when architects and workers built the *cardo maximus*, Great Baths, Amphitheatre, Theatre, Forum, Small Baths and many other public constructions. The inscription on the epitafium of *Rasinia Secunda* discovered in 20th century AD inside the city dated on AD 238 proves that it was one of the early points of the emergence of Christianity in North Africa.[26] In AD 430 Tipasa was conquered and occupied by the Vandals. In 6th century AD people started to leave this place

[22] Berthier 2000: 138.

[23] Duval 1946: 24.
[24] Baradez 1963: 75.
[25] Benabou 1978: 70.
[26] Baradez 1952: 12.

Figure 3. Tiddis. Latin inscription found inside the Small Baths (*Photo M. Czapski*)

Figure 4. Tiddis. View of the Small Baths from the southern side with the *opus africanum* visible (*Photo M. Czapski*)

and in late 7th century AD the territory of this almost abandoned city was taken by the Arabs.

The first research in the city started in year 1891 by S. Gsell who continued excavations until 1901.[27] This was the time when the first plans of the city were created and the main parts of the city were discovered. In 1930 M. Jean Lassus started excavation in the upper part of the city where he discovered one of the biggest Christian basilicas in this part of the North Africa. Lassus also made research on the remains of the city

[27] Duval 1946: 28.

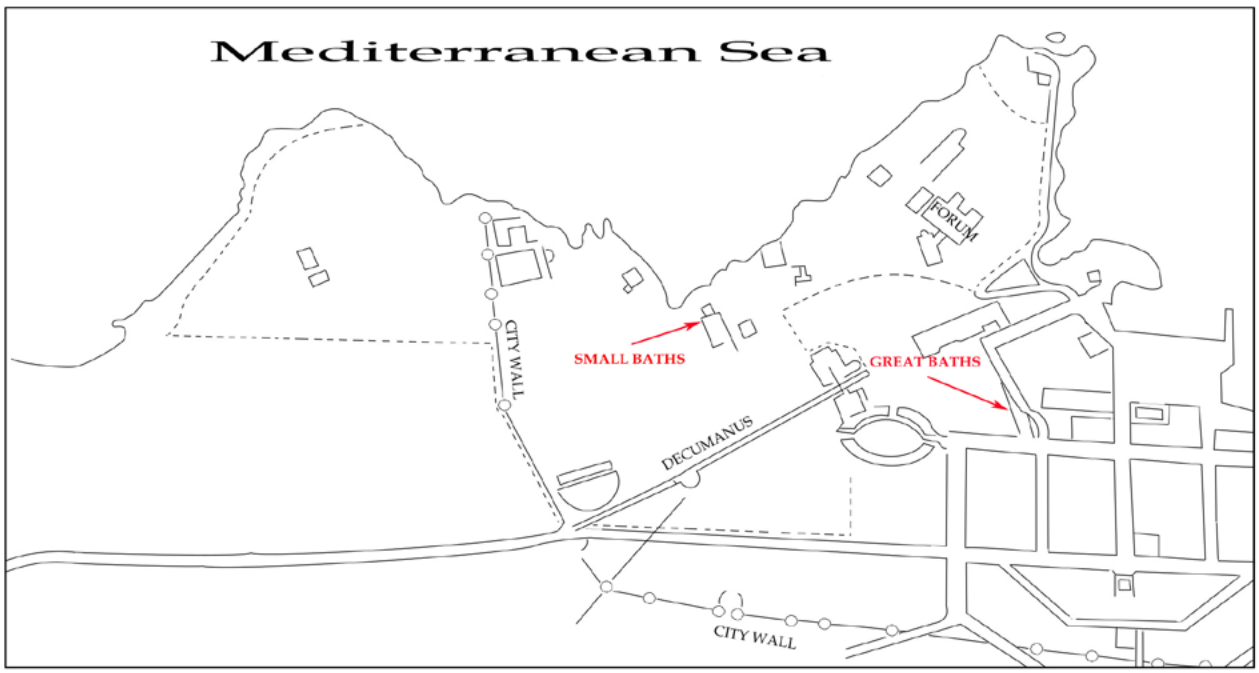


Figure 5. *Colonia Aelia Tipasensis*, plan of the city (*Drawing K. Czapska based on Baradez 1952*)

walls.[28] In 1942 the next part of the walls was excavated by P.M. Duval. A huge excavation of the gates, walls and some structures inside the city was made by J. Baradez in 1961. Until now only about 40% of the city has excavated. In 1982 the city was placed on the UNESCO List of World Heritage Sites.

The area of the ancient city is about 52 ha and is divided into a few parts – the harbor with the port when one ancient Punic tomb is still visible, the main city with the *cardo maximus*, *decumanus*, many public buildings like the Theatre, Amphitheatre, Nymphe, Great Baths and Small Baths. Then the Upper city is situated on the western side with a Christian basilica and ancient necropolis and the last part is the eastern part with the remains of the Christian necropolis. Tipasa is situated on a beautiful part of the sea shore. It is a very popular place for weekend walks for Algerian families living in Alger and modern Tipasa.

The situation of this beautiful archeological site is very complicated because of the many dangers connected with the growing population of the modern Tipasa. The serious deterioration of the archaeological structures caused by the local people is connected with the very poor maintenance of the site. Additionally, increasing incidences of vandalism pose a major risk for the still well preserved parts of the city, but the growing encroachment of the inhabitants of modern Tipasa is now very hard to stop by the local authorities. That is why Tipasa was added to List of World Heritage Sites in Danger on 15 July 2002.[29]

There are two main bath complexes in the city: the Great Baths on the eastern side and the Small Baths on the western side of the city, very close to the sea shore [Figure 5]. The best preserved in the whole city are the Small Baths of Tipasa. They were constructed in the second half of 2nd century AD in the period of huge construction works in the city. The structure of the walls requires conservation work because some of them have fallen down into the interior chambers of the building. The interior of the thermae is not prepared for any tourist visit but hitherto the local authorities have found no funds for the necessary conservation. The whole structure is divided in the basic parts: the *caldarium*, *tepidarium*, *frigidarium*. There are parts of the *opus africanum* still clearly visible on the northern side wall. From the eastern side, a very well preserved part of the *hypocaustum* can be seen [Figure 6]. Inside the antechamber, a huge part of the floor mosaic decoration has survived until the present. The most fascinating and beautiful decorated is part of the caldarium wall with still preserved wall paintings. Despite the fact that the weather in Algeria is sometimes very rainy during the winter, this priceless object still does not have even basic protection. On one wall, a painting showing the shape of a men is very well visible [Figure 7].

[28] Lassus 1930: 230.

[29] Retrieved from http://whc.unesco.org/fr/actualites/178/ (status as of Feb. 12th, 2016).

Figure 6. Tipasa. View of the *hypocaustum* in Small Baths (*Photo M. Czapski*)

The Great Baths of Tipasa seem to be one of the biggest structures in the city, but unfortunately also one of the worst preserved. The growing population of modern Tipasa and the lack of legal protection caused the destruction of this building by the local inhabitants who used some of the bricks for their own constructions. Just two walls of the Great Baths are still visible. The eastern wall gives us an idea of the precise and splendid works of the ancient architects and masons. The *thermae* had very large underground technical areas for the workers responsible for heating the water and the air. The western wall is also largely destroyed but shows us the scale of the construction [Figure 8].

### 6. *Colonia Martiana Traiana Thamugadi*

Timgad was established from its very beginning as a city for the veterans of *Legio III Augusta*. In the middle of the desert not far from the Aures Mountains by order of Emperor Traianus, in AD 100 the Roman soldiers constructed a city which was destined to be their future home.[30] The city was planned with symmetry and according to the Roman architectonical rules. Every part of it was divided into sectors built along the main streets – *cardo maximus* and *decumanus*. However, for unknown reasons the *forum* was unexpectedly located not on the main axis of *Cardo*. The peak area of the city was 50 ha and in the Empire Period it was inhabited by about 15 000 people.[31] From 2nd till 4th century AD Timgad flourished and became an important point on the North Africa trade routes [Figure 1]. During that period many of the public buildings were constructed like Basilica, Forum, Great Southern Baths, Great Northern Baths, markets, temples and city gates.[32] In 4th century AD Timgad was the seat of the Christian Donatists. Very little is known about the city after 4th century AD. In 5th century AD the Vandals controlled the city's territory. In 539 a Byzantine Fortress was constructed to defend the city.[33] After that period there is almost no information about the city. With the Arabs Conquest the city of Timgad fell into ruins.

The first information about the city of Timgad was written by James Bruce after his visit to the ruins in 1765. He described the main buildings of the city: the Arch of Traianus, the Capitol, the Theatre and fortress.[34] In 1851 Louis Renier arrived in Timgad with the first epigraphical mission and copied 70 inscriptions around the Forum. Them in 1889 Albert Ballu started the

[30] Thébert 2003: 228.

[31] Courtois 1951: 23.
[32] Cagnat 1912: 47.
[33] Ballu 1911: 11.
[34] Oulebsir 2004: 20.

Figure 7. Tipasa. Wall painting detail in its current state of preservation (*Photo M. Czapski*)

first regular excavation and conservation mission. He researched the biggest part of the city and published regularly annual reports. Marcel Christofle started conservation works at the site in 1927 and with his son Marcel – Henri Christofle – in 1938 established the museum of Timgad. 1945 was the year when Charles Godet began his excavations in the southern necropolis and Byzantine Fortress. The results of his works were published by Louis Leschi. In 1948, the local authorities decided to found the *Ville Nouvelle* – a new Timgad to resettle the inhabitants of the ancient city to protect the whole city from destruction.[35] In 1962 the last excavations were made.[36]

The city was added to the UNESCO World Heritage Sites List in1982 and is one of the most spectacular and best preserved ancient Roman cities in North Africa [Figure 10]. On the plan we can see the main part which has a square shape and many of the constructions which were located outside the first plan, like baths, fortress and some temples [Figure 9]. Timgad was a city with a large number of the public and private baths for this part of North Africa. I focused on three of them: the Great Southern Baths, Great Northern Baths and private Baths of Philadelphos.

Figure 8. Tipasa. Lower part of the Great Baths, western side (*Photo M. Czapski*)

[35] Lassus 1969: 12.
[36] Koumas and Nafa 2003: 205.

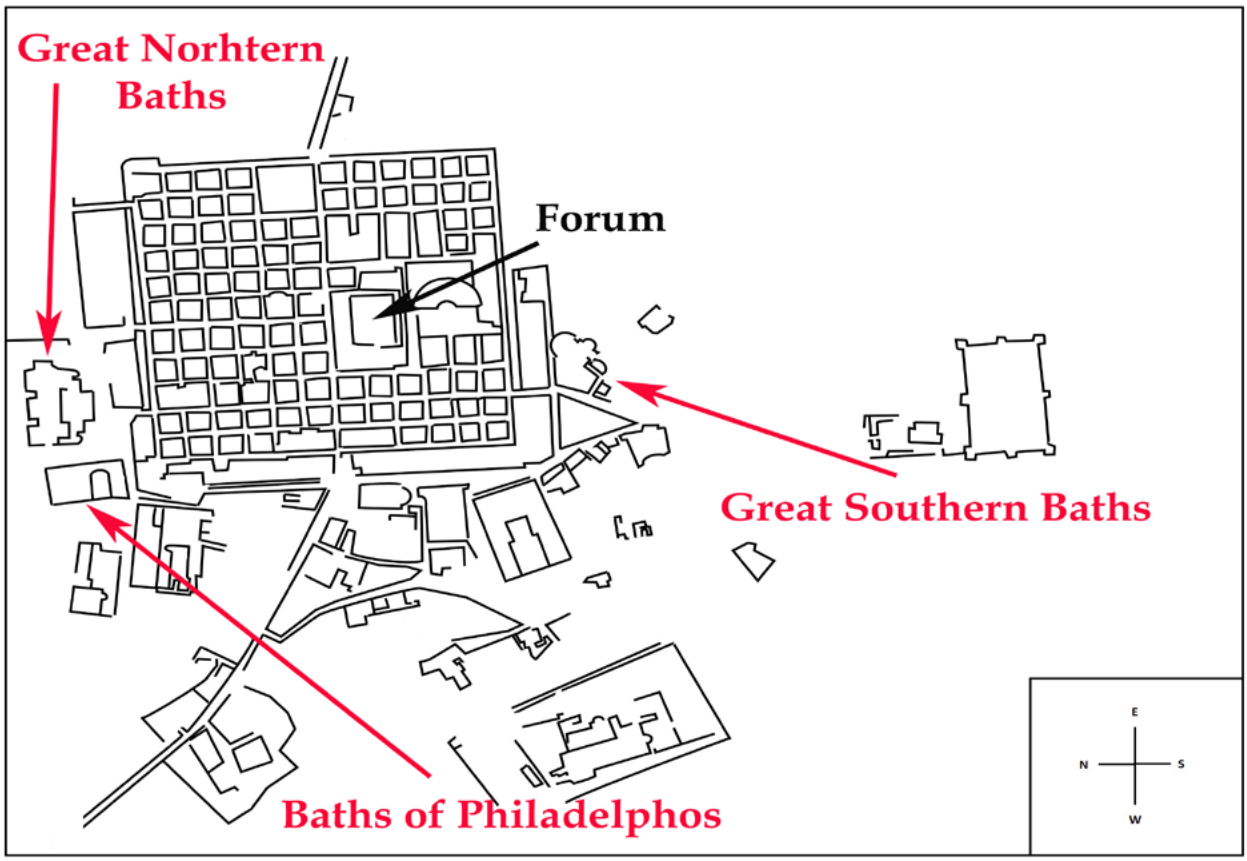


Figure 9. *Colonia Martia Ulpia Traiana Thamugadi*. General plan of the city (*Drawing K. Czapska based on Courtois 1951*)

Figure 10. Timgad. General view of the city from top floor of the ancient theatre (*Photo M. Czapski*)

Figure 11. Timgad. Floor mosaic of *apodyterium*, southern side of the Great Southern Baths (*Photo M. Czapski*)

Figure 12. Timgad. Floor mosaic of the Great Southern Baths (*Photo M. Czapski*)

The first of them were constructed in the southern part of the city around the second half of 2nd century AD. The Great Southern Baths's plan is an example of an unsymmetrical construction with many chambers of different purposes and additional apses [Figure 13]. The total area of the building is 2000 square meters. The state of preservation of the whole construction is good, but the architectonical details and decorations are preserved in different conditions. The walls of the Baths were constructed from bricks of local production and survived in a good condition, especially underground [Figure 14]. A part of *apodyterium* from the southern side with a pool is visible. On the floor of this chamber, the remains of the mosaic are clearly visible [Figure 11]. The next chamber to the east has also some mosaics [Figure 12]. These and the other floor decorations were described by S. Germain in 1969,[37] but presently the mosaics without protection all these years are in a much worse state. The underground part of The Great Southern Baths is the best preserved place with technical corridors and remains of the *praefurnium*. There is also a fountain located just outside the western wall connected with the water supply system of the Baths.

The biggest and the most spectacular with the most sophisticated plan are the Great Northern Baths [Figure 15]. The baths were constructed in 2nd century AD on a total area of 4400 square meters.[38] The walls reached 7

[37] Germain 1969: 135.
[38] Thébert 2003: 235.

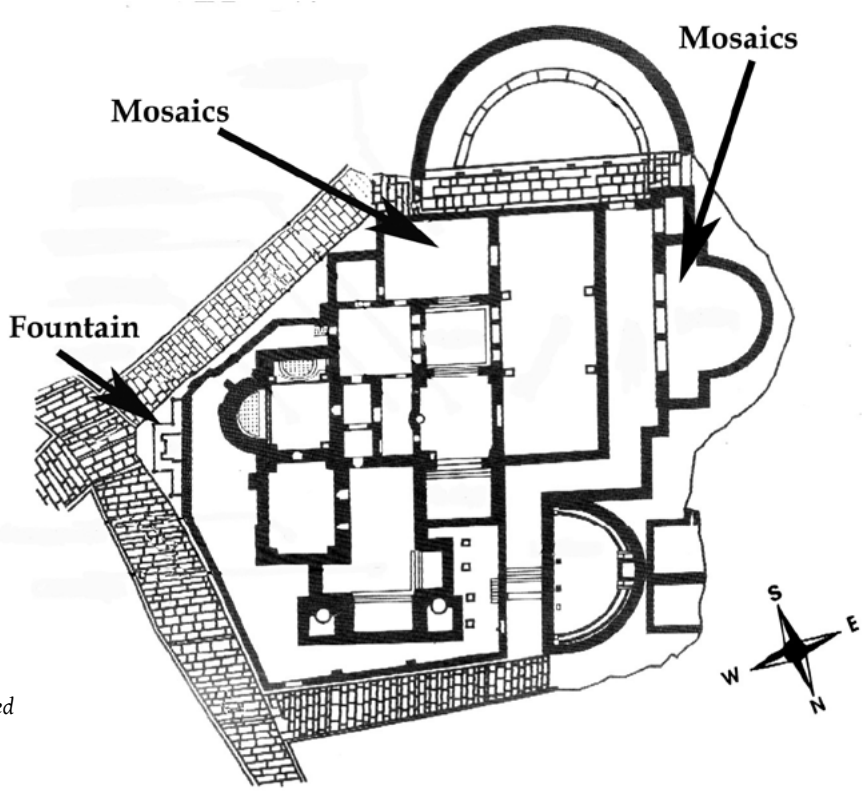


Figure 13. Timgad. Plan of the Great Southern Baths (*Drawing M. Czapski based on Ballu 1897, Pl. XX*)

Figure 14. Timgad. Underground technical part of the Great Southern Baths (*Photo M. Czapski*)

m at their highest point and some of them are still quite well preserved. The symmetrical plan of the building is an example of large scale public works for the inhabitants of the city. The baths are divided into many chambers: one large *frigidarium*, three *tepidaria*, three *caldaria*, two *laconica*, two latrines, pools and the other

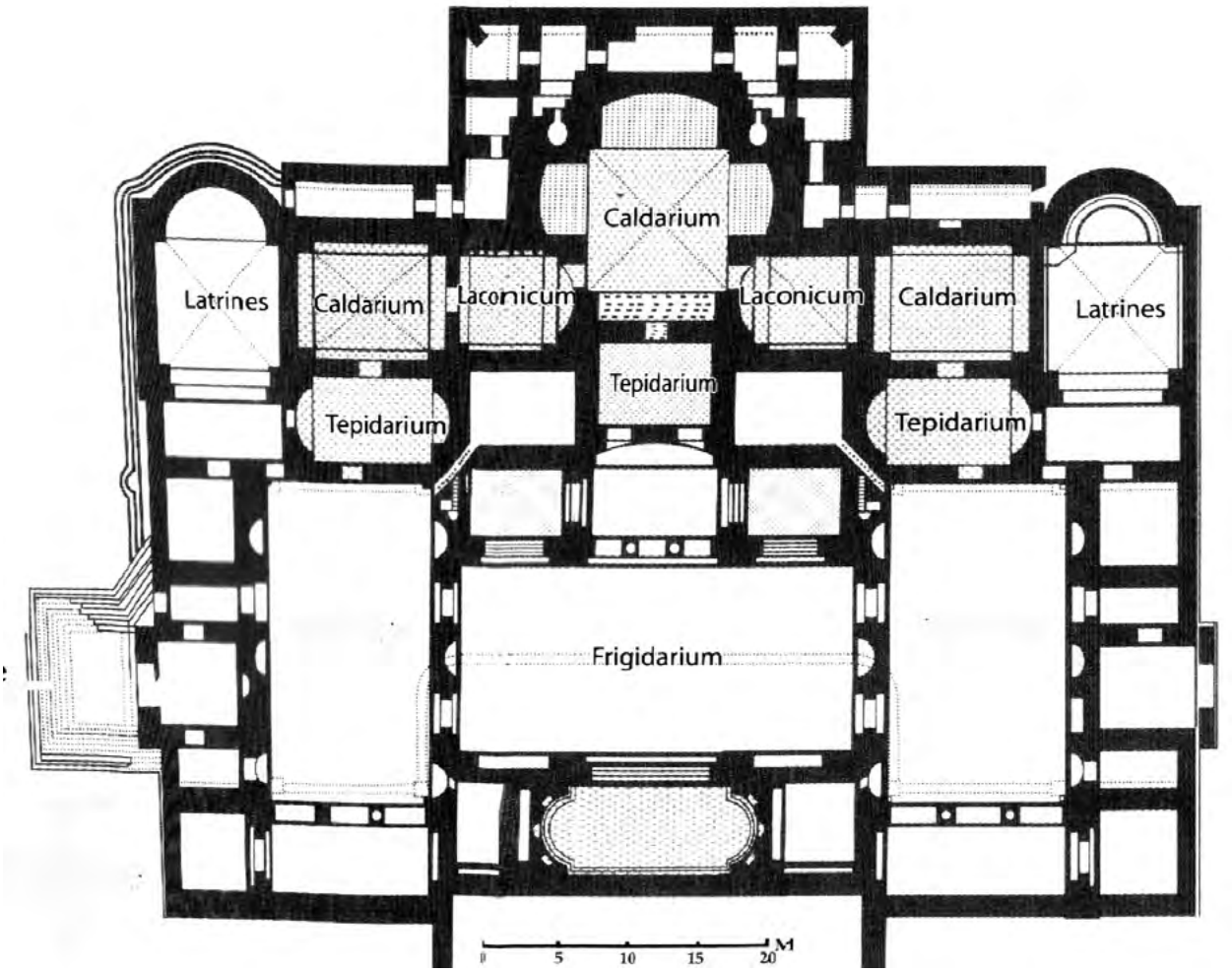


Figure 15. Timgad. Plan of the Great Northern Baths (*Drawing M. Czapski based on Ballu 1903, Pl. IX*)

chambers of different size [Figure 15]. General state of preservation is good, but comparing to one of the first descriptions of the Baths made by Ballu[39] we can say that degradation of the whole structure is greater now than at the beginning of the 20th century, when in many chambers the remains of the *hypocaustum* were well visible. Presently nothing of the kind has been preserved. Walls of the Great Northern Baths are well preserved, but none of the decoration elements have survived until now. The central *tepidarium* and *caldarium* are still surrounded by very high walls [Figure 16]. The outer walls are in good condition in almost every part of the structure like in the western corner. The underground structures are partially preserved, much worse than in Great Southern Baths. In the eastern wall, the entrance to the *praefurnium* technical tunnel is clearly visible. The technical chambers connected with the *praefurnium* are easily accessible for any visitor. The remains of the staircase leading to the first floor preserved nearby the western *tepidarium*. Huge *caldarium* and the pool are visible in main parts of the structure like that one in the western part. Impressive *tepidarium* with the pool can be seen from the eastern side as well as the western side. Few remains of the drainage system were preserved like the detail in the *frigidarium*.

On the opposite side of the Great Northern Baths we can find the much smaller private Baths of Philadelphos which are partially preserved. They are worth of mentioning because of some interesting architectonical details or fittings still visible inside. The plan of the *thermae* is not so sophisticated as in the baths nearby and is an example of the private structure. The baths were constructed in 2nd century AD[40] and had some well-preserved beautiful mosaic covering the floors of many chambers.[41] The most spectacular is the one depicting Jupiter and Antiope now in the Timgad Museum. There are some remains of the pool visible and a well preserved part of the portico [Figure 17]. But the most mysterious are the troughs still visible

[39] Ballu 1903: 34.

[40] Thébert 2003: 236.

[41] Germain 1969: 74.

Figure 16. Timgad. Interior of the western *tepidarium* inside the Great Northern Bath (*Photo M. Czapski*)

Figure 17. Timgad. Baths of Philadelphos, fragment of the portico (*Photo M. Czapski*)

in the chamber on the north-eastern side of the building [Figure 18]. The function of these troughs is not clear, and according to the local guides it is a structure from the Christian or Vandals periods, not connected with the period of constructing the baths. Perhaps it was a part of the stables from the later periods but it could have had a different purpose. According to Jastrzębowska[42] the troughs could have been a place for collecting some products of nature for offerings to the gods.

Timgad as an open air museum is now an object with many problems connected with maintenance. This large area does not have enough protection against local looters. Some examples of robbery have been noticed in recent years. In 1993, some unknown looters tried to steal some precious figures from the museum of Timgad.[43] The museum with a huge collection of beautiful mosaics and artefacts has been closed from 1996 because of lack of funds for the restoration of the partially collapsed roof. In 2001 the statue of Emperor Hadrian was stolen from the museum.[44] No one knows how many attempts at looting have been made at other archaeological sites in different parts of the country.

[42] Jastrzębowska 2009: 387-388.
[43] ICOM 1994: 36.
[44] Belkhiri 2006.

Figure 18. Timgad. Baths of Philadelphos, chamber with troughs of unknown function (*Photo M. Czapski*)

## Conclusions

North Africa was an important part of the Roman Empire. Many cities were adapted to the Roman architectonical traditions and many were founded from the beginning. The prosperity of the Roman provinces in Africa, great importance of the army and good political situation allowed a highly developed Roman culture to be established in this part of the world. Many remains of it still remain until our times. The beautiful structures of the cities, public buildings, roads are still visible inside the archaeological sites. Roman baths, as buildings of great social importance, were very well planned, beautifully decorated to care for the citizens' hygiene and to mark the power of the Empire. However, these beautiful structures with a splendid history are now in a great danger. The government of Algeria is trying to solve the problem of necessary finance for the conservation of the most important World Heritage Sites, but this is no easy test in what is now the largest country in Africa. Lack of funds for maintenance is the reason for uncontrolled looting from the museums and parts of the ancient cities. There is not enough interest from the countries of the European Union in supporting the local authorities in the protection of the monuments. The popularization of North Africa's history, archeological – conservation projects and tourism in Algeria could prove very helpful in this case.

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# Pottery from the Early Roman Rubbish Dumps in Berenike, Egypt
## Notes on the Material from Trenches 96/14 and 107/15

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**Summary**
Berenike was a port city established in Ptolemaic times on the Red Sea Coast and functioned until the Late Roman Period. Archaeological excavations of the site yielded a great deal of ceramic material, the majority of which came from trash deposits. This paper aims to illustrate the abundance of such material by taking as examples trenches 96 and 107, two out of several trenches dug in the area of the early Roman rubbish dumps. The registered pottery consists mostly of Egyptian amphorae and locally produced table and cooking ware with a large amount of imported wares from many regions of the Roman Empire. What clearly differentiates the Berenike assemblage is, however, the presence of pottery from South Arabia, Eritrea and India, which highlights the flourishing trade with Arabia, Africa and the Far East at that time.

**Keywords**
Roman pottery, amphorae, Egyptian pottery, Berenike, harbor, trash deposit

Berenike is a Greco-Roman harbour located on the Red Sea Coast in the south of Egypt. The site was excavated first from 1994 to 2001 by the archaeological missions of the University of Delaware and University of Leiden, directed by Steven Sidebotham and Willeke Wendrich. After a few years' break, the works were resumed in 2008 by the Polish-American mission from the University of Delaware and University of Warsaw, led by Steven Sidebotham and Iwona Zych. The fieldworks still continue, although this year's season has been suspended for the time being.

The city and the port of Berenike were founded in the early 3rd century BC by Ptolemy II as an important emporium on the long-distance trade routes, initially going to Africa in order to import elephants, later connecting the Egyptian coast of the Red Sea and India, passing through the South Arabian harbours.[1] The trading peak was reached during the Early Roman period, from Augustan times till the end of the 2nd century AD.[2] Previous excavations as well as complex geophysical surveys of the site revealed that the settlement from this period concentrated in the north-west part of the site. It covers city houses, temples, port installations and a series of rich middens scattered around the harbour. The subject of this article is the pottery coming from the Early Roman trash deposits, which constitutes the majority of the ceramic material from the Berenike site. To illustrate its abundance, I selected two trenches as the most representative of the various kinds of vessels used in this port – trench 96 and trench 107 – which were explored during working seasons in 2014 and 2015.

Trench 96 was located on the area of the Early Roman rubbish dumps close to the city and excavated in 2014. This trench, in spite of its quite small size (1.5 × 1.5 m, and around 0.5 m of depth), delivered a fairly large amount of pottery, ropes, fragments of fabric and papyri, wooden fragments, botanical remains and other finds. The material is dated from the second half of the 1st century to the middle of the 2nd century AD. We registered over 250 kg of sherds, extremely fragmented and abraded, and none of the vessels were complete. Most of the ceramic material was locally produced amphorae made of Nile silt (around 60%). Two types were more common: *Amphore égyptienne* 3 (AE3) [Figures 1A-C] – a broad long form with an almond shape or triangular rim, two small looped handles and a full long toe.[3] We recorded fragments produced in three different clays: calcareous light orange-brown clay, more rough and sandy dark brown clay, and much harder (over-fired) dark reddish-brown with a grey core. Unfortunately, it has not led us to determine the exact kiln sites yet. The production of AE3 had already started in the 1st century BC and it was used primarily as a container of wine, vinegar and fish sauce, although it could have probably been reused for carrying water.[4] The second common type of amphora was Egyptian Dressel 2-4 – a form copying Koan Hellenistic amphora with double rod handles, a long cylindrical body with a short stumpy solid spike and a bead rim. They were produced in the region of

[1] Sidebotham 2011: 3-5.
[2] Tomber 2012: 202-203.
[3] Empereur and Picon 1989: 234-235; Tomber 2007: 525-526.
[4] Tomber 2012: 206.

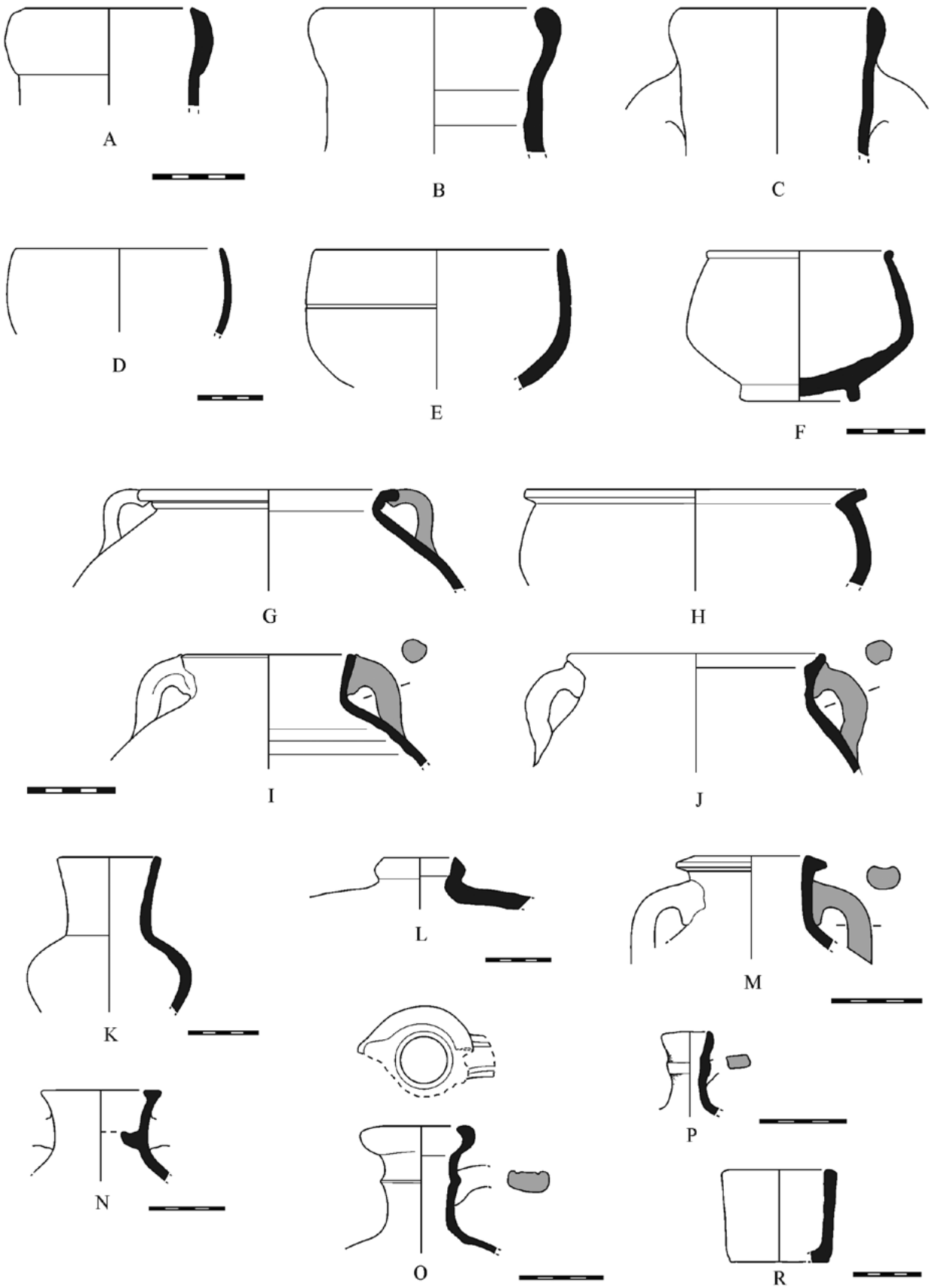


Figure 1. Selected vessels from trenches 96 and 107: A-C – AE3; D-F – silt bowls; G-J – cooking wares; K – marl jug; L – keg spout; M – marl jar; N – marl strainer; O-P – silt jugs; R – cylindrical vessel (*Drawing A. Dzwonek*)

Lake Mariout from the mid-1st century AD until even the mid-3rd century AD.[5] The typical Mareotic fabric for the Early Roman amphorae is red brown with inclusions of limestone, quite coarse quartz, ironstone and mica. However, as we observe their occurrence in classic brown silt fabric, we can state that they were produced in other places as well.[6]

Imported amphorae were distinguished mainly by fabric, as we do not have many diagnostic pieces. The most common were: 1) Dressel 2-4 Italian – produced in the Campania region, determined by its characteristic volcanic paste, called 'black sand' fabric. It is dated from the late 1st century BC to the 2nd century AD or maybe even to the early 3rd century AD;[7] 2) Dressel 2-4 Cilician – both produced in Western and Eastern Cilicia from the early first and into the 2nd century AD.[8] Its paste is quite rough, light beige to greyish-orange with many well-sorted inclusions of quartz and limestone. Some pieces of the neck and shoulder parts that we registered also have red marks painted on the surface. Other kinds of amphorae which occurred sporadically were: Dressel 20 (from Beatica), Dressel 24 (from Asia Minor), Dressel 6A (from the Adriatic Coast), Dressel 43 (from Crete) and unidentified types of Aegean amphorae with very fine solid light red or pale orange clay.

Table and cooking wares appeared also in a significant amount in trench 96. They were produced locally in silt, marl or silt/marl mixed clay. The most popular forms were small bowls, especially thin-walled ones with a slightly in-turned rim [Figures 1D-E], known from *Mons Claudianus* as a type 15.[9] Other common vessels included: dishes, small carinated cups, marl jars [Figure 2M], jugs with a plain or three-foil rim [Figures 1O-P], very small and roughly made cylindrical vessels [Figure 1R], marl spouted vessels, basins and many types of cooking pots [Figures 1G and 1I-J] and casseroles [Figure 1H], especially forms also known from *Mons Claudianus* as type 40-41 (of cooking pots) and type 57 and 63 (of casseroles).[10]

Unfortunately fine wares are represented only by several small, often quite abraded potsherds, preventing us from dating the contexts more precisely. We mainly recorded vessels made of fine pink Aswan clay (without many diagnostics), sometimes with a pale reddish coating on the surface [Figures 2C-D]. A few fragments of these thin-walled vessels also had a *barbotine* decoration [Figures 2A-B], which is more generous and heavily applied than that seen on the Italian products. Usually they are abstracts designs with less common floral ones. Among imported fine wares, we registered Terra Sigillatas, represented in a tiny amount by pieces from the Eastern Sigillata A – form 13, 29, 35-37, 45,[11] Eastern Sigillata B [Figures 2E-F] – form 29, 32, 70[12] and the Italian Sigillata – form 21, 26-27, 34.[13]

A really interesting and characteristic feature of the Berenike material is that we found a substantial amount of vessels imported from lands outside the Roman Empire. The identification of non-Roman pottery used in this paper was developed by Dr Roberta Tomber through her studies on the material from Quseir, Berenike and other sites. The organic storage jars coming from South Arabia are predominant in this group. They have a cylindrical body with a thick ring base and a slightly out-turned rounded rim [Figure 2J]. Those large coarse containers occur in three different colours of rough organic fabric: marl, buff and oxidised. We have some indications that the crushed thick potsherds of these vessels might have been reused as building material as we found many of them together with bricks (trench 108/15) but this issue requires more studies to determine any details.

The second major group of non-Roman imports is pottery from India. Generally, this can be distinguished by the specific red pellet fabric with common ill-sorted quartz, black or brownish-black in colour with burnished surfaces. On the internal side of many potsherds, another characteristic feature can be observed – wiping marks. Regarding the common forms, we mainly recorded cooking wares, like the form Wheeler 24 [Figure 2I], a cooking pot with a sharply everted rim and carinated shoulder or Wheeler 25, a casserole with an out-turned rim.[14] Also, we registered small body sherds and some rim pieces of coarse storage jars, big rounded vessels with a thick out-turned profiled rim. Their paste is more thick and rough, brown or orange-brown in colour with grey core and it is abundant in quartz with some mica and other minerals. What is interesting, great deal of Indian vessels were decorated with impressions on the surface made by grooved paddles [Figure 3].

Finally, I should also mention the handmade pottery that was produced locally in the Eastern Desert. The recorded sherds were roughly made, very sandy, often with burnished surfaces and incised or impressed geometrical decoration. Unfortunately for us, we found only very tiny pieces (1-3 g) and almost no diagnostics. It is still very difficult to recognise and determine this type of pottery and this requires further studies. It is probable that in this case we are dealing with Eastern

[5] Tomber 2012: 206-207.
[6] Tomber and Thomas 2011: 40-41.
[7] Peacock and Williams 1986: 105-106; Bagnall *et al.* 2003: 77-78.
[8] Tomber 1998: 213-215.
[9] Tomber 2006:101-103, fig. 1.39.
[10] Tomber 2006: 114-117, figs 1.44-45.
[11] Hayes 1985: Tavola II, IV-VI.
[12] Hayes 1985: Tavola XII-XIV.
[13] Ettlinger *et al.* 1990: Tefel 19, 24-25, 31.
[14] See also Tomber and Begley 1999: 172-174; 2000: 158-159, figs 3-5.

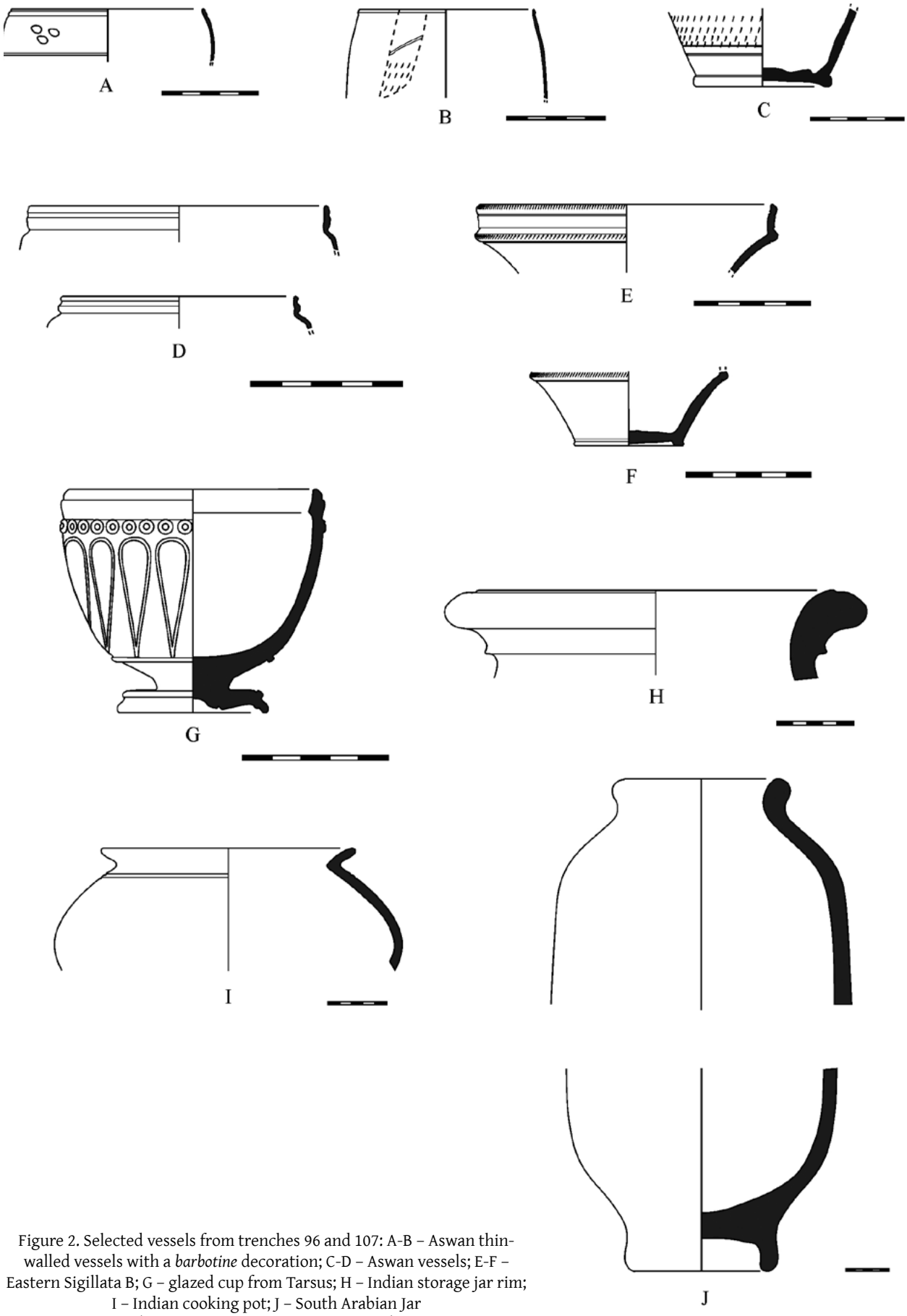


Figure 2. Selected vessels from trenches 96 and 107: A-B – Aswan thin-walled vessels with a *barbotine* decoration; C-D – Aswan vessels; E-F – Eastern Sigillata B; G – glazed cup from Tarsus; H – Indian storage jar rim; I – Indian cooking pot; J – South Arabian Jar
(*Drawing A. Dzwonek and T. Witkowska*)

Figure 3. Indian potsherd with characteristic decoration (*Photo A. Dzwonek*)

Figure 4. Fragment of a keg, view of the inside surface (*Photo A. Dzwonek*)

Desert Ware, very similar handmade pottery which is considered to be not earlier than the 4th century AD.[15] This would mean that it could be much earlier than we previously thought.

Trench 107 was located around 35 meters to the west of trench 96 on the very particular area of the Early Roman rubbish, where animal graves were discovered. This trench, measuring 3 × 2 m with just 1 m of depth, did not have such a dense structure of accumulation like trench 96. It was observed that the rubbish here was accumulated on the slope descending from the settlement area. The ceramic material from that trench was quite flaked and abraded, crushed, but with some quite large amphora sherds (much bigger than in trench 96). This can be dated from at least the second half of the 1st century AD, going into the 2nd century or maybe even the beginning of the 3rd century AD. We registered over 180kg of potsherds, of which Egyptian amphora body sherds were the vast majority (70-75%). We registered the AE3 (mainly in a dark brown silt fabric, quite rough with sand and organic inclusions) and the Dressel 2-4 amphora produced in the Lake Mariout region. What is interesting is that sherds of just these two types of amphorae were used in this rubbish also as a cover for the animal graves of dogs and cats, just pieces not complete vessels.

Among the imported vessels, the most common were also Italian amphorae of Dressel 2-4 type, produced especially in Campania, and to a much lesser extent from Cilicia, the Tyrreanean and Aegean regions. Only single fragments of other types of amphorae occurred: *Forlimpopoli* (from Italy), Late Rhodian Amphora or unidentified types of Spanish clay.

The other kind of a container which appeared regularly in almost every context is a keg, a barrel-shaped vessel with a side spout [Figure 1L], which was prepared separately and then joined together with the body [Figure 4]. Kegs were manufactured from Nile silt,

Figure 5. Almost complete silt bowl (*Photo A. Dzwonek*)

dense and over-fired with a characteristically rough external surface. They were used for transporting liquid commodities – examples with plaster plugs are known for instance from Mons Claudianus[16] and Quseir.[17]

The amount of table and cooking wares in that trench was much smaller. Among the table wares, we mainly registered bowls of *Mons Claudianus* 15 type [Figure 5], marl jugs [Figure 1K], small silt cylindrical vessels and marl strainers [Figure 1N], of which the most common form was type MC66.[18] The most popular cooking/storage wares were cooking pots of type MC40-41 (the same type like in the material from trench 96), deep casseroles of type MC62,[19] coarse storage jars and lids.

A small percentage (0.5%) of fine wares was recorded from trench 107. Most of them were thin-walled vessels made of Aswan pink clay and single fragments of the Terra Sigillata (ESA and ESB). In addition, we also

[15] Bernard and Rose 2000: 183.

[16] Tomber 2006: 97, fig. 1.37.
[17] Whitcomb 1982: 55, Pl. 12.
[18] Tomber 2006: 66, fig. 1.24
[19] Tomber 2008: fig. 1.44.

discovered an exceptional little glazed mould made bowl (in pieces), which was produced in Tarsus [Figure 2G]. The glaze of these vessels is very characteristic – green on the outside surface and yellow on the inside. Unfortunately, it is almost totally abraded, but some traces can still be observed. Similar glazed sherds of small moulded bowls were discovered, for example, at the site of Quseir.[20]

Likewise, the quantity of non-Roman pottery in trench 107 is much lower than in 96. The most numerous of them were thick sherds of organic storage jars from South Arabia (9% of all). We also discovered (but not so many) pieces of Indian coarse jars [Figure 2H] and rice-tempered vessels, Indian cooking pots (Wheeler 24-25 type) and even one sherd coming from Aksum.

Generally, most of the assemblage consists of Egyptian amphorae and locally produced table and cooking ware, with a substantial representation of imported wares from different parts of the Roman Empire and, quite specifically for this site, from lands beyond the imperial borders. Although both trenches contained a quite similar set of vessels, we are able to observe some vital differences. The ceramic material coming from trench 96 was much more abundant and densely accumulated. It was extremely crushed and fragmented into tiny pieces (even 2-3 cm ones). Whereas, from trench 107, less of the material was documented and was more scattered in the area of the dumps. However, much bigger sherds and fragments of amphorae were registered here. Moreover, it can be observed that pottery from trench 96 is more diverse – alongside the numerous local and imported amphorae, we notice Egyptian table and cooking wares, local coarse wares, imported fine wares as well as many Indian and South Arabian vessels. While in trench 107, Egyptian as well as imported amphora fragments form the vast majority of the discovered pottery. The amount of table and cooking wares is significantly lower with hardly any fine wares. An interesting fact is the rather high percentage of organic storage jars from South Arabia.

The material presented here comes from just two trenches out of the eight that are the subject of my studies. The goal of this project is primarily to get information about the people and conditions of their life in the Berenike port as well as about the industrial and trade activity of the harbour from the end of 1st century BC until the end of the 2nd century AD. Moreover, the interesting issue is to analyse the trash dumps themselves, how they were accumulated, where and how the rubbish was thrown away and whence they came, to determine which vessels were home refuse and which waste was a by-product of manufacture or workshops.

[20] Whitcomb 1982: Pl. 21.

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# Roman Housing in Palmyra

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**Summary**
In the 1990s, the Polish mission to Palmyra excavated a large residential area in downtown Palmyra, founded in the 2nd century AD and used, essentially unaltered, until the early 9th century. We soon realised that the cleared area of about 2000 m$^2$ consists of a single house organised around several courtyards and occupying a whole block of the urban grid. A comparison with other Hellenistic and Roman housing excavated in Syria shows clearly that such large houses were frequent in that part of the ancient world. They apparently reflect a social pattern of extended family living together, rather than representing urban residences of the landed aristocracy.

**Keywords**
Palmyra, housing, domestic architecture, prostas, pastas

The magnificent monuments of ancient Palmyra, when they were still standing, have long distracted archaeologists from a serious study of less spectacular ones such as ordinary houses. Eighty years of more or less intensive excavations have unearthed only a few. A rich residence behind the temple of Bel was partly cleared by R. Duru from 1939 and 1941 and interpreted as two separate houses, known as 'Maison d'Achille' and 'Maison de Cassopée' after the mosaics recovered there, which were published together with a sketchy plan.[1] The clearing of the Theatre plaza by Syrian archaeologists in the 1950s brought to light yet another house, sketchily recorded much later. This was all, if we disregard the late squatting of the ancient monuments, removed without much attention by the excavators.

The northwestern part of the ancient city was plotted on apparently empty ground north of the Great Colonnade at the same time as this thoroughfare was traced in the first half of the 2nd century AD. The regular grid of streets is clearly seen on the ground and was already mapped by A. Gabriel.[2] This architect has also provided plans of several peristyles and of surrounding walls in this part of the city, such as could be seen without digging.[3] Another plan of the same features had been made earlier by D. Krencker,[4] but it was published after Gabriel. Both understood each peristyle unit as a separate house, and this point of view was accepted by E. Frézouls in a paper that long remained the only attempt at the description of housing in Palmyra.[5]

From 1988 to 1995, the Polish mission undertook the excavation of an insula in the centre of the ancient city (marked F on the Gabriel plan), hoping to fill this serious gap in our knowledge of ancient Palmyra. We have unearthed this block entirely [Figures 1-2] between two parallel streets branching from the Great Colonnade and linked by an alley at the northern end. It is 79 m long and wide 26 cm on the average. An empty lot 26 m through 56 m was left in Antiquity between this insula and the Colonnade.[6]

The stone walls were preserved mostly at one level – 1.20 to 1.60 m above the ancient floors. The higher courses were raised in mud-brick and, after disintegration by erosion, the ground level rose nearly as high as the stone socle. The columns, some of which remained standing, belonged to three courtyards. We expected during the early stages of excavation that they represented as many separate houses as Gabriel had supposed many years ago. It soon appeared that this was not so [Figure 3]. When cleared, the rooms around these courtyards appeared to be connected and the whole block consisted of one single residence covering more than 2000 m$^2$. The rooms surrounding six courtyards occupied some 1200 m$^2$. Most of them once supported an upper storey, covering at least 770 m$^2$ more. With some 500 m$^2$ occupied by roofed porticoes, the total surface under roof reached some 2500 m$^2$, while the open courtyards covered about 350 m$^2$. There must have been terraced roofs on at least two levels above the rooms [Figure 4]. There were three entrances on the eastern side and four on the western one. The compounds into which they gave access were interlinked by several passages.

The courtyard of the compound I (loc. 13) at the northern end measured 10 m through 14 m. It was left unpaved and its two entrances from opposite sides led through narrow passages under flights of steps. The courtyard commanded several suites of rooms, some of which received stucco decoration applied on

[1] Stern 1977.
[2] Gabriel 1926.
[3] Gabriel 1926: 16-19.
[4] Wiegand 1932: Tafelband, Pl. 19.
[5] Frézouls 1976.
[6] Gawlikowski 1997; 2007.

Figure 1.View of the house from the north (*Photo M. Gawlikowski*)

Figure 2.View of the same house from the south (*Photo M. Gawlikowski*)

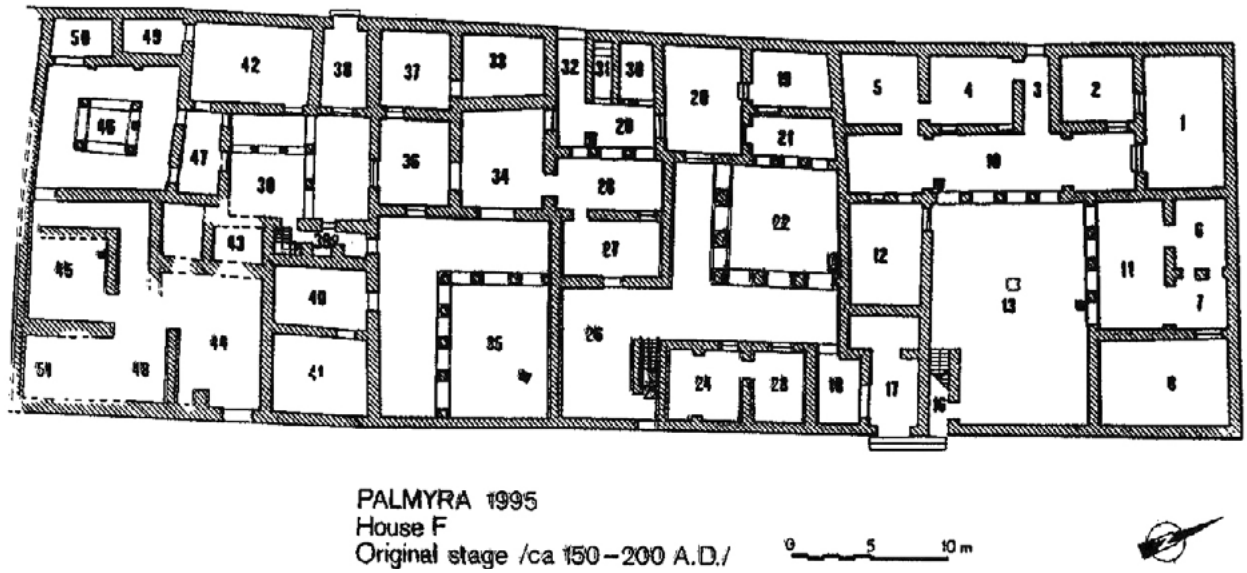


Figure 3.Plan of the house, original stage (*Drawing M. Smoła and others*)

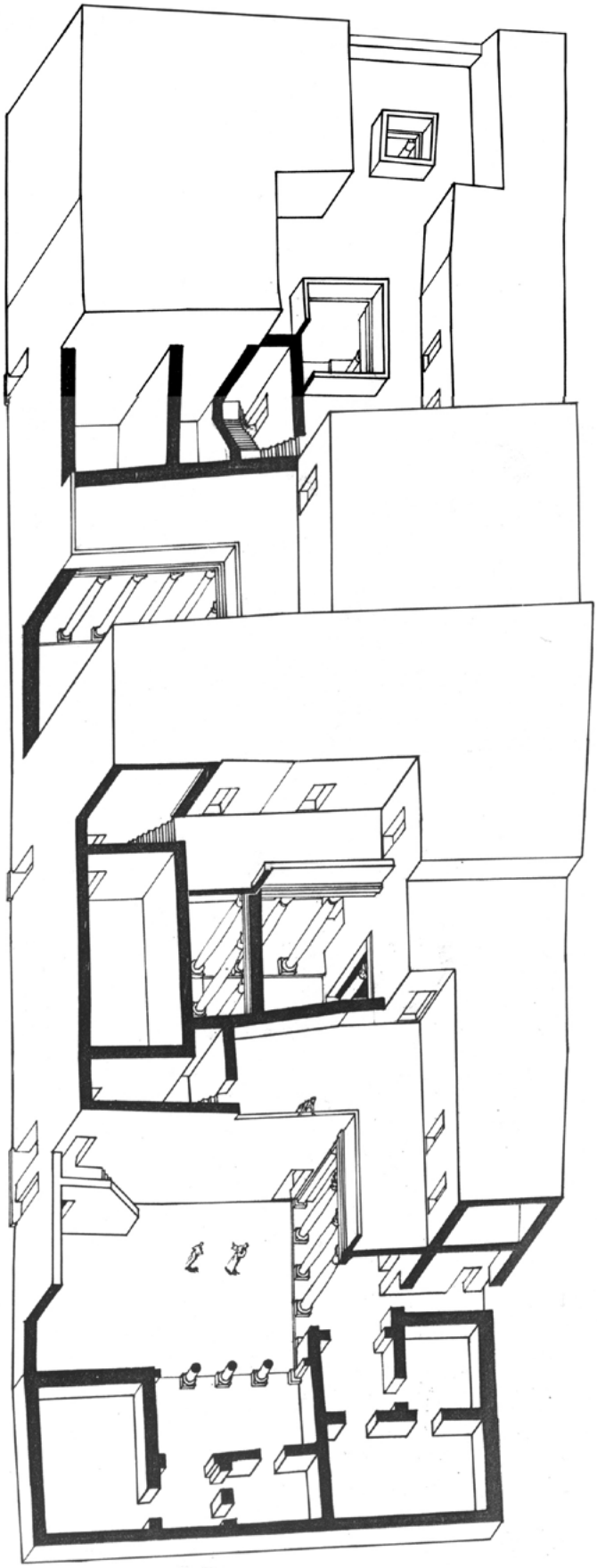

Figure 4.Axonometric view of the house (*Drawing M. Smoła*)

painted walls. On two sides, there are porticoes, each time consisting of three columns, forming a *pastas* of the kind best known from Olynthus. Each portico had a deep, closed recess at each end and commanded two suites of three rooms each. The rooms no doubt were doubled at the upper storey. While the upper rooms opened onto terraces facing south and east and could profit from the winter sun, those on the ground floor were protected from the summer heat by shaded porticoes.

There was no communication on ground level between the northern compound and its neighbour to the south. However, the irregular shape of the dividing wall makes it improbable that two different properties were involved. Moreover, the street doors of both compounds on the eastern side were built in one go, close to each other and having in common two steps carved in one block placed outside [Figure 5]. The entrance to compound I is a narrow passage under a staircase, with a lateral door leading into the courtyard. This very unassuming access obstructed the view from the street, even with both doors open. It is hardly possible that it could be used by anyone but residents. The larger entrance of the compound II opens likewise into a lateral room leading into the courtyard, but both rooms are rather more fit to be a guest access. They are part of a line of four small rooms loc. 18 to 24) with a staircase at each end (loc. 17 and 25). A simple calculation shows that the first flight of both stairs (admitting that the length of the stairs was equal to their height) must have reached a level much lower than that of the upper storey as indicated by the height of the columns. Therefore, we restored a mezzanine level allowing a passage between the compounds I and II. In this way, the two units were separated and yet connected. While compound I seems to be inaccessible to visitors, the other, on the contrary, apparently served as a reception suite. The elaborate decoration in both suggests that the first was not reserved for servants and slaves. Rather, we have here an example of separation between the secluded family rooms and the public part where men could receive their visitors. Such an arrangement mirrors, of course, the Ottoman division between *haremlik* and *salemlik* and illustrates the multisecular persistence of this habit from Antiquity to early modern times.

Compound II is laid out around square courtyard 22 measuring 6.50 m to a side, bordered by columns standing on a slightly raised stylobate [Figure 5]. There are four on the eastern side,

Figure 5.The double entrance to compounds 1 and 2 (*Photo M. Gawlikowski*)

Figure 6.The courtyard of compound 2 from the west (*Photo M. Gawlikowski*)

one of them incorporated into the dividing wall. To the south, there were only two more, one of which could be raised. They stand 5.50 m above their stylobate and carried only architraves without any other element of entablature. The level of the terrace above them should have been some 6.50 m above the pavement, that is at least 1 m higher than the terrace of the first courtyard, according to a similar calculation. A barrier was probably placed between the terraces to avoid accidents.

On the western side of the courtyard loc. 22, two reception rooms open. The larger one (loc. 20) could be reached under the portico, while the smaller room loc. 19 lies behind a porch of two columns *in antis* opening directly on the courtyard. Both were decorated with stucco friezes of which many broken pieces were found in the fill. The walls were no doubt painted, but no plaster remains in place. The rooms are accessible from each other and could also be reached from outside through the door in the western wall of the house and an L-shaped small courtyard commanding a lavatory and another small room, perhaps used for bathing.

Another access was provided from the east by a narrow passage under the stairs (loc. 25) which led into a lateral courtyard loc. 26. From there, one could cross the whole width of the house through a room opening with a porch *in antis* into the L-shaped western courtyard just mentioned. In spite of the numerous internal passages, the guests in the reception rooms could be easily isolated from the comings and goings around them.

They were particularly well insulated from compound III, also paved and adorned with columns, situated immediately to the south. It is even larger and commanded, directly or indirectly, no less than six rooms. It could be reached only through one of them,

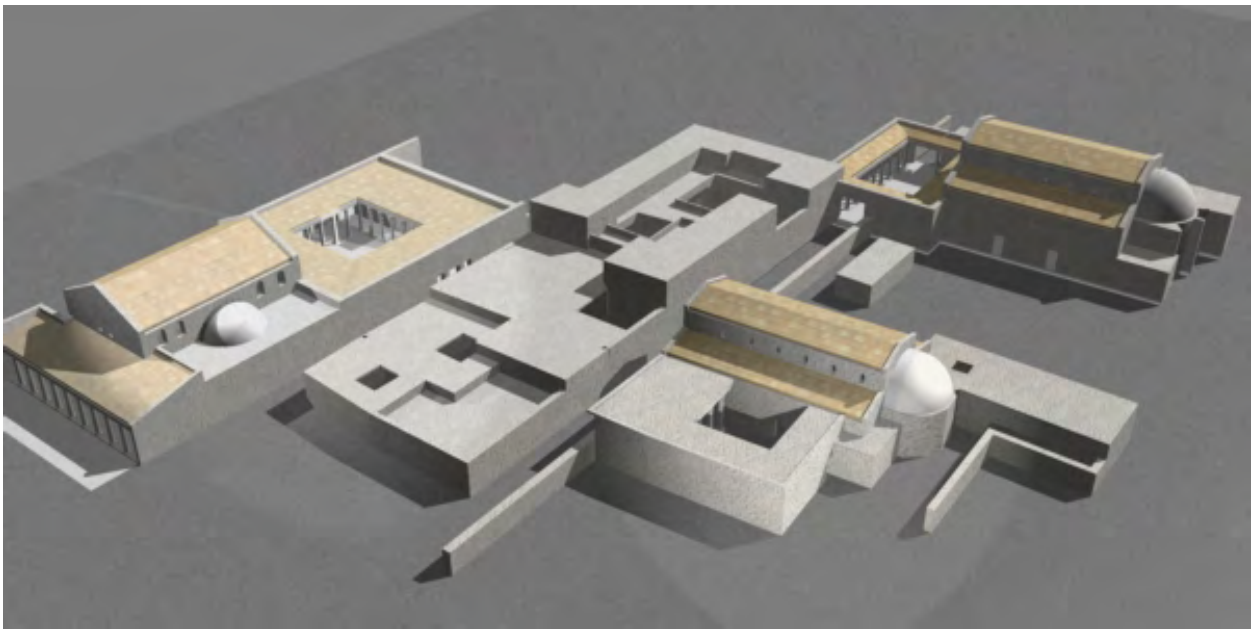

Figure 7.A 3D rendering of the house between the churches as seen from the north (*3D graphics D. Tarara*)

but a staircase allowed communication with the upper storey. The walls are preserved generally lower than in compounds I and II, and no trace of decoration was found. The strict separation of the two neighbouring paved courtyards and the secluded character of most rooms depending on the latter suggest lodgings of prominent womenfolk, as perhaps distinct from the equally secluded inhabitants of compound I. At any rate, communication between the two could be free only on the upper level via terraces of colonnades.

At the southern end of the house, there were three more courtyards, smaller and poorly preserved. Their functions remain obscure.

The date of the house can be inferred from the style of the stucco fragments found in several rooms. These friezes and cornices were put in place in the second half of the 2nd century AD, that is a little later than the approximate date of pottery sherds associated with the foundations. The house was clearly built on virgin soil as part of a massive development of the whole area north of the Great Colonnade. The column capitals found in the rubble confirm this dating.

It is obvious that the stuccoes fell when the wooden beams of the ceiling were removed from the abandoned house; this happened when a layer containing 8th-9th century sherds and a few Islamic coins had already accumulated on the floors. It follows that the house remained in constant use until this late date, about six centuries after being built. While some changes were introduced in the meantime, especially after an earthquake in the 6th century, showing various adaptations to a poorer and rustic way of life, the ancient walls and roofs remained mainly intact well into the Islamic period. As the house stood at that time between two churches on the opposite sides of both streets bordering it [Figure 7], it appears that the urban character of Palmyra did not change during the late period, at least in this part of the ancient city.

It is remarkable that there was no running water available. Five wells between 5 and 7 m deep dug out at various points could provide only a limited amount of water every day from the aquiferous level, much higher than it is today. More water was probably supplied in containers, in the absence of cisterns. There were only two lavatories emptying into the drains on both sides under the streets. No clear bathing and cooking installations were found except for those from the late period not discussed here. It seems that the household chores were performed using movable utensils, such as braseros and basins. There are no built-in benches either, and, of course, given the long lifespan of the house, no conclusions about the furniture from the Roman period can be advanced.

The main novelty brought by this excavation is the clear fact that one house could have several courtyards, each commanding a cluster of rooms of, perhaps, specific functions. This is already clear on the old plan of Krencker of 'a group of peristyle houses,'[7] probably only a part of a single rich dwelling. The standard type of dwelling in the Ancient Near East is of course a single courtyard house and it remained so through the millennia until the modern times. This is why the

[7] Wiegand 1932: Tafelband, Pl. 19.

same form was quite naturally considered as normal in the Hellenistic and Roman periods in this part of the world and excavators tried to see it even against a contrary evidence. For instance, a Hellenistic block excavated in Jabal Khaled[8] seems to me to have been one large residence, and the same is true about at least some neighbouring compounds in Dura-Europos. Only in the latter case was the actual situation recognised by a recent author studying anew the 'House of Lysias' there,[9] a residence of similar dimensions as ours (30 through 70 m) and thought to be the family residence of the highest official of the city. The custom of the communal life of extended families may be responsible for this kind of domestic architecture in Roman Syria, so different from known examples of Classical housing. However, the small number of excavated Syrian houses should invite caution in formulating sweeping generalisations. It is clear, for instance, that the late town houses of rich landowners in Apamea, such as 'Maison aux consoles' or 'Maison du cerf'[10] represent a different plan, centred on a single peristyle court, in tune with the Greek and Roman house elsewhere.[11] On the other hand, they share with Palmyra the fondness for columns and Classical decoration in general. The owners of our Palmyra house intended no doubt to proclaim in this way their belonging to the Graeco-Roman civilisation.

[8] Jackson 2001.
[9] Baird 2014.
[10] Balty 1989; 1997.
[11] Hanoune 1984.

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# Tell Farama (Pelusium). Roman City on the Mediterranean Coast

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**Summary**
Tell Farama (Pelusium) is one of the most important archaeological sites situated on the Sinai Peninsula. An attempt at reconstructing how the city was planned and how it functioned is the main subject of the analysis below. Many relicts that have already been excavated serve as a visual manifestation of a flourishing ancient city and give the possibility to research and reconstruct how this urban organism functioned and how it developed during the few centuries at the beginning of Common Era.

**Keywords**
Roman Theatre, mosaic decoration, grid plan, urban planning, water cistern, bathhouse, church, fortress, Zeus Casios temple, residential structures

The activity of the Polish Center of Mediterranean Archaeology in Egypt is widely known thanks to its many projects conducted in the past as well as those still ongoing. Most of the Center's work focuses, paradoxically, not on the research of remains dating back to the pharaonic period, but on the later processes connected with Alexander the Great's invasion of Egypt. In numerous cases, the results of excavations were very promising. Long-term excavations in Alexandria brought to light the spectacular remains of a complex of ancient university lecture halls, one of the most unique architectonic objects ever unearthed in the eastern part of the Mediterranean basin.[1] The excavations carried out in Alexandria, however, were not the only source of valuable information: those conducted on other sites also gave us some interesting insights from a scientific point of view.

In 2003, at the invitation of the SCA authorities, excavations in Tell Farama were started by a team from the Polish Center of Mediterranean Archaeology. The remains hidden under the sand were once a great city called Pelusium, which once flourished near the Mediterranean Sea coast [Figure 1]. During the next three years, at least five seasons of excavations were conducted until 2006, when the project was finally cancelled. Generally, the work of the archaeological team focused on the research on the ancient city centre. Since the beginning of the excavation project our attention was directed to the so-called, Great Theatre dating back to the Roman period[2] [Figure 2]. The question concerning the location of the theatre structure within the urban complex was fundamental from the beginning of the excavations. Before discovering the chronology of that architectonic object, the excavations leading to our understanding of the theatre layout were much more important. Test trenches opened inside the theatre structure gave us some important information concerning the shape, layout and functioning of both the *scene frons* and *pulpitium* structures [Figure 3]. The analysis of the technical features of the architectonic construction, as well as the design of the theatre building, led to the conclusion that the building was constructed at the end of the second or at the beginning of the 3rd century AD. This relatively late date inspired further investigation of the city centre's development process. Two trenches were opened in front of both entrances to the theatre, which revealed some earlier structures. The first of the mentioned trenches was opened in the western *parodos*. The excavations in that area resulted in the unearthing of some traces of mysterious architecture structures, which, most likely, were a part of baths, which the waterproof concrete floors and red brick walls recognised there indicate. The material collected during the excavations led us to the conclusion that those structures were originally built at the beginning of the 1st century AD. Supposedly, the structures were a part of a much bigger complex, probably a bathhouse. In the western corner of the theatre's *pulpitium*, a part of a relatively large basin was incorporated into the theatre structure. Taking into consideration the fact that both structures were built close to each other, it can be postulated that the theatre building was constructed on the ruins of the earlier bath complex functioning in the Pelusium city centre.

Some other clues concerning early occupation of the central part of the city were unearthed east of the theatre. Some traces of structures earlier than the theatre building were also brought to light there [Figure 4]. The character of those constructions clearly shows

[1] Majcherek 2004: 29-34; 2005: 17-25; 2006: 33-36; 2007: 24-28.
[2] Al-Taba'i *et al.* 2003: 271-283; Gawlikowski 2004: 67-72; Jakubiak 2004: 73-75; 2005: 61-68; Maślak 2005: 69-71; Jakubiak 2007: 125-135.

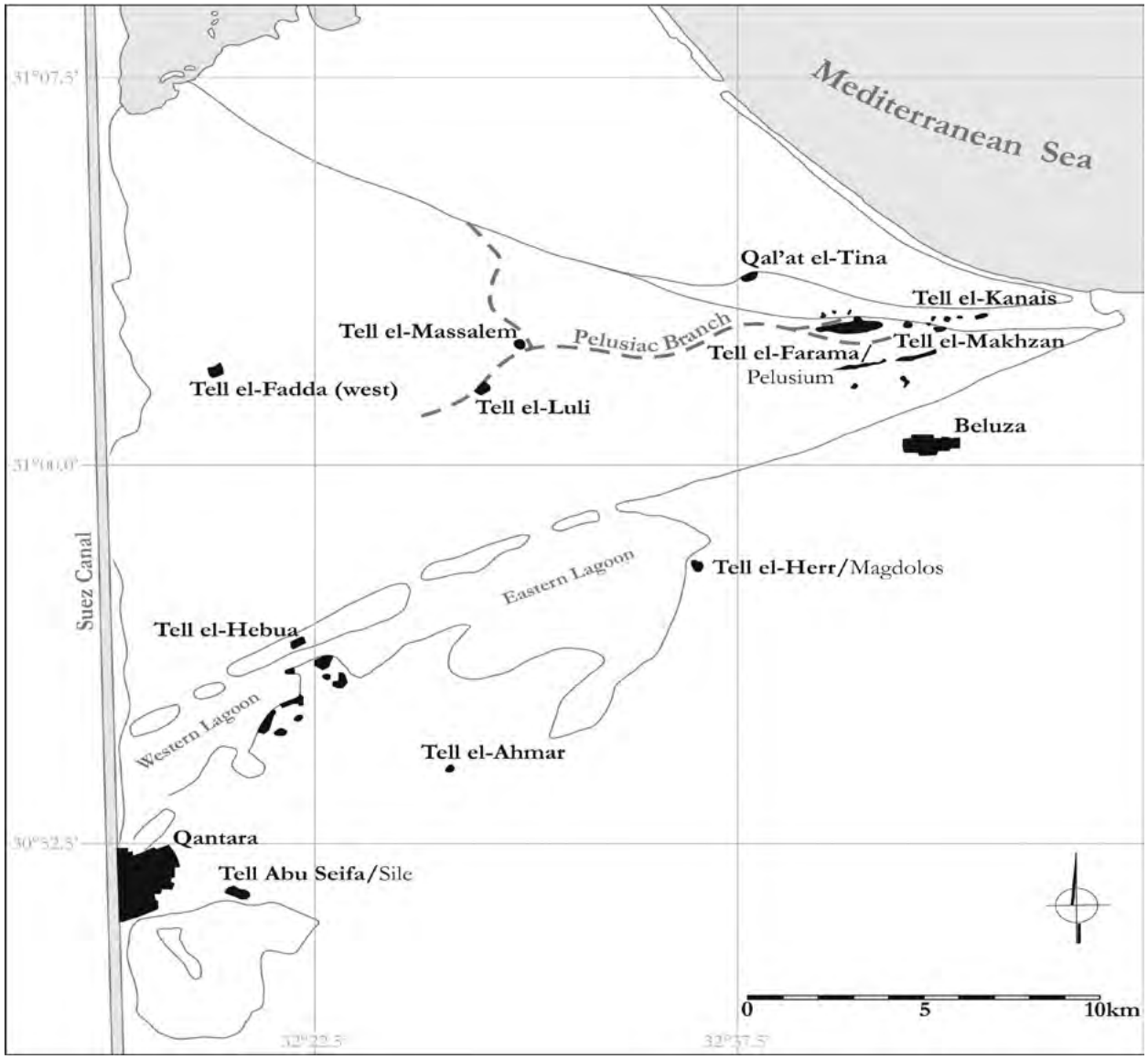


Figure 1. Localization of the site (*Drawing S. Maślak)*

that some elements were used for hydro technical purposes as well. The best preserved structures were doubtlessly a part of the sewage system built under the city's street network.[3] It is highly probable that the oldest fragments of the sewage system date back to the Ptolemaic period. The pottery material found there proves that the cleaned up structures come from the 2nd century BC. The material, discovered among the ruins of other architectonic relicts, dates back to the late 1st half of the 2nd century AD. In other words, the monumental structures made of stone and red brick, originally constructed north of the stone paved street, were still in use until the 2nd century AD. Unfortunately, the size, the character or even the traces of the layout of those structures was not possible to identify.

The excavations inside the theatre building and its vicinity, however, confirmed that the central part of Pelusium was rearranged when the theatre construction was being planned. Based on the discovered material, it was possible to assume that the earlier, almost completely razed to the ground, structures were quite monumental in character. Probably, they were considered to be the biggest and the most splendid architectonic structures of the Ptolemaic or early Roman times.

The question is, however, why those structures were not needed anymore: what happened or what factors provoked the decision to build the theatre right there. Before attempting to answer the above questions or make any suppositions, a short analysis of the Pelusium landscape is strongly recommended first.

[3] Jakubiak 2012: 52-53.

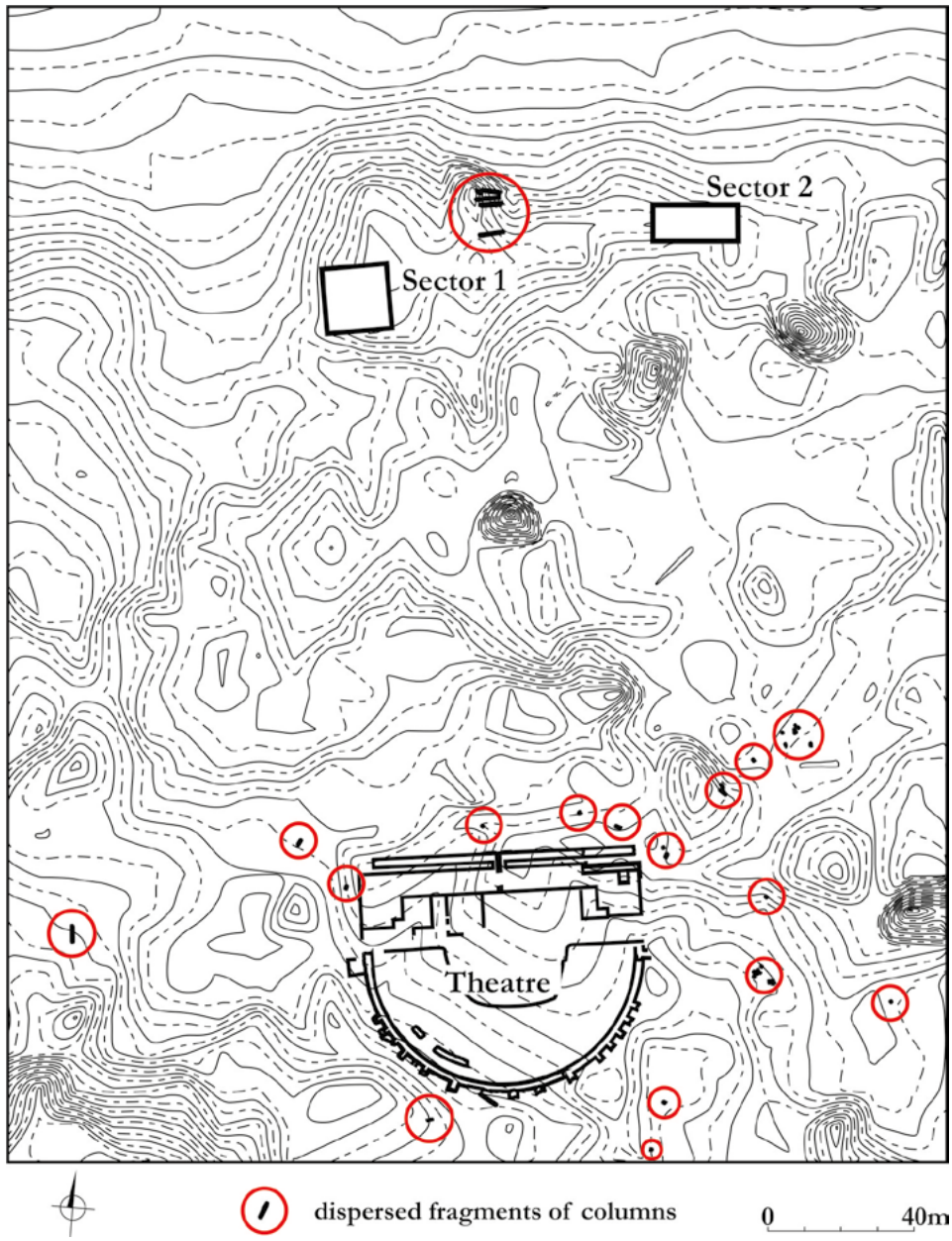


Figure 2. Plan of the central part of the site (*PCMA UW/ Drawing J. Iwaszczuk and A. Chabiera)*

According to historical testimonies, the city was founded by Psametic I and since the beginning of its existence was one of the fortified cities that blocked potential enemy attacks from the direction of Asia. Unfortunately, the only information we have at our disposal is a testimony left by Herodotus, who mentioned that Pelusium was established by Psametic I.[4] The excavations conducted on the site by several expeditions have not yet confirmed the information left by Herodotus.

Taking into consideration how dynamically the Pelusiac landscape developed, it cannot be excluded that the oldest fragment of the city was located in the westernmost part of the site. If the supposition is right, the remains of the Psametic foundations must have been covered by several meters of later deposits, dominating the adjacent area in the western part of the ancient town.

A Canadian project conducted in the western part of the city, or rather on the western outskirts, brought to light the evidence that a hippodrome used to function in that part of Pelusium.[5] The hippodrome was constructed among industrial structures which could have had a bad influence on the city's environment. Taking into consideration wind directions, the location was chosen rather smartly since all the inconvenient factors, such as bad smell, were kept out of the city's living quarters. Also, the hippodrome, being a great,

[4] Hdt. 2-141; 3.10-14.

[5] Grzymski 1997.

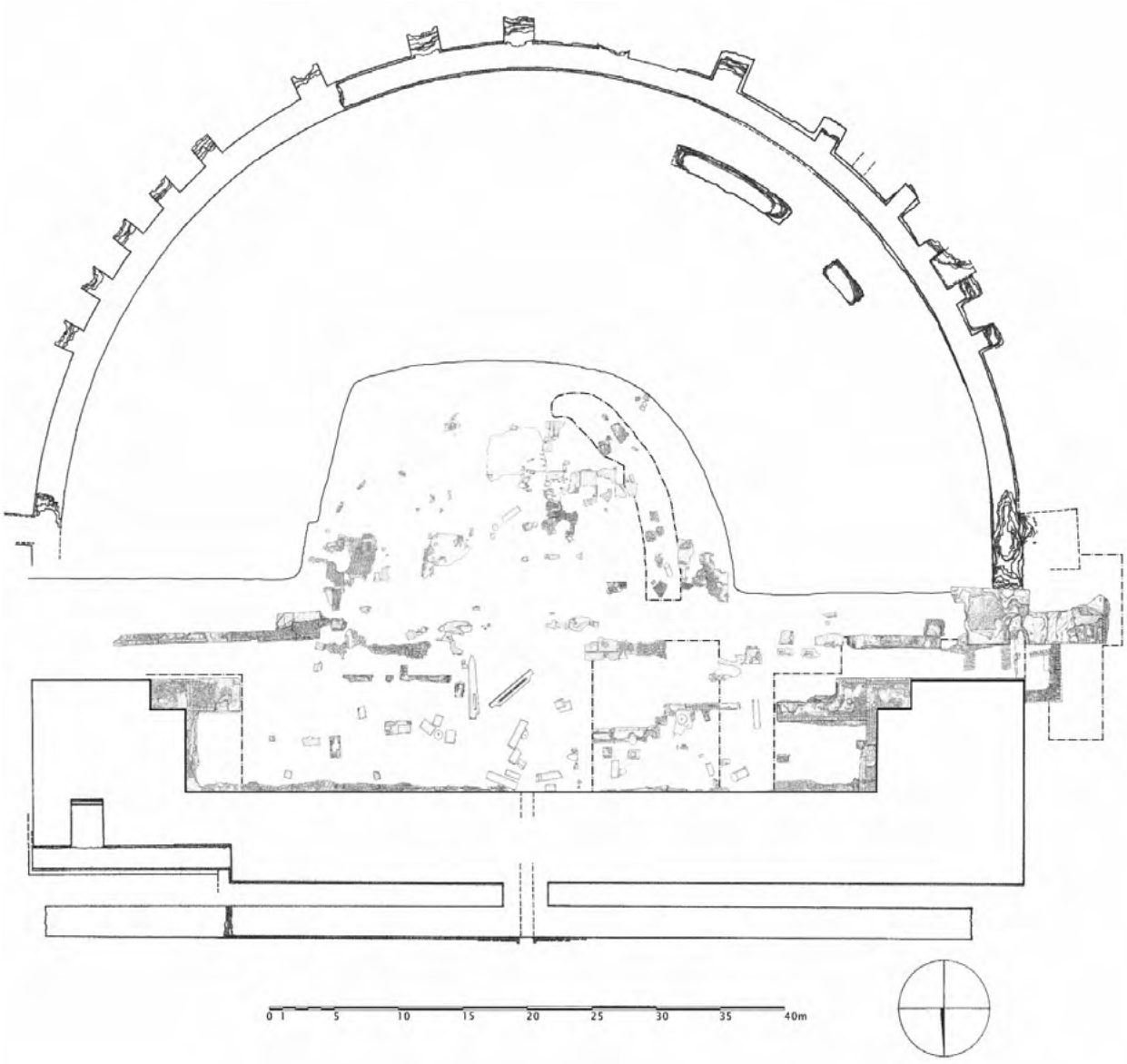


Figure 3. Plan of the theatre (*PCMA UW/ Drawing M. Smoła, K. Jakubiak, and S. Maślak*)

monumental structure, needed some empty space, so the outskirts with relatively stable ground guaranteed that the building could function without the risk of any construction disasters.

The western part of Pelusium is partially known thanks to the excavations conducted by Grossmann, who unearthed a so-called church with an atrium.[6] The sacral building has a circular layout with relatively large martyrion attached to the western elevation of the church, and an atrium building constructed in the eastern part of the sacral structure. The atrium is probably an effect of the later rearrangement of the church, which, most likely, can be associated with the cult of martyrs developing in the Late Antiquity.

Not only did Christian churches function in the city but also earlier religious structures. The area where a temple devoted to Zeus Casios was located was recognised by Clédat at the beginning of the 20th century.[7] The location south of the already mentioned church was confirmed thanks to some architectonic elements as granite column shafts and an inscription left by Trajan, which mentioned his dedication and donations for Zeus Casios. Unfortunately, no excavations could confirm the location of the temple. The evidence, however, is strong enough to be sure that in the postulated spot the Zeus Casios temple had to be originally built, especially if we take a look on the results of the geo-physic researches conducted in that area.[8] Taking into account the fact

[6] El-Taher and Grossmann 1997: 255-262.

[7] Clédat 1913: 79-85.

[8] Aziz *et al.* 2013.

Figure 4. Western *parodos* of the theatre (*PCMA UW/Photo K. Jakubiak*)

that temples were always among the most splendid structures in each ancient city, it can be postulated that some open space or a relatively large city square was situated in front of the Zeus Casios temple.

The central part of Pelusium is occupied by a large fortress dating back to the Late Antiquity period.[9] That monumental defensive structure was planned to be a stronghold against the Persian invasion of Egypt, which took place at the beginning of the 7th century AD. Pentagonal in layout, it is one of the most characteristic and dominant elements in the Pelusium landscape. The monumental and massive red brick curtain walls are partially reconstructed, but most of its characteristic original elements can still be studied. Unfortunately, the fort interior was not excavated except for several trenches opened near the north-western corner of the structure and the gates leading inside. Doubtlessly, the fortress was built on earlier deposits. The spot for the fortified stronghold was chosen smartly since it is situated on the highest point within the city area. Most probably, before the fortress was erected, that part of Pelusium had been abandoned and only the ruins of earlier structures were visible in the surrounding area.

South of the fortress, a large bathhouse complex functioned in that part of the city[10] [Figure 5]. The structure was spectacularly large compared to other buildings ever recorded in Tell Farama. The most characteristic element within that complex is a tetraconch structure, which is the most splendid part of the whole bathhouse [Figure 6]. In the Late Antiquity a western exedra was inserted and a kind of monumental entrance was consequently created there. This rearrangement was almost certainly associated with the establishment of a large church, using the tetraconch part of the building as a sacral structure. It cannot be excluded that, even though the western tetraconch part of the bathhouse became a church, the eastern fragment was still used according to its original purposes.

[9] Abd el-Maqsoud 1984/5: 3-8; Abd el-Maqsoud and Carrez-Maratray 1988: 97-103; Abd el-Maqsoud *et al.* 1994: 95-103; Abdal-Maqsoud *et al.* 2001: 17-20.

[10] Bonnet *et al.* 2006: 371-384; 2007: 247-260.

Figure 5. Southern bathhouse (*Photo K. Jakubiak)*

Figure 6. Tetraconch church from the southern part of Pelusium (*Photo K. Jakubiak*)

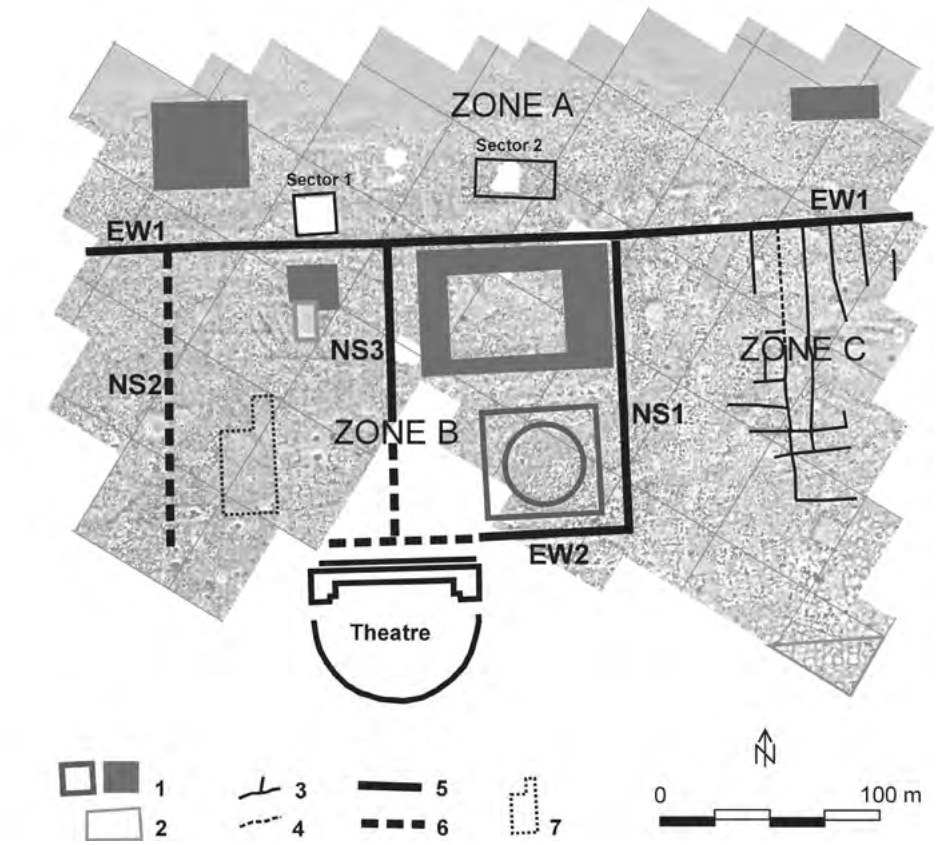


Figure 7. Results of the geophysics research (*PCMA UW/ preparating T. Herbich*)

Further east, a residential quarter was partially excavated by the Egyptian team. The structures also date back to the late antiquity period. The houses were mostly similar to one another, with basements in some of them, which were originally used as storages. Unfortunately, the information at our disposal is based on personal communication with the excavators as well as personal observation in the field. The results of the excavations are still awaiting publication. Nevertheless, thanks to this information, it can be postulated that Pelusium in the area of Tell Farama was still densely populated in the Late Antiquity.

This information is vitally important because the results of the Egyptian excavations can shed some light on the internal space organisation as a part of a huge urban planning system – especially since we do have several larger architectonic complexes, forming a part of the western city section. Most importantly, however, this part of the city still functioned in the dynamic, well-developed city area. The character of this sector of urban planning was rather dominated by monumental architecture such as the fortress, the bath complex and a large water cistern building, closing the western part of Pelusium.

Here, along the badly damaged façade of the water cistern complex, a part of the city began that was different in character. A large city square is situated in front of the cistern building. A flat, subsided and large rectangular area is clearly visible on the site's surface. This city square originally could have been an agora, but without excavations this supposition is only a hypothesis. The size of the open space, though, as well as the proportion of its width to length, is similar to Ionian style agoras. Taking into consideration the traces of the Pelusiac branch of the Nile, which ran along the northern city borders, it cannot be excluded that a kind of landing stage could have functioned along the northern side of the square. Less than one hundred meters west of the landing stage a kind of peninsula protruding in the water direction may be a trace of a western section of the river port, situated in the central area of the city. In its southern part, additionally, a small bathhouse with a mosaic floor decoration was brought to light.[11] Most probably, these baths coexisted with river port structures and could have been used by sailors or whoever was employed in that part of the city.

East of the city square, the character of the urban area changed. Here large residential quarters formed the most important element of the cityscape. The most important building in that part of the city was the previously mentioned Great Theatre, a partially excavated and reconstructed structure. In front of the theatre, a large building with a big circular chamber in its central section was recognised thanks to the non-invasive research methods used in that part of the city [Figure 7]. Taking into account the size, the layout, and the possible character of the structure, it is highly possible that it was a *buleuterion* or a city hall. Both of

[11] Abd el-Maqsoud 1984/5: 3-8; Abd el-Maqsoud and Wagner 1989: 135-138.

Figure 8. A mosaic floor decorated with a representation of a duck (*PCMA UW/Photo K. Jakubiak*)

these structures were doubtlessly dominant elements in the area. It cannot be overlooked that those monumental structures were built on two opposite sides of the street and decorated with columned porticos. The traces of porticos, in the form of red brick support substructures, made the swampy terrain more stable. Analysing the fact that both the theatre and possible *buleuterion* were situated in the central part of the city, the main communication axis can be easily distinguished there. Non-invasive methods also provided us with a lot of information about the internal space arrangement in that part of the city. The traces of two main streets running parallel in the east-west direction are clearly visible. Both arteries were planned to run through the city residential quarters made up of large and probably wealthy houses. Fragments of such a structure were brought to light in the northern part of the dwelling sector. The most characteristic aspect of the house was a vestibule which had been decorated with a mosaic floor with geometric motifs and representations of birds[12] [Figure 8]. According to the mosaic design and thanks to the artefacts discovered during the fieldwork, it can be confirmed that this wealthy house dates back to the 4th-5th century AD. Thanks to the results of the excavations in that part of Pelusium, it was possible to confirm that the residential quarters were still in use and that part of the city was still flourishing, even if the theatre had been abandoned and was used as a city waste dump.

The residential structures were extensively spread towards the east, along the two columned streets which were the most monumental arteries in the city. Both of the main streets, with numerous smaller streets running in parallel and perpendicularly, formed a regular Hippodamus grid plan [Figure 9]. The living quarters most probably ended near the Tell Makhzan mound, where a huge monastery complex consisting of three churches and other buildings supporting its functioning was built.[13] Moreover, in front of the monastery, a relatively large bathhouse was constructed, most probably, for pilgrims. The city borders were likely to be originally located there. In the

[12] Jakubiak 2007: 125-135.

[13] Abd el-Samie and Carrez-Maratray 1998: 127-132; Bonnet and Abd el-Samie 2000: 67-96; 2003: 75-93; 2005: 281-291.

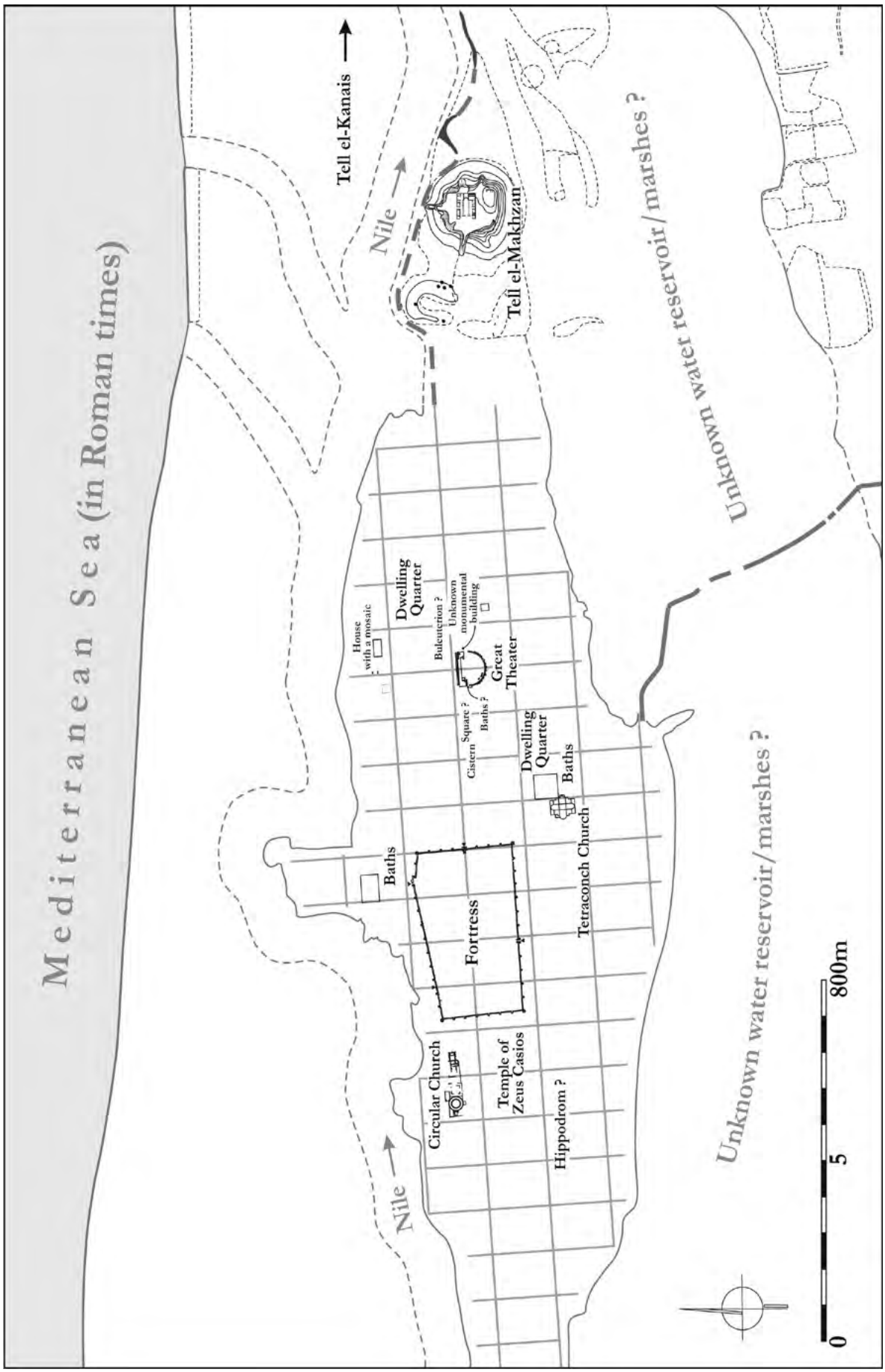


Figure 9. Pelusium, hypothetical reconstruction of the city.s street network with topographical landmarks (*Elaborating S. Maślak*)

Late Antiquity, probably in parallel to the monastery construction, the residential quarters and technical or rather industrial activity were moved towards the east. Based on the Swiss expedition's results, it can be postulated that several important structures functioned in this place, including a second, smaller theatre and landing stages pushed out from the city centre to its easternmost limits.[14]

Certainly, the short description of the most characteristic architectonic elements forming ancient Pelusium shows that the city was a big, wealthy and complex urban structure developing in the lagoon landscape of the Pelusiac branch of the Nile. Most importantly, however, the previously mentioned structures were constructed during the several centuries of the city's existence. Now, what is significant is how the cityscape looked in first three centuries AD. The question arises, therefore, how Pelusium looked at the beginning of our era.

In this case, the question essentially concerns where the central and consequently most important area of the city was located. Analysing all the available data, it can be postulated that the city centre can be reconstructed in the vicinity of the Zeus Casios temple, situated west of the Late Antiquity fortress. This hypothesis is based on the supposition that Zesus Casios was the highest among gods once worshipped in Pelusium. Since the epithet added to the god's name was connected with Mount Casios' domination over Antioch,[15] it shows that his cult most probably came to Pelusium with the incomers from the Middle East, who decided to resettle in Egypt. According to historical sources from the origins of the city, some of the population had Asian roots (Carians and Luwians).[16] As a consequence, it is not surprising that deeply rooted oriental cults were accommodated in Pelusium.

Even if the original cults of Zeus Casios were deeply fixed in the Middle Eastern tradition, here on Egyptian soil they certainly needed to be remodelled to include some local aspects. Unfortunately, most probably we shall never know much more about such a process. The specific role of that deity for the local society could be confirmed with new testimonies or ancient inscriptions, but the full character of the cult practices and the position of Zesus Casios within local believes seem to be impossible to guess without excavations in the temple. Moreover, as is manifested on the ground, some architectonic elements belonging to the Zeus temple date back to the Roman period. In other words, the remains visible in present times, show the last phase of the temple's development. Supposedly, the relicts of earlier sacral construction, even pre Hellenistic, could be located underneath the building.

All above suppositions lead to the confirmation that the oldest city centre must have been situated in the Zesus Casios temple vicinity. Here, in front of the temple façade, a city square was likely to have been located. It cannot be excluded that it was the oldest part of the city centre. With the city's development towards east, the city centre also stretched in the same direction. Possibly in the 2nd or at the beginning of the 3rd century AD the city centre was located east of the water cistern complex. Until the Late Antiquity period important, monumental and significant architectonic structures were built in the eastern part of the city. The location of buildings such as the Tell Makhzan convent complex or the second theatre from Tell Kanais, show, in my opinion, that Pelusium's development was dynamic in character. Most probably some fragments of the city were abandoned. The areas which became free from the buildings still being in use were located in the western and central part of Tell Farama. The traces of the removal of the building material were discovered in all the sectors excavated in the central part of the Tell Farama. Even some elements from the great theatre were extracted and most probably became a part of the fortress' circumferential walls. The results of the excavations and the observations of the fortress' architectonic elements seem to confirm that the central part of the city was rearranged at the beginning of the 7th century AD.[17]

Based on the data at our disposal, it is possible to reconstruct the urban planning arrangement and the special organization of Pelusium at the beginning of our era, as it was already mentioned. The western part of Tell Farama, where the most important, sacral structure devoted to Zeus Casios was recognised in the terrain in present times, indicate that the city centre was situated right there. Looking west of the remains of the Zeus Casios temple, relatively old or even the oldest structures or public buildings were supposedly located in its vicinity. Relatively thick archeological deposits in the Zeus Casios make the search for the early remains of the city interior arrangement extremely difficult. It can be assumed, based on the excavation results, however, that the whole city needed to be planned according to the Hippodamus principles of urban space organisation. In the central part of the city, thanks to the electro resistance and magnetometric research methods, it was possible to confirm the general layouts of the *insulae* system widely spread along two or even three main arteries running in the east-west direction. Along those arteries a number of houses formed the

[14] Jaritz *et al.*1996.
[15] Strabo. 16.2.5; Amm Marc. 22.14.4-5; Malalas 8.327.
[16] Hdt. 2-141; 3.10-14.
[17] Abd el-Maqsoud 1984/5: 3-8; Abd el-Maqsoud and Carrez-Maratray 1988: 97-103; Abd el-Maqsoud *et al.* 1994: 95-103; Abdal-Maqsoud *et al.*2001: 17-20.

urban area. Between the Zeus Casios temple and the area where the theatre building was constructed in the late 2nd century AD, two gigantic structures were located. It can be postulated that the water cistern building was not built in the city centre by accident. Such a location could guarantee that the whole urban area had an equal and relatively easy access to fresh water. This monumental building was most probably a central point in the cityscape. The only question is to which period the cistern structure can be dated back. It cannot be confirmed without precise excavations that the water cistern building was erected in the 2nd century AD or even later, as the latest research proposed the 4th-5th centuries AD.[18] Unfortunately, we know literally nothing about the space organisation in the area where the Late Antiquity fortress was constructed. It cannot be excluded that at the beginning of the Common Era residential quarters were located in that area. The shape of the terrain rising above the surrounding area would have predetermined that space for a military construction location. Moreover, the natural shape of the accumulation might mean that the fortress was constructed on top of earlier structures that had been abandoned for a long time. Consequently, the whole area was exposed to the natural process of deposit accumulation. The ruins were covered by sand and, in result, it was probably not necessary to tear them down. The confirmation of this supposition shall be possible only if archaeological excavations reach that part of the ancient city.

The only way to reconstruct the Pelusium's space arrangement at the beginning of the Common Era is through topographic observations. Even if the conclusions cannot be final in character, some elements can be recognised and may be useful for our better understanding of the cityscape and its internal arrangement. What seems to be crucial in this respect is the magneto metric and electro resistance research conducted on the site parallel to the excavation project. The results show that the main street, most probably planned as the most important and monumental artery within the city, ran along the east-west axis dividing Pelusium into two sides: northern and southern. That street, as may be assumed, was a kind of communication artery of the city as well as one of the fundamental elements when the ground plan of the city was created. If that is indeed the case, the Great Theatre was later constructed along the southern side of the street. The excavations confirmed that, at least along the theatre, the street was finished with columned porticos. What was essential, however, is that the street needed to facilitate communication from the eastern to the western city limits. Under such circumstances, the water cistern building construction rendered such communication impossible. This means that this building was constructed during the time of the central space of the city rearrangement.

It was no accident, however, that the eastern gate to the fortress still respected the street course.The gate is slightly narrower than the street reconstructed in front of the theatre. If the street is correctly reconstructed, it is possible to make a supposition that the oldest and the most important city square was located along its southern side. Analysing the cityscape, it seems possible that the central street never ran in the Zeus Casios direction. The artery probably ended or passed by the temple around 40 meters south of it. If this assumption is correct, the temple was hypothetically located in the central part of the western side of the square. As far as the proportions of the square are concerned, it was 80 meters long and 60 meters wide. The area in front of the column shafts, which were originally a part of the temple's portico, is flat without any traces of architectonic remains visible on the surface. That flat and not built-up area visible in the present is almost the same as the postulated square shape and size. Taking into account the natural shape of the layout that developed along the alluvial accumulation brought by the Nile, the postulated reconstruction of the main city square seems to be highly plausible.

The other two arteries which were discovered thanks to the surface recognition can be only reconstructed in the central part of Tell Farama. Both of them are located south and north of the main street respectively. The northern street, which was traced almost parallel to the central street, was slightly bent just to respect the natural shape of the terrain. Although it is still impossible to confirm, at least in some fragments the street was decorated with columned porticos. East of the already excavated areas, one of the column shafts is still visible *in situ*. The shape of the terrain is crucial for a better understanding of the function of that street as well as its estimated length within the city layout. Generally, the northern street is slightly bent towards the south and runs in a westwards direction. In such a way the *insulae* layout was regular and proportionally spread along the northern city limits. The excavations north of the street brought to light the remains of some badly destroyed residential structures dated back to the 4th-5th centuries AD. All of those buildings were constructed on earlier structures, most probably from the Ptolemaic period. This supposition is based on the pottery analysis, which was unearthed during the fieldwork, as well as those found on the surface. The observations are of such importance because they confirm that Pelusium, even in the Hellenistic times, covered the area of the whole Tell Farama and was a large (around 2 km long) urban centre in the Sinai Peninsula.

[18] Dalahaye 2005: 299-305.

A careful analysis of the terrain, supported by non-destructive methods, seems to support the hypothesis that the northern street ended on the eastern borders of the square detected north-west of the Great Theatre. Most probably, the northern street was attached to the south eastern corner of the square. The area where the square was located is clearly visible on the surface. The square opened onto the Pelusiac branch of the Nile and was probably a part of a dock.

The urban space between the northern and the central of the main streets was a large dwelling quarter spreading east of the city square. Several houses were detected during the magneto-metric and electro resistance research. Ground layout analysis can confirm that this part of the city was occupied mainly by large and probably wealthy houses. These assumptions can be supported by the research results in the northern part of the city, where a wealthy house with fragmentary preserved paved floor was partially excavated.

South of the Great Theatre, the last long street was partially recognised. Here the traces of the communication artery were located on the surface in several parts only. The area south of the theatre has never been covered by any non-destructive prospection. Therefore, it is still impossible to ascertain how the urban space arrangement was originally planned there. The character of the architectonic remains visible on the surface, however, leads to the conclusion that the residential structures were also the dominating element of the cityscape there. Besides the houses, the ruins of a red brick structure, initially interpreted as a granary house, are one of the best preserved structures survived among other ruins. The building cannot be interpreted as a granary any longer as some of the survived structure created hydrostatic pressure good enough for water distribution among the eastern city quarters. The only problem is the age of the structure. According to the pottery evidence, this building could not have been constructed later than the beginning of the 3rd century AD. It cannot be excluded that the building was constructed earlier during the 2nd century AD. The last supposition has a speculative character only since the above hypothesis cannot be supported by any evidence.

The eastern part of Pelusium opens east of the Tell Makhzan church complex. The sacral site is situated on the remains of the necropolis which was originally situated outside the city limits. Most probably, the place for such a big church complex was not chosen accidentally: the remnants of an unnamed martyr were probably buried here. The martyr must have been extremely popular among the local community since the complex consisted of three churches, a large baptistery and a convent, all of which formed one architectonic organism.

Generally, the remains located on Tell Kanais, which is a large, but low mound situated east of Tell Makhzan, belonged to the latest chapter of the urban space development. Moreover, a relatively large bathhouse was constructed in front of the church complex.[19] The building needed to be build up for the numerous pilgrims who must have visited the sanctuary. Based on the excavations and surveys conducted by the Swiss expedition, it can be estimated that mostly commercial and industrial activity was focused here in the Late Antiquity period. A sea port, where a lot of goods were exported and imported from and to Pelusium, must have been located in that part of the city. It cannot be forgotten, however, that all the architectonic structures being a part of Pelusium's eastern area were active in the Late Antiquity only.

The short description of the Pelusium's urban space development shows that the process of the city expansion to the east was dynamic in character.

Most importantly, a number of the structures analysed above were not built in the first four centuries AD. The main goal, therefore, is to attempt to reconstruct the urban space of the city at the beginning of the Common Era. Pelusium's urban structure changed or the development (rather than a simple change process) dramatically sped up in the dawn of the Christian Era. The process of Christianisation involved a large investment which was visible in the construction of at least four or even five churches within the city. Those architectonic structures, newly constructed or adapted to a new religious function, doubtlessly transformed the urban space arrangement. Moreover, the fortress, which was constructed at the beginning of the 7th century AD, had a significant influence on the cityscape, as well. Consequently, the structures which appeared in the Late Antiquity period completely blur the original or early structures and urban space internal organisation.

The question arises, if we have enough information at our disposal to make an attempt at reconstructing the original urban planning. In my opinion, based on the city space observations, surveys conducted during the excavations, electro-resistance and magneto metric research and, finally, the excavations, it is possible to reconstruct the original city plan from the beginnings of the Common Era. Certainly, the most crucial factor for our understanding of the original topography are the results of the electro-resistance and magneto metric research.

As mentioned above, the magneto-metric research was conducted in the area situated north of the Great Theatre. The results clearly show that this part of

[19] Bonnet and Abd el-Samie 2005: 281-291.

the ancient city was occupied by relatively large and wealthy houses situated along a well-planned and designed grid street plan. The pattern of the urban space arrangement seems to be repeated in the vast area from the water cistern, situated west of the theatre to the Tell Makhzan church complex, situated beyond the city limits. According to the site prospection completed alongside the excavations, it was possible to confirm that the architectonic remains visible on the surface resembled the dwelling houses recognised during the research using non-destructive methods. If the observations are correct, a large central part of Pelusium's was occupied by the residential quarters which were designed along three monumental streets running in the east-west direction, generally. Those three streets were essential to the city's functioning and were fundamental for the Hippodamus grid plan urban space organisation.

Most probably, a large water cistern building was the most dominant element of the urban landscape of the central part of the city. The water cistern complex location in the city centre had important consequences. First of all, the three main arteries, characteristic for the eastern part of Tell Farama, stopped dead in the vicinity of the cistern building. Most probably, a street running along the eastern façade of the cistern made communication possible. Only one street connected the eastern part of the city with the quarters situated west of the cistern. Only the southernmost street could be the artery which ran along the southern façade of the water cistern as well as along the northern façade of the southern bathhouse complex. In this way the southern street seemed to play the most important role in the internal organisation of the urban space. The major role of the street was doubtlessly connected with the functioning of the bathhouse complex. When the monumental baths began to play an important role in the city life, the southern street probably became the main artery in the city layout.

Behind the water cistern, the western part of Pelusium extended up to the remains of the hippodrome situated behind the western city outskirts. This part of the urban planning arrangement is much more difficult to reconstruct because of the numerous factors that influenced the city development process in the Late Antiquity period. The accumulation of the later periods' settlement remains and thick sand deposits made observations very difficult. In the area where at the beginning of the 7th century AD the large fortress was constructed, the research of the traces of earlier occupation is almost impossible. It cannot be forgotten, however, that the fortress construction process was possible in the part of the city which could have been abandoned in the Late Antiquity. Certainly a levelling process needed to be conducted to make the large area ready for rearrangement. This probably almost entirely destroyed the original, or rather earlier, architectonic structures which had been essential for that part of the city at the beginning of the Common Era. It cannot be excluded that several important public buildings, fundamental for the city life, functioned there. It is also highly possible that the original city centre was located close to the fortress's western curtain wall. That last supposition can be supported by the fact that the remains of the temple devoted to Zeus Casios were noticed around one hundred meters west of the curtain wall and in the temple's vicinity the original city centre must have certainly been situated. Even if from the municipal point of view the city centre was not there, with no doubt the most important, if not emblematic for Pelusium, temple was the beating heart of the city's religious life. It cannot be excluded, however, that the oldest remains of the city are hidden under the sand in western part of Tell Farama (Pelusium). Supposedly, they are the remains of the town founded on Pharaoh Psametic I's order.

The last architectonic monument discovered in the western part of Tell Farama was a round church with an atrium structure attached to it. The church building constructed in that part of the ancient city doubtlessly shows that this part of the urban space was still vital and used by the city population. It cannot be excluded, however, that this religious structure could have been constructed on an uninhabited area, on the ruins of the earlier architectonic constructions. The function of the church is still a mystery to me, since, according to our present knowledge, the residential structures shifted eastwards from the large cistern building that dominated the city centre. One of the most plausible hypotheses is that the church was constructed for a martyr who had been buried in a square in layout structure, the underground rooms attached to the western part of the church. The whole structure with a campanile built near the church is one of the most untypical Christian sacral structures ever excavated in Pelusium. As Peter Grossmann and el-Taher pointed out, the church most probably was heavily damaged by the Persians who invaded Egypt in AD 619 led by King Chosrow.[20]

**Conclusions**

Taking into consideration all the information available nowadays, it can be preliminarily assumed how Pelusium could have been arranged and how it might have looked in the first centuries of Common Era. Analysing the traces of the urban space organisation and architectonic remnants, it can be confirmed that the city in the Hellenistic (Ptolemaic) period or at the beginning of the Roman domination was generally

[20] El-Taher and Grossmann 1997: 255-262.

planned according the Hippodamous method of urban planning principles.

The lack of data, however, made the proper and precise location of the city squares, where the social life of the city doubtlessly focused, impossible. One of the most important structures, which had a great influence on the arrangement of the city, was definitely the temple devoted to Zeus Casios.As is commonly known, there was usually a free space left in front of a sacral structure. Without regular excavations, however, which are impossible to conduct right now due to many reasons, we will never be able to answer the questions concerning the character, the layout and the finishing of the square as a part of the space arrangement in front of the temple. In the western part of the city, though, life was certainly concentrated around the monument and the square was an essential part of the urban space organisation.

Unfortunately, the Zeus Casios temple is the only structure which can be identified in that part of the city. It needs to be added, though, that only its location is known and the sacral structure has never been, even fragmentarily, excavated. That is why our knowledge concerning the space organisation in the western part of the city is still incomplete. The only assumption that can be made is that most probably the oldest part of the city must have been located there. The temple devoted to Zeus Casion also supposedly respected the space of the original sacral structure. If the above supposition is right, the original city centre must have been situated in the vicinity of the temple. The layout and the area of the original city was very modest compared with the later (Hellenistic and Roman) periods.

At the moment it cannot be ascertained what the city expansion process towards east looked like and how much time was needed for the city to reach the central and eastern parts of Tell Farama. According to our observations from the field and the analysis of the results of the excavations in the vicinity of the Great Theatre, it can be postulated that the process must have been relatively dynamic. The structures brought to light during the excavations in the area adjacent to the theatre's entrance date back to the late Ptolemaic or early Roman period. The character of the excavated structures seems to confirm that monumental architecture dominated the cityscape in the central part of Tall Farama. East of the theatre *parodos*, massive substructures made of red bricks and stone blocks were cleaned up. On the floor level some lime flagstones survived in their original position. All the discovered fragments can confirm that there was a large architectonic structure, possibly of a public character, functioning at the beginning of the Common Era or even earlier in the late Ptolemaic period. The latter can be proven by the pottery findings which were a part of the deposit discovered among the substructure elements.

At the eastern entrance and under the theatre substructures, other red brick and waterproof concrete structures were cleaned up. Those architectonic remnants along with the mysterious hydraulic structure incorporated within the western part of the theatres *pulpitium* doubtlessly belonged to a large building which had supposedly been a bathhouse from the 1st century BC/1st century AD. The dating of this hypothetical structure is also based on pottery analysis. Moreover, several fragments of Tanagra type figurines as well as fragments of the Hellenistic pottery of the Pergamon provenience were brought to light in the foundations of the structure. The last mentioned material can shed some light on the Ptolemaic period activity on the site. The only information we have at our disposal at the moment is that 2nd century BC material was found. Unfortunately, no architectonic structures from that period were detected in the trench.

Not only was Hellenistic pottery material discovered in the trench opened at the western entrance to the theatre but in the theatre vicinity, especially east of that monumental structure, a number of the Hellenistic potsherds were also recognised on the site surface. Taking into consideration that this part of the city was occupied by residential quarters, it can be postulated that since the beginning of the architectonic activity, the character of the constructions did not change. Most probably, under such circumstances, the street network did not change for several hundred years, either. In the eastern and central parts of the city, the only changes in the city grid plan were implemented during the theatre construction process and later during the construction of the church in the south-eastern part of the residential quarters. The church, as a relatively late structure, was most probably incorporated into the already abandoned area.

Generally, it can be assumed that the three main streets, as already mentioned above, functioned as the main arteries, making communication within the city easy and convenient. The most important factor seems to be the central street as it looked like the city's 'backbone,' facilitating communication along the eastern and central part of Tell Farama. The northern street, also monumental, supposedly stopped dead in the area of a large city square attached to the landing piers situated along the Pelusiac branch of the Nile in the northern part of the city. The last street, situated in the southern part of Tell Farama, can be recognised only in short fragments. Consequently, a hypothesis that this was the longest street in the entire city cannot be confirmed. According to the topographical observations, however, it cannot be excluded that this artery could be the only one which was never

blocked by the building later erected in the city centre. The water cistern and the Late Antiquity fortress were doubtlessly constructions that completely demolished the earlier urban space arrangement. Under such circumstances, the southernmost street could have survived all the rearrangement processes, which took place in Pelusium's central part while it functioned. In other words, it was the only street which made communication from the easternmost to the westernmost city limits possible. Moreover, it cannot be excluded that all the streets discussed above were traced in the Hellenistic/Ptolemaic period when a general city layout had been created. That is why, most probably, the area between the fortress, the large bath complex and the tetraconch structure was left free. Most probably, the southern street ran between those architectonic complexes.

Doubtlessly, those three streets were the most 'conservative' elements in the whole city layout. This may be connected with their ultimate function of making communication within the city possible, even though at least two streets were rearranged in the course of the changing of the cityscape. According to the observations in the field, the central street most probably originally ended in the square in front of the Zeus Casios temple. If this assumption is right, some other monumental and public buildings dated back to the late Hellenistic or early Roman period, must have been buried under the thick deposits in the place where the fortress dominates the archaeological site landscape right now. It cannot be excluded that a central city square was also located there. Not all the public structures were situated in the area presently occupied by the fortress. As previously mentioned, in front of the Great Theatre another architectonic structure, which most probably was a *buleuterion*, was discovered during the non-destructive research. If the *buleuterion* building was originally situated there, it means that public structures were widely spread along the central artery of the city. The only problem is that right now the mentioned structure is located under a parking area, which excludes any future excavations. Consequently, we shall never know how old the structure was and for what purposes it had been built.

It cannot also be ruled out that the area in the vicinity of the Great Theatre played a relatively important role in the urban space arrangement after the beginning of construction work in that part of Pelusium. Two fragmentarily recognised monumental structures excavated in the theatre vicinity seem to support the above supposition. Both of them were probably public buildings.

Analysing all the possible data concerning the city urban planning changes over hundreds of years, it is possible to partially reconstruct the urban space layout from the beginning of the Common Era. In short, taking into account all the above observations and evidence, it can be postulated that the city was divided into four long sections running east to west. The sections were located along three main streets recognised among the ancient city remains. Additionally, the western part of Pelusium must have been the oldest part of the town, which spread eastwards dynamically in a relatively short time. The city centre, supposedly originally located near the Zeus Casios temple, moved to the area which, at the moment, is occupied by the late Roman fortress and central water cistern building. East and south of the mentioned structures, commercial buildings were probably situated in the residential quarters. Residential quarters were generally located in the vicinity of the *buleuterion*, as well as east and south of that municipal structure. Such a monumental building as the Large Bathhouse situated in the southern part of the city also shows that a big structure was needed by the citizens of Pelusium. Moreover, that monumental building definitely dominated that part of the city.

The last question concerns what happened in Pelusium's history that could explain the fact that such a large entertainment structure as the theatre was incorporated into the functioning urban space of the city centre. We will probably never solve this problem but, without a doubt, it was a large architectonic interference in the layout of the city. Some of the earlier structures had to be demolished first. Then the area of at least two *insulae* along the central street, needed to be rearranged. What must have happened then to justify such a huge project? This was likely to have been just after 212 AD when *Constitutio Antoniana* was introduced by Cesar Caracalla and stated that all free people automatically received Roman citizenship. The decree also changed the character of many urban structures, which had never been proper cities from the Greek or Roman point of view. One of them was also Pelusium, which became a 'real' city around that time. As a visual manifestation of the new city status, the citizens of Pelusium decided to build a theatre. Such structures were associated with city status and were emblematic for every city. That is why, I suppose, the Great Theatre in Pelusium, a symbol of the city's prestige, was created in the city centre, not in the outskirts. The only acceptable location from that perspective was the heart of the city.

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# ‘Life after life’ of the House of Leukaktios after the Earthquake in 365

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**Summary**
In 2002 Polish archaeologists under the direction of Tomasz Mikocki, from the Archaeological Institute of the University of Warsaw, started excavations in Ptolemais (Cyrenaica) that lasted until 2011. Their most spectacular discovery in the very centre of the ancient town was a large and rich Roman house (*villa urbana*), owned at the end of all its construction phases by Leukaktios. This house with a peristyl, two *triclinia* and several rooms, with floor mosaics and wall paintings was twice destroyed in the middle of the 3rd and the 4th centuries by two great earthquakes. After this later catastrophe the house changed its character completely: the central part of the villa remained in ruins while in its eastern part a furnace for ceramics was installed and above its northeastern angle the large rectangular hall was constructed. The hall had a majestic apse facing southwards, incorporated in a massive, external wall made of reused limestone blocks. The main door to the hall was in the centre of its short façade in front of the apse, but in its long walls there were four smaller doors to other rooms not yet excavated. A long fragment of the spirally fluted column of dark grey marble (*bigio antico*) was found in 2008 in the northeastern corner of the hall. This discovery together with impressive dimensions of the hall, its large apse and with rests of a white and polychrome plaster fallen from the walls on the floor indicate a very representative character of this hall that has been any way typical in private Late Antique residences not only in Ptolemais, but all over the Roman world.

**Keywords**
Late Antique, house, apse, apsidal hall, spirally fluted column

Ptolemais (now Tolmeitha) is still waiting to be discovered in detail, unlike other towns in Cyrenaica–e.g. Cyrene (now Shahat), or Apollonia (now Marsa Susa), which were extensively excavated every year over a long time until 2011. Although Italians, British, American and finally Polish missions have discovered some extraordinary ancient buildings at Ptolemais [Figure 1], their research has been concerned on particular building complexes and monuments. However, the real innovations in this original research are the studies of the general topography of the town made by Carl Kraeling fifty years ago,[1] and recently by Krzysztof Misiewicz and his geophysics team.[2] Unfortunately, the current, political situation in Libya makes it impossible to proceed further, so I would like to present my own modest participation in the Polish excavation, despite the lack of hope for any real finalisation of this work.

The towns just mentioned are located in Cyrenaica, Eastern Libya, only around 900 km westwards from Marina el-Alamein. Let me begin with some general remarks concerning the position and the history of Ptolemais in order to show the difference between the rise of the towns in Cyrenaica compared to Marina, not to mention Alexandria. Ptolemais, like Teuchira (now Tocra), which is just to the west and Euesperides (now Benghazi) further west, is located on the wide fertile strip between the sea and Gebel Akhdar (Green Mountain). This location differentiates these three towns from the other famous metropolises of ancient Cyrenaica, which are positioned on Gebel Akhdar’s terraces, like Cyrene, to the east, and Barce (now Al-Marj), to the southwest of Ptolemais. The foundation and the growth of all these towns were initially related. Ptolemais was Barce’s port (distance of around 32 km), just like Apollonia, which was Cyrene’s port. The first town founded by Greek colonists was Cyrene, in the 7th century BC. Then, in the middle of the 6th century, some of Cyrene’s inhabitants moved to and its flourishing port was in the area of the later settlement named Ptolemais, which became then even more important than Barce in the Hellenistic period possibly because of the increasing importance of its harbour.

During the Ptolemaic period, from 322/321 BC onwards, all of these towns prospered. In that period some of them received new names: Taucheira became Arsinoe, Euesperides–Berenice. Ptolemais was also given its popular name during that period. Unfortunately, its original designation, besides that of ‘Barce’s port,’ remains unknown. Ptolemais was re-founded with this name probably in the reign of Ptolemy VIII Euergetes in the mid-2nd century BC.[3] Five of these towns–Cyrene,

[1] Krealing 1962.
[2] Małkowski 2009: 125-132; Małkowski and Żelazowski 2012: 35-56; Misiewicz 2012: 57-75; Bogacki 2012: 77-91; Jaworski and Misiewicz 2015.
[3] Cf. Żelazowski and Misiewicz 2015: 17-34.


Figure 1. Ptolemais, city grid (*Drawing W. Małkowski; elaborating J. Żelazowski*)

Apollonia, Berenice, Arsinoe and Barce–entered into a political and economical arrangement for mutual support, the famous league of Cyrenaica, called the *Pentapolis*. This was is a closer analogy to the league of the *Decapolis* on the eastern frontier of the Roman Empire in the southeastern Syria and Palestine, than to the situation of Marina and Alexandria. Ptolemais, at first a minor player in the league, soon outstripped Barce. Its prosperity was mainly due to trade in agricultural wood and other natural products (wood?), which included the famous silphium. In ancient times, this plant with medical virtues used to grow only in Cyrenaica, whose harbour in Ptolemais, however, served to export it to the whole of the ancient world. Unfortunately, in the present day Ptolemais, little remains or has been unearthed of the Hellenistic buildings, besides the regular road network, parts of its ancient wall circuit (enclosing an area of about 264 hectares), a column of a Doric temple, the Upper Theatre and Stadium, as well as a tower-mausoleum, and finally a lot of Hellenistic black-glazed ceramic fragments, lamps and coins.[4] Here, the studies of the first Hellenistic stages of existence of the Palazzo delle Colonne and of the Gymnasium should not be either overlooked here.[5]

Cyrenaica became a Roman province in 74 BC, although it had come under Roman dominance in 96 BC, as a result of the last will of Ptolemy IX Apion. According to Augustus' administrative reform, Cyrenaica became a senatorial province jointly with Crete (*Creta et Cyrenaica*), and was governed from Cyrene, the capital of the province, by a *legatus pro praetore*. The bloody pacification of the Judaic revolt under Trajan, the general crisis of the Empire in the 3rd century and the administrative reform by Diocletian in 297, contributed to the decline of Cyrene, and the rise of Ptolemais, which became the capital of the *Pentapolis*, that is to say, of the province of *Libya Pentapolis* (or *Libya Superior*). In the second and 3rd centuries, Ptolemais flourished, first of all thanks to exports of olive oil, wine and honey. During the Imperial era, old public buildings were restored and new ones were built. The Romans rebuilt the old road along the sea connecting Cyrene with Ptolemais, and constructed a new bridge that still exists today. Old cisterns were restored in the town, and some new, bigger ones were added. New fountains and water pipes were installed and a Forum, a Bouleuterion, an amphitheatre and–above all–large and rich urban houses (*villae urbanae*), or private palaces, were built. The powerful earthquake of 365 almost put an end to this prosperity.[6] However, the importance of Ptolemais is confirmed by the fact that, after this earthquake, the town was partly rebuilt by the emperors, Valens and Valentinian I, then by Arcadius and Honorius, who restored the *via monumentalis*, which runs through the northern part of the town, from the triumphal arch of the Emperors Constantine and Licinius in the west, to the anonymous tetrastyle in the east.[7]

Particularly those Imperial age *villae urbanae*, both dating to the Early Empire and Late Antique period, that attracted the attention of archaeologists of various nationalities in the 20th century. Italians, especially Giacomo Caputo and Gennaro Pesce, carried out excavations in Ptolemais in the years 1912-1923, 1935-1945 and 1956-1957 (Palazzo delle Colonne);[8] the Americans, directed by Carl H. Kraeling, excavated in the years 1954-1958 (the House of the Four Seasons and House of Paulus),[9] and the British scholars Richard G. Goodchild, John B. Ward Perkins, Joyce Reynolds, David J. Mattingly and John H. Little were active between 1956-1964 and 1978-1980 (the House of the Orpheus Mosaic, the House of the Ionian Peristyle and the House of the Triapsidal Hall).[10] Finally, in December 2001, Polish archaeologists first surveyed the residential area of the town. Then, in 2002, under the direction of Tomasz Mikocki, from the Archaeological Institute of the University of Warsaw, Polish archaeologists started to perform excavations that–after the premature death of Tomasz Mikocki in 2007–lasted until 2011.[11] Before a presentation of my own participation in these diggings in the 2005 and 2007 that relate to the Late Antique phase, I would like to recapitulate what was discovered there from the former date, especially since the success of these excavations significantly exceeded the result of my work.

The most spectacular discovery of the Polish archaeologists was a large and opulent Roman house (*villa urbana*)–owned in its final phase by a certain Leukaktios [Figure 2] – that occupied the space of a regular, rectangular *insula* in the centre of Ptolemais. Its north-south axis is longer than its width, which is usual for Roman houses in this metropolis. The villa was a typical urban house of the Imperial period: its four-column and two-stories peristyle is in the middle, which means that its representative and living quarters were positioned around a courtyard with porticoes, and its administrative and commercial rooms (or its *tabernae*) were on the western side, along the street. The main entrance was presumably on its eastern side,

[4] Mikocki *et al.* 2006: 55-58; Małkowski 2009: 125-132.
[5] Fabricotti 2009: 49-57; Luni 2009: 58-84; Fabricotti 2013: 37-43.
[6] Cf. Roques 1987: 86; Żelazowski and Misiewicz 2015: 34-51.
[7] Caputo and Goodchild 1955: 106-115; cf. Stucchi 1975: 269-270, 445-448; Kraeling 1962: 75-77, 81–83; Pensabene 2009: 187-201.
[8] Caputo 1940: 159-162; Pesce 1950; Caputo 1954: 33-36; Pesce 1966: 896-898; Stucchi 1975: *passim*; Fabricotti 2009: 49-57; Bonacasa 2009: 85-109; Luni 2009: 58-84; Fabricotti 2013: 37-43.
[9] Krealing 1962.
[10] Goodchild 1976: 210-215, 216-228, 239-254, 255-267; Ward Perkins *et al.* 1986: 109-153; Ward Perkins and Goodchild 2003: *passim*. Cf. also Gasparini 2009: 157-186.
[11] Cf. the recent bibliography by Jaworski (2012: 413-419) and then–Żelazowski and Chmielewski 2013: 75-87; Małkowski and Żelazowski 2012: 35-56; Mikocka and Misiewicz 2015: 143-205.

Figure 2. House of Leukaktios (*Photo M. Bogacki*)

unless it had been replaced by artisan's workshops erected over the ruins of the villa after the earthquake of the 4th century. The house had several rooms of different dimensions, among them two *triclinia* with their splendid mosaics [Figure 3]. Sixteen mosaics in total paved the floors of all the large rooms and some smaller ones. Two of these mosaics bear the name *Leukaktios*, who was the last owner of the house before the middle of the 3rd century AD when the first great earthquake took place.[12] All of the mosaics were decorated with figural or geometrical motives. The lower parts of the internal walls of the main halls have preserved their original painted decoration. 'Il sistema decorativo adoperato, come pure il material rinvenuto suggeriscono la costruzione della casa in età severiana,' but the general scheme of the house and some types of the masonry could even be from the Hellenistic era.[13] So it is possible that 'a detailed chronology of the major architectural elements allows to distinguish four main periods: (1) from the Hellenistic period until the end of the 1st century AD, (2) the Antonine and Severan period, (3) from the mid-3rd until the mid-4th century, that is between the earthquakes and (4) after the 365 AD.'[14] From the peristyle, with the mosaic covering an underground cistern, one could reach the western *triclinium* with the floor mosaic representing Dionysos meeting Ariadne asleep on the isle of Naxos. Moreover, a monumental polychrome stone arch was discovered–the so-called Syrian arch–to which belong some fragments of fluted twisted columns and Corinthian capitals. This arch stood–as it is persuasively proposed–between the central peristyle and the western *triclinium*.[15] Therefore, this richly decorated room, beside the floor mosaic of Dionysos, with painted walls with colourful birds–undoubtedly the most beautiful wall paintings in the villa–would not have only been a simple *triclinium*, but a kind of representative hall, the most important in the whole house.[16] Moreover, in this room the archeologists found some broken fragments of a large figural mosaic fallen from the upper story with scenes of Achilles' sojourn on the island of Skyros, at the palace of king Lycomedes, who hid him among his daughters–according to the inscriptions *Achilleus*, *Odisseous*, *Breseis*, *Daidamia* and a house called *Parthenon*.[17] The mosaic was destroyed by the earthquake of the 4th and up till now has not been analysed or repaired. Other examples of later painted decoration in the house are much simpler than the bird paintings in the western *triclinium*, but no less interesting. Often they are on two or three levels of plaster and the most striking are geometric compositions consisting of large rectangles, lozenges and discs in the southern *triclinium*. This features the so-called *marmo finto* (fake marble) which is similar to the multicoloured marbles: cipolino, giallo antico, pavonazzetto and porphyry.[18] Six rooms of the villa have a cistern underneath – a large quantity of large and small artistic finds are related to these cisterns.[19] But a major discovery was made in the southwestern part of the same insula, adjacent to the street crossing, in a separate small house, cut from the original *villa urbana* later, albeit before the mid-3rd century. In a small room overlooking the street, next to a smelting furnace, were found 566 coins, weighing 12 and half kilos came to light.[20] The room where the coins were found was apparently destroyed in the second half of the 3rd century, during the earthquake of the mid-3rd century. The House of Leukaktios lay partly in ruins for 100 years until the earthquake of the 365.[21]

However, life in this house since both catastrophes completely changed its character. It seems that the main, central part of the house was not inhabited any more and remained in ruins. A furnace for ceramics was installed in the eastern part of the villa.[22] Some clay molds for making lamps found here indicate the production of oil lamps in this Byzantine workshop. As I witnessed there during the exploration of this workshop, the coins found in it, but not published yet, suggest the period as being the first half of the 5th–the second half of the 6th century.[23] Some of the decoration of these objects, also unpublished, is Christian: crosses and chrismons i.e. the compositions of two Greek letters X and P forming the monogram of Christ.[24]

However, for this my research it was much more interesting to investigate a rectangular building built after the 365 above the northeastern angle of the House of Leukaktios [Figure 4], partly above the mosaic of its largest room and maybe above a secondary, northern entrance to this house.[25] The new construction presents a large, rectangular hall (16.79 × 7.69 m, surface of 103.24 $m^2$) with an external southern wall made of reused limestone blocks fully visible from the outside. This wall towers more than 3 m high above the level of the floors of the House of Leukaktios extending in the southwest under the new building.[26] The hall inside has the form of a small, one-nave basilica with an apse (6.44 m large) facing southwards, incorporated in the aforementioned massive, external wall. Two semi-columns flanking the apse are cut in the same blocks of stone forming the

[12] Łajtar 2012: 253-258 (with earlier bibliography); Żelazowski and Chmielewski 2013: 81-82.
[13] Żelazowski and Chmielewski 2013: 81.
[14] Rekowska 2012: 180.
[15] Rekowska 2012: 173-176.
[16] Żelazowski 2012a: 129; 2012b: 186-195.
[17] Olszewski 2010: 89-96; Żelazowski 2012a: 125, 128, figs 11 and 12.
[18] Żelazowski 2012b: 202-210.
[19] Muszyńska 2012, 293-317.
[20] Jaworski 2008: 39-50; 2009: 146-156.
[21] Żelazowski and Chmielewski 2013: 82.
[22] Żelazowski 2012a: 149-152, fig. 63.
[23] According to the opinion of Dr. Piotr Jaworski.
[24] Cf. Celiński 2005; Jastrzębowska 2015: 226.
[25] Rooms nos 25 and 29 with a floor of stone plates; cf. Żelazowski 2012a: 136, fig. 31.
[26] Jastrzębowska 2009, 233-235; 2015: 224-226.

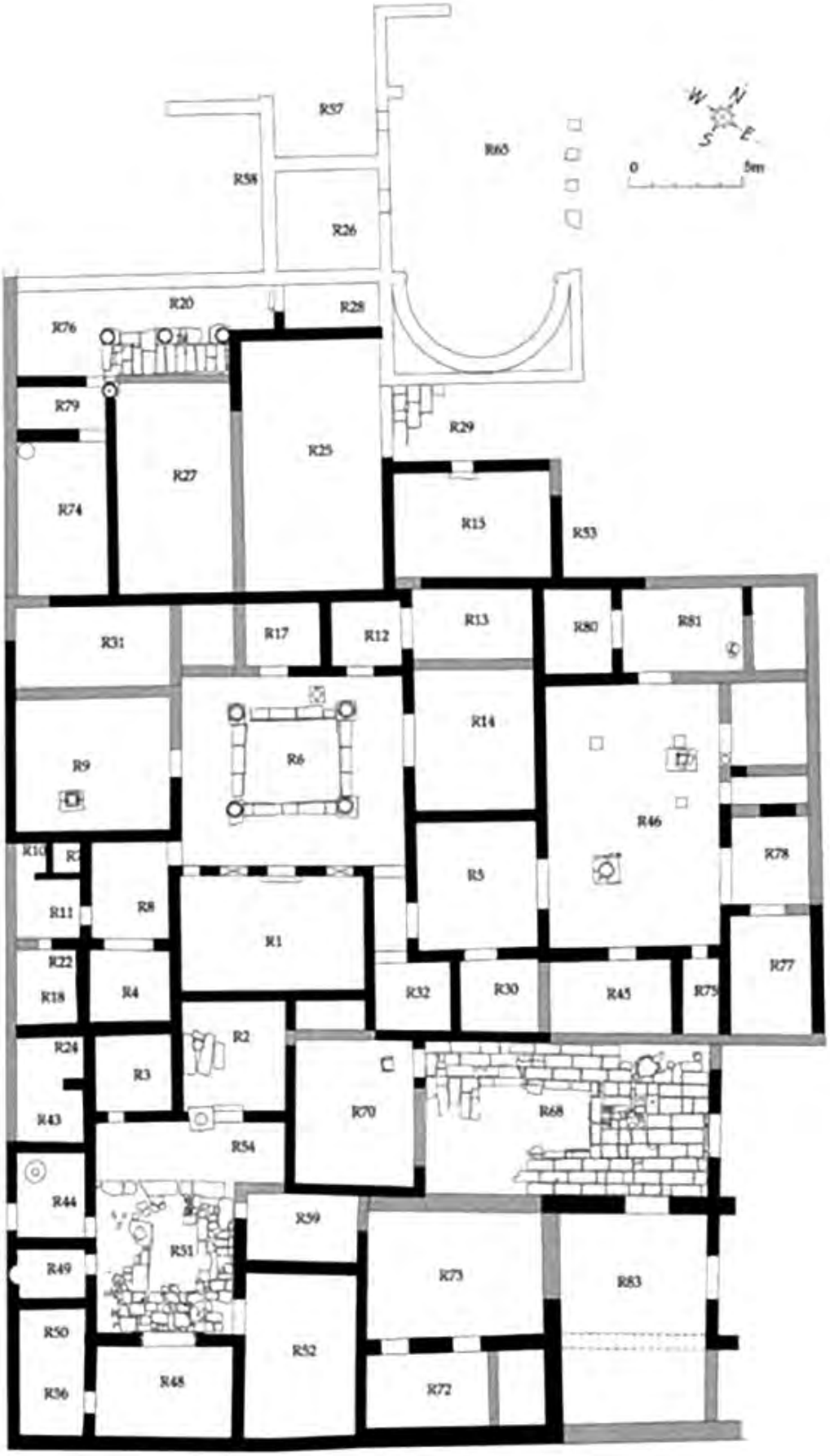


Figure 3. Plan of the House of Leukaktios (*Drawing W. Ma*łkowski; e*laborating J. Żelazowski*)

Figure 4. Unearthed Hall with southern apse above the northeastern angle of the House of Leukaktios (*Photo M. Bogacki*)

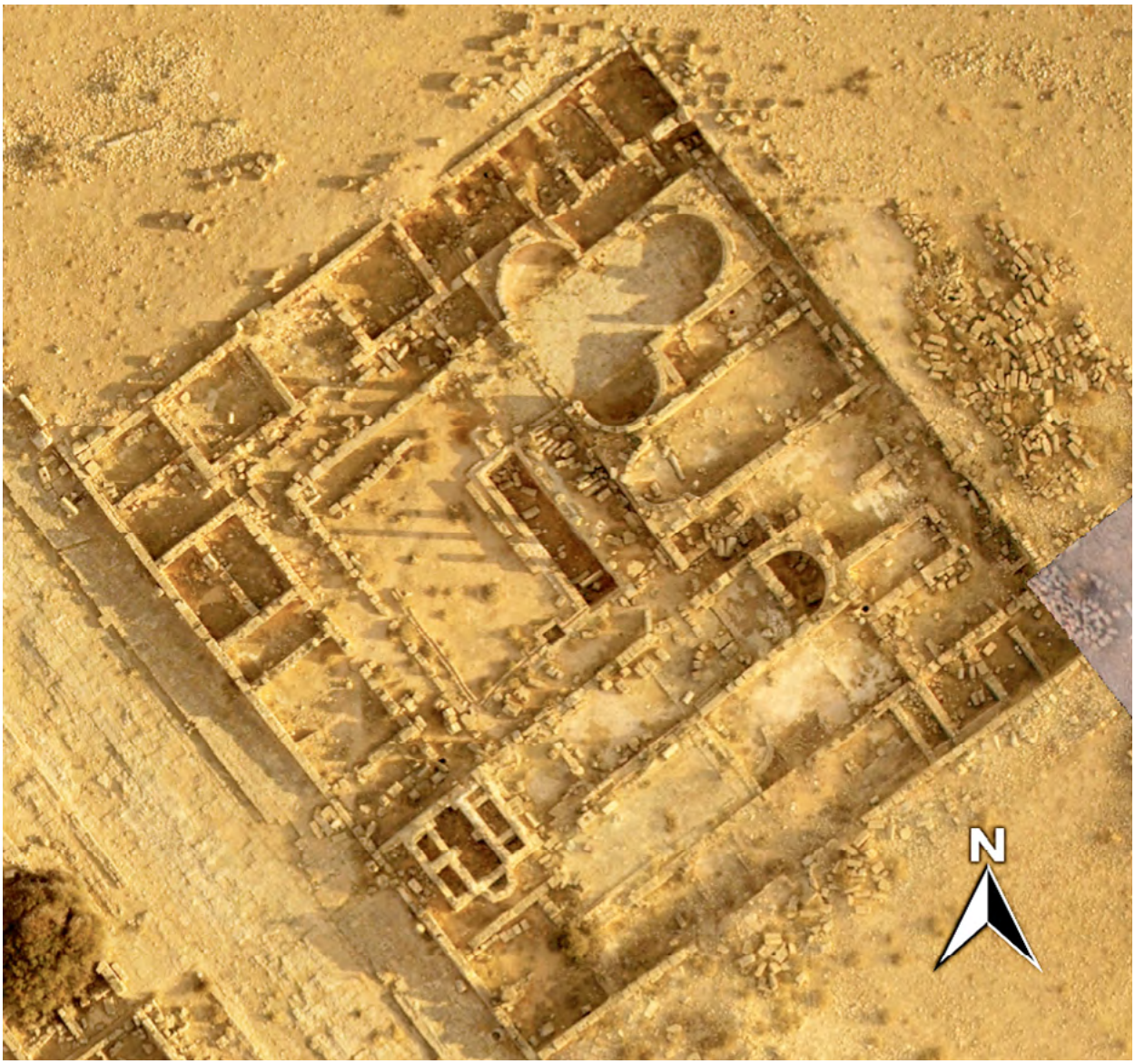


Figure 5. House of the Triapsidal Hall (*Photo M. Bogacki*)

wall. This massive construction of the apse enclosure seems to have been necessary to overcome differences of level–higher in the north, where the new 'basilica' was built, lower in the south, where the villa was earlier located. It should be stressed here that such inscribed apses were common in the church architecture of Cyrenaica, as in the Western Church and the Cross-shaped Church in Ptolemais itself.[27] Therefore, at the beginning of my work I thought that the 'basilica' had functioned as a kind of house-chapel, but now I suppose that it was more likely to have had a secular character.

As a matter of fact, there is the best analogy to our 'basilica' in Ptolemais itself, in the House of the Triapsidal Hall [Figure 5], which was also revived after the earthquake of 365, most probably in the 5th century. It is not its famous hall with three apses but another long, richly decorated room, next to the Tirapsidal Hall on the southern side.[28] This hall with one apse to the west probably had the most representative character of the whole house [Figure 6], because its floor is paved with a rich mosaic of *opus sectile*, with use of porphyry and *verde antico* tiles, and has two spirally fluted columns of dark grey marble (*bigio antico*) flanking its apse that was also incorporated.[29]

In the 'basilica' over the House of Leukaktios, we found, in 2008, the same type of column, which was 2.25 m long and spirally fluted [Figure 7], made of the same kind of marble.[30] It was not lying near the southern

[27] Jastrzębowska 2015: 230, fig. 10, 11.

[28] Gasparini 2009: 161, fig. 1; Mikocka and Misiewicz 2015: 152, fig.12; Jastrzębowska 2015: 220-221, fig. 16.

[29] Gasparini 2009: 160, fig.1; Jastrzębowska 2013: 47, fig. 5.

[30] Jastrzębowska 2009: 234, fig. 10.

Figure 6. Hall with one apse to the west in the House of the Triapsidal Hall (*Photo E. Jastrzębowska*)

apse but in another northeastern corner of the hall, not far from the main entrance. Here, more to the west, but still near the main entrance of the hall, we found two large blocks, probably fragments of a pillar, marked with an 'X' by stonemasons. These blocks put together show an angle hole for a horizontal beam, so they could have probably been a part of a jamb or a lintel. Anyway, the main door to the 'basilica' was probably there, in the centre of its short façade and in front of the apse, where a large block of limestone also remained, placed vertically. In the long walls of the hall there were four doors (two by two) that are not arranged exactly opposite one another, but have the same width of 0.85 m. The long inner wall of these western parts of the building showed some traces of white plaster, then there were also many fragments of plaster, fallen on the floor, some of them with the remains of polychrome (colour: green and red). Unfortunately the exploration of the 'basilica' was incomplete; we did not reach the bottom of the hall [Figure 8]. At the current common level of the interior at around 27.68 m above the sea level, where the exploration of the building had to stop, there was no pavement yet. In the present state of research we know that the hall had two small adjacent rooms on the west side, but their function remains unknown. The remains of their walls stand above the surface of the earth, but how many walls are underneath remains unknown. On the other


Figure 7. Spirally fluted column in the Hall with the apse unearthed in 2008 (*Photo E. Jastrzębowska*)

Figure 8. Explored Hall with the apse explored in 2008 (*Photo M. Bogacki*)

hand, there was a kind of perpendicular portico with four pillars on the eastern side of the 'basilica' along the wall. We cannot for the time being specify the date of the construction of this apsidal hall, but it seems that the 6th century would be the most probable, for the coins found there are dated to the second half of the 6th–the early 7th century (especially of Justin II).[31] Further excavations in the future–*inshallah*–would clarify the exact function and the date of this complex: more probably the representative hall in a private Late Antique residence. Perhaps we shall see one day that yet this modest Late Antique house with its large apse hall would match in terms of its decor (*opus sectile*?), at least in part, the richness and the splendour of its predecessor the House of Leukaktios.

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[31] According to the oral opinion of Dr. Piotr Jaworski.

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# The Greek Presence at Kom Wasit (Western Nile Delta), Egypt

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**Summary**
This communication presents new finds from the Western Nile Delta related to the early presence of the Greeks in Egypt. Archaeologists have discovered various material culture similar to the one found at Sais and Naukratis for the first time at Kom Wasit in 2016. These finds, which are the result of a recent archaeological excavation, allow us to give a better interpretation of the region, and provide new evidence of dating.

**Keywords**
Western Delta, Greeks in Egypt, Urban Archaeology, Hellenistic town

In the region of Beheira, in the heart of the Western Nile Delta, lie the sites of Kom al-Ahmer and Kom Wasit; they are two artificial mounds that arose over the centuries from the constant overlapping of anthropic and natural deposit layers. During the first decades of the 1900s, these two sites underwent the intervention of the *sebakheen*, local peasants employed in the collection of mud bricks made out of Nile silt which could be re-utilised as fertiliser in the agricultural fields. The massive intervention of these peasants resulted in the removal of a large part of the sites; nevertheless, it in turn also led to the recognition of these mounds as archaeological sites. The identification of these archaeological sites has led the Egyptian government to undertake research at the two Koms; these excavations allowed for the exposure of two bath complexes.[1] In 2012, the current Italian interdisciplinary archaeological mission began its archaeological excavations at the site of Kom al-Ahmer, and also at the site of Kom Wasit [Figure 1].

Kom al-Ahmer is located 52 km south-east of Alexandria, and 16 km north of the city of Damanhour. The name of the site means 'the red hill' in Arabic; this designation refers to the reddish colouring of some areas of the site, which is due to the abundant presence of pottery sherds and fired brick fragments on the ground surface. In 1942, an archaeological excavation was conducted for a few weeks by the Egyptian inspector Abd el-Mohsen el-Khashab, which allowed for the exposure of the remains of a Roman bathhouse dated to the mid-imperial period. The structure is still visible nowadays.[2] The excavation focused exclusively on the area surrounding the Roman baths; the building proved to be of a considerable size, second only in Egypt to the Roman baths of the Alexandrian site of Kom el-Dikka.[3] El-Khashab also recovered various coins, some dating to the reign of Ptolemy III, and a gold *dinar* dated to the Islamic year 154 (AD 771). The materials found during this excavation, and those collected by Achille Adriani[4] during his survey in 1935, suggest that the site had undergone a long occupation.

Kom Wasit is located 2 km north-east of the site of Kom al-Ahmer. Its name means 'the hill in between' in Arabic and it relates to its position between two larger sites: the one of Kom al-Ghoraf, located 6 km to the north, and Kom al-Ahmer to the south. The Kom's secluded position away from modern towns has guaranteed the better survival of its structures; additionally, its surface is not covered with modern waste materials, unlike Kom al-Ahmer. The site presents ceramic material dispersed on its surface; however, no visible structures emerge from the terrain (as opposed to Kom al-Ahmer, where masonry structures are visible in more areas). Kom Wasit was partially investigated in 1944; the Egyptian inspector Labib Habachi directed an excavation that lasted only a few days, and he unearthed the remains of a pedestal connected to a long bronze tube, which could have been related to a oracular device.[5]

## The archaeological investigations

Exploratory interventions have been carried out in various sectors of the two sites. At Kom al-Ahmer, investigations took place in several areas and different elevations of the Kom to identify the occupational chronology. Units 1, 2, and 3 were opened on the top part of the central mound; Unit 4 was placed in proximity

[1] Marchiori 2014: 81, 83.
[2] El-Khashab 1949.
[3] Kołątaj, 1992.
[4] Adriani 1940: 63.
[5] Habachi 1947.


Figure 1. Kom al-Ahmer and Kom Wasit (*The Italian Archaeological Mission in Beheira – Israel Hinojosa Baliño*)

to the Roman bathhouse, and Unit 5 was located in the lower area of the site, which is also an area that had mostly been affected by the *sebakheen*.[6] Thanks to the excavation of Unit 5 and the coring carried out with a drill auger, sherds of ceramics confirmed the presence of the Greeks at this site.

Evidence of the Greek presence in this territory has been more consistent at the site of Kom Wasit. During the 2016 excavation season, two new areas underwent investigation. It was also decided to survey different sectors of the Kom to obtain stratigraphical information at various elevations, thus increasing the understanding of the occupation of the site. Unit 10 was opened at the base of the Kom, and the investigations have permitted the unearthing of the Hellenistic bathhouse that had been reported during the 1940s. Furthermore, it was possible to identify a re-occupational phase of the area during the late Roman period. On the other hand, Unit 9 was opened on the top of the mound; the materials that were found are suggestive of an important occupational phase of the site and its function within the context of the Delta.

**Kom Wasit – Unit 9**

This excavation unit was placed on the highest part of the Kom, approximately 10 m above the sea level (about 7 m higher than the surrounding countryside). The area selected for excavation had previously been surveyed non-invasively in 2014; on that occasion, the magnetometric and topographic surveys were carried out. The combination of these survey methods allowed for the identification of a quadrangular mud brick building [Figure 2]. The investigation on the top of the mound was organised in relation to relation to this structure; the excavation unit's size was of 16 by 16 m, and it was designed in this way so that it could contain within its boundaries the whole building as well as part of its adjacent areas. The mud brick structure was unearthed; the dimensions of its thick walls are comparable to the ones of the Ptolemaic tower houses.[7] The dimension of the foundations of the building were approximately 13 by 13 m, and were composed of external supporting walls and numerous small internal rooms. The thickness of the walls leads to the hypothesis that they had been constructed to sustain a considerable weight and that therefore the house would have had multiple storeys.[8]

Six rooms of different dimensions and depths were identified and investigated within the foundation walls.

[6] Wilson and Grigoropoulos 2009: 176-183; Kenawi 2014: 107-109; Marchiori 2014; Asolati 2015: 14-15.

[7] The excavation of the house was conducted by the archaeologist Ole Herslund; he was assisted by other archaeologists of the team (Federica Faro, Graziana Zisa, Urska Furlan, Israel Hinojosa Baliño, Haythem Mahdi, Caroline Vedoe, Libbe Sambiria Bjerknaes, Nicolaj Jensen, Christian Birkevist, Bianca Badalucco, Barbara Cavallaro); the excavation was carried out in the presence of the inspector Mohamed Younis and the specialised worker Kufti Alshazli. The photogrammetry and 3D models were undertaken by Giorgia Marchiori and Nunzia Larosa.

[8] Tower houses are known at numerous sites in the Delta and the Fayoum Oasis. Marouard 2014: 105-133.

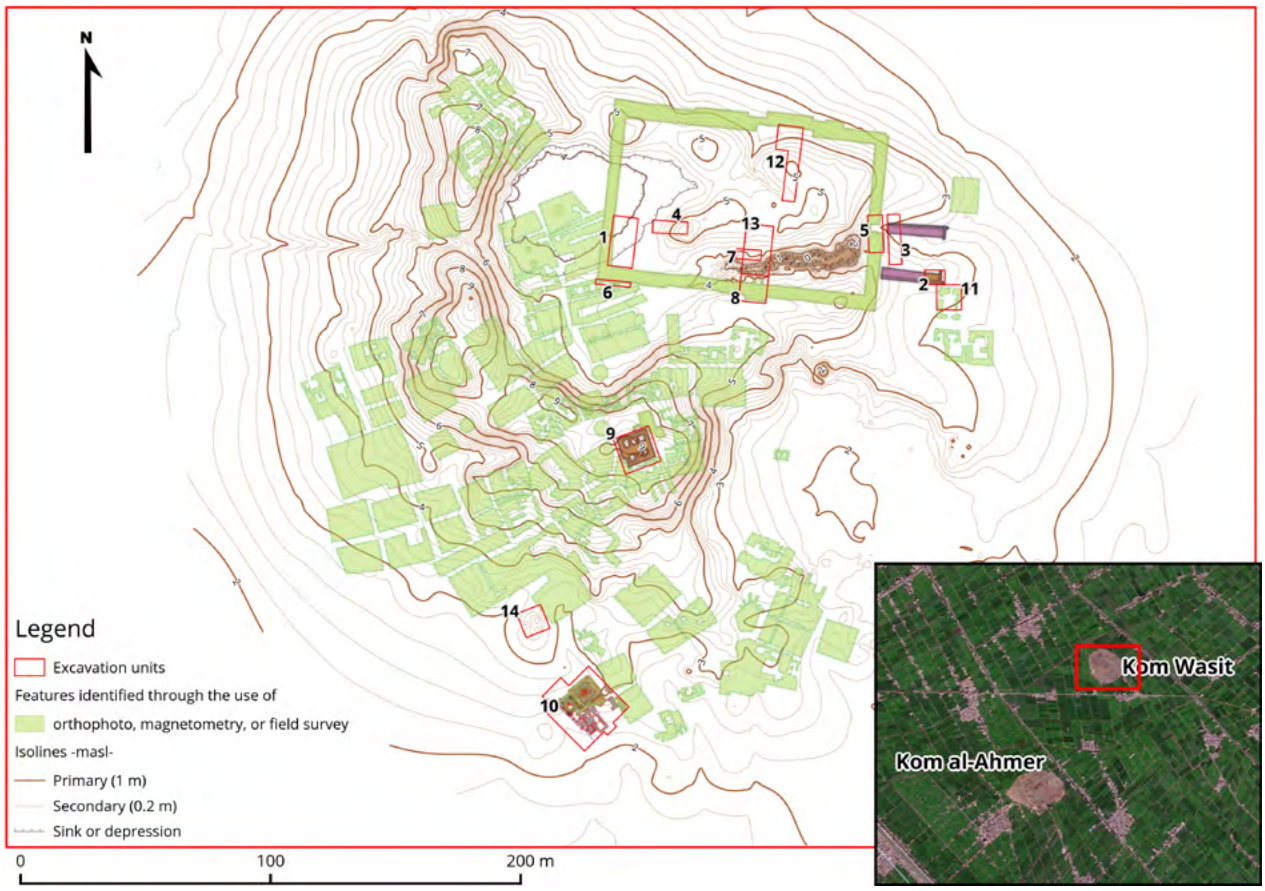


Figure 2. Kom Wasit 2014, location of Unit 9 , and the other excavated units
(*The Italian Archaeological Mission in Beheira – Israel Hinojosa Baliño*)

The stratigraphic excavation of the small rooms was problematic due to the presence of collapsed bricks of the upper levels and also because of the re-utilisations of the structure that took place in later periods (the study of the materials is still ongoing). Mud bricks also constituted the floors; in some cases, it was possible to identify gaps. Entryways could not be recognised in any of the rooms, possibly because they had been positioned at higher levels than the currently preserved level of the walls. Concerning the deepest rooms, it was assumed that ladders were used for access. Most rooms were filled with fragments of mud bricks and loose soil, which could mainly be attributed to the collapse of the upper levels [Figure 3]. The exception was Room C, where ceramics were found apparently *in situ* (the study of the materials is still ongoing). Room A yielded an interesting bronze artefact (a ladle?) found in excellent condition, whose parallel is exhibited in the Archaeological Museum of the Bibliotheca Alexandrina. This artefact was partially covered by one of the room's perimetric walls and a block of mud bricks pertaining to the collapse of the building [Figure 4].

In addition to the building, the excavation also investigated the neighbouring areas to identify roads and passages that separated the various structures of the town. The dimensions of the excavation unit did not permit the understanding of the organisation of the spaces external to the tower house; however, the unit will be extended in the coming years with the aim to understand the urban organisation. To date, the access to the house has not been identified; therefore, either it had been placed at a higher elevation than the preserved masonry or entry to the house was through wooden ladders.

The study of the artefacts found within the residential context and its adjacent areas is still in progress. Nevertheless, it should be noted that the investigations unearthed a significant concentration of materials of notable interest for the chronology of the house, the site, and the study of trade within the town and the territory. Amid these findings were numerous fragments of clay figurines of horses with riders (unfortunately, no complete specimen was retrieved); the coarse clay mixture leads to the assumption that they were of local production and imitated the style of Persian riders, which generally date between the 6th and 4th centuries BC. Together with the known iconography of the riders, a soldier on horseback carrying a rounded shield was also found; unfortunately, the head of the horse is missing, but it is worth noting the peculiarity of said object, for


Legend

Rooms

- A
- B
- C
- D
- E
- F
- G

Figure 3. Kom Wasit, Plan of the Hellenistic house (*The Italian Archaeological Mission in Beheira – Israel Hinojosa Baliño, Nunzia Larosa, Marika Mielec, and Anna Chodkowska*)

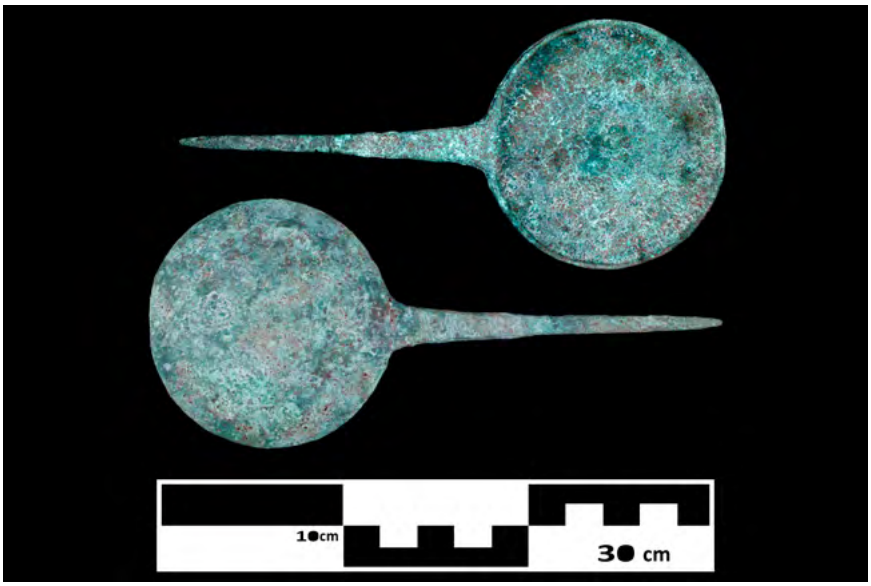


Figure 4. Kom Wasit, Bronze ladle, perhaps for burning incense (*The Italian Archaeological Mission in Beheira*)


Fig 5. Kom Wasit: Terracotta figurine of a Persian style horse rider (*The Italian Archaeological Mission in Beheira*)

which parallels have been found at Naukratis, Mendes, and Memphis [Figure 5]. Anthropomorphic terracottas and stylised animal figurines, such as snakes, were found in addition to the clay figurines of horses and riders.

Some of the most interesting materials were imported fine ware vessels and amphorae. Among them was vasellame minuto probably *aryballos* with neck, shoulder, and handle preserved; with painted solid black with half of a single palmette decoration which is datable to the late 7th and early 6th century BC. A painted base and body sherds with possible beginnings of palmette decoration of Eastern Greek/Ionian origin was also found [Figures 6 and 7],[9] as well as various fragments of a small jug, possibly *amphoriskos* with pained black cross-hatches and linear white dots of 560-500 BC [Figures 8 and 9].[10] The latter was found in two variants, and it is also known at the nearby site of Naukratis;[11] an intact specimen is exhibited at the Graeco-Roman Archaeological Museum of Alexandria. Regarding the imported amphorae, different fragments have been identified, such as a handle with a stamp bearing the inscription HP and an illegible pattern inside a leaf-shaped cartouche [Figure 10]. It pertained to an amphora of probable Samos production, which has been attested with stamp variants at sites like Naukratis and Saqqara. This type of amphora found in Mediterranean contexts mostly dates to the 4th century BC.[12]

[9] Greenewalt 1971: 153-180.

[10] Dupont and Thomas 2007: 78.

[11] British Museum, 1885.1101.65; Villing, A., *et al.* 2013–2015. *Naukratis: Greeks in Egypt*. London: The British Museum, GA.1965; Masson (-Berghoff) 2015a: 73, fig. 3.2.

[12] Rzeuska 2007: 213-214, and related bibliography.


Figure 6. Kom Wasit, 7th century Greek pottery fragments (*The Italian Archaeological Mission in Beheira*)


Figure 7. Kom Wasit, small jug, possibly aryballos, late 7th to early 6th century BC (*The Italian Archaeological Mission in Beheira*)


Figures 8 and 9. Kom Wasit: Fragments of a small jug, possibly amphoriskos, dated to 560-500 BC (*The Italian Archaeological Mission in Beheira*)

These are part of a larger group of ongoing study materials suggestive of the influences and trading networks that had involved the site of Kom Wasit. Besides the artefacts mentioned above, the excavations also retrieved several faience *udjat* (eyes of Horus), bronze artefacts such as a royal statuette (probably of a Ptolemaic king represented in the pharaonic style) and rings, in addition to the ladle. Alongside these artefacts, the study of faunal and floral remains revealed the presence of a large quantity of fish and horse bones, as well as charred remains of various kinds of seeds.

In conclusion, the data is still preliminary; however, it is possible to affirm that the house had been the property of a wealthy family and that the site of Kom Wasit had a noteworthy importance given its commercial relations


Figure 10. Kom Wasit, a Greek stamped handle from Samos bears HP dated to the 4th century BC (*The Italian Archaeological Mission in Beheira*)

with the Mediterranean and the Greeks. Therefore, it seems plausible to assume that this site had an analogous role to that of the better known Naukratis.

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# Survival or Revival? Urban and Architectural Change in Post-Classical Alexandria

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**Summary**
Studies on architectural development and transformation of urban life are perhaps two of the biggest challenges that any researcher of Late Antique Alexandria is facing. The task is indeed difficult and offers little reward; the reasons are too obvious: flawed historical descriptions, few epigraphic monuments, and even fewer relevant archaeological finds. Recent years, however, can be considered a veritable breakthrough in this field and added much to our knowledge. The focus of the paper will be on archaeological evidence, brought in by the University of Warsaw excavations at the Kom el-Dikka site. A number of issues such as urban development, introduction of new building techniques and materials as well as widespread spoliation – all contributing to a changing post-classical cityscape – will be discussed.

**Keywords**
Late Antique Alexandria, cityscape, Kom el-Dikka, urban life, civic centre

Debate about city life in Late Antiquity usually centres on the controversial and largely subjective issues of 'change,' 'transition' and 'decline.' Nonetheless, it is not the aim of this paper to delve into a broader discussion of the social and economic background of Late Antique town transformation.[1] The focus is, rather, on material evidence for this change observable in the urban and architectural fabric of Alexandria, or in the words of Libanius: *to soma tes poleos* – a physical body of the ancient city.[2] We will concentrate on such questions as new building activity, innovative masonry techniques and widespread spoliation, all adding to a new emerging post-classical cityscape. At the same time, the available evidence does not permit a clear statement on the most significant issue, which is often defined as 'order' versus 'chaos' in the urban morphology. On the one hand, we witness a gradual disintegration of urban life, documented by the slow decline of the residential area; on the other hand, we have a grand complex of lecture halls signifying an very vibrant civic life. Is this decline or simply evolution spread over time, appropriate to urban life of the period? At the risk of generalisation, I would say that the picture of Alexandria presented below is very similar to other great cities of Late Antiquity: Rome, Antioch, or Carthage.

While the development of Ptolemaic and Early Roman city remains largely uncharted territory, the changes that took place in the later periods are relatively easier to trace. The main archaeological evidence available today for Late Antique Alexandria comes from the Warsaw University excavations at the Kom el-Dikka site.[3] It is certainly a good starting point for any discussion, not the least because of the central location of this site on the ancient town plan. How far it reflects urban processes taking place elsewhere in the town is a moot point. After all, archaeological evidence has – in the words of Averil Cameron – 'its strengths and limitations,'[4] and our site need not be representative of what was occurring in other town districts.

## Topography and chronology

The excavated part of the city covering some thirty six thousand square meters, occupies fragments of two large quarters between two longitudinal streets R3 and R5, and two latitudinal streets, L'2 bordering it on the south and L1 (*Via Canopica*) running further to the north.[5] It is, therefore, located in what is broadly understood as an urban centre of ancient Alexandria [Figure 1]. The entire area was densely inhabited in the Roman imperial period. Well preserved remnants of 1st-3rd century AD villas lavishly decorated with mosaic floors were discovered practically all over the site.[6]

Contrary to other great metropoleis of antiquity, Alexandria had a regular street grid, which has also been identified in the area of interest to us. These

[1] For the debate on the 'decline' versus 'transition' of Late Antique cities that begun with crucial articles by C. Foss and H. Kennedy in the late 1970s and 1980s, see among others: Rich 1992; Christie and Loseby 1996; Ward-Perkins 1996; 1998; Lavan 2001; Liebeschuetz 2001; Jacobs 2013; Dey 2015, to mention but a few most influential and recent publications.
[2] Lib. *Or*. 12.50; 19.9.
[3] For the urban development of the area in Late Antiquity see Rodziewicz 1984; 1998 and Tkaczow 2000.
[4] Cameron 1993: 155-157; cf. also Russell 1986.
[5] For the topography of the site cf. Rodziewicz 1984: 9-33; Kołątaj 1992: 35-36 and Tkaczow 1993b: 85-110. For the history of the city's main thoroughfare cf. Haas 1993.
[6] Rodziewicz 1976; 1984: 33-58; Majcherek 1995; 2003; 2007a.

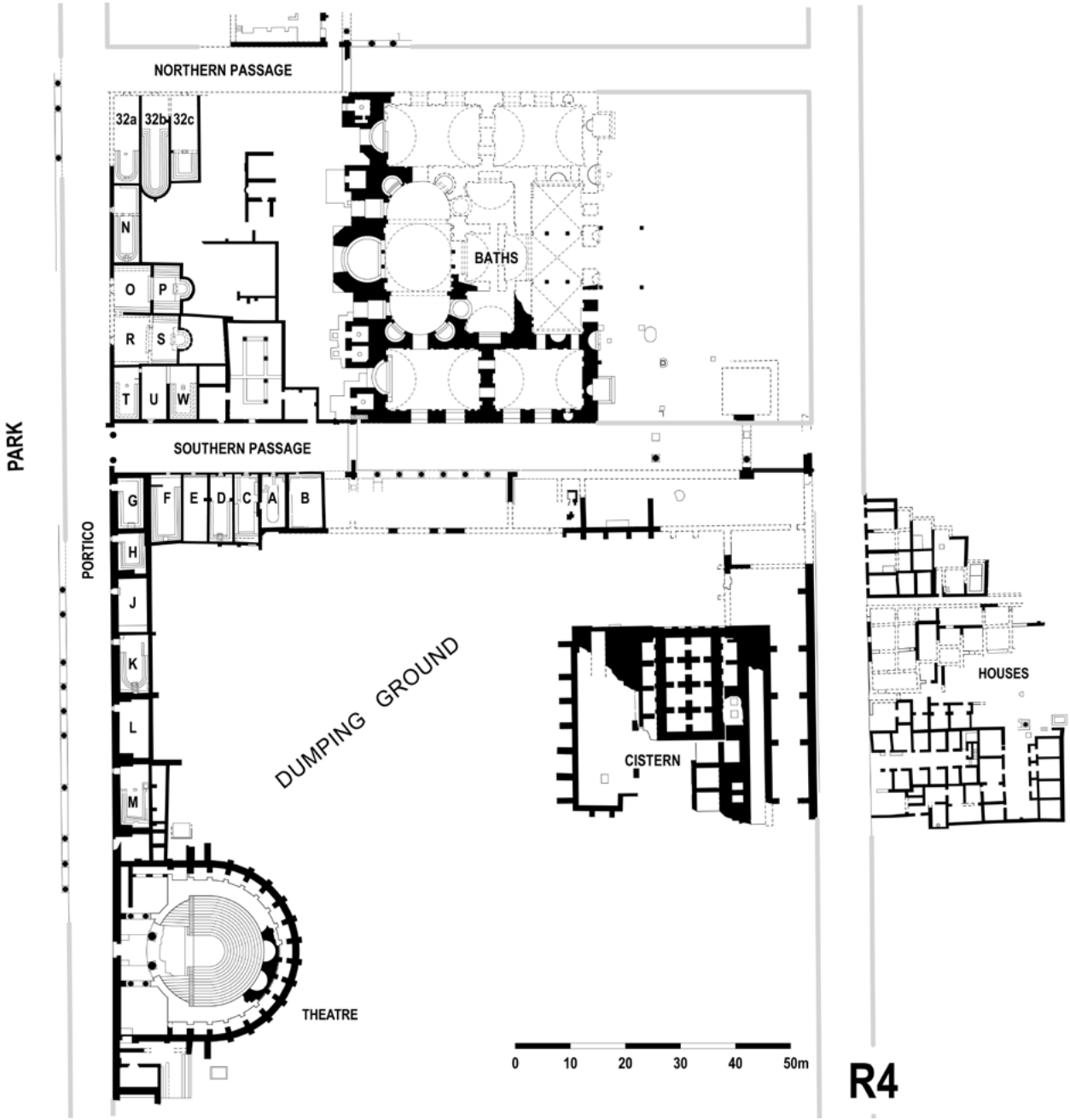


Figure 1. Kom el-Dikka, general plan (*Drawing W. Kołataj, D. Tarara ©PCMA*)

streets remained by and large functional until the end of antiquity with few minor adjustments. Street R4 is an excellent case in point. The street facades of the Early Roman and later period houses retained the line already traced back in Ptolemaic times. The same is true of the sewage system. Successive channels were built on ever rising levels, corresponding to the rising street surfaces and floors of buildings lining the street, but the overall line and direction of the sewage system suffers no abrupt change [Figure 3]. Smaller secondary streets bordering house-blocks divided large quarters of the city delimited by principal streets. Fragments of two such latitudinal streets some 5-5.5 m wide were discovered in the southern part of the site.[7]

The point hardly needs stressing that as a city Alexandria in Late Antiquity was entirely different from its Ptolemaic and Roman predecessors. Its

[7] Rodziewicz and Rodziewicz 1976; Rodziewicz 1984: 33-35; Majcherek 1991: 24; 1996: 15; 2011: 46. Surprisingly enough, in the western part of the site (Area U), the explored structures offered an entirely different orientation (Rodziewicz 1984-1985, Majcherek 1992: 7-10, fig. 1; Majcherek and Kucharczyk 2014: 24-37; Majcherek 2015: 31-40). A short section of a street discovered there is oriented strictly N-S, in similarity, interestingly, to the buildings in the so-called Royal District cf. Rodziewicz and Abdel Fatah 1991; also Rodziewicz 1995.

Figure 2. Lime kiln next to the cisterns. (*Photo G. Majcherek* ©PCMA)

urban history seems to be marked by political catastrophes alternating with natural disasters. The vast destruction suffered at the end of the 3rd century changed the face of the town for good.[8] The damages were due to a series of well-known events. Riots caused by Aemilian's usurpation in AD 262, his defeat by Gallienus' troops following fierce fighting in Alexandria, Aurelian's brutal suppression of the sedition connected with Firmus' revolt and Palmyrene invasion, resulted in extensive destruction inside the town, especially in the Brucheion district.[9] Diocletian's siege of the city exacerbated the already extensive devastation.[10] Indeed, writing a century later, Ammianus Marcellinus and Epiphanius recorded that much of the central districts still lay in ruins.[11] There is no reason to doubt their testimony.

As a result of the decision not to rebuild and to allow the ruins to be filled in, the occupational level in the area rose dramatically, in some places by as much as 3-4 m. Traces of repairs and adaptation in some of the houses, attributed to no later than the beginning of the 4th century, can be construed as evidence that the decision to alter the urban character of the district was made only after yet another cataclysm hit the city in AD 365. Available archaeological evidence, like the coins of Constantine II found under the theatre seats, may further confirm this


Figure 3. Sewer on the R4 street (*Photo G. Majcherek* ©PCMA)

[8] Fraser 1993.
[9] Milne 1924: 76; Schwartz 1953.
[10] Milne 1924: 82; Bowman 1986: 45.
[11] Amm. *Res Gestae* 22.16.15; Epiph. *De mensuris et ponderibus* 9.

Figure 4. General view of the Late Roman bathhouse (*Photo G. Majcherek* ©PCMA)

view. The earthquake of 21 July, presumably coupled with a huge tidal wave, must have caused havoc, the scope of which historical sources vividly recount. Both Ammianus Marcellinus and Sozomenos, repeat the story of ships landing on rooftops.[12] A Coptic text from the late 6th century AD, which recalls the Alexandrine so-called 'day of fear' commemorating this catastrophe, best reflects this traumatic event of vast proportions.[13] We do not know the extent of the damage caused by this quake; the toll in human lives must have been great, but the scale of the actual material destruction is largely unknown.[14] There is simply no evidence to support even an estimate, but it seems that the damage, although heavy, was not as dramatic as in areas closer to epicentre, e.g. Crete.[15]

**Civic buildings zone**

The face of Alexandria changed beyond recognition in the 4th century AD. The entire city centre was transformed into an enormous construction site, dotted with lime kilns [Figure 2]. They were very often accompanied by dumps of architectural debris: broken marble revetments, floor tiles and decorative elements, apparently intended to be turned into lime.[16]

As a result of major urban renewal, a new civic centre appeared in place of the private residential architecture of old. The previous street-grid disappeared without a trace, replaced by a new and entirely different urban master plan.

The key element of this new public complex was a huge bathing establishment, occupying almost half the Kom el-Dikka site [Figures 4-5]. It was a large rectangular edifice built on a symmetrical plan. Although following the Eastern type of bath in principle, it demonstrated elements characteristic of African thermae – i.e. the *frigidarium* with small *piscinae* in the shadow of porticoes or the arrangement of the *caldarium*.[17] The complex also included two symmetrical *palestrae*, and large public *foricae*.[18] Adjoining the bathhouse from the south was the elevated structure of the cistern containing a dozen or so large water-tanks [Figure 6].

In the south-western part of the area, an *odeum* was erected adjoining a grand portico, which runs for some 280 m, serving as a monumental architectural framework for the complex [Figure 7]. It also appears to have been one of the colonnades surrounding a great

[12] For a critical discussion see Jacques and Bousquet 1984 and Kelly 2004.
[13] Mazza 1994.
[14] Grumel 1955; Taher 1998. Wipszycka (1994) argues that the urban monasteries established in Late Antiquity could have taken advantage of ruined and abandoned areas within the city.
[15] Di Vita 1979-1980: 435-440.
[16] Majcherek 2011: 41-44.
[17] Kołątaj 1992: 62-79, fig. 35. On the grounds of a fragment of monumental inscription found in the bath, Łukaszewicz (1990: 133-136) suggested that the complex could have been built in the reign of an emperor from the house of Constantine. Kiss (1993) is of opinion that the baths were rebuilt during the reign of Gratian, following the destruction caused by the quake of AD 365.
[18] Both *foricae*, found west of the baths, however, are in fact located outside the thermal complex (Rodziewicz 1984: 289-292; 1991:103-106). Both of them feature typical rectangular plan with a sewer running along the walls. In 2006, yet another similar latrine was discovered, this time next to the *apodyterium*, i.e. within the complex itself, cf. Woźniak 2008.

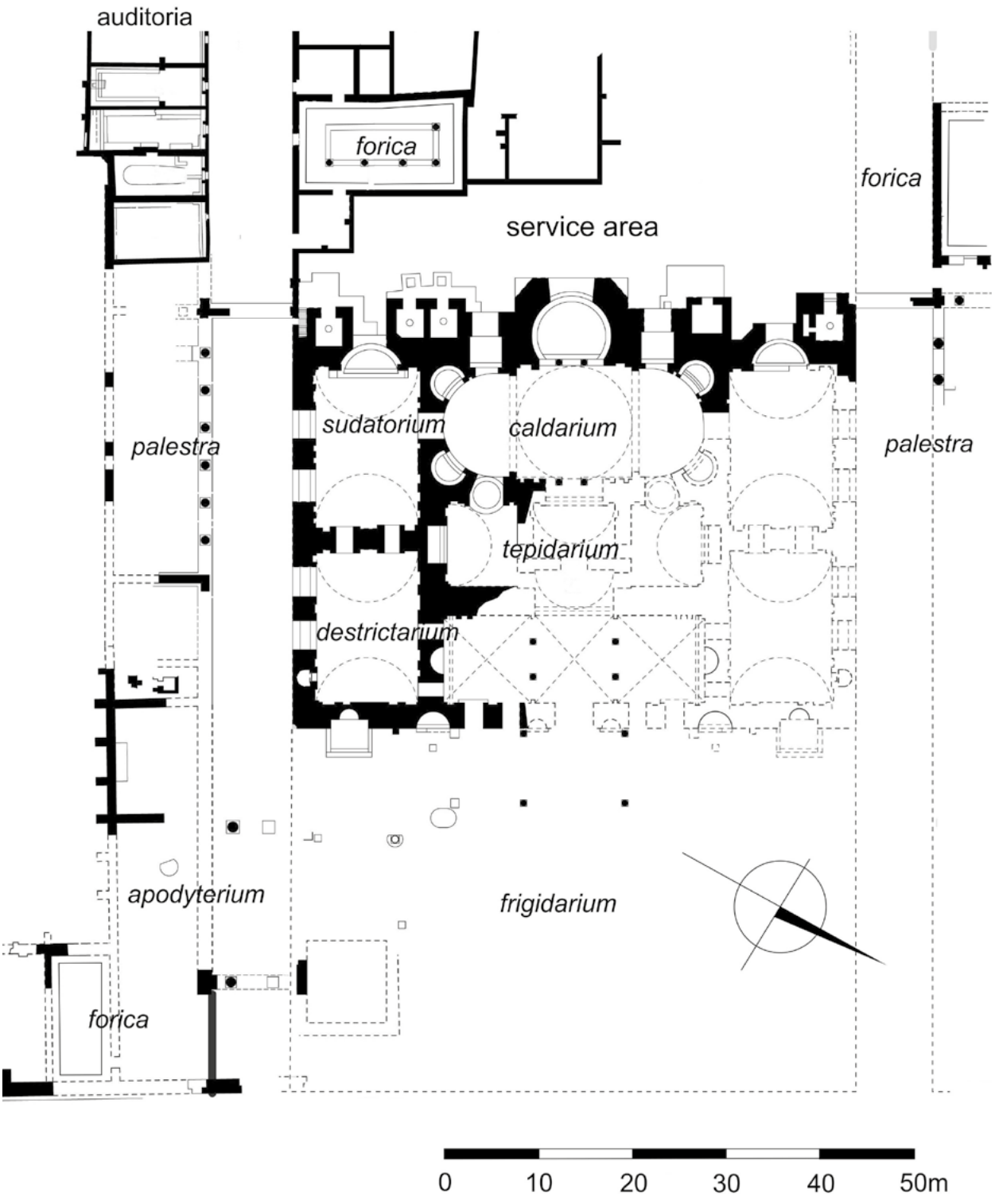


Figure 5. Ground plan of the baths complex (*Drawing W. Kołątaj* ©PCMA)

square located in the very centre of the city, at the intersection of the *Via Canopica* and street R5. Identical colonnades were discovered as early as in the 1930s in the immediate neighbourhood, on street L'2 to the south,[19] and on the modern Nabi Daniel Street to the west, the latter largely repeating the course of the ancient R5 street.[20]

It seems that these colonnades ran around a grand square located at the crossing of the main arteries

[19] Adriani 1940: 55-63; 1966: 86-87.

[20] Breccia 1933: 51-52; Adriani 1934: 19-27; 1966: 85-86.

Figure 6. General view of the cisterns (*Photo W. Jerke* ©PCMA)

Figure 7. The theatre portico and complex of auditoria (*Photo G. Majcherek* ©PCMA)

Figure 8. The theatre, reused marble cornice. Scale length: 0.30 m (*Photo G. Majcherek ©PCMA*)

of the ancient city. It may even have been an agora, although excavations conducted in the northern part of this presumed square have shown that it was never paved, being left most likely as a green area.[21] This idea is hardly surprising: after all, palm groves and gardens were not the least unusual in the landscape of Late Antique Alexandria.[22] An Alexandrian park is certainly not an isolated case. Interestingly enough, the most recent excavations in Aphrodisias have uncovered evidence that the so-called Southern Agora was also actually more of a pleasure garden or park.[23]

The *spoliation* is a regular practice in the classical world, particularly common in Late Antiquity.[24] Although for Alexandria we do not possess documents such as, for instance, papyri from Oxyrynchus (*P.Lond.* III 755),[25] a 4th century AD inventory of building material listing columns, capitals, cornices etc. from dilapidated buildings, gathered to be used for another building. We also have prolific material evidence of spoliation. Apart from symbolic and aesthetic aspects it also has a purely economic aspect. Both manifestations of recycling are very evident at the site and there is little doubt that they may result from planned and controlled action. We have never come across anything that could be described as *marmarotopion* – a marble yard or marble storage area, but at the same time it is noteworthy that in several locations, assemblages of brick blocks cut from the walls ready to be used for construction have been identified.[26]

Numerous buildings excavated at the site benefited greatly from the use of *spolia*. The theatre/*odeum* is a particular case in point. The most conspicuous examples are re-used acanthus bases in the vestibule.[27] Many of the marble seats were retrieved from ruined buildings, where they had constituted part of the carved architectural decoration [Figure 8].

All the elements of architectural ornament: the cornices and friezes were either partially re-cut (obliterated) or mounted in a new position with their decorated surfaces facing inward.

The use of *spolia* as basic, cost effective building materials is equally widespread. Fragments of Corinthian capitals as well as drums of Doric columns were discovered reused in the portico's massive foundations and in the stylobate. Large blocks of nummulitic limestone, sometimes bearing inscriptions, were often employed to reinforce particularly vulnerable structures, serving as cornerstones[28] [Figure 9].

Bricks, usually rather ignored as a second-hand building material, were, however, used in a different way. Instead of single bricks, large chunks of walls from abandoned and ruined buildings were simply cut out. Such blocks of bricks were used on a wide scale, and examples are extremely prolific all over the site[29] [Figure 10]. All

[21] Rodziewicz 1984-1985.

[22] Mosch. *Pratum* 207, describes such urban *paradeisai*. On urban gardens cf. also Haas 2002 and Adriani 1966: 222. Rodziewicz (1991) identified another ancient park remains on the grounds of American Cultural Center, close to the *Via Canopica*.

[23] Wilson *et al*. 2016.

[24] On spoliation in Late Antiquity see the discussion in Deichman 1975; Brenk 1987 and Alchermes 1994.

[25] Łukaszewicz (1979) is of opinion, that the list describes architectural elements to be fired for lime, while according to Papaconstantinou (2012) they were intended to be used in some construction project.

[26] Such storage areas grouping brick wall blocks originating either from the cisterns or the bath were found east of the auditorium N, and south of the theatre.

[27] Makowiecka 1969.

[28] For the inscription cf. Zawadzki 1966.

[29] For bricks used in benches in the auditoria see Majcherek 2007b: 23.

Figure 9. Inscribed block reused in the baths' underground vaults. Scale length: 1 m (*Photo G. Majcherek* ©PCMA)

Figure 10. Late Antique structure made of brick wall segments. Scale length: 1 m (*Photo G. Majcherek* ©PCMA)

this resulted in rather poorly made walls that were so poignantly described by Agathias visiting Alexandria: 'people's houses are frail and flimsy structures.'[30]

**Late Antique rebuilding**

Successive quakes in the first half of the 6th century AD proved to be of key importance for the development of this area.[31] While no contemporary reports about Alexandria have survived, we do have a later account by John of Nikiou, who reported that the last cataclysm caused heavy destruction throughout the country: 'In the days of the emperor Justinian there was a great earthquake in the land of Egypt, and many cities and villages were swallowed up by the abyss.'[32]

[30] Agathias, *Hist.* 2.15.1.

[31] See discussion in Guidoboni 1994 and Ambraseys *et al.* 1995.

[32] John of Nikiou, *Chronicle* 90.81-83.

Figure 11. Damaged walls in the bathhouse, evidence for seismic destruction. Scale length: 1 m (*Photo G. Majcherek* ©PCMA)

The destruction wrought by quakes is evident in several of the buildings discovered on Kom el-Dikka. Deep vertical cracks in the brick walls can be observed in many places in the baths and cisterns [Figure 11]. The scale of the devastation in Alexandria must have been overwhelming – a seismic cataclysm of epic proportions. The portico fronting the theatre must have suffered in this event as well. Its rebuilding should have come in the reign of Justinian, yet the sources at our disposal fail to mention any serious construction or urban project undertaken in Alexandria in his day. The normally effusive Procopius had nothing more to record than the fact that Justinian fortified a *horreum* in Alexandria. Even this was not part of any wider building programme, but simply a reaction to urban rioting that had endangered grain deliveries to Constantinople. [33]

The rebuilding was not simply renovation and repair of damages; it often resulted in the substantial alteration of various architectural complexes. The bath was thoroughly redesigned, retaining a symmetrical layout, but incorporating features typical of Byzantine constructions, meant to stress the centrality of the plan [Figure 5]. The existing passages between the *sudatorium* and the *caldarium* and *tepidarium* were blocked. New doors appeared entirely elsewhere. The *caldarium* – the central and largest interior of the baths, was altered, following a model (although on a more modest scale) best exemplified by the main aisle of the Haghia Sophia Church in Constantinople.[34]

The *palestra* was also redesigned, with additional columns introduced along its lateral walls. These columns were much smaller, presumably salvaged from some ruined structure. Much shorter than the original columns of the *palestra* portico, they had to be raised on pedestals of considerable height in order to maintain the same roofline. Little attention was paid to the uniformity of the decorative style, thus creating a sort of patchwork quality.[35] Instead of the traditional granite columns shafts of Proconessian marble and *cippolino* were also used. Acanthus capitals not matching the columns in size were used alongside Ionic capitals taken from older buildings [Figure 12]. In any case, the intercolumnar spaces were blocked and the whole area appears to have been excluded from regular use.[36]

Cutting off the big pools in the *frigidarium* of the baths and the resultant sharp drop in water demand had a key influence on the redesign of the cisterns. The facility was not rebuilt in its original shape and a set of just eight smaller brick tanks was erected in place of the destroyed and filled-in larger cistern. The ruined west end of the cistern was adapted to serve as living quarters.[37]

Connected with this rebuilding is one other characteristic element: new building techniques introduced on a large scale. The common application of the pillar-and-panel technique is perhaps the most conspicuous phenomenon, observable in public as well

[33] Procop. *Aed.* 6.1.4; *Historia* 26.36.
[34] Kołątaj 1992: 165-166.
[35] Similar cases of employing recycled material have also been observed in other eastern Mediterranean cities. Colonnade of the Marble Road at Sardis was built using columns and capitals of various origins, see Jacobs 2012: 142-143.
[36] For the transformation of public buildings in Late Antiquity cf. among others Ellis 1998, Leone 2007.
[37] Rodziewicz 1984: 259-278, traces of adaptation to habitation or workshops needs were discovered also in the Theatre corridor (Rodziewicz 1984: 309-312).

as private building [Figure 13]. This mode of construction (*opus africanum*, *opere a telaio* or recently referred to as *opus punicum*),[38] proved to be stable and rigid enough to carry the combined loads of additional stories.[39] The adoption of new techniques is equally well documented in the Theatre Portico.

In case of the portico back-wall, the builders resorted to a frequently employed type of *opus caementicium* technique, previously also used in the cisterns.[40] The two faces of this extremely thick wall (approx. 1.55 m) were built of regular dressed stone (*opus vitatum*), while the interior was made from mortared rubble: ashy-lime mortar into which rubble aggregate was dumped.

Whether ash used for mortar produced strength comparable to *pozzolana* is another question. There is, however, ample evidence that ash was commonly used in construction throughout the empire, particularly in regions where volcanic ash deposits were not available.[41] Also, the economic aspect in our case cannot be ignored. The baths located in the vicinity produced tons of this cheap material. A triple band of bricks extending through the masonry at regular intervals gave the wall additional strength [Figure 14], creating at the same time a visual effect commonly associated with Late Roman architecture.[42]

Figure 12. Columns topped with various capitals (*Photo G. Majcherek* ©PCMA)

It appears that new materials and techniques offered not only new possibilities in terms of structural engineering but also new options in organising the workforce and the whole construction process. Using *opus caementicium* gave it an almost semi-industrial nature and much better efficiency. Janet DeLaine, who thoroughly analysed the construction process at the Bath of Caracalla in Rome, estimated construction time at a mere eight years.[43] Naturally, no such estimates are available in our case, but the technology certainly helped to reduce substantially the construction time. Work in mortared rubble was done in stages, each one corresponding to one stage of scaffolding, and the height that could be handled by a worker.[44] Putlogs preserved in the wall face provide evidence for the use of scaffolding. This radical change in building technique was, in all probability, dictated by the fast pace of the rebuilding.[45]

In the first half of the 6th century AD the nearby theatre/*odeum* was also completely rebuilt. It was turned into a round domed hall, accessible through a tripartite vestibule replacing the demolished stage

[38] Wright 2009: 169-170; Adam 1998: 130-132.
[39] Rodziewicz 1984: 63-64, fig. 48.
[40] See also the similarly structured assumed aqueduct built along the R4 street (Rodziewicz 1984: 246-248, fig. 271).
[41] Lancaster 2012.
[42] Diocletian age Babylon fortress in Cairo is geographically the nearest parallel, cf. Sheehan 2015, 38-66.
[43] DeLaine 1997.
[44] Adam 1998, figs 182-183, the method is best illustrated by the widely quoted painting from Trebius Justus hypogeum in Rome, cf. Rea 2004.
[45] Economic impact of new technologies is discussed by Wilson 2006.

Figure 13. Wall built in the *opus africanum* technique. Scale length: 1 m (*Photo G. Majcherek ©PCMA*)

Figure 14. Portico back wall, visible putlogs. Scale length: 1 m (*Photo G. Majcherek ©PCMA*)

Figure 15. Auditorium K. Scale length: 1 m (*Photo G. Majcherek ©PCMA*)

building. New rows of seats appeared in place of the blocked lateral *parodoi*. The classical semicircular plan of the *cavea* transformed into an unusual horseshoe-shaped arrangement. The whole edifice apparently changed its function. As evidenced by numerous Greek graffiti visible on the seats praising the winners of chariot races, the building was used as a meeting hall for the Green faction.[46] While this view is not to be entirely rejected, it now appears that the theatre most probably acquired quite a new function, acting from this point onward as an auditorium for a larger audience.[47] At the same time, its new form could be seen as a source of architectural inspiration for the builders of other auditoria in the adjacent complex. This large complex was to be the largest undertaken in this area, one that effectively changed the function of the Theatre Portico.

The auditoria, some of which have been preserved in exceptionally good condition, are virtually all of similar size and layout.[48] The halls (with the exception of halls P and S) have the same orientation along an N-S axis regardless of their actual location and position of the door [Figure 1]. The differences lie in the size and details of the internal arrangement. The halls are usually from 9 to 12 m long and no more than 5 m wide, although the smallest of them barely reached 7 m in length.

The three-four steps of benches lining the walls seated from 20 to 30 people. Some benches take on the form of an exedra, but in most cases they follow a rectangular layout. The central seat at the end is a distinctive feature in all of the halls [Figure 15]. Excavations documented in auditorium K the most monumental of these seats – a real *cathedra*, with separate steps leading to it.[49]

Investigations to date, starting from the 1980s,[50] have shown that similar halls ran along the entire colonnade. The total number of excavated structures today is 22. There can be little doubt that they formed a large complex of lecture halls within the urban public space in the centre of the city. They could possibly represent

[46] Borkowski 1981.
[47] Kiss (1990-1992) has already suggested the possible function of the theatre as a lecture hall, see also Rodziewicz 1993.
[48] For a detailed description of the auditoria complex see Majcherek 2007b.
[49] Majcherek 2004b: 29-32, figs 4-5.
[50] Rodziewicz 1984-85; Kiss *et al.* 2000: 9-33; for yet another presumed lecture hall uncovered by the southern wall of the theatre see Rodziewicz 1991: Pl. I, 1.

Figure 16. Ash and urban refuse deposits accumulated next to the bath complex (*Photo G. Majcherek* ©PCMA)

the remains of educational institutions, for which Alexandria was renowned in Late Antiquity.[51]

Written source document well the intellectual life of Late Antique Alexandria as the city was famous for its philosophical, juristic and medical schools. Although no textual or epigraphic evidence can be directly associated with our auditoria, numerous records attest the supremacy of Alexandria in the field of higher education.[52]

The location of our complex of auditoria on a square of such monumental proportions suggests its special status, further emphasised by the nearby presence of imperial baths. This entire urban district encompassing a vast square, baths, *odeum* and, finally, a set of what looks like municipal lecture halls, should be considered, perhaps, as the new civic centre of Late Antique Alexandria, taking over the role of the Graeco-Roman gymnasium.

Surprisingly enough, the central part of the site seems to have been excluded from urban life and was left virtually empty. It had already been abandoned in the late 4th century, becoming a dumping ground for urban refuse, rubble and ash originating from the bath.[53] The whole area turned very quickly into one of the typical *kopriai*, several examples of which have also been recognised in other parts of the city.[54] In other words, even as the public monuments were in use, the area behind them was occupied by a large mound extending well to the north of the theatre and to the east towards the cistern, culminating several meters above the regular level of the surrounding monuments [Figure 16]. Moreover, a long blind wall bordered the southern set of auditoria on the east. Sections of it take on the form of a double wall of a casemate structure, while the rest is a single thick wall of isodomic masonry, which has bulged dangerously under the load of the heaps of rubbish accumulated behind it.

There are more signs of gradual dereliction recorded all over the site. It is obvious that no effort was made to maintain the pavement of the portico and beginning in the late 6th century a new beaten earth street level quickly formed some 60-80 cm higher. This naturally implied a rise in the level of the auditoria thresholds

[51] Majcherek 2008 and 2010.
[52] Roques 1999; Gascou 1998; Haas 1997.
[53] Liebeschuetz 2000, on urban waste disposal and refuse-dumping.
[54] Rodziewicz 1984: 25-31, 252-256; for the discussion on unwarranted usage of term *Copron Mons* cf. Tkaczow 1993b: 111, n. 130, see also Ballet 2003 on *kopriai* in Egypt.

for one, these being about a meter above the original portico pavement.

But even at this stage of research, it has become increasingly obvious that, contrary to prevailing views, both the civic and economic life of Alexandria in Late Antiquity was actually far from going into decline.[55] Textual evidence indicates this, 'Life of John the Almoner' being perhaps the best and certainly most quoted example, as do archaeological records.[56] Alexandria was not only a commercial centre but like all the other great metropolises, also a huge consumer market. To meet the ever-growing demands of its population, large quantities of essential foodstuffs: grain, olive oil and wine had to be imported from both the Egyptian hinterland and also from overseas. A large consumer city was always highly dependent on the import of basic foodstuffs, and in the 6th-early 7th century this dependence grew. It is perhaps best illustrated by an abundance of foreign pottery originating from almost all over the Mediterranean. In 6th-7th century assemblages from Kom el-Dikka, imported vessels constitute an overwhelming group with a combined count of some 70% to over 80% of all transport amphorae.[57] The Alexandrian market was also a substantial recipient of foreign-made tablewares imported from the great production centres in North Africa (ARS), Cyprus (CRS) and Asia Minor (LRC). The sheer scale of the long-distance trade points not only to the necessity of importing foodstuffs, but also attests on-going and vigorous commercial links.

**Conclusions**

Cityscapes tend to change with the passage of time, presenting different faces in different epochs. In Alexandria, as in any ancient town, we can speak of a collective identity – an idiom that was also expressed in the architecture.[58] The aesthetic values of the largely Greek-speaking population in the first three to four centuries of the Roman period could hardly have departed from the 'classical' architectural language. Numerous iconographic sources, such as coins,[59] confirm this as do remains of monumental architectural decoration discovered all over the ancient town.[60] It would be almost trivial to assert in Late Antiquity, with the appearance of entirely new landmarks, such as churches, that the character of the city altered substantially.[61] The bulk of the evidence

Figure 17. Broken rooftiles. Scale length: 0.25 m (*Photo G. Majcherek ©PCMA*)

collected from Kom el-Dikka – over more than half a century at this point – seems largely to confirm this view. To take just one example: Alexandria must have had kilometres of colonnades, lining at least the main avenues. Taking into consideration their size, we should expect tons upon tons of roofing tiles and entablature blocks.[62] However, the archaeological record at the site has yielded a few isolated examples of *tegulae*,[63] and absolutely no architrave blocks [Figure 17]. That stone architrave elements could be used for spans just over 4 m long has been proven, for example, by granite pieces found in the theatre at Pelusium. At the Kom el-Dikka site large nummulitic blocks with rectangular sockets for beams have been documented in several locations in the porticoes. Such sockets were apparently prepared for wooden beams (purlins), implying a flat rather than pitched form of roofing [Figure 18]. If we further consider the rare finds of roof tiles from other areas of the ancient town, we arrive at a conclusion that puts into doubt current opinions.[64] It seems that many known visual images of Late Antique Alexandria merely reflect a common cliché.[65] Cityscapes known from mosaic floors, for example,[66] are kept in a

[55] Monks 1953; Hollerich 1982.
[56] Wipszycka 2002.
[57] Majcherek 2004a.
[58] Cf. lengthy discussion on urban setting in Hass 1997: 19-44.
[59] Handler 1971.
[60] Pensabene 1993.
[61] Martin 1998; characteristically, no church remains have yet been found on Kom el-Dikka. The only structure of religious function is the putative small chapel discovered west of the baths, see Rodziewicz 1984: 309, figs 319-322. Fragments of marble screen panels and perhaps table tops (*mensae*) are the only finds that could be linked to church architecture in this area (Tkaczow 1993a; 2010: 330-340).
[62] For roof tiles found even in 8th century deposits cf. Tsafrir and Foerster 1994. Roof tiles are a common find even in small Late Antique cities or villages throughout the East. For Kalavassos-*Kopetra*, a small village in Cyprus, see Rautman 2003: 177-179. Bir Ftouha church excavation in Carthage produced almost four tons of roof tiles, see Pringle 2005: 349.
[63] All the recorded fragments belong to large, Corinthian-style flat pan tiles of apparently non-Egyptian fabric. On trade in ancient roof tiles see the comprehensive study by Wills 2013.
[64] For the rare finds of roof tiles in various areas of the city cf. Adriani 1966: 55-63 and 110; Rodziewicz and Abdel Fatah (1991: 135) have reported finds of locally made roof tiles of Ptolemaic age. A Late Roman wreck with a cargo of roof tiles has also been recently identified off shore from Alexandria (Mathieu 2004: 637).
[65] Bertelli 1999; Dey 2014.
[66] For mosaic from Umm al-Rasas see Piccirillo 1994: 190-191; from Khirbet es-Samra see Desreumaux 1983: 322, figs 6-7; generally on the subject see Duval 2003: 207-214. See also: Netzer and Weiss 1992: 75-80. For the mosaic from Qasr el-Lebia in Cyrenaica cf. Grabar 1962:

Figure 18. Large block with sockets. Scale length: 1 m (*Photo G. Majcherek* ©PCMA)

simplified style best exemplified by the visual imagery of the Madaba 'map.'[67] In some cases, domed churches are depicted next to the pitched roofs of houses.[68] But the cityscapes represented on a series of ivories seem to offer a slightly different picture. A 7th century ivory post for a standard depicts St. Mark in the presence of his successors, the bishops of Alexandria, against a fragmentary cityscape showing crenellated walls and houses with balconies and arched window openings.[69] This combination of different building styles seems to be closer to the image of the city emerging from the excavations. Had the city become increasingly Oriental in its character, and had the flat terrace-like roofs of houses and the cupolas of churches replaced the pitched roofs of classical architecture? We have certainly come a long way from Ammianus' description of Alexandria's landscape dotted with 'temples pompous with lofty roofs.'[70] Indeed, it seems likely that one of the principal idioms of classical architecture was finally abandoned in this period and stone architraves were replaced with timber, if not palm wood beams, which were perfectly suited to meet all of the structural requirements, but entirely inconsistent with the 'classical' norms.

According to Arab historiographers, Alexandria dazzled its conquerors with its whiteness of marble, but the effect may have actually been due to the brilliance of the whitewashed walls. In any case, this state of affairs did not last for long.[71] In the late 8th century, the columns of the portico collapsed in yet another quake. The theatre was largely destroyed and dismantled and the ruins were soon overrun by Early Islamic burials – a cemetery symbolic of the end of this particular district of ancient Alexandria.

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135-139.

[67] Piccirillo and Alliata 1999.

[68] For the 6th century mosaic from Jerash cf. Piccirillo 1981: 38-42.

[69] Volbach 1976: 71, no. 144.

[70] Ammianus, *Res Gestae* 22.16.12.

[71] Hamarneh 1971: 77-110.

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# Egyptianising Motifs and Alexandrian Influences on Some Elements of Architectural Decoration from *Mauretania Tingitana* (Morocco)

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**Summary**
The aim of this paper is to present a set of architectural elements from *Mauretania Tingitana* (Morocco), which show how Hellenistic-Alexandrian traditions and Egyptianising motifs were adopted in this province at the south-western fringe of the Roman Empire. The most significant examples of decoration reviewed here are: Corinthian and composite capitals with prickly acanthus, Corinthian and Corinthianising capitals with free helices and volutes, pseudo-Corinthian and foliate capitals with water plant leaves, and pseudo-lotus capitals. While Alexandrian and Egyptian influences may have started to be assimilated into the local background already in the pre-provincial era, all the archaeological evidence discussed in this paper dates to the Roman period, mainly to the 2nd century AD. This demonstrates that pre-Roman artistic and architectural legacies persisted over a long time-frame in this territory, overlapping with the impact of the official models diffused from Rome and Carthage.

**Keywords**
*Mauretania Tingitana*, architectural decoration, capitals, Egyptianising motifs, Hellenistic and Alexandrian legacies

## Introduction

The identification of decorative motifs that travelled across the Mediterranean provides a glimpse of the interconnections between different cultures in the Greco-Roman world. Even under Roman rule local traditions managed to survive, giving birth to hybrid artistic phenomena, often merged with the official art and architecture diffused by the centres of power. Among the various regions of the Roman Empire, North Africa is a context where this phenomenon is particularly evident.

This paper draws from the results of my recently published research on the architectural decoration and urban history of *Mauretania Tingitana* (northern Morocco).[1] The aim of my contribution in this volume is to present selected architectural elements that demonstrate how Hellenistic-Alexandrian legacies and Egyptianising motifs persisted during the Roman period in this province at the edge of the Empire. The paper is divided into four sections where I discuss particular types of decoration, followed by concluding remarks.

*Mauretania Tingitana* [Figure 1] corresponds to the western portion of the territory that was donated to Octavian by the last Mauretanian king, Bocchus II, in 33 BC. After a short period of direct Roman administration, a client kingdom was established in *Mauretania* and entrusted first to Juba II (25 BC-AD 23), and then to his son Ptolemy (AD 23-40). This land was definitively annexed into the Empire by Caligula, and then split into two separate provinces by Claudius in AD 42/43: *Mauretania Tingitana* (Morocco) and *Mauretania Caesariensis* (Algeria).[2]

The discussion I present in this paper is principally focused on the first three centuries of the Roman provincial era, from the mid-1st century AD to the 3rd century. While illustrating the decorative features of the architectural elements under study here, I will also examine their context of provenance and setting (when at all possible). This will allow me to offer a brief review of urban trajectories and architectural development in the main towns of the province.

## Corinthian and composite capitals with prickly acanthus

Among the ancient sites of *Mauretania Tingitana*, *Volubilis* is the most significant context for undertaking an in-depth analysis of locally created architectural

[1] Mugnai 2018, based on a doctoral thesis submitted to the University of Leicester in 2016. I would like to acknowledge David Mattingly for his constant help and advice. I also owe a great debt of gratitude to various persons who provided a valuable support to my research: Patrizio Pensabene (Rome), Stefano Camporeale (Siena), Janet DeLaine (Oxford), Emanuele Papi (Siena), and Aomar Akerraz (Rabat). Many thanks to the curators of the Moroccan archaeological sites, Mustapha Atki (*Volubilis*), Rachid Arharbi (*Banasa*), Abdelkader Chergui (*Sala*), and Hicham Hassini (*Lixus*), and to the directors of the local museums: Khadija Bourchouk (Rabat), Brahim Salimi (Tangier), and Anas Sadrati (Tétouan). Fieldwork in Morocco (2011-2014) was funded through the generous grants awarded by the Fusaro family, the Society for Libyan Studies, and the Society for the Promotion of Roman Studies.

[2] For a review of the main historical events in *Tingitana*, see Mugnai 2018: 55-80, with full bibliographic references.


Figure 1. Map of *Mauretania Tingitana*, with main towns and roads, according to the *Itinerarium Antonini Augusti* (*After Akerraz and Papi 2008, Figure 13*)

ornament. This town is privileged because of the extensive excavations that were carried out, mainly in the years of the French Protectorate and shortly afterwards.[3] Although spoliation and recycling of materials were common practices, especially in the Islamic era, *Volubilis* was not so intensively robbed as other centres, such as *Lixus*, nor was it swallowed underneath modern cities, as is the case at *Tingi* (Tangier). On the other hand, one must acknowledge that *Volubilis* did not play a primary role in provincial politics during the Roman period. Its location in the hinterland of the country, far from the Mediterranean and Atlantic routes, is a factor that must be taken into account when evaluating the historical development of this town.[4]

The urban layout of *Volubilis* was progressively enhanced from the late first to early 2nd century AD, and throughout the mid-3rd century.[5] This

[3] Chatelain 1944: 150-250; Rebuffat 2000: 875-880.

[4] Carcopino (1935) attempted to prove that *Volubilis* was the capital of *Tingitana*, instead of *Tingi*. This suggestion, however, is now almost unanimously rejected: see, for instance, Lassère 2015: 487.

[5] Étienne (1960) believed that the north-east residential district of *Volubilis* was almost entirely built in the 3rd century AD, but successive studies have tended to push this chronology back as early as the mid-

monumental embellishment also precipitated a large demand for architectural elements, which was met by the establishment of local large-scale production. These ateliers soon developed easily-recognisable carving styles and techniques, which were in part determined by the characteristics of the local stone they employed: the grey, hard limestone quarried from the Zerhoun mountain. They also introduced very peculiar decorative motifs, featuring a combination of surviving pre-Roman legacies and local elements. This phenomenon took place at a time when the Romano-Carthaginian official models were predominant in the decoration of the other North African centres along the Mediterranean coast (the mid-2nd to early 3rd century AD).[6]

The persistence of Hellenistic and Alexandrian traditions in Roman-period *Volubilis* is particularly manifest in the shape of the acanthus used for decorating Corinthian and composite capitals. In some cases the stonemasons reproduced prickly leaves, divided into lateral lobes with circular eyelets. This naturalistic and well-refined design was a faithful imitation of the typical Hellenistic shapes, well-known thanks to the numerous examples recovered at Alexandria, at other sites of Ptolemaic Egypt, and along the coast of *Asia Minor*.[7] At *Volubilis*, this type of acanthus can be seen, for instance, on an isolated capital that can be probably associated with the south-east gate of the city walls, AD 168/169 [Figure 2A],[8] as well as on some examples from the *maison aux gros pilastres*, *c*. early 3rd century AD [Figure 2B],[9] and on other pieces from the Palace of Gordianus, mid-3rd century AD.[10]

The persistence of Hellenistic traditions throughout the Roman era is a phenomenon that also took place elsewhere in the Mediterranean. For example, in 2nd-century Egypt, Alexandrian capitals with prickly acanthus leaves were still produced, with progressive simplifications, at *Denderah* (*nymphaeum* along the street leading to the Temple of Hathor)[11] and *Dionysias* (military fort).[12] It is also worth citing two isolated examples imported to Ostia, which appear to be datable to the Severan period.[13]

As illustrated by Pensabene in a recent article,[14] the Hellenistic-Alexandrian style was adopted, adapted and reworked by the Volubilitan artisans for their productions. The acanthus leaves with pointed folioles, which developed along the leaf's contour without a clear distinction into lobes, are the result of such transformations [Figure 2C]. These forms were particularly diffused within the town, examples of which come from both private and public buildings.[15] The extremely varied and exuberant decoration of the piazza surrounding the Capitoline temple (AD 217)[16] is probably one of the most significant cases at *Volubilis*. It is also important to remark that the Hellenistic-Alexandrian substratum identifiable in the form of the acanthus was merged with decorative motifs that were created locally: the set of three calyces springing in succession, the various shapes (discs, shells, masks) that replaced the canonical fleurons, and the peculiar geometric forms placed underneath the corners of the abacus.

The popularity of the Volubilitan products is further emphasised by the fact that these architectural elements were exported to other centres, especially in the south of the province. The colony of *Banasa* was the principal destination, because of the relatively short distance between this town and *Volubilis* (*c*. 100 km), and due to the lack of stone quarries in *Banasa*'s immediate vicinity. Corinthian and composite capitals [Figure 2D], Attic bases, column shafts, and statue pedestals made of Zerhoun limestone were imported to *Banasa* as finished products. However, there is reason to believe that some artisans from *Volubilis* moved here and established their own workshops in the town, reproducing the typical Volubilitan forms of architectural decoration while using materials other than the Zerhoun stone, especially calcarenite and other types of limestone.[17] A similar observation applies to *Sala*, where a pilaster Corinthian capital with three calyces, made of local calcarenite, can be associated in all probability with the honorific arch in the monumental district.[18]

**Corinthian and Corinthianising capitals with free helices and volutes**

The survival of Hellenistic-Alexandrian traditions during the Roman era can also be traced in some architectural elements, which were produced at *Banasa*

1st century AD. For a recent review of the topic, see Camporeale *et al.* 2008: 292-293.

[6] Pensabene 1989.

[7] McKenzie 1990: 70-73, Pls. 199-209; 2007: 83-91, figs 125-137; Pensabene 1993: 352-385, nos 180-323, Pls. 26-42; Tkaczow 1993: 207-229; 2010: 121-126, nos 5-31, Pls. 19-23.

[8] The construction of the city walls is securely dated by the twin dedicatory inscriptions recovered: *IAM2*, nos 382-383.

[9] Étienne 1960: 86-89, 134, Pl. 88, fig. 5 (now in the Musée Archéologique de Rabat).

[10] Mugnai 2018: 228-231, types Vol 2.29-34, Pls. 12-13; see also Thouvenot 1958: 18, Pl. 4.4.

[11] Pensabene 1993: 361-363, nos 220-226, Pl. 31.

[12] Schwartz 1969 *et al.*: 52-55, nos D9-10, Pls. 10-11.

[13] Pensabene 1973: 162-163, nos 670-671, Pl. 63.

[14] Pensabene 2011.

[15] See in particular Pensabene 2011: 209-254; Mugnai 2018: 90-91, 178-182, fig. 8.6.

[16] *IAM2*, no. 355.

[17] This is confirmed by the discovery of calcarenite column bases with a well-recognisable Volubilitan design at *Banasa*, and of a Corinthian capital with Volubilitan acanthus made of white limestone (now in the Andalusian gardens of the *Kasbah des Oudayas* at Rabat): see Mugnai 2018: 245-248, 260-262, types Ban 1.2-4, Ban 1.7, Ban 1.12-13, Ban 2.26-30, Ban 2.33, Pls. 20-22, 30-31.

[18] Mugnai 2018: 280-281, type Sal 2.16, Pl. 39.

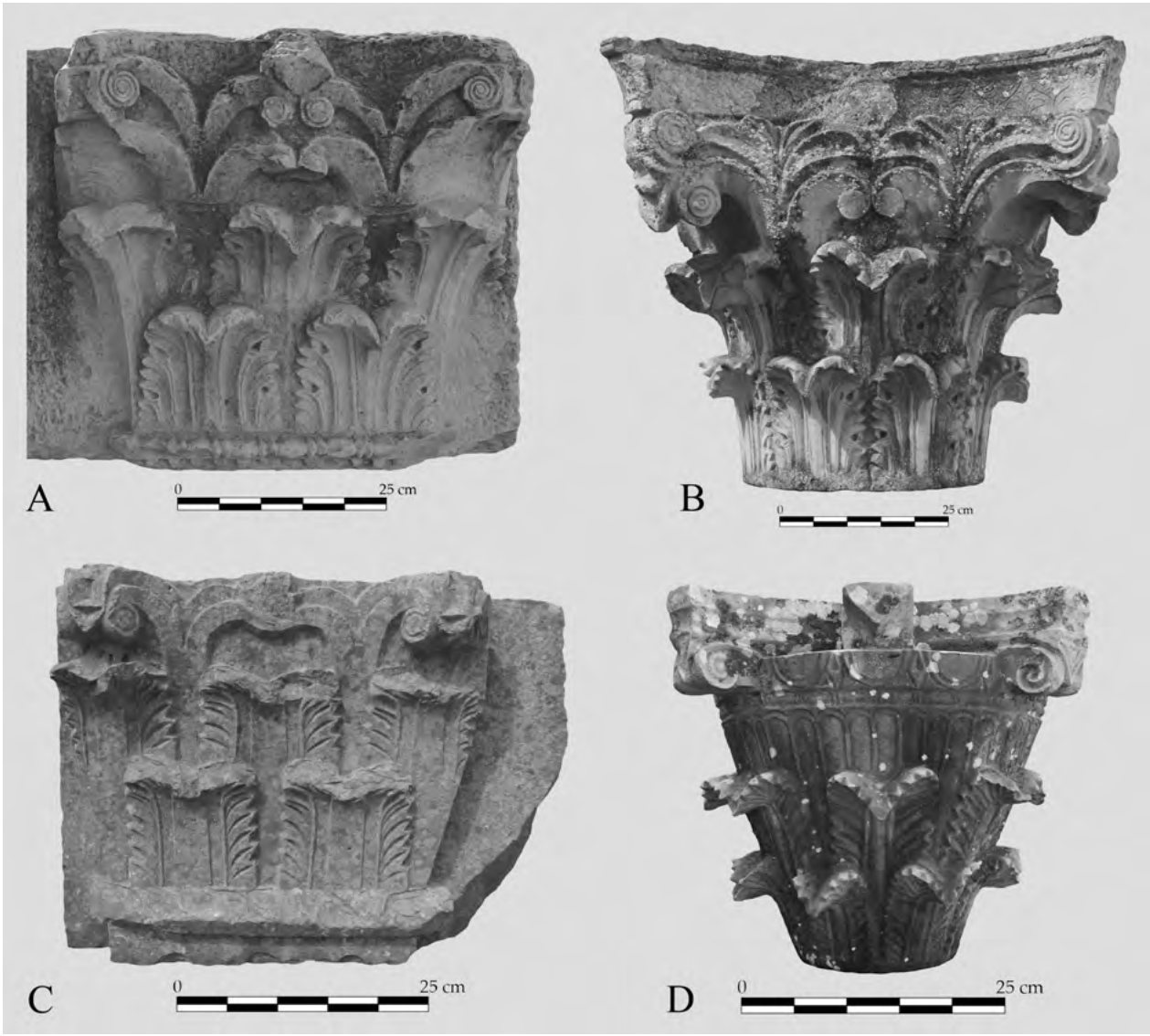


Figure 2. Volubilitan capitals with prickly acanthus. A – *Volubilis*, south-east gate of city walls; B – *Volubilis*, *maison aux gros pilasters*; C – *Volubilis*, piazza of the *Capitolium*; D – *Banasa*, uncertain provenance, now at the *Musée Archéologique de Rabat* (*Photos N. Mugnai*)

independently from the other pieces imported from *Volubilis*. Unfortunately, the evidence is more patchy and not as visible as that from *Volubilis*. One must also be aware of the limitations caused by the loss of stratigraphic data when the town was excavated during the Protectorate.[19]

Nevertheless, recent research has improved our understanding of the urban development of this site. While very little survives of the original colony founded by Octavian (31-27 BC),[20] it is clear that *Banasa* witnessed a major phase of urban expansion in the 2nd century AD. This began with the enlargement of the forum and the erection of a temple with seven *cellae* at its southern side in the early 2nd century AD.[21] Afterwards, further monumental enhancement took place in all the other districts. In some instances we can only advance a rather generic chronology to the whole of the 2nd century, such as for the residential buildings in the northern district.[22] In some other cases the dating can be more precise: for example, the *maison à la mosaïque de Vénus* and the *thermes aux fresques* in the south-western district are datable from the middle to the latter half of the 2nd century.[23] It is also ascertained

[19] For an account on the first digging operations at *Banasa*, see Thouvenot 1941.
[20] Thouvenot 1954a.
[21] Brouquier-Reddé *et al.* 2004.
[22] Camporeale 2004-2005: 203.
[23] Arharbi *et al.* 2001: 148-149; Camporeale 2004-2005: 153-154, 203.

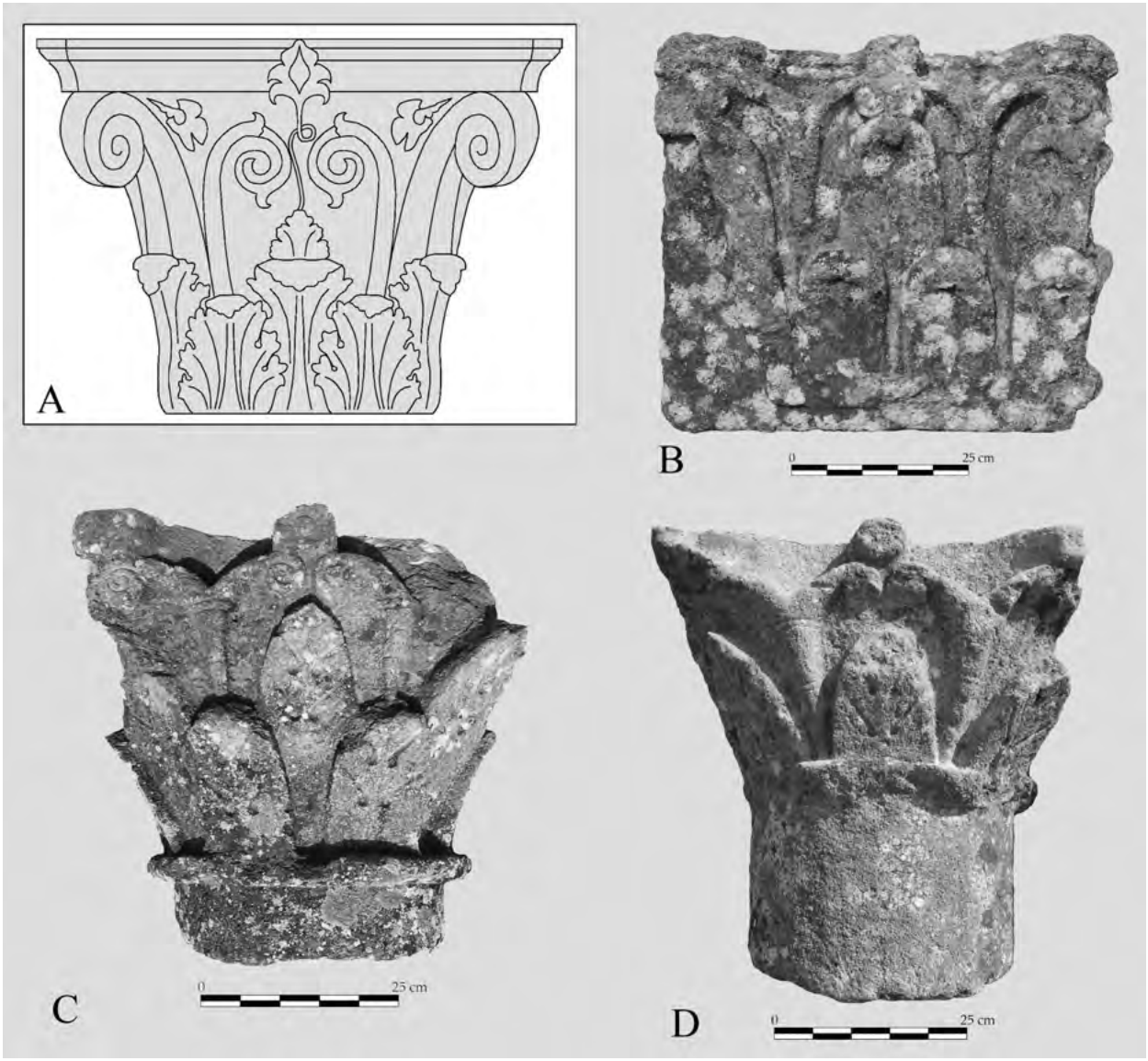


Figure 3. Capitals with free helices and volutes. A – Alexandrian type 1 capital (*After McKenzie 2007, Figure 125a*); B – *Banasa*, *maison M3*; C – *Banasa*, *thermes aux fresques*; D – *Banasa*, *maison M3* (*Photos N. Mugnai*)

that the retreat of the Roman army from the southern *limes* of the province (at some point between AD 282 and 291) had serious repercussions on life at *Banasa*. Only limited building activities took place in the 3rd and 4th centuries, demonstrating that the town was gradually abandoned at this stage.[24]

The recognition of this chronological frame was fundamental for the study of the decoration recovered at *Banasa*, as it allowed me to move beyond a mere stylistic analysis. The architectural elements recorded are made of calcarenite (imported from the quarries of Sidi Bouknadel, *c.* halfway between *Sala* and *Thamusida*)[25] and were originally covered with a layer of stucco, some traces of which are still preserved on some pieces. Capitals that recall the shape of the Alexandrian models [Figure 3A] come from various parts of the town.[26] One of the most significant examples is constituted by a pilaster capital, with two tiers of smooth leaves, recovered in *maison M3* in the northern district [Figure 3B]. The long, vertical stems with helices and volutes springing without any calyces are clearly reminiscent of the well-known Hellenistic forms with free helices and volutes. The reduced portion of the upper kalathos, however, indicates a date not earlier than the mid-2nd century AD,[27] which is further confirmed by the overall

[24] Camporeale 2004-2005: 203-204.
[25] Camporeale 2008a: 154-155, fig. 52.
[26] Mugnai 2018: 256-258, types Ban 2.14-22, Pls. 28-29.
[27] Pensabene 1973: 207, 235-238. See also Vitr. *De arch.* 4.1.12: 'dempta

chronology of the district. Therefore, like for the ornament of *Volubilis*, here we can identify a continuity of pre-Roman traditions. With regard to the presence of smooth leaves and the overall schematisation of the abacus, these elements cannot be used as indicators of a late chronology. While examples with similar features from other contexts in North Africa (and elsewhere) are datable to the Late Roman and Late Antique periods,[28] these carving simplifications occurred in *Tingitana* at an earlier stage. The Corinthian capitals with smooth leaves from the *Capitolium* at *Sala*, dated by the dedicatory inscription to *c*. AD 120,[29] are a case in point.[30]

Analogous observations apply, for instance, to the production of pseudo-Corinthian capitals at Marina el-Alamein. The origin of this type of capital can be identified in the Alexandrian models that were popular in Ptolemaic Egypt. The design of the easily recognisable, schematic examples from Marina seems to have been developed in the period between the mid-1st century AD (the first variant) and the 2nd century (the second variant).[31] We can thus speak of carving simplifications which evolved into the creation of an autonomous 'style' of decoration.[32] Any attempts to advance an artificially late dating for these elements would not be workable, also judging by the contexts where they were employed at Marina. The form was in use with no interruption until Late Antiquity, and only the proportions of the capitals appear to have been altered in the later productions.[33]

Corinthianising capitals from *Banasa* which follow a similar pattern come from the *thermes aux fresques* and *maison M3*. The first type has two tiers of palm leaves, with a pointed edge at the top and schematic grooves and eyelets decorating the surface of each leaf [Figure 3C]. The second type differs from the first because of the presence of a single tier of leaves [Figure 3D]. In both cases there are long stems which spring from the leaves, decorated with a thin collar at the top. Above them are V-shaped helices and volutes that run almost horizontally. The model, again, can be recognised in the Hellenistic-type capitals from Alexandria. This peculiar shape of the stems, helices and volutes, however, is also attested on the capitals of the mausoleum of *Thuburnica* (Tunisia), dated to the Julio-Claudian period.[34] It is evident that this decorative tradition did travel across North Africa over a long stretch of time, across the Hellenistic and Roman eras. Interestingly, the shape was still copied in much later productions even outside North Africa, as demonstrated by a capital reused in the *convento de las Capuchinas* at Cordoba, dated to the 5th-6th century.[35] This latter example is of particular importance because it reminds us of the shortcomings of stylistic analyses. In particular, when the context of provenance is unknown, we are often prevented from appreciating the continuity, or the resurfacing, of decorative traditions through time.

**Pseudo-Corinthian and foliate capitals with water plant leaves**

In addition to the persistence of Hellenistic-Alexandrian legacies, which overlapped with the influence of the Romano-Carthaginian art, there is also some evidence of the assimilation of Egyptian-like decorative styles in *Tingitana*. The presence of palm leaves on the Corinthianising capitals from *Banasa* described above is a clue which points towards that direction, although one must observe that their flattened, semi-elliptical shape represents an extreme simplification of the original form. I should point out that, in general, the Egyptianising motifs documented in this province at the south-western fringe of the Roman world are all remotely reminiscent of the original models, which had developed in Egypt in the previous centuries. This demonstrates that the assimilation was not a passive process, as the local stonemasons transformed and re-interpreted what had become part of their own background and skills set. Such a process is similar to the transformations that occurred to the Hellenistic-like prickly acanthus in the production of Corinthian and composite capitals at *Volubilis* (see *supra*).

Hellenistic and Egyptianising influences can be traced on a series of pseudo-Corinthian capitals with water plant leaves. The most relevant type comes from *Volubilis*, examples of which can be found in various parts of the site.[36] The chronology of these capitals has been long debated. Boube attempted to date them to the Mauretanian (pre-Roman) period,[37] while other scholars simply regarded them as a type of 'provincial' decoration,[38] or suggested a Late Roman date.[39] The matter is made more complicated by the fact that stylistic analyses can be misleading when applied to

abaci crassitudine dividatur reliqua pars in partes tres, e quibus una imo folio detur; secundum folium mediam altitudinem teneat.'

[28] See, for instance, a group of Corinthian capitals made of limestone from *Caesarea*-Cherchel: Pensabene 1982: 57-59, 73, nos 162-167, Pls. 54-55.

[29] *IAM2* Suppl., no. 861.

[30] Mugnai 2018: 277-279, types Sal 2.4-6, Sal 2.9-10, Pls. 37-38.

[31] Czerner 2009: 6-12, 32-34; see also Tkaczow 2010: 37-38.

[32] Scholars have not yet reached an agreement on how to define this type of stylised capitals (see the review in Laroche-Traunecker 2000). However, in the light of the new discoveries from Egypt and elsewhere (e.g. Daszewski 1990; Czerner 2009; Czerner 2014), it seems that the artificial label 'Nabataean' should be discarded once and for all.

[33] Czerner 2014: 326-329, fig. 7.

[34] Ferchiou 1989: 247, no. IX.II.B.2.2, Pl. 45a.

[35] Domingo Magaña 2011: 156, no. 235. See also a similar example in the archaeological museum of Sevilla (Domingo Magaña 2011: 155, no. 234) and another capital reused in the *Hotel Amistad* at Cordoba (Domingo Magaña 2011: 156, no. 236), all dated to the 5th-6th century.

[36] Mugnai 2018: 239-241, types Vol 2.60-62, Pls. 17-18.

[37] Boube 1967: 330-332, Pl. 19.4-5.

[38] Euzennat and Hallier 1986: 86-87.

[39] O'Farrell 1941: 100, 108-109.

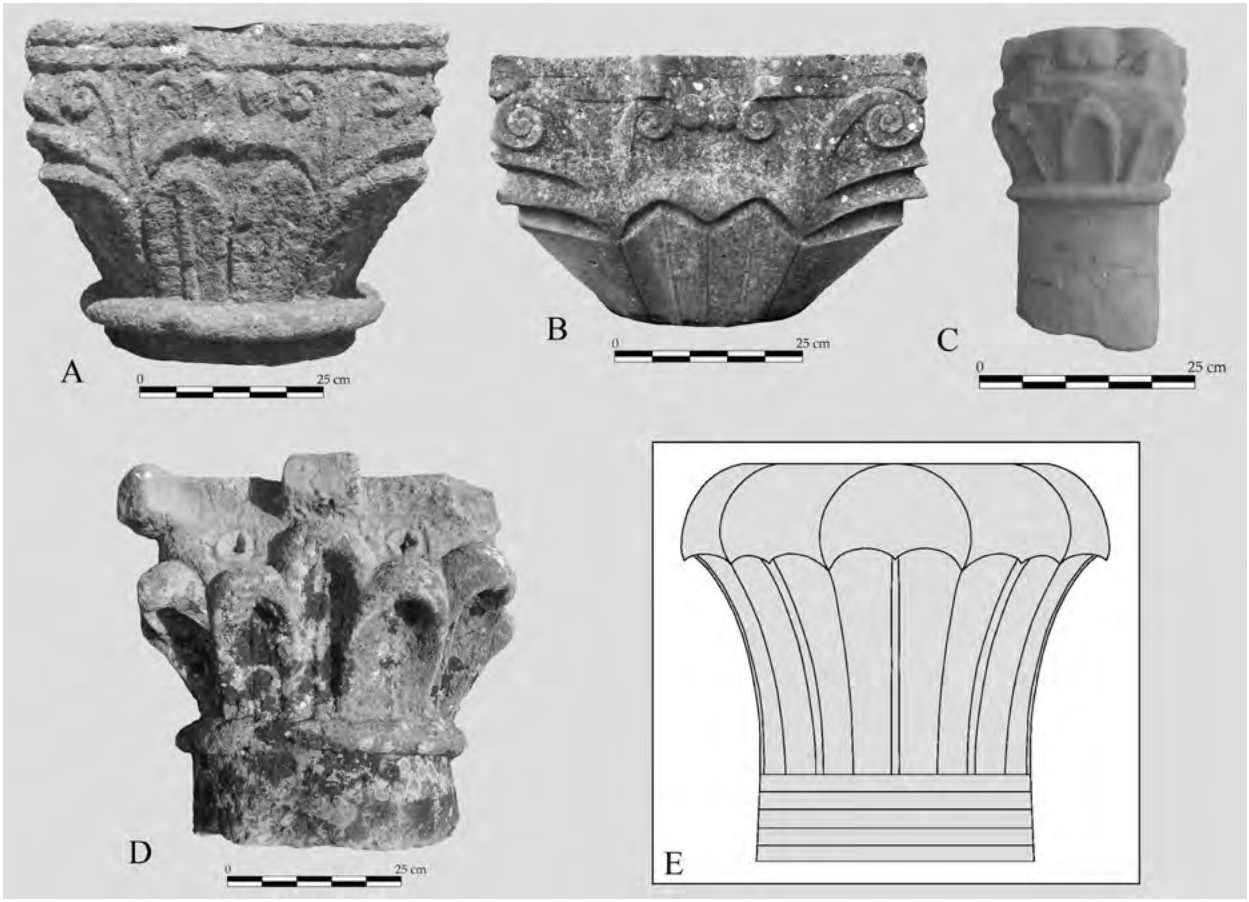


Figure 4. Capitals with water plant leaves. A – *Volubilis*, '*macellum*'; B – *Volubilis*, *maison aux demi-colonnes*; C – *Zilil*, from De Montalbán's excavations; D – *Banasa*, *maison M5* (*Photos N. Mugnai*); E – Egyptian 'palm' capital (*After Jéquier 1924, Figure 124*)

'provincial-style' ornament. However, it now seems clear that a chronology to the pre-Roman era cannot be accepted. The earliest variant of this type of capital is represented by various examples currently placed in the so-called '*macellum*' at the south-western limit of the forum of *Volubilis* [Figure 4A]. These pieces probably belonged to a *porticus* which decorated this area before the majestic works carried out in the Severan period, dating to the middle to late 1st century AD. The leaves of these capitals are slender, with a pointed edge and a marked mid-rib running from bottom to top. The free helices and volutes, of reduced size, recall the Hellenistic forms which were still in use at *Volubilis*, and elsewhere, in the Roman era. A dating to the latter half of the 1st century AD would be supported by the parallel with two capitals from the military fort of *Thamusida*, which seem to belong to the first construction phase of the building during the Flavian period.[40] A further capital of large size and with comparable features, though of uncertain chronology and provenance, was found at *Banasa* outside the western side of the forum.[41]

This model, however, witnessed a long continuity of use at *Volubilis*, while the overall form was progressively reworked. The examples from the *maison aux demi-colonnes* show how these capitals tended to become more shallow over time, and the leaves more stylised, probably also to speed up the production process [Figure 4B].[42] The pointed shape of the leaves is also reminiscent of the decoration of some limestone cornices from *Lepcis Magna*, dated to the first quarter of the 2nd century AD.[43] The latest examples from *Volubilis* are, in all probability, those documented inside temple B, associable with the restoration of this building in

[40] Camporeale 2008b: 229, no. 5.1, fig. 21.

[41] Mugnai 2018: 263, type Ban 2.35, Pl. 31.

[42] The date of the *maison aux demi-colonnes* is not certain. While Étienne (1960: 134) suggested a chronology to the early 3rd century AD, one should also consider that this house could have been built in the 2nd century, when the residential district along the *decumanus maximus* began to develop.

[43] Mahler 2006: 235, nos 827-833 KG, Pls. 106-107.

the 3rd century.[44] Among this type of ornament we can include a small foliate capital found at a *domus* at *Zilil* during De Montalbán's excavations in the late 1930s [Figure 4C].[45] The design of the capital is more simplified (the leaves do not have a mid-rib) and the dating is uncertain, although the other objects recovered may suggest a chronology towards the end of the second or 3rd century AD.

Finally, a peculiar group of capitals from *Banasa* shows more markedly the influence of Egyptian-like styles [Figure 4D]. Three of these capitals were found in *maison M5* in the northern district, while a fourth capital comes from the *maison au diplôme de Domitien* in the south-western district.[46] One of the capitals of *maison M5* was recycled in a wall, together with a column base (likely from the same colonnade), which can be associated with the limited building activities that took place at *Banasa* after the end of the 3rd century AD.[47] These capitals feature leaves with a thin mid-rib running straight, a rounded edge at the top and a marked, swollen contour. The upper part of the kalathos is quite schematic, without any helices and volutes, and is decorated with small rosettes and figurines.[48] With regard to their chronology, it is reasonable to date them to the 2nd century AD, when the houses in the south-western and northern districts were built.

The shape of the leaves recalls directly some capitals that were reused in the arch with three fornices at *Mustis* (Tunisia), dated to between the 1st century BC and the early 1st century AD, and for which an Egyptian origin was hypothesised.[49] In effect, the analogies with the leaves of the Egyptian capitals decorating the so-called 'palm' columns are rather evident [Figure 4E]. This type of column was already in use in Egypt in the Dynastic era, and it was revived during the Ptolemaic and Roman periods. Evidence attesting to this continuity of use in Egyptian buildings can be found, for instance, in the outer hypostyle hall of the Temple of Horus at *Apollinopolis Magna* (140-124 BC), the Temple of Horus and Sobek at *Ombos* (80-51 BC), and the West Colonnade in front of the First Pylon of the Temple of Isis at *Philae* (Augustan-Tiberian period).[50] We can infer this decorative form was exported outside the borders of Egypt at some point, perhaps by groups of itinerant artisans. It seems reasonable to believe that *Africa Proconsularis* was one of the regions where this form was first adopted, which would explain the relatively early dating of the capitals from *Mustis*. Because of geographical reasons, it might have taken longer for these motifs to reach *Tingitana*, as confirmed by the fact that the evidence at *Banasa* does not predate the 2nd century AD.

**Pseudo-lotus capitals**

Some of the most extravagant architectural elements in *Tingitana* are represented by a series of capitals describable as 'pseudo-lotus,' which present peculiar decorative features suggesting a remote Egyptian origin.[51] Five of these capitals were discovered at *Banasa*[52] and one at *Sala*.[53] The example from *Sala* is the most refined in terms of carving details [Figure 5A]. It is a large capital sculpted into separate blocks: the lower part comprises the shaft, a fillet, and a torus; the upper part has two tiers of projecting lotus leaves, with a plain surface and a rounded shape. The third block, now lost, would have featured the upper portion of the kalathos and the abacus. Boube dated it to the mid-1st century BC, but this chronology needs revision. The context of discovery is unclear: the capital was found outside the forum in 1967, during the excavation of some structures that were concealed by the Roman paving. According to Boube's account, however, the capital was not *in situ*, but it might have fallen in that spot from the top of the hill.[54] For this reason, it seems more likely that it was recovered while excavating subsoil layers that contained mixed archaeological material of various provenance and date. Such layers were documented, for instance, during the digging operations in the nearby forum and *Capitolium*, both of which were abandoned and converted into dumps during Late Antiquity.[55]

With regard to the evidence from *Banasa*, two large capitals are placed on the podium of the temple with seven *cellae* in the forum, together with some column drums and one Attic base that probably belonged to the same colonnade. The third capital of this series was recycled in a late wall of the *maison aux quatre piliers* in the north-western district, while a fourth example belonged to a pillar at the entrance of the so-called '*macellum*,'[56] but is now lost. The leaves are smaller and less-accurately worked than those of the capital at *Sala*. The upper kalathos and abacus, originally carved in a separate block, are missing in the capitals of *Banasa* as well. Thouvenot cautiously dated them to the early 1st century AD, although no real evidence was provided in support of these chronological assumptions.[57]

[44] Morestin 1980: 43, fig. 26.
[45] Papi 2004-2005: fig. 7. The capital is now in the *Musée de la Kasbah* at Tangier.
[46] Mugnai 2018: 265, type Ban 2.40, Pl. 32.
[47] Thouvenot 1954b: 35, Pl. 3, fig. 4; Camporeale 2004-2005: 204.
[48] Thouvenot 1971: 245-250, figs 2-3. The figurines noticed by Thouvenot probably reproduced signs of the Zodiac, although these were not visible anymore when I recorded these pieces in 2013.
[49] Ferchiou 1989: 243, 252, nos IX.II.A.2.2, IX.III.B.3, Pls. 63d and 67a.
[50] Jéquier 1924: 196-201; McKenzie 2007: 125-138.
[51] The French label '*pseudo-lotiformes*' was created by Boube (1967: 332-336), who first studied these capitals.
[52] Mugnai 2018: 265-266, types Ban 2.41-43, Pls. 32-33.
[53] Mugnai 2018: 283-284, type Sal 2.22, Pl. 40.
[54] Boube 1967: 332-334.
[55] Boube 1966a: 27-30.
[56] Thouvenot and Luquet 1951: 87, Pl. 18; Thouvenot 1971: 252, fig. 6.
[57] Thouvenot 1971: 252-253.

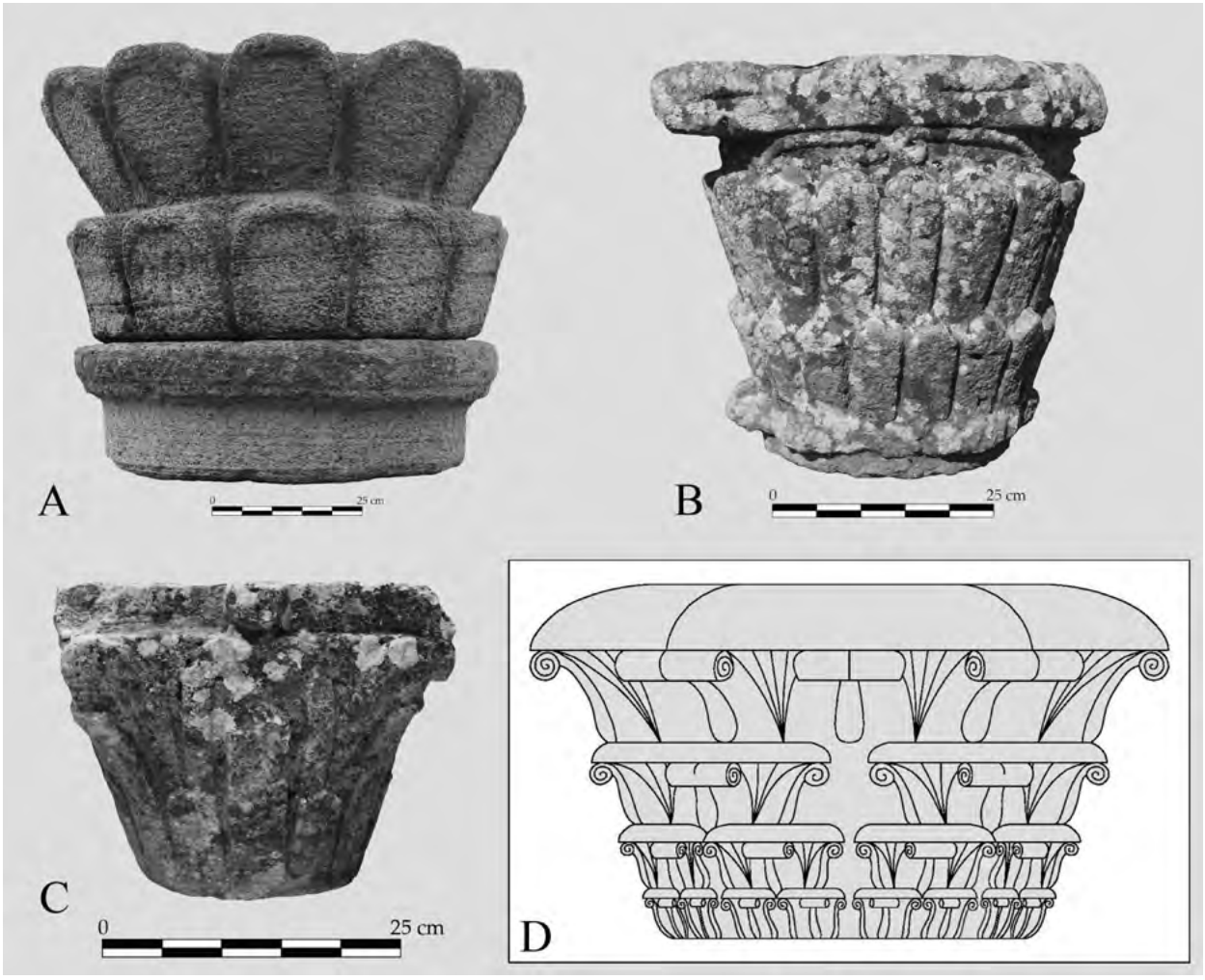


Figure 5. Pseudo-lotus capitals. A – *Sala*, outside the forum; B – *Banasa*, '*macellum*'; C – *Volubilis*, outside the *maison aux colonnes* (*Photos N. Mugnai*); D – Egyptian 'composite' capital (*After Jéquier 1924, Figure 178*)

A smaller capital, currently placed inside one of the *tabernae* annexed to the '*macellum*,' has revealed important information for an attempt at refining the chronology of this type of decoration [Figure 5B]. It is carved into a single block and the upper portion of the kalathos is much reduced in size, with atrophied helices and volutes that run almost horizontally. The shrinking of the upper kalathos, the increasing height of the tiers of leaves, and the simplification of helices and volutes are all typical phenomena which occurred on the vast majority of Corinthian capitals (especially the Asiatic types) across the Roman world from the mid-2nd century AD onwards. Similar observations apply to the capitals with water plant leaves from *Volubilis* that I described in the previous section, in particular the examples from the *maison aux demi-colonnes*. Therefore, it seems reasonable to identify a similar pattern for these pseudo-lotus capitals. A dating to the latter half of the 2nd century would match the chronology of urban development recognised at *Banasa* (see *supra*). There is also reason to believe that the temple with seven *cellae* was involved in restoration activities in the 3rd century,[58] and one should not exclude the possibility that the pseudo-lotus colonnade was erected at the time.

In summary, the capitals from *Banasa* and *Sala* appear to be of a relatively late date. However, it is possible that this form, or its prototype, was already introduced in *Tingitana* at an earlier stage. Despite the slightly different design, it is worth taking into consideration one small capital kept in the storehouse at *Volubilis* [Figure 5C]. The original setting is unknown, but it was apparently found outside the western limit of the *maison aux colonnes* (close to the arch of Caracalla, at the south-western end of the *decumanus maximus*). It features a single tier of lotus leaves of alternating height, slender in shape and flattened to the kalathos. Unlike the pseudo-lotus capital in the '*macellum*' at *Banasa*, the helices and volutes are elegant and well-developed in height. They are separated at the

[58] Thouvenot 1954a: 16; Brouquier-Reddé *et al.* 2004: 1896.

bottom, without any cauliculi and calyces, and recall quite closely the Hellenistic-Alexandrian models. One may suggest, therefore, that this capital belonged to a series that was produced before that of *Banasa* and *Sala* (perhaps in the 1st or early 2nd century AD?), and which probably inspired those productions. It is clear that more evidence is needed, but this hypothesis seems workable in the light of my previous arguments.

A few more words are required with regard to the identification of an Egyptian origin for this type of capital. This suggestion was already advanced by Boube and, despite our different conclusions on the date of these elements, I agree with his remarks. In contrast, the recognition of a pseudo-lotus style was rejected by Euzennat and Hallier, who regarded this type as a provincial '*corinthien abâtardi*' and dated it to the Roman/Late Roman era.[59] While their observations on the chronology are surely acceptable, I do not agree with the rejection of an Egyptian influence. On the contrary, it seems to me that the mixture of lotus leaves with Corinthianising elements (the helices and volutes) recalls quite directly the decorative pattern which occurs on the so-called Egyptian 'composite' capitals [Figure 5D].[60] In those cases traditional Egyptian features, in particular the presence of papyrus leaves, are combined with 'external' motifs that were assimilated from Greco-Roman architecture. First introduced in Egypt during the Ptolemaic period, and often used in association of other types of decoration inherited from the Dynastic era, the use of the Egyptian 'composite' order continued throughout Roman times. Among the various examples attesting to this continuity of use, one can cite the capitals from the West Colonnade and the Roman Kiosk at *Philae* (mainly Augustan-Tiberian period), and from the Birth House at *Denderah* (Trajanic period).[61] Therefore, as for the capitals with palm leaves (see *supra*), one can hypothesise that these motifs slowly found their way outside Egypt and managed to travel as far as *Mauretania Tingitana*.

**Concluding remarks**

This paper aimed primarily at demonstrating how pre-Roman decorative traditions survived across an extended time-frame, and the example of *Tingitana* is significant because of the marginal location of this province within the Roman Empire. I have also pointed out that these elements of architectural decoration featuring Hellenistic-Alexandrian and Egyptianising motifs date to the Roman period – especially to the 2nd century AD, when Roman power reached its apex over the whole of North Africa. On the one hand, this allows us to evaluate how easily different decorative traditions merged. The impact of Roman official art and architecture and the survival of previous legacies were phenomena that were allowed to coexist in certain contexts. One should think of these different artistic styles as 'fluid' categories, rather than as independent and monolithic blocks, one of which automatically excluded the other. What is still unclear, however, is how and when some of these remote traditions (both geographically and chronologically speaking) reached *Tingitana*. Because of the patchy character of the evidence available, it is not possible for us to fully grasp whether there were any specific events that led to the assimilation of these Alexandrian and Egyptian styles.

Depictions of Egyptian-like temples are documented on a series of coins with bilingual Latin and neo-Punic legends, which were minted at *Lixus* from the end of the 2nd century BC to the last quarter of the 1st century BC.[62] Among the objects of daily use, one can also list a small perfume-burner reproducing the aspect of a Punic-Egyptianising column, discovered during the excavation of the pre-Roman city walls of *Volubilis*.[63] With regard to architectural elements, examples of Egyptian gorge cornices were found at *Cotta*,[64] *Lixus*,[65] *Sala*,[66] and *Volubilis*,[67] whose dating might be considered to be between the mid-1st century BC and the 1st century AD. The last piece of evidence is represented by a small group of Ionic capitals of Punic-Hellenistic tradition (*c.* the mid-1st century BC to the early 2nd century AD) from *Lixus*, *Sala*, and *Volubilis*.[68] No evidence at all, however, has been recovered so far in *Tingitana* attesting to the adoption of Alexandrian capitals, nor of any other forms of Hellenistic-style architectural decoration, during the pre-provincial era.

It is acknowledged that the establishment of the client kingdom of Juba II in *Mauretania* (25 BC-AD 23) was a key-factor for the diffusion of Hellenistic art in the region, which overlapped with the Punic background. The penetration of Hellenistic culture also continued throughout the reign of Juba's son, Ptolemy (AD 23-40).[69] On the other hand, the architectural decoration of Juba's capital, *Caesarea*, looked directly at the styles of the western Mediterranean. It was indeed a faithful imitation of the Augustan models from Rome – a tribute to Juba's patron and a means to spread his propaganda

[59] Euzennat and Hallier 1986: 81-82.
[60] Jéquier 1924: 230-274; Pensabene 1993: 144, 348-352, nos 160-179, Pls. 23-25; McKenzie 2007: 125-132.
[61] McKenzie 2007: 138-143.
[62] See Callegarin and Ripollès 2010: 157, 163-164, 180-183, with references to previous bibliography.
[63] Jodin 1966.
[64] Ponsich 1970: 211, fig. 56.2.
[65] Aranegui Gascó 2008: 47, fig. 8; see also Mugnai 2018: 158-159, fig. 7.4, for further evidence from this site.
[66] Boube 1967: 326-330, Pl. 19.1-2, figs 8a and 16.
[67] Jodin 1987: 103, Pl. 9.1.
[68] Boube 1966b; Boube 1967: 318-320, Pl. 17, fig. 5; Ponsich 1981: 62, Pl. 22. See also the remarks in Mugnai 2018: 172-174, fig. 8.2.
[69] Coltelloni-Trannoy 1997: 137-159; Roller 2003: 119-162.

over this North African territory.[70] With regard to the western portion of Juba's kingdom, the future *Mauretania Tingitana*, there is no trace of such grandiose architectural and decorative programmes.

One event that may have functioned as a trigger for the establishment of more direct contacts between *Tingitana* and the Alexandrian-Egyptian world is the marriage of Juba and Kleopatra Selene, *c.* 19 BC.[71] The union of the two royal spouses surely marked a point of junction between Roman, Hellenistic, and Egyptian cultures. One may thus suggest that Hellenistic-Alexandrian and Egyptianising motifs started to be assimilated at that point. Unfortunately, the form and modality of these contacts and their influence on the local architectural styles of that period are not (yet) visible in the archaeological record. What one may notice, however, is how these motifs were used and re-adapted in the production of some Roman-period architectural elements – probably a long-term process of which only the later traces survive today.

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[70] Pensabene 1982: 69-73.
[71] Roller 2003: 76-90.

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# Houses, Architectural Orders and *Opera Sectilia*: Some Reflections on the Society of Cyrenaica and Egypt during the Imperial Period

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**Summary**
The relationship between Roman housing in Greco-Roman Egypt and Cyrenaica has been a central research topic since the beginning of the excavations that, during the last century, brought to light the sites of Cyrene, Apollonia, Ptolemais and Tocra. Many comparisons between Cyrenaican architecture and that of Alexandria and Marina el-Alamein form the evidence for the existence of the influences of the Egyptian cities on Cyrenaica. Historical and geographical links constituted the basis of such influences, also strengthened by some economic connections.
This paper is focused on the main aspects of housing in Alexandria and Marina and on the meaning of the recurring architectural and decorative features, aiming at a better understanding of their diffusion beyond the Egyptian borders. The Palazzo delle Colonne at Ptolemais represents a constant reference during this research, but other Cyrenaican complexes are good cases in point, such as the House of Jason Magnus at Cyrene, the Roman Villa at Ptolemais and a lesser known residence in Tocra.

**Keywords**
Roman housing, Cyrenaica, Greco-Roman Egypt, architectural decoration, peristyles, *opera sectilia*

The research on housing in the Roman empire has made some noteworthy progress in recent years, since many urban and extra-urban settlements have recently been excavated and, moreover, more sophisticated methodologies of research have been used. Methodologies aimed at understanding the relations between houses, the urban and territorial context as well as the social strata involved in the development of the dwellings.[1] The classification of the parts of a house has been in a way superseded, favouring instead studies which focus on the edifice as a whole, which is able to communicate through a specific formal language.[2] This language makes use of easily recognisable formulas – traditional, yet in continuous development. These do not copy but rather quote or look up to official schemes modified in a more or less perceptible way on the basis of the history and the culture of the individual provinces.[3]

During the attempt to outline the role of the regional traditions in residential architecture of the imperial age, we have taken into consideration the case of Egypt and Cyrenaica. These are two neighbouring provinces which developed a very different history, although they shared various features with regard to architecture and figurative arts.

We consider here some aspects related to the houses, such as the architectural orders of peristyles, the architectural façades framing the openings of the halls around them, and the use of marbles for floors. These all are elements that enhanced and celebrated the social status of their owners. We do not want to propose a typology of architectural elements. In contrast, starting from what has already been achieved in previous studies, we propose to use them with a semiotic approach. Therefore, we shall investigate which architectural order was used in the peristyles,

[1] This approach can be inserted within the wider framework of 'household archaeology' that since the nineties has seen a great expansion from the prehistorical to the classical field. As examples, see: Allison 1999; 2001: 181-208, with related bibliography.

[2] About implications between the study of architecture and social archaeology (as proxemics and syntax of space), especially from an anthropologic point of view, a recent synthesis can be found in Steadman 2015: 13-19, 46-66, 160-189. A relevant application of these methodologies is in Grahame 2000.

[3] Between the wide bibliography on these topics firstly shall we quote the contributions on public and private functions and multifunctionality in Tuori and Nissin 2015. Other insights can be found in: Wallace Hadrill 1988: 43-97; Clarke 1991; Gazda 1991; Alston 1997: 25-40; Dickmann 1997: 121-136; Grahame 1997: 137-164; Wallace Hadrill 1997: 219-240; Graheme 1998: 156-178; Gros 2001; Alston 2002: 44-127; Bonini 2006; Allison 2007: 343-350; Alston 2007: 373-378; Papaioannou 2007: 351-362; Tomlison 2007: 307-312; Trümper 2007: 323-334; Westgate 2007: 313-322. Recent summaries on Egypt can be found in Abdelwahed 2015: 75-101; 2016: 39-45.

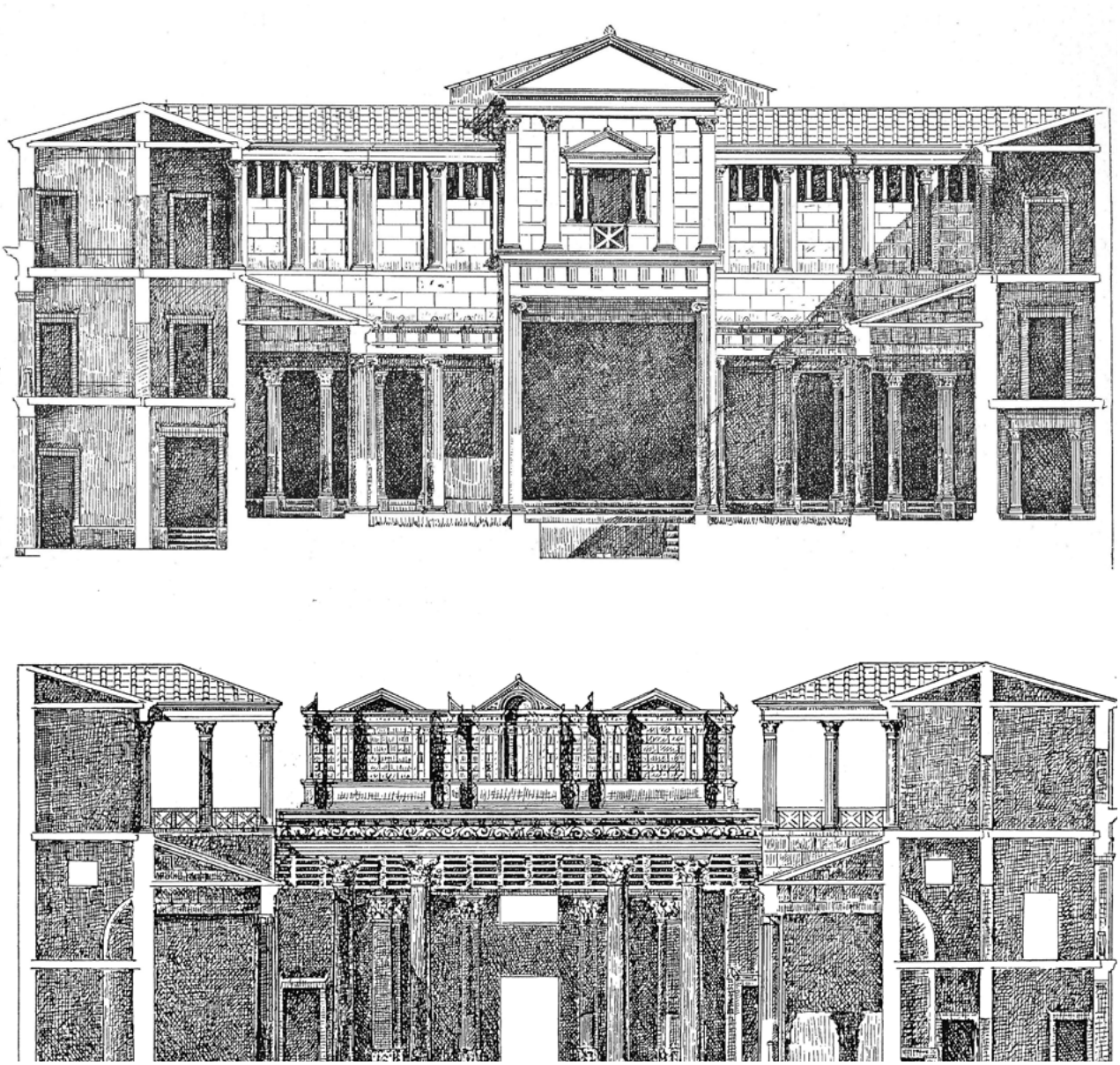

Figure 1. Ptolemais, Palazzo delle Colonne, southern and northern façades of the great peristyle (*After Pesce 1950: Tav. V, VI*)

together with their spatial arrangement, with the aim of defining the culture which determined their choice. It is our intention to highlight the importance of the architectural façades of the walls facing the colonnades. Their reconstruction has turned out to be more difficult, as in most cases only scarce architectural fragments survive, most of which are not *in situ* anymore (currently kept in museums, as in the case of Alexandria).

However, previous studies have demonstrated that a particularly favoured type of the entablature was articulated in projecting and recessing elements. They characterise important sectors in the houses and confirm the existence of the so-called baroque façades.[4]

The most significant case is, obviously, that of the Palazzo delle Colonne in Ptolemais. The reconstruction of the Rhodian peristyle and of the façades framing the *Oecus Aegyptius* to the north and the other minor *Oeci* to the South[5] is still reliable, despite the fact that some issues are debated [Figure 1]. The Palazzo, however, presents two particularly recurrent problems in ancient architecture. The first concerns the visibility of these façades, which could not be wholly perceived in their

[4] For Alexandria see: McKenzie 1990: 61-77; Pensabene 1993: 131-147; McKenzie 2007: 80-118; Kołątaj *et al.* 2007: 17-20; Majcherek 2010: 75-89; Dubourg 2015. For Marina see: Daszewski 1990a: 110-124; 1995: 11-29; Czerner 2009a; 2009b: 111-123; 2011: 129-146; 2014: 323-330; Czerner and Medeksza 2010: 98-113. For Cyrenaica see: Pesce 1950; Wright in Kraeling 1962: 215-224; Lauter 1971: 149-178; Stucchi 1975: 321-329; Wright 1976: 189-223; Sear 1977: 255-287; Ward-Perkins *et al.* 1986: 109-153; Rekowska 2012: 157-181; 2013: 603-611.

[5] Pesce 1950: Tav. V, VI, IX.

extension from the peristyle. The second problem is the type of architectural order used for the upper storey, which could have introduced variations with respect to the lower order.

We are facing here a phenomenon which is not limited to Egypt and Cyrenaica but is also present in Rome, in the Campanian towns, and elsewhere between the 1st century BC and the 1st century AD. The existence of a parallel with the architectures reproduced in the second-style Pompeian paintings has been already noted, which do not strictly depend on the elevations of the theatre architectural stages (*scaenae frontes*).[6]

The peculiarity of the examples known in Egypt and Cyrenaica is the continuity of Alexandrian traditions in the entablatures of these façades. Unlike these elements, the Corinthian capitals produced from the Antonine period onwards were often influenced by the new architectural trends of the imperial architecture, especially after the diffusion of imported marble artefacts from the quarries in Greece and Asia Minor.[7] It is true that local stones were still used in houses in Egypt and Cyrenaica, but this phenomenon is particularly evident for the fact that the local workshops modified mostly the capitals and, to a minor extent, also the other architectural elements.[8] However, other decorative formulas appeared as well, such as that of the Syrian arch, which was not used for the façades, but within the rooms to divide them into areas with different functions. Apart from the late Hellenistic origin of the motif, this had its own particular development from the Antonine age when it appeared various times in Ptolemais and Cyrene.[9]

The number of houses for which we have archaeological and written evidence in Egypt and Cyrenaica is rather significant. For both areas we can talk about residences characterised by a large spatial extension, though the better preserved examples are in Cyrenaica. Regarding Egypt, the evidence comes not only from papyri, such as those kept in the Zenon's Archive which has preserved the description of a house in Philadelphia, but also from the rather numerous archaeological remains in Fayum, such as the Medinet Ghoran house with two courtyards.[10] Evidence is also present in Medinet Madi where, along the processional road, there is a house from the 1st century AD with a public function and with 16 rooms arranged following a rather complex plan.[11] A three-door system framed with Corinthian-like capitals gives access to the main room of the building according to the layout of atria attested in houses in other cities in Fayum (Theadelphia, Karanis).

We should like to highlight the difference between two planning solutions. The first is characterised by a horizontal development as, supposedly, in the case of the Kom el Dikka group, and as shown by the smaller houses at Marina el-Alamein, together with all the examples of high-level buildings in Cyrenaica. The second solution contemplates the frequent use of tower-houses, or houses with multiple storeys, in the Egyptian domestic architecture.[12] This fact is testified by the sources in Alexandria, especially regarding the poorer strata of the population of Egyptian origin, and by archaeological evidence in Fayum (see the examples of Soknopaiou Nesos and Karanis from the late 2nd century BC to the 4th century AD). While the 'villages' in Fayum often provide examples of simple houses of local tradition, inhabited by a low social stratus, although there is also evidence of some elegant examples with two courtyards as in the already quoted cases of Philadelphia, Medinet Ghoran or Medinet Madi.[13]

With regard to the type of Hellenistic house with a central peristyle or pseudo-peristyle, the best examples are those from Kom el Dikka in Alexandria.[14] These houses are important because they offer the opportunity to better understand the architectural choices in Egyptian and Cyrenaican housing, and also to reconstruct the original setting of many architectural elements found during the excavation or kept in the former Greco-Roman Museum [Figure 2].

In the case of houses with pseudo-peristyles [Figure 3], it has been rightly observed how this phenomenon points towards the choice of preserving the central courtyard despite the small space available because of the intense urbanisation. The examples of those pseudo-peristyles

[6] McKenzie 1990: 85-101; Pensabene 1993: 145-147; Sauron 2007: 23-44.
[7] Lyttelton 1974; Ward-Perkins and Dodge 1992; Thomas 2007.
[8] Pensabene and Gasparini 2017: 516-542.
[9] Rekowska 2013: 603-611.
[10] Pensabene 1993: 35-37.
[11] Bresciani *et al.* 2006: 225-251.
[12] Lastly see Adbelwahed 2016: 1-15; Tkaczow 2008: 50, 75 remarks that the houses in Kom el Dikka are not representative of the built up-area in all the neighbourhoods of Alexandria: it is renowned that the literary sources describe some quarters characterised by tower- houses normally associated to the Egyptian component of the population, but used also in the poorer areas, where the population was of both Greek and Egyptian origin.
[13] Pensabene 2010: 208-210.
[14] With regard to Egypt, Kom el Dikka at Alexandria gives back a cross section of the residential history of the city. Particularly relevant has been the new knowledge acquired since 1994 on the residential neighbourhood from the early imperial age, with edifices from the end / the beginning of the 1st/2nd century AD abandoned during the 3rd century (House H, G, FA, FB, MA, MB, MC) (Majcherek 2010: 75-80). The early imperial edifices show an only partial state of preservation because of the interventions of the following centuries, and an intense building activity in the area in the Late Antiquity: the walls were often demolished in the 4th century down to the foundations and therefore only their negative aspect are still present. It has not been possible to read any plan in its whole. However, in the south-eastern corner of the area, also on the basis of the altitude of the floors, the proposal has been brought forward to identify three opulent villas (Rodziewicz 1984: 41-42 and Pl. IX, mosaics 2-3-5-6-7-8, figs 28-33).

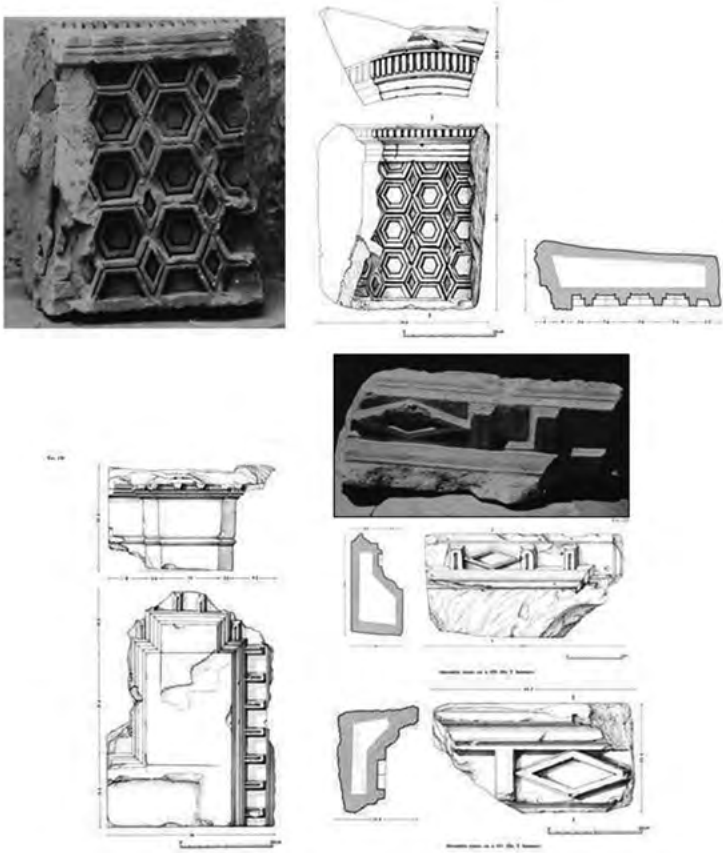

Figure 2. Alexandria, Graeco-Roman Museum, architectural elements (*After Pensabene 1993*)

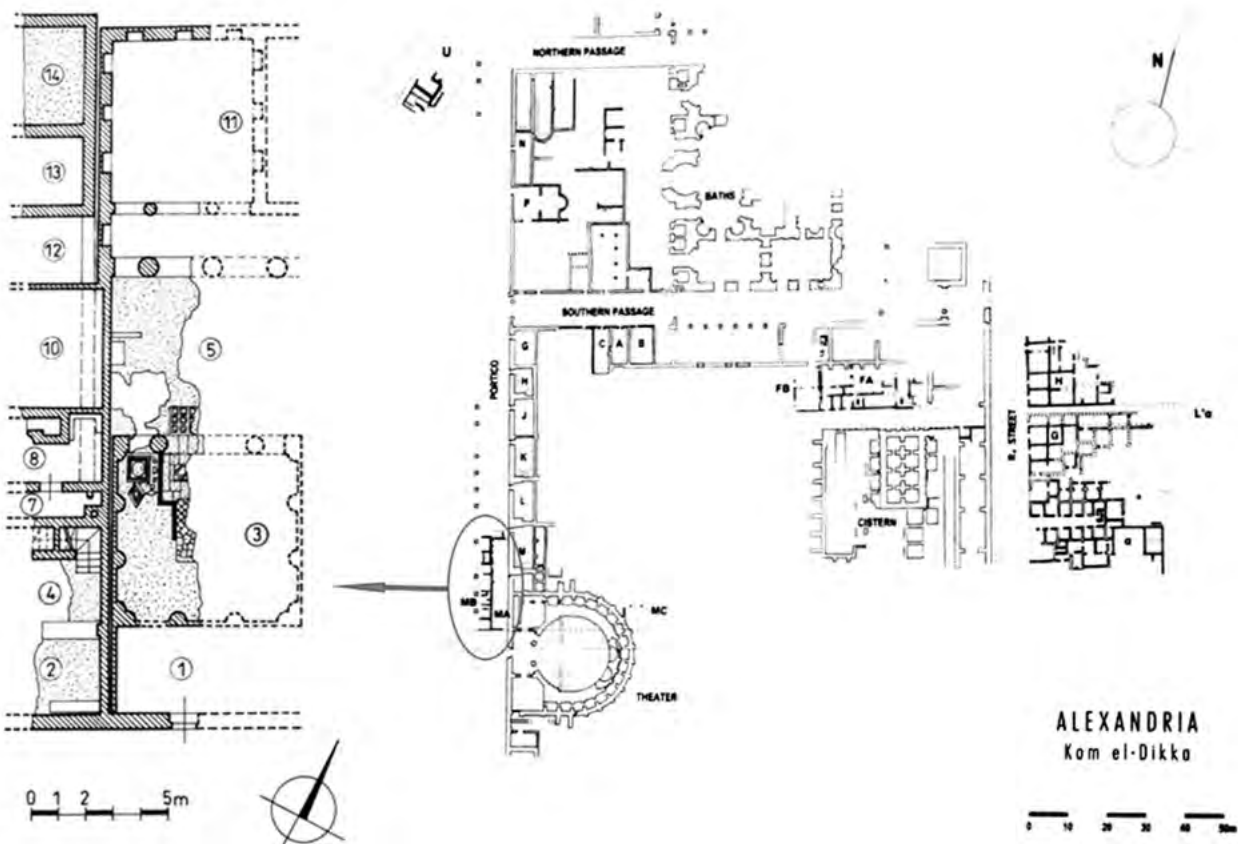


Figure 3. Alexandria, Kom el Dikka, general plan and detail of Houses MA and MB (*Adaptation E. Gasparini after Majcherek 2010: Figs 6.2, 6.9*)

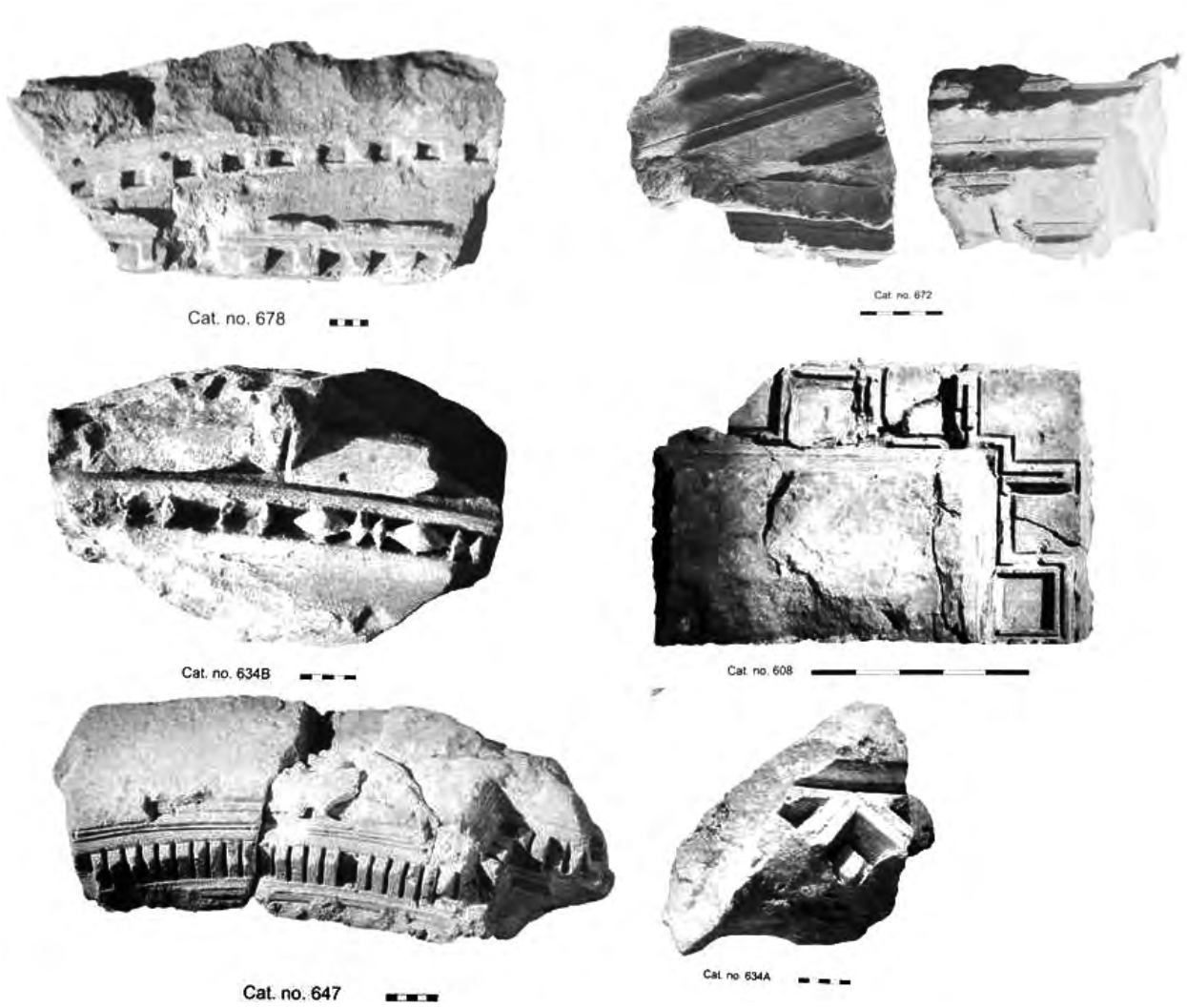


Figure 4. Alexandria, Kom el Dikka, fragments of entablatures (*After Tkaczow 2008*)

present colonnades covered with stucco, with simplified bases and Doric capitals, thus showing a continuity with the models, even more ancient, attested in cemeteries (among which the Mustafa Pasha necropolis is a good case in point). But besides these elements, other ones seem to allow us to fill the gap between the Palazzo delle Colonne and the lost architecture of Alexandria. As a matter of fact, they bear witness to the presence of façades with a false perspective, organised in projecting and recessing elements with arched *tympana*, broken pediments, and cornices both angular and crafted on three sides [Figure 4]. The façades were supported by half-columns according to decorative forms which remained in use during the imperial age and somehow reached Coptic art. Among the discovered elements [Figure 5], most of which made of Mex limestone (stuccoed and coloured),[15] we consider only those of the House Alpha,[16] where a *triclinium* with four columns on the front overlooks the courtyard. However, such a courtyard looked like a pseudo-peristyle from the other sides, as proved by the north-east corner occupied by a room with mosaics (6)[17] and not by an *ambulacrum*. On the top of the independent columns between the *triclinium* and the courtyard was set an entablature to which we might associate the cornice found inside the house, with a ceiling consisting of travicello modillons and pseudo-mutuli, and with a Doric frieze [Figure 6].[18] The same room attests to the importance of the *triclinia* in Roman housing in Alexandria, whose monumentality is enhanced by the marble floors and by the height of the rooms. In other cases, the *triclinia* have tripartite entrances with two columns, generally made of limestone, although in one case also consisting of monolithic shafts of Assuan granite.

[15] Many such elements were reused in the walls of late houses and left *in situ* (see Tkaczow 2008: 78 for a list of the elements reused in the walls). Other architectural elements are quoted in Majcherek 1999: 32-34, fig. 6; 2000: 28-32, fig. 6; 2001: 37-43, fig. 6; 2008: 46, fig. 11; Majcherek and Kucharczyk 2011: 30, fig. 5.

[16] Kołątaj *et al.* 2007: 18.

[17] Rodziewicz 1984: 374, Pl. 12; Kołątaj *et al.* 2007: 17, fig. 12. About the mosaic in room 6 see: 38-41.

[18] Kołątaj *et al.* 2007: 18.

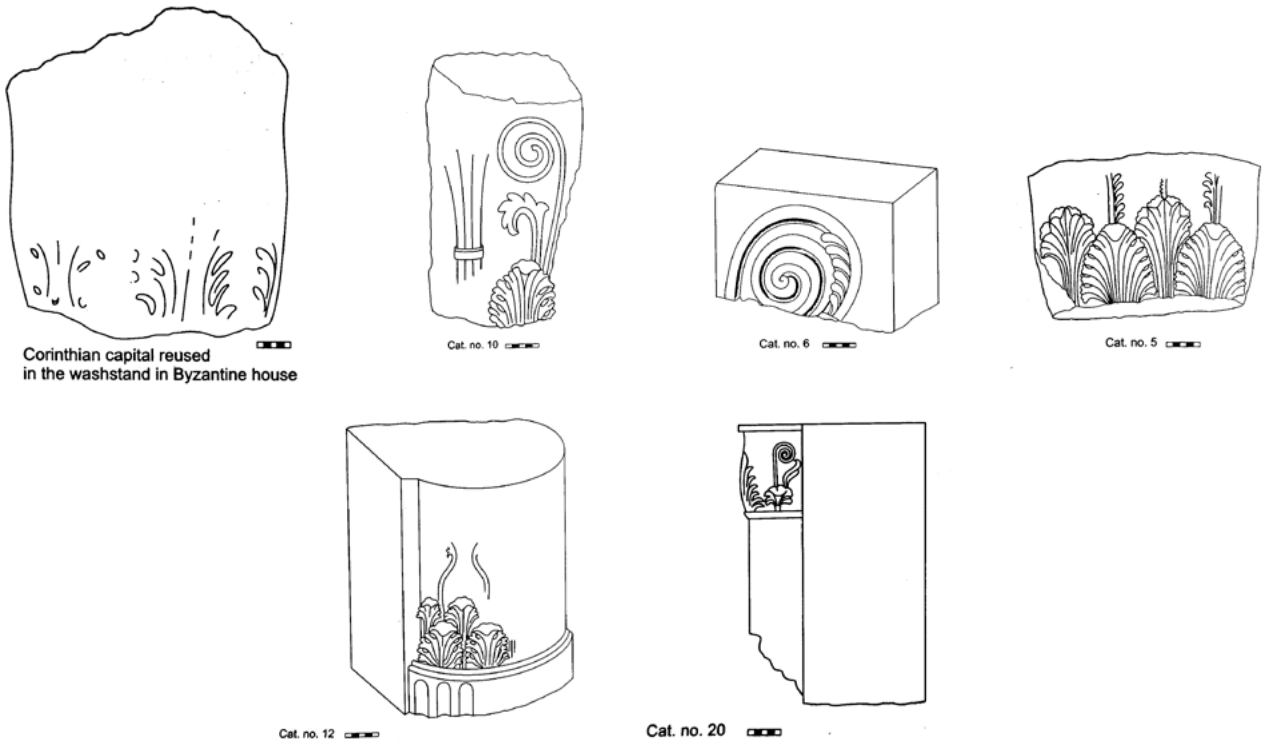


Figure 5. Alexandria, Kom el Dikka, Corinthian capitals and half-capitals (*Adaptation E. Gasparini after Tkaczow 2008*)

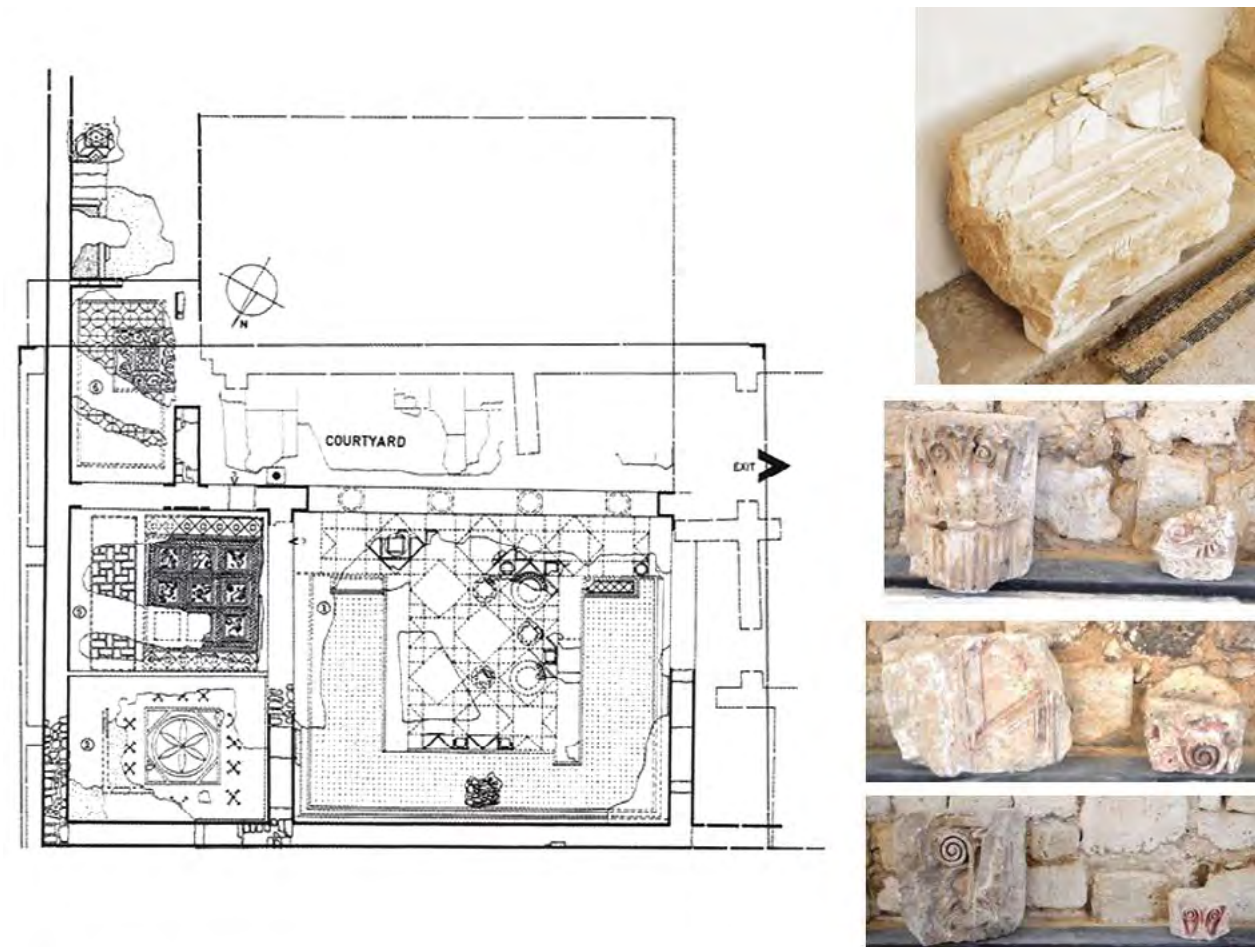


Figure 6. Alexandria, Kom el Dikka, House Alpha, plan (*After Kołątaj et al. 2007: 17, Fig. 12*) and architectural elements (*Photo E. Gasparini*)

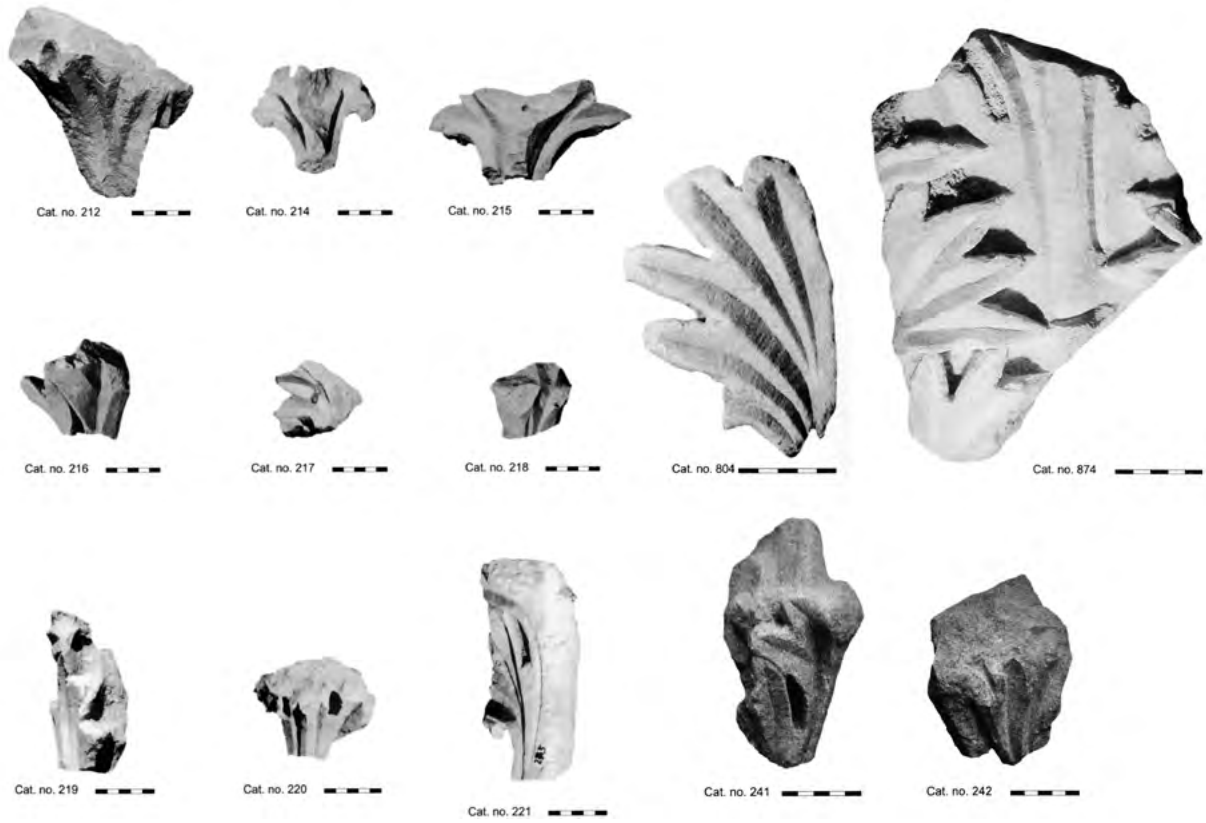


Figure 7.. Alexandria, Kom el Dikka, fragments of marble capitals possibly from early and mid- imperial housing (*After Tkaczow 2008*)

In the houses at Kom el Dikka – in addition to some entire or fragmented capitals of limestone, all of Alexandrian tradition – fragments of Ionic and mostly Corinthian capitals with prickly acanthus (reused in the Byzantine phase and present in later fillings) have been recovered [Figure 7]. They are all made of marble and belong to the mid-imperial age; some of them can be ascribed to production from Asia Minor.[19] It would appear that in the wealthier residences, and more frequently from the late Antonine age, the builders made use of official-style capitals from the eastern Mediterranean. This is a phenomenon already documented in several public monuments of the Egyptian cities. In Alexandria this is demonstrated by a group of capitals, of unknown origin and kept in the former Greco-Roman Museum, some of which were also made of local stone and attested to the presence of itinerant sculptors within the city itself.[20]

The opulence of such residences can be inferred by the presence of private baths,[21] as well as by paintings[22] and mosaics – although these latter mainly belong to modifications occurred at the end of the 2nd-beginning of the 3rd century AD, echoing the building boom of that area by the Hadrianic era.[23]

Although a conservative attitude in Alexandrian residential architecture has been observed, the presence of Asiatic Corinthian capitals and marble floors allows us to place it within the mid-range and high-level residential architecture of the imperial age. The houses at Kom el Dikka offer some examples of *opera sectilia*, which recall the layout of floors largely diffused in the western and mainly eastern provinces, as attested by the used materials and the typology of the motifs.[24] These floors show particular analogies with a series of houses in Cyrenaica.[25]

We are dealing with compositions consisting of single *emblemata* set in a grid marking the spaces of the *triclinia* and enhancing the relevance of the central sector. This part of the room was left empty, in contrast with the lateral areas occupied by *klinai*, and which in most cases would show a juxtaposition of simple geometrical

[19] Tkaczow 2008: cat. 73, from Sector MX, under the paving of the Theatre Portico. Moreover, several are the findings from above the Theatre Building and the Baths (Tkaczow 2008: Pl. 44-47) that may have been reused in later buildings.
[20] Pensabene 1993: 393-399, cat. 378-400, Tav. 46-49.
[21] One has been singled out in Trench A, close to the west front of the Baths (Kolodziejczyk 1968: 144-154; Rodziewicz 1984: 53, fig. 41), in addition to that of the House Alpha (Rodziewicz 1976: 180).
[22] Tkaczow 2014: 422-439.
[23] Kołątaj *et al.* 2007: 25-26.
[24] Lastly, see the comparison between the *opera sectilia* of House Alpha and of the Domus dei *Coiedii* (Suasa, Italy) in Guidobaldi 2016: 409-430.
[25] Gasparini 2010: 247-261; Żelazowski and Gasparini 2014: 303-312; Gasparini and Gallocchio 2015: 545-554.

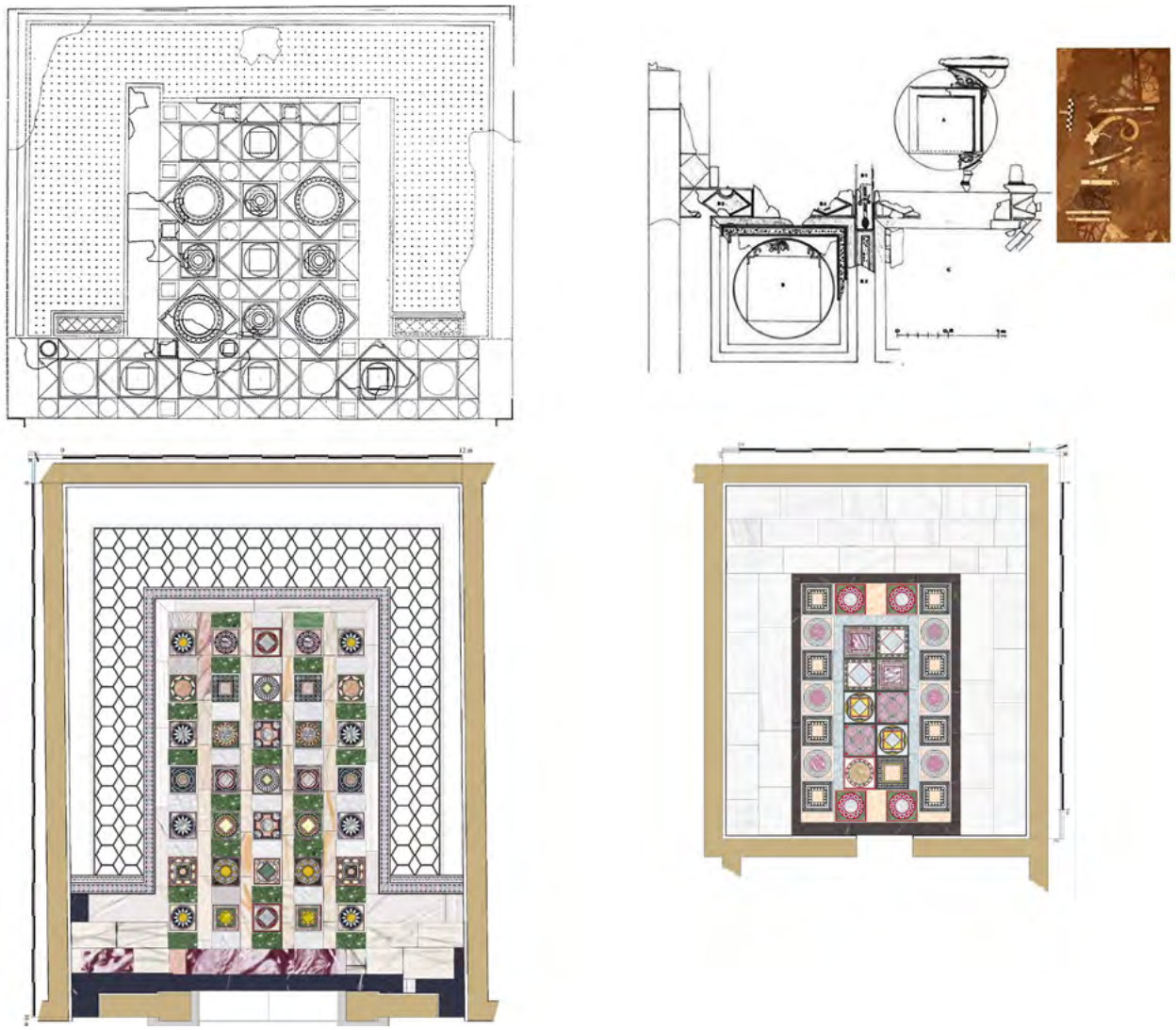

Figure 8. *Opera sectilia* from Alexandria, Kom el Dikka and Cyrene. Up, left: House Alpha (*After Kołątaj et al. 2007: 57, Fig. 45*); up, right: House Gamma (*Plan after Rodziewicz 1991: 207, Fig. 2, Photo Rodziewicz archive*); down, left: House of Jason Magnus, summer *triclinium* (*After Gasparini and Gallocchio 2015: 547, Fig. 2*); down, right: House of Jason Magnus, winter *triclinium* (*After Gasparini and Gallocchio 2015: 547, Fig. 3.*)

tessellated motifs. The two most elaborated examples from House Alpha and House Gamma employ a large variety of stones, both Egyptian and imported from Asia Minor, Greece and Africa. Among these, almost all the canonical imperial marbles were employed. The same situation occurred in floor marbles of Cyrenaica, particularly evident in the best preserved examples of the House of Jason Magnus in Cyrene [Figure 8]. The richness of such decorations emerges from the disposition of the grid along the diagonal rather than the axis of the room in House Alpha or in House Gamma, and from the presence of figured motifs with thyrsi.[26] Therefore, we can hypothesise that workshops specialised in the production of such floors were originally based in Alexandria, and that they were also active in Cyrenaica at some point.

Evidently, the scenario offered by the houses at Kom el Dikka does not cover all the aspects of the residential forms in Alexandria over the course of its history. Further information comes from traces of residences, probably suburban villas, found in a peripheral section of the ancient city, near the present Sidi Bishr – an area renown for the findings of private houses of the Roman age.[27] One of these is documented almost only by the discovery of its sculptures, which were collected and then probably buried to prevent their destruction [Figure 9].[28] This group, known as the 'Mehamara

[26] Rodziewicz 1976: 186; 1991: 206-207.

[27] Daszewski 1990b: 86-105.

[28] Gassowska 1977: 99-118; Kristensen 2009: 158-175; Pensabene and Gasparini 2018: 101-108.

Figure 9. Bibliotheca Alexandrina Antiquities Museum and Alexandria National Museum, Mehamara Collection (*Photo P. Pensabene*)

group,' reproduces divinities mainly belonging to the Greco-Roman and Alexandrian pantheon, while only a minority belongs to the Egyptian one. Also in the subjects of the sculptures found at Kom el Dikka and in the figured panels of the mosaics can we identify motifs of Alexandrian tradition, such as swamp birds.[29] For this reason, it is evident that the owners of these houses had living habits which belonged to a Greco-Roman culture, only partially influenced by the Egyptian one. It has been already pointed out that they might have belonged to the class of high-level officials, but also *mercatores*, as can be inferred from the large presence of imported marbles among the *sectilia* floors. It is our opinion that these marbles were part of return cargoes.[30]

We have mentioned these overseas transports because they attest to the existence of maritime commercial routes along the Egyptian Mediterranean coast, as well as internal fluvial routes in connection with the Mareotis lake. These routes had a direct relationship with Alexandria, which is also reflected by the presence of houses with a peristyle or pseudo-peristyle in the cities along the coast. The owners of these houses, therefore, were likely to have been active participants in these exchanges. Archaeological evidence for this comes from the district of Marea, where, in the modern village of Hawariya, a rural villa with a double peristyle has been discovered. The connection with Alexandria is also attested by peristyle tombs, such as in the case of Kafr el Kasr in the Mareotis, and near Taposiris Magna.[31]

[29] Kołątaj *et al.* 2007: 38.
[30] Pensabene 2014: 571-591.
[31] Rodziewicz 1998a: 93-103; 1988b: 267-276; 1988c: 176-177; 2002: 1-22.

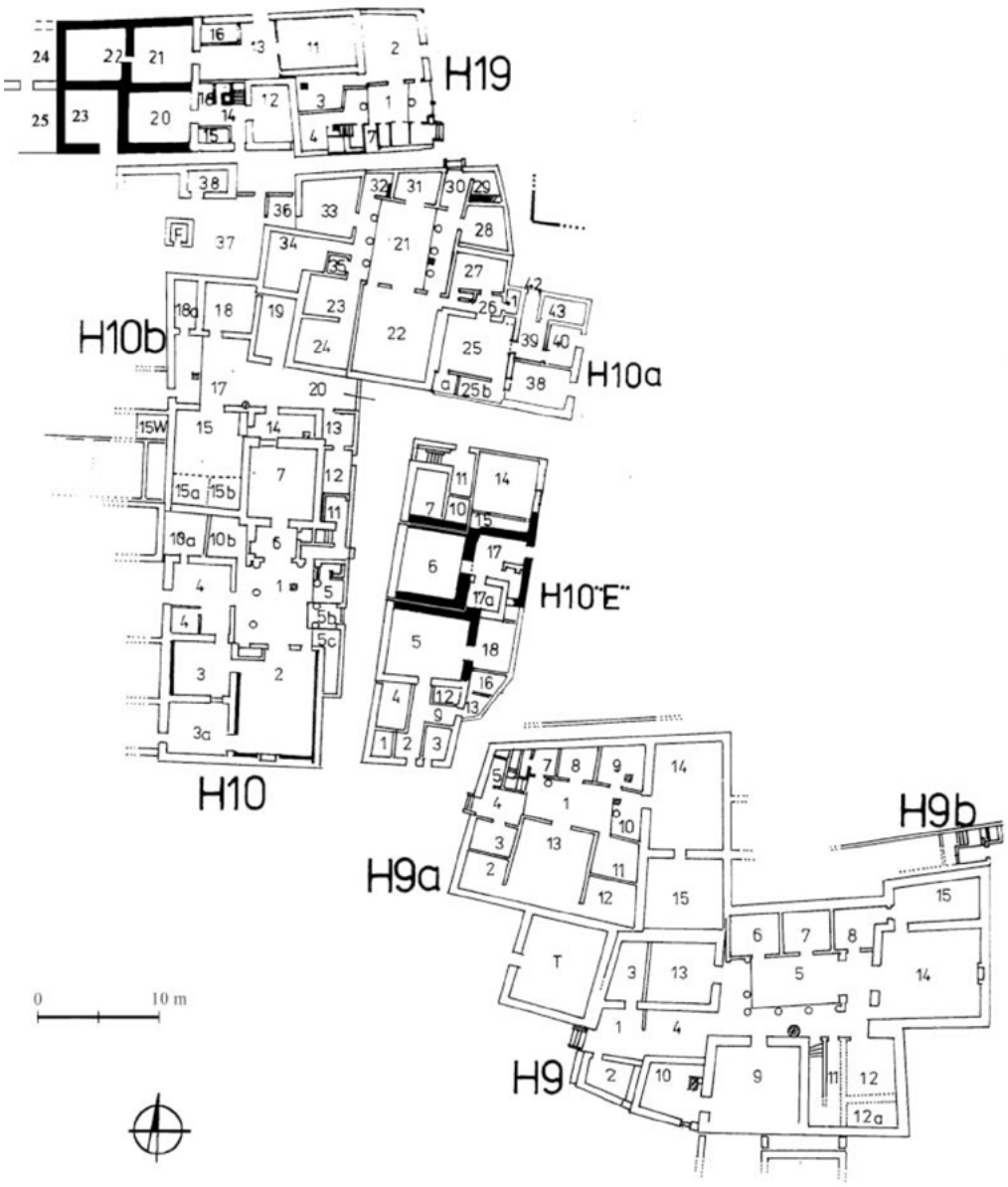


Figure 10. Marina el-Alamein, houses in the southern part of the site, plan (*After Medeksza et al. 2005: 110, Fig. 2*)

The best example to illustrate the living habits of the middle class is offered by Marina, where the owners of the local houses not only included land owners, but also traders. If the city harbour was part of a network along the coast of the Mediterranean between Alexandria and *Africa Proconsularis*, it is likely that the position of Marina had favoured the establishment of traders of Greek origin, or at least Hellenised, or even of Roman origin, which could explain these particular architectural choices.[32]

The houses of Marina reflect some characteristics of an irregular urban plan, well known in Fayum, as is evident by the fact that they developed against each other within the same *insula*, or through the unification of different units in order to create a larger residence [Figure 10]. The elements which best illustrate the prestige of the owner are in the public spaces of the residences, such as the entrance hall, the courtyard and the reception rooms. On the one hand, these elements provide information on the relationships with residential Alexandrian architecture and its influences. On the other, they also reveal an architectural language more largely diffused across the Mediterranean, also found in Cyrenaica, and which has recurring characteristics in the layout of the courtyards, sometimes doubled, and in the large *oeci* looking onto them.[33]

The analysis of the architectural elements employed in the city and in nearby settlements not necessarily linked to it (such as the funerary 'kiosk' in the desert, 10 km south-east of the city, with Alexandrian Corinthian

[32] On the city and particularly on residential architecture see the reports by S. Medeksza, R. Czerner and G. Bąkowska-Czerner in *PAM* VII-XXIV. Lastly, shall we quote Bąkowska-Czerner and Czerner 2015: 1617-1630.

[33] Pensabene 2010: 202-203.

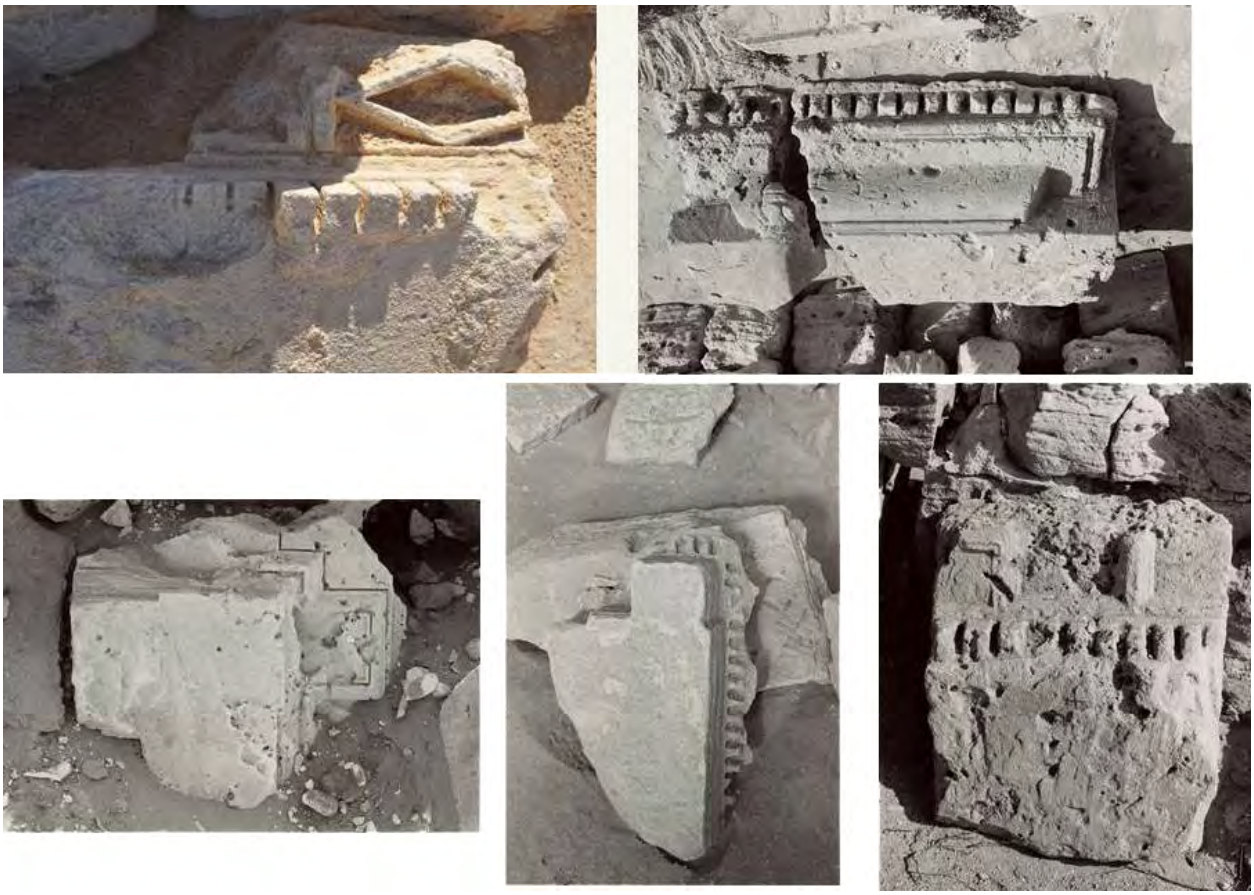

Figure 11. Marina el-Alamein, architectural elements (*Photo P. Pensabene*)

capitals, and with Doric frieze and architrave)[34] offers the opportunity to recognise workshops connected to Alexandria, probably itinerant. They operated along the western coasts of Egypt, without losing their contacts with the capital. This is a well-attested phenomenon in imperial Egypt during the 1st and 2nd centuries AD, to which we can attribute numerous architectural elements showing a continuity of Alexandrian traditions: the *nimphaeum* at Dendera and the *Serapeia* near the quarries of *mons Claudianus* and of *mons Porphyrites* are cases in point.[35]

The houses in Marina developed around a central courtyard, whose portico may be sometimes located around only two or three sides, whilst the main short side corresponds to the open side of a *tablinium* (see house H21c, 9, 1). The well-known niches inside the houses of the city (H9, H10, H 21N)[36] and, supposedly, some particular façades of walls facing the porticos featured small interrupted pediments, arched pediments, heart-shaped pillars, and 'dwarf' architectural orders on the upper storey – all elements attesting to the current use of architectural illusionism [Figure 11].

It has been already observed that simplified capitals with smooth leaves, defined as pseudo-Corinthian, were largely used in private buildings. The origin and development of these capitals, from simplified Alexandrian types, are still a matter open to debate.[37] On the contrary, the evidence within the houses of the use of Asiatic-like Corinthian capitals with prickly acanthus (such as the above-mentioned capitals from Kom el Dikka) is rather scarce. One of the few examples in Proconnesian marble, of which only one fragment remains,[38] comes from House H2. In addition, an entire limestone capital influenced by this type was found in the courtyard of House H21, analogous to other specimens from public areas, such as the limestone fragments found in the basilica. We have thus hypothesised that, after the construction of the basilica (or another public building), some architectural elements remained unused; consequently, the members of the local administration were able to use them for private purposes.

To sum up, one can affirm that, at Marina, architectural decoration more influenced by Hellenistic-Alexandrian

[34] Czerner 2009a: 13, fig. 33.
[35] Pensabene 2010: 205-206.
[36] Czerner 2009a: 112-113.
[37] Czerner 2014: 323-330; Brzozowska 2016: 43-65.
[38] Czerner 2009a: 91, cat. 005.

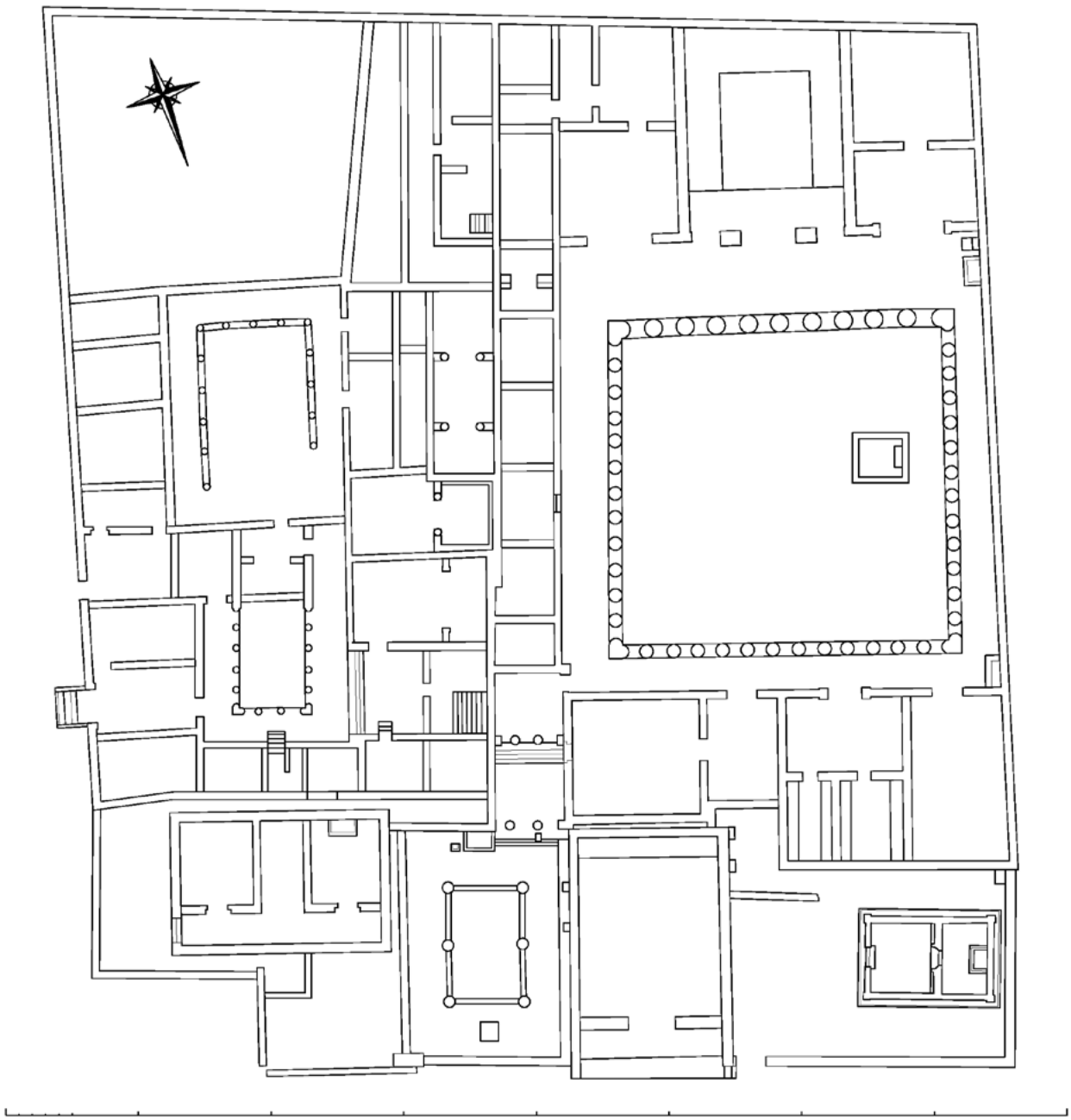

Figure 12. Cyrene, House of Jason Magnus, plan (*After Gasparini 2010: 248, Fig. 1*)

traditions was mainly employed within the private sphere. However, the lack of marble and mosaic floors in the houses of Marina further enhances the high level of Alexandria housing, where *opus sectile* floors and polychrome mosaics are largely attested.

In reference to the mosaics and *opera sectilia,* as noted above, we can take a glimpse at the importance of Alexandria in their diffusion, as one can understand by looking at the richness and complexity of the decorative motifs in the marble floor of the Houses Alpha and Gamma at Kom el Dikka.[39] The presence of analogous floor decoration in the House of Jason Magnus in Cyrene now offers the opportunity to consider the existence of contacts between the elites of the two provinces which led to the sharing of such a culture of dwellings.

Drawing attention to the architectural elevations of this house of Cyrene [Figure 12], which one can consider as the most important in the city,[40] we notice a preference to use colonnaded façades especially in correspondence

[39] Rodziewicz 1976: 180, 186-188; 1984: 42-53, figs 36-37, Tav. IX; 1991: 204-208; Kołątaj *et al.* 2007: 28-34, figs 20-24, 45.

[40] Mingazzini 1966; Stucchi 1975: 144-147, 297-299, 309-311, 319, 323-325, 453, figs 121a, 306, 307, 324, 332; Pensabene and Gasparini 2014: 138-147.

with the main *oeci* as we have already seen in House Alpha of Kom el Dikka. Moreover, in comparison with the Alexandrian examples, here the path is preserved, leading to the public section of the residence with accesses enhanced by the tripartition with columns or pillars. It is possible that in the Egyptian capital there also existed large houses with the same theme of a private section and a much developed section with religious and reception areas, open to the public (according to the tradition of the royal palaces of the Ptolemies), yet so far they have not been discovered.

The importance of Jason Magnus's family, whose members were gymnasiarches and Apollo's priests, was reflected by the choice and the arrangement of the architectural orders in the mid- imperial age, when the merging of the pre-existing *domus* on different levels took place so as to form a single, multipurpose, large residence. Special attention was addressed to the part of the house with public functions, with the large Rhodian peristyle. Here some statues taken from the Temple of the Muses were carried and placed between the intercolumnations.[41] The architectural order chosen for the main, southern, side of the peristyle is the Corinthian, with figured capitals with theatre masks and portraits linking the royal dynasty of Cyrene, as attested by a portrait of King Battus, with the emperors[42] [Figure 13]. This decorative programme is also testified by the statue-portraits of members of the Antonine dynasty found in the house.[43] On account of the link between the peristyle of Jason Magnus's house with the imperial cult, we are not surprised by the choice of the Corinthian order, which is the one that reflects what happened in the public architecture in Cyrene precisely during the Antonine age and which dominates the *Kaisersaal* of the large baths in Asia Minor: here the Corinthian style characterises the colonnades converging towards the shrines with the portrait statues of the emperors and also of the local divinities and heroes.[44]

In the House of Jason Magnus, the relationship between the elements of its architectural elevations and the Alexandrine traditions turn out to be very evident in the external trabeation of the small Temple of Hermes. It stands in the north-eastern corner of the unit and is dated to the late Hellenistic age or, anyhow, to an age preceding the Jewish revolt (AD 115-117). The building presents a Doric frieze characterised by large metopes between much narrower triglyphs and a cornice with

Figure 13. Cyrene, House of Jason Magnus, main side (south) of the upper peristyle, figured Corinthian capitals. Up: first capital from the west with a theatre mask (*After Mingazzini 1966: Tav. XXVI, 2*); middle: second capital from the west with a reworked side (*Photo Gasparini*); down: third capital from the west with the portrait of King Battus (*After Mingazzini 1966: tav. XXVI, 3*)

'travicello' modillions.[45] A small pediment also in sandstone, could be assigned to the epistyle of the gate entrance [Figure 14]. Apart from the quoted elements,

[41] Paribeni, 1959: 138-140, nos 400-404, Tav. 176-178; Mingazzini 1966: 73-75, Tav. XXXII, 4-5; Luni and Mei 2007: 31-77.
[42] Three capitals are still in existence. On one of them the head of Commodus or Geta, removed because of the *damnatio memoriae*, had been recognised by Stucchi (Stucchi 1967: 112-114; 1975: 298).
[43] Rosenbaum 1960: nos 46, 48, 49, 54, 68, 71, 76, 100, 140, 168; Huskinson 1975: nos 70, 73, 77, 79, 81, 111, 122, 144, 150.
[44] Pensabene and Gasparini 2014: 143.
[45] Mingazzini 1966: 3-7.

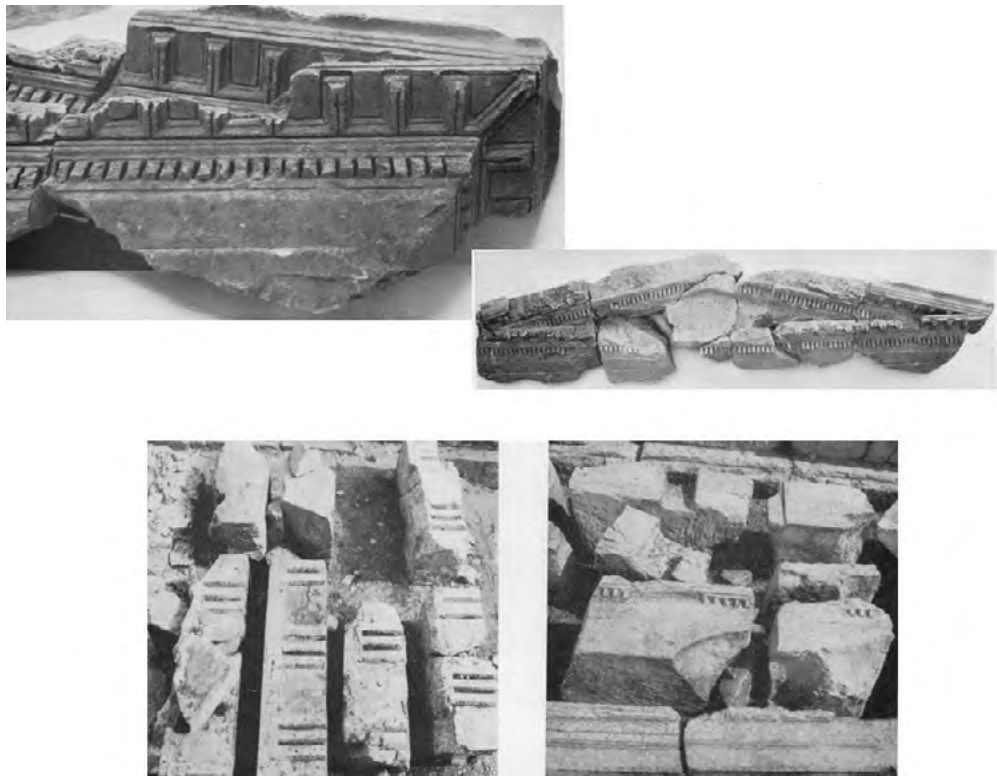

Figure 14. Cyrene, House of Jason Magnus, fragments of the entablature and of a pediment from the Temple of Hermes (*After Mingazzini 1966: Tav. III, 1-2; IV, 4-5*)

it might seem that in other areas of Jason Magnus's house there would not have been architectural façades with a fake perspective of the type observed in the Palazzo delle Colonne: Hellenistic traditions in the architecture of this complex mainly concern the heart-shaped pillars of the peristyles and the aforementioned changes of orders. These remarks are in contrast with the persistence of clearer Alexandrine influences in the coastal cities of the Pentapolis. We have connected such a difference between Cyrene and the coastal cities, with the role that the ports of these cities had within the route between Alexandria, *Africa Proconsularis*, Sicily and Rome, a route quoted by Sinesius and other late sources. One of the reasons for the continuous use of Alexandrine architectural formulas at least until the beginning of the 3rd century AD, as it happened also in Egypt, should be the belonging of these cities to the Egyptian mercantile routes, together with the implication of tight relationships between the Cyrenaican elites and Alexandria. The Palazzo delle Colonne itself, beyond the question whether its first foundation was due to a Ptolemaic governor, can be understood with the continuous use of architectural elements of an Alexandrine milieu, probably because of the relations which the owners in the imperial age kept with the Egyptian metropolis.

Among other examples of houses of Cyrenaica for which one can affirm the existence of peristyles or pseudo-peristyles connected with perspective façades, we wish to quote two cases. The first is the Roman Villa in Ptolemais, characterised by a large Rhodian-style peristyle with a curved higher side [Figure 15]. Other features of the house are a heated room with an internal apse, a *triclinium* with *opus sectile* with *poliemblemata*, and a hall divided by a Syrian arch, occupying the south-eastern corner.[46]

The peristyle consists of Ionic columns surmounted by a mixed entablature with Ionic cornice with lion-head protomes and a Doric frieze. Two groups of cornices found fragmented in various fillings, should be juxtaposed with the rooms adjacent to the porticoes of the peristyle and perhaps leading from the two-floor façade of the bottom wall of the main side [Figure 16].[47] The first group shows very thin flat modillions (reminiscent of *mutuli*, but without *guttae*) and a rosette in the corner coffer. The second group is with narrower yet slightly higher modillions, reminiscent of the Ptolemaic versions of the 'travicello' type. This second group can be categorised with identical modillions, with the exception of the oblique corner ones, and the type with alternating modillions with edged panels similar to a meander. Here we have Alexandrine types[48] present also in the Palazzo delle Colonne, so that this last example can be put in relation with the architecture of Roman Villa's façade, where again we find the characters of a two-floor façade with two different types of cornices along a curved line.

We should like to draw attention to a second residential edifice at Tocra. It shows another Rhodian peristyle in

[46] Kraeling 1962: 119-139.
[47] Wright in Kraeling 1962: 222.
[48] Pensabene 1993; Pesce 1950, Tav. VIII C.

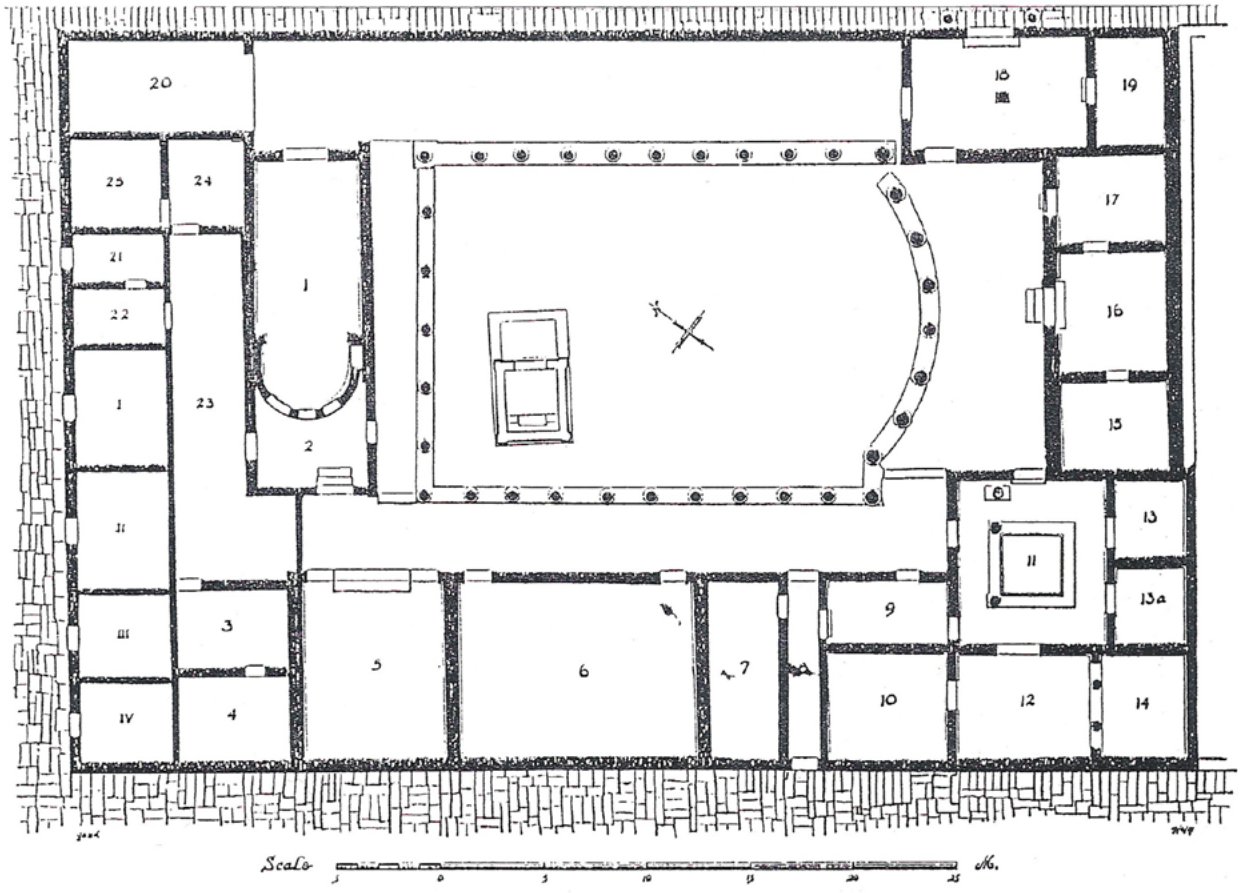


Figure 15. Ptolemais, Roman Villa, plan (*After Kraeling 1962: 121, Fig. 43*)

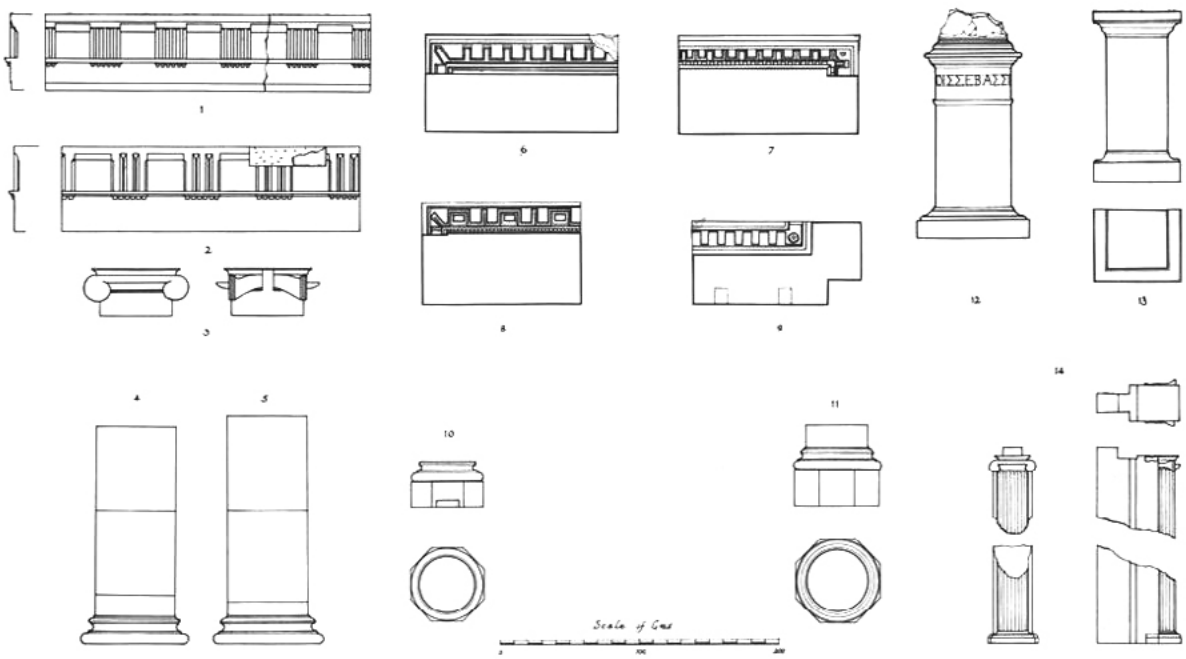

Figure 16. Ptolemais, Roman Villa, architectural decoration (*After Kraeling 1962: Pl. XIV*)

Figure 17. Tocra, Roman peristyle house. Left: view of the main side (south) of the peristyle (*Photo BSR Photographic Archive, Ward-Perkins Collection, wplib-09919*); right, up: Corinthian capital of pilaster, first type (*Photo BSR Photographic Archive, Ward-Perkins Collection, wplib_09921*); right, down: Corinthian capital of pilaster, second type (*Photo P. Pensabene*)

which the two facing sides have seven fluted columns between heart shaped pillars and the other sides have only two columns. These two columns seem to be thicker and plain on the south side, perhaps to indicate the access to the *oecus maior*, whose entrance might have been divided into three by pilasters with capitals [Figure 17].[49] Two exemplars found within the house can be identified with the latter, though not typologically identical. The first is characterised by acanthus leaves with large pointed shady areas of an Alexandrine tradition and by an astragalus with beads and reels substituting the edge of the *kalathos*. It can be dated to between the 1st century BC and the 1st century AD by analogy with the examples of the Palazzo delle Colonne. The most interesting datum is that we have here a figured capital with a female figure, perhaps a Nereid next to a hippocampus.[50] The second capital, instead, with an acanthus more akin to the thorny type, is to be considered as later, and can be included within the group of local tradition, but with a microasiatic influence, where we can also categorise the Corinthian capitals from the Jason Magnus's House. It could be dated, then, between the Antonine and the Severian ages.

In conclusion, our research also intended to hint at the socio-economic factors underlying the creation of luxury housing in Egypt and Cyrenaica. In fact, the decorative and architectural choices that we have analysed here need to be inserted within the framework of the self-representative exigencies of the elites or, anyhow, of an upper-middle class, whose houses expressed the role that the owners held in the society.

If the many sided vivacity of the Egyptian economic universe is well-known, especially if one thinks of the trade of agricultural goods, marbles and spices as well as luxury items across the desert, then the the position of Cyrenaica is more controversial. Despite the evidence of activities within the agriculture and the production of ceramics which saw a modest export of amphorae, at least until the 3rd century AD (Mid Roman 8 and Mid Roman 1, probably used respectively for the transport of oil and wine) it does not seem that this area had been characterised by a considerable commercial export of its own products.[51]

[49] SLS Archive, 2012.0749 and 2012.0314; BSR Photographic Archive, Ward-Perkins Collection, wplib_09921; Stucchi 1975: 309, n. 3, Tav. IV, 5.

[50] Buzaian in Kenrick 2013: 62 makes synthetically mention of limestone figured capitals that should correspond to the elements discussed here.

[51] Riley 1979: 193-194, fig. 84, nos 244-245; Wilson 2001: 28; Mazou and Capelli 2011: 73-76; Mazou 2016: 190-191 where, nevertheless, new perspectives on the diffusion of the Cyrenaican MRA 8 at Kom el

The wealth of the elites, mainly in Cyrene, may certainly be put in relation with the agricultural exploitation of the territory of the province, but it would also seem that such activities mostly remained at the service of the local market, for the supply of the cities themselves within the province. The case of the coastal cities such as Berenice, Tocra, Ptolemais and Apollonia is different since they undoubtedly gained their riches through their status of ports of call where communities active in trade had settled. Relevant proof can be found in the graffiti discovered in the House H in Berenice, which offered the opportunity to reconstruct its activity as that of a hotel, at least in its last phase (between the second half of the 2nd and the beginning of the 3rd century AD) on the basis of the attendance of people speaking both Greek and Latin, identified as travelling traders, among whom were many imperial freedmen and *negotiatores* from Campania.[52]

Regarding the early Roman age we have also information on an important export of cereals, because Pompeius used the wheat from Cyrenaica to supply his army at the time of the civil war.[53] Though it is more difficult to research this trade, because of the transport system that was different from that of wine and oil, wheat also played a central role in the economy of the province as the export destined for the Pozzuoli and Portus harbours, as well as further north, to the port of Aquileia. After the crisis which afflicted the region in the second half of the 3rd century AD, the riches of the Cyrenaican countryside and the reality of commercial journeys are once again testified, in the Late Antiquity, by Sinesius's correspondence as well by Diocletian's Edict of prices.[54] It might well be the case of goods not only, or not so much, from Cyrenaica, but of Egyptian commodities carried from Alexandria toward the West with the help of a network of ports of call along the western Egyptian and Cyrenaican coasts. This strict relationship with Egypt can be also corroborated by the final research on ceramics which seems to demonstrate, from the Hellenistic age to the byzantine era, a flow of products, from Mareotis and even from Middle Egypt, supplying cities such as Berenice, Apollonia or the smaller coastal centre of Latrun.[55]

Finally, the considerations about the architectural language of the residential edifices in Alexandria and of the coastal cities of Egypt and Cyrenaica demonstrate the continuity of the relationship between the two provinces during the whole imperial age. Of course, this essay dealing with private residences ought to be integrated by studies on the public architecture for a more complete description of the situation of the relationships between the two provinces, Rome and the larger Mediterranean area.

Dikka and Bouto are revealed.

[52] Pye 1974-1975: 10-12; Lloyd 1977: 93, 99; 1989: 160; Reynolds in Lloyd 1977: 237-240; Barker 1979: 33.

[53] Romanelli 1943: 59-62; Laronde 1988: 1012-1013.

[54] Reynolds 1971: 36-37.

[55] Wilson 2001: 38-39; Caillou and Mazou 2012: 33-37.

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# Ptolemais and Apollonia. Some Remarks about the Planning and Functioning of Two Port Cities in Cyrenaica

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**Summary**
Ptolemais and Apollonia, members of the Libyan Pentapolis league, played a crucial role in the long distance trade of Cyrenaica. As such, both port cities shared many similarities. In the Archaic period they were set up as out-ports for inland cities – Barca and Cyrene respectively. Simple harbours were transformed into urban centres under the rule of Ptolemies when they received the status of *polis*. Then, the vibrant port cities flourished in the Roman period. Finally, their importance increased after the administrative reform of Diocletian when they consecutively became the capital of the newly established province *Libya Inferior*. Both port cities functioned continuously until the Arab conquest in the middle of the 7th century AD and the most abundant information on the cities' layout and architecture come from the last stage of their existence. Nevertheless, despite these geographical and historical similarities, in the Hellenistic period some important differences in their planning and functioning are to be observed. Obviously, the shape, size and urban layout of Ptolemais and Apollonia resulted from their specific landforms, yet it seems that their development was primarily the consequence of the complex history of their relationships with their mother towns, Barca and Cyrene.

**Keywords**
Cyrenaica, Ptolemais, Apollonia, port system, harbours, defence system, urban layout

## The geography and landform of Cyrenaica: general remarks

There are not too many regions in North Africa more favoured by nature than northern Cyrenaica. According to Herodotus, the whole region, one of the 'most fertile corn lands in the world,' well-watered by springs and by 'the hole in the sky,' yielded 'at the most a hundred-fold' because of 'the marvellous boon of three harvest seasons' (Hdt. 4.157-159, 198-199). It is not surprising then that Cyrenaica was already attracting Greek settlers in the 7th century BC. The colonists from the island of Thera, directed by an oracle from Delphi and aided by a man named Battus first settled on the eastern fringe of Cyrenaica. After a few years, they moved to the west, having been shown by local tribes some new, well-watered and defensible inland sites. Thus, Cyrene was founded in 631 BC.

Herodotus, describing the story of an early colonization of Cyrenaica and foundation of Cyrene, underlined three requirements necessary for settlement: an adequate water-supply, a large area of cultivable land and a harbour for the maintenance of communication. Relating the very early settlement of Cyrenaica, Herodotus mentioned four sites suitable for the optimal exploitation of cultivable land. Only two of them, *Taucheira* and *Euhesperides*, were founded by the seaside. Two others, *Cyrene* and *Barca*, were located inland, and needed harbours to serve them. As a consequence, in the Archaic period two ports – named only under the rule of Ptolemies – were founded: *Apollonia* and *Ptolemais* respectively.

Given that a port is not an isolated phenomenon, but primarily forms an essential part of the political, social and economic life of a region,[1] both ports should be regarded as important elements of the whole regional system of communication. In fact, because of the landform, the port network in Cyrenaica had a major importance in transport and trade. In Antiquity, the region encompassed the limestone plateau of Green Mountain (*Jebel Akhdar*) descending by two successive escarpments (*c.* 300 and 600 m) towards the sea together with a coastal strip (*sahel*) of a different width. The main cultivable area lies on the plateau and on a coastal plain where the *jebel* turns away from the sea to recede far inland. The whole area of the plateau, drained by a multiplicity of deep ravines (*wadis*), was frequently undulated. Additionally, the biggest and the deepest one, Wadi el Kuf, running east-west, divided the plateau into two distinct parts.[2] Such geographical features impeded communication between them by terrestrial routes. The quicker and easier means of communications were by the sea. As a result, first and foremost, it was absolutely essential to organise the most efficient way of moving from the eastern to the western part by constructing a port network [Figure 1].

[1] Karmon 1985: 3.
[2] Johnson 1973.


Figure 1. Cyrenaica in Libya (*Elaborated by M. Rekowska, based on a satellite image of Libya in January 2004; screenshot from NASA World Wind; retrieved from https://commons.wikimedia.org/wiki/File:Libya_BMNG.png (status as of Feb. 21st, 2017)*)

Nevertheless, at the time the coast of Cyrenaica differed markedly in its suitability as a port location, being clearly divided into three distinct zones because of the shape of the shoreline and the width of the coastal plain [Figure 2]. The two extremities of the coast, western and eastern, are very comparable. From Berenike to Taucheira and east of Apollonia, the *jebel* silhouette visible at a distance of a dozen or more kilometres, left enough fertile land for agricultural cultivation. However, the slightly varied coastline, virtually without any natural shelters, did not allow any convenient ports to be established. Actually only one, Euhesperides, offered a safe harbour to ships sailing from the west. Instead, the central part of the coast was different. From Taucheira to Apollonia, the lower scarp abutted the sea and the *sahel* shrank in width to a few hundred meters only. The lack of cultivable land was overshadowed by the advantages of the diversified shoreline which offered natural harbour facilities as attested by Pseudo-Scylax, who listed a few small harbours sheltered by the islands and headlands between the ports of Barca and of Cyrene (Scyl. 108). On the other hand, the arable, well-watered land was quite extensive in the immediate hinterland, in the area of Barca in the west, and in the territory of Cyrene in the east, ensuring agricultural activity. All these geographical elements forced a specific pattern of settlement, crucial for the development of a road and port network.[3] As the rich farming centres of the middle and upper plateau, needed ancillary developments with harbour facilities necessary for transport and maritime trade, attention was paid to securing communication between the ports and the major settlement areas. Responding to this demand, a system of roads, usually descending from the several levels of the *jebel* to the coast through passes provided by ravines was built, linking hinterlands to harbours. Therefore, in the early Classical period, minor agricultural centres well-located to cultivate the soil were served by a whole series of harbours lying below on the coast. Although, due to the geographical conditions, natural harbour facilities, silting prevention and wind protection, port hierarchies were formed. The secondary harbours, depending greatly on their hinterland, provided only coastwise shipping. From Ausigda, Phycus, Nausthatmos or Erythron, the amounts of agricultural production brought by the hinterland road system (respectively from the sites of *Balagrae*, *Artamis*, *Limnias* and *Hydrax*), were transported by the sea to the main, primary ports: Euhesperides as well as harbours of Cyrene and Barca.[4] For a long time, the latter had a privileged position in the maritime

[3] Jones and Little 1971; cf. also Roques 1987: 16, fig. 12.
[4] Laronde 1993; Tuso 2010.


Figure 2. Map of Cyrenaica, the coast divided into three zones (*Elaborated by M. Rekowska, based on Jones and Little 1971: Figure 1, with use of satellite photos; retrieved from http://virtualglobetrotting.com/map/ancient-city-of-ptolemais/view/google/ (status as of Feb. 21st, 2017)*). Below: coast nearby Ptolemais (left) and nearby Apollonia (right) (*Satellite photos by Google Earth; status as of Feb. 1st, 2018*)

network. They played an international role in long-distance commerce, keeping Cyrenaica in contact with other ports and ensuring 'the Mediterranean connectivity.'[5]

In order to understand the exceptional role played by the ports of Barca and Cyrene in this port system, firstly one should evaluate to what extent these sites fulfil 'the parameters of port attractiveness' as natural sheltered harbours from the prevailing winds and currents carrying silt, as well as sites with an easy water-supply, agricultural facilities and good connection to the land road system.[6]

## Ptolemais and Apollonia: history and urban layout

Both the ports of Cyrene and Barca were mentioned in ancient sources.

Ptolemais was described as the 'harbour of Barca' in *Periplus* of Pseudo-Scylax (Scyl. 108: *GGM* 1. 83). Pliny (Plin. *HN* 5.32) and Strabon (Strabo. 17.3.20) said simply that Ptolemais was formerly called *Barca*. *Ptolemaieis apo Barkes* were mentioned in other documents from the 3rd-1st centuries BC,[7] *inter alia* they were recorded in the Delphic *theorodokoi* list from 215-210 BC.[8] The city was mentioned in *Stadiasmus Maris Magni* (*Stadiasmus* 55: *GGM* 1. 447-448), *Itinerarium Antonini Augusti* (*It. Ant.* 67.4; 70.2)

[5] Wilson *et al.* 2012.
[6] Rickman 1985: 105-106.
[7] Cohen 2006: 393-396.
[8] Laronde 1987a: 383.

and *Tabula Peutingeriana* (*Tab. Peut.* VII.4), cited also by Pomponius Mela (Pompon. 1.40), Ammianus Marcellinus (Amm. Marc. 22.16.4), Martianus Capella (Mart. Cap. 6.672), Stephanus Byzantius (Steph. Byz. *s.v.* Barke).[9]

*Barca* (today el-Merg), at first a settlement of the Libyan *Barraci* tribe, was colonised by the Greek settlers from Cyrene about 560 BC. In the early period, *Barca* had already become so powerful as to make it virtually independent from Cyrene's domination as well as the whole western part of Cyrenaica. Barca owed its economic significance to the surrounding vast and highly fertile agricultural plain. Eventually Barceans decided to establish a port in a place easily accessible by road descending through the lower escarpment of the *jebel*, at a distance of approx. 25 km from their city. Such a location was selected not by chance – the author of the *Stadiasmus Maris Magni* mentioned that the place was safe for shipping, with an anchorage and beaching-place secured (*Stadiasmus* 55).[10] Apparently the difficulties in water supply (the nearest source was at a distance of over 20 km) had only minor importance compared to the advantages of a natural harbour well-protected against the prevailing north-westerly winds [Figure 2]. The site was additionally visited by rainfall with water collected in numerous tanks and cisterns.[11]

The first settlement may have been very modest, limited to few structures on the promontory necessary to serve ships with their cargos. In the early Hellenistic period the port received its own name – *Ptolemais*[12] – as well as a new urban layout which survived until the Late Antiquity without any significant changes [Figure 3]. At the same time the impressive defensive walls surrounding an area of about 290 ha (a refugee area on the *jebel* included) were built. The city itself (without the acropolis) was enclosed within a rectangle measuring 1400 m (north-south) by 1700 m (east-west). Definitely, in the Hellenistic period Barca had already lost its privileged position to its rising port and Ptolemais took over as an urban centre. This change is not so surprising if we consider the significance that Ptolemies attached to the development of the port cities.[13] It seems that in the same period, a number of Barca inhabitants moved voluntarily to Ptolemais. *Barca* lost its political significance and finally *Ptolemais* replaced this charter member in the Cyrenaican league of Pentapolis (Plin. *HN* 5.31), together with *Cyrene*, *Apollonia*, *Arsinoe,* former *Taucheira* and *Berenike*, former *Euhesperides*.[14] Under Roman rule, Ptolemais developed harmoniously, with several moments of a greater glory in the period of the 2nd and the 3rd century AD and with its apogee in the beginning of the 4th century AD, when it

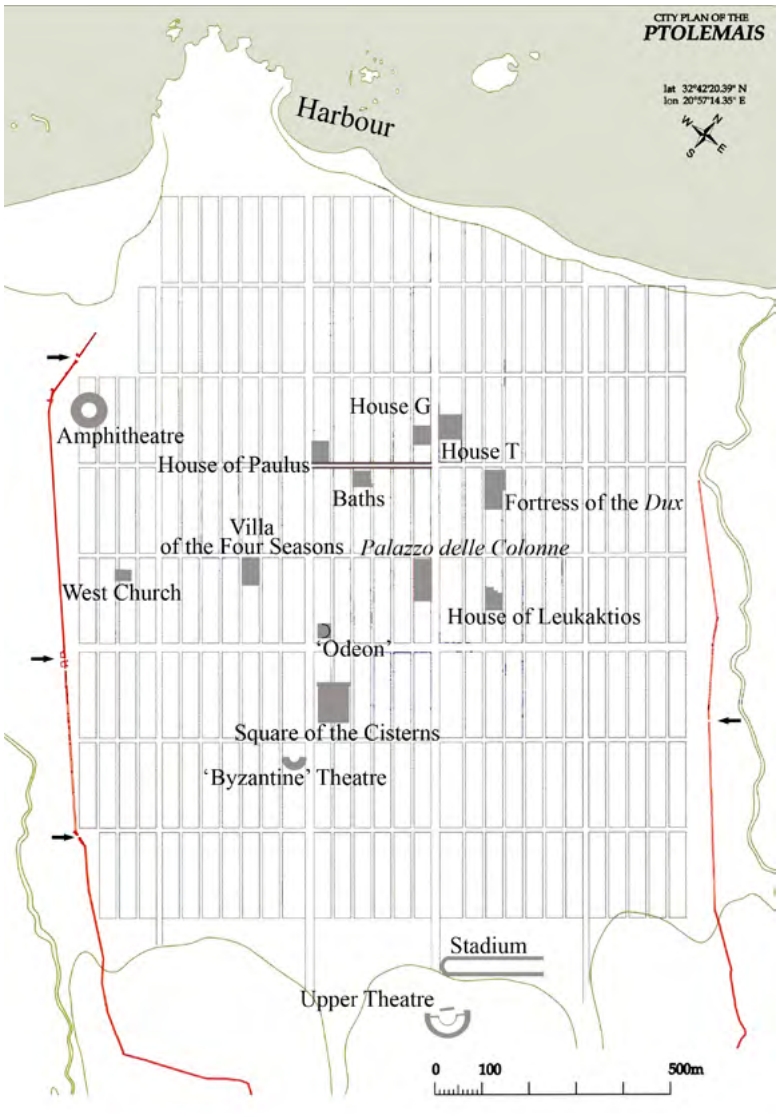


Figure 3. Plan of Ptolemais (*Based on Małkowski and Żelazowski 2012: 36; elaborating author*)

[9] Purcaro Pagano 1976.
[10] Jones and Little 1971: 72.
[11] Małkowski 2012.
[12] Discussion about the foundation dating – cf. Müller 2004.
[13] In Cyrenaica, in the 3rd century BC. the new port city of Berenice was founded in the immediate vicinity of Euhesperides, whose port suffered because of silting; the small port city Taucheira was renamed Arsinoe (Lloyd 1985).
[14] Laronde 1987: 385-396.

Figure 4. Ptolemais, central part (with Via Monumentale in the foreground) view from the west (*Kite photo by M. Bogacki, ©Polish Archaeological Mission to Ptolemais*)

became the capital of the newly established province of Libya Superior. Even if in the 5th century it lost its status to Apollonia it never ceased being a well-developed and prosperous city. A dozen ancient structures visible today testify to the glory of *Ptolemais* during the Roman period [Figure 4]. Only a few Hellenistic relics, such as a theatre, defence system, huge cistern, the famous Palazzo delle Colonne and tombs outside the city walls, now remain.[15] Yet, the decisive factor of the prosperity of the city, the harbour, is not easy to identify.[16] The ancient port was partly inundated, like the one at Apollonia, which was a result of both natural geological processes over time and possible seismic activity [Figure 5]. The port facilities, which may still have been functional to some extent in the 11th century,[17] were later neglected and consequently became derelict. As a result, it became difficult to interpret the topography of the port which was only a subject of underwater survey prospection and has never yet been explored by regular underwater excavations.[18] However, submerged ruins give some indications about the complexity of the port installation[19] [Figure 6]. The two-basin harbour was located in a natural bay to the east of the rocky headland, in front of the ancient city, where two main *plateia* leading towards the sea ended. The western, smaller basin, accessible from the north, was used by the fishing boats and local fleet. The submerged rock-cut tanks on the western island nearby give evidence of the fish-processing factory. The eastern basin (about 7 ha) with the entrance from the east was the main harbour. Its construction was based on natural reef elements such as two inshore islets. An artificial rock breakwater between them protected the bay from the northerly winds; the stone blocks, present at a depth of 2-2.5 m are the remains of other artificial structures such as an extensive quay connecting the bigger island with a shore or two moles enclosing the main basin from the east. Recent studies have demonstrated that the idea of the presence of a second harbour to the west of headland has to be excluded – the long open sandy bay appears to have been too exposed to the prevailing

[15] Małkowski and Żelazowski 2012.
[16] Beltrame 2012: 315-316; Lewartowski and Misiewicz 2015.
[17] Idrisi 1836-1840: 239; cf. also discussion in: Yorke and Davidson 2017: 69-70.
[18] Jones and Little 1971: 72; Yorke 1972; Beltrame 2012: 316; Yorke and Davidson 2017.
[19] Beechey and Beechey 1828: 377-378; Kraeling 1962: 48-51; Misiewicz and Rekowska 2015: 107-112; Rekowska 2016: 81-83; Yorke and Davidson 2017, 68.

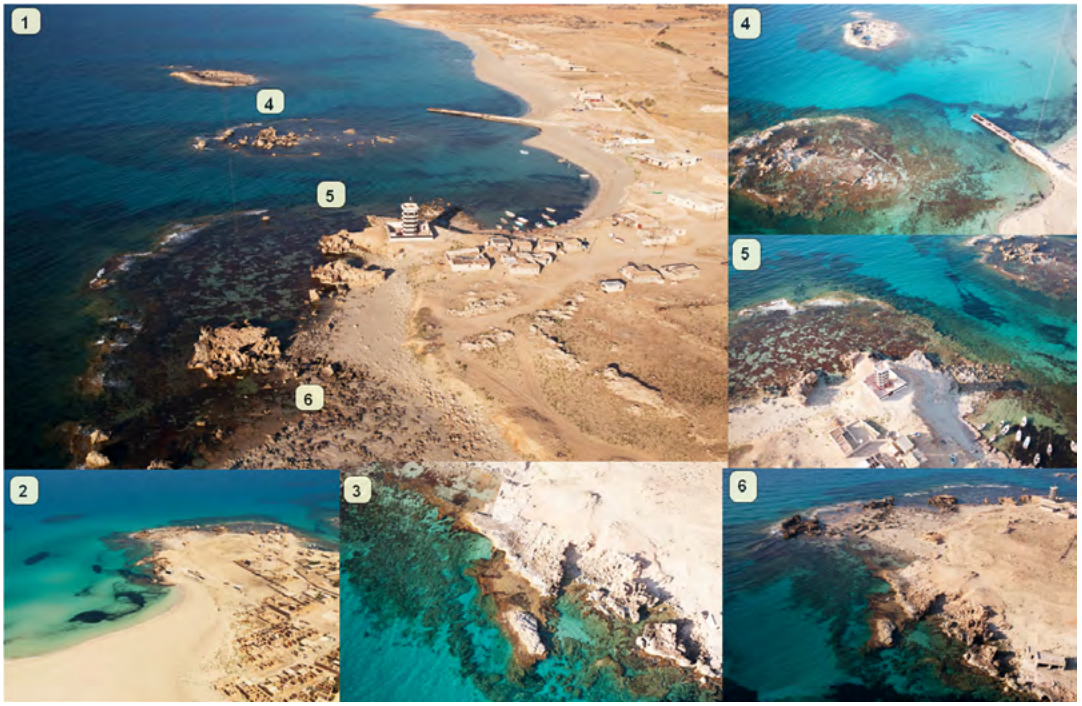


Figure 5. Port area of Ptolemais: 1 – Aerial view of the promontory; 2 – View of the eastern bay; 3 – Rock cuttings with the partially quarried blocks; 4 – View looking north-east showing eastern entrance to the harbour; 5 – Aerial view showing the fishing harbour; 6 – View eastwards on the promontory (*Kite photos by M. Bogacki, ©Polish Archaeological Mission to Ptolemais*)

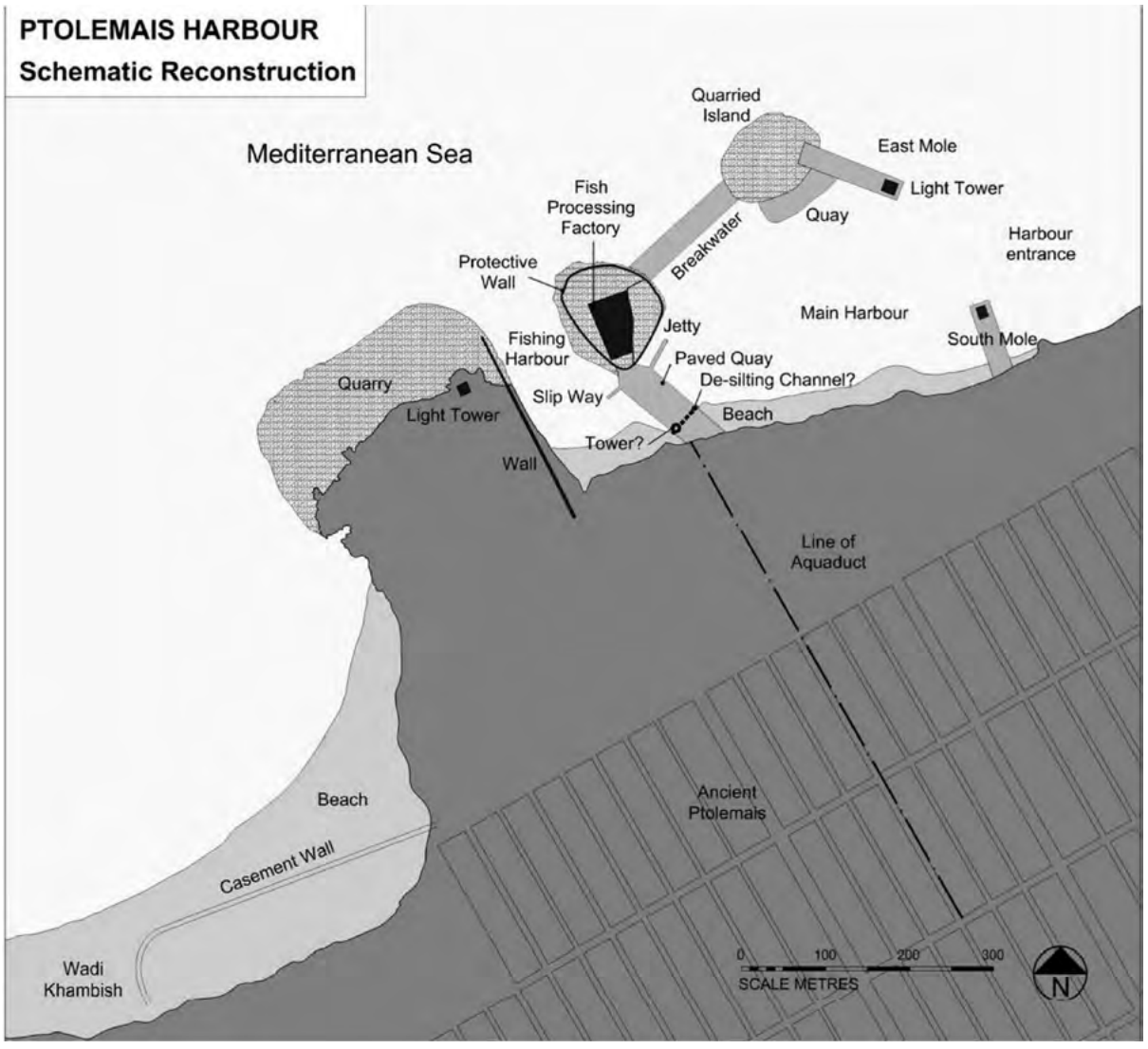


Figure 6. Ptolemais harbour plan (*After Yorke and Davidson 2017: Figure 20*)

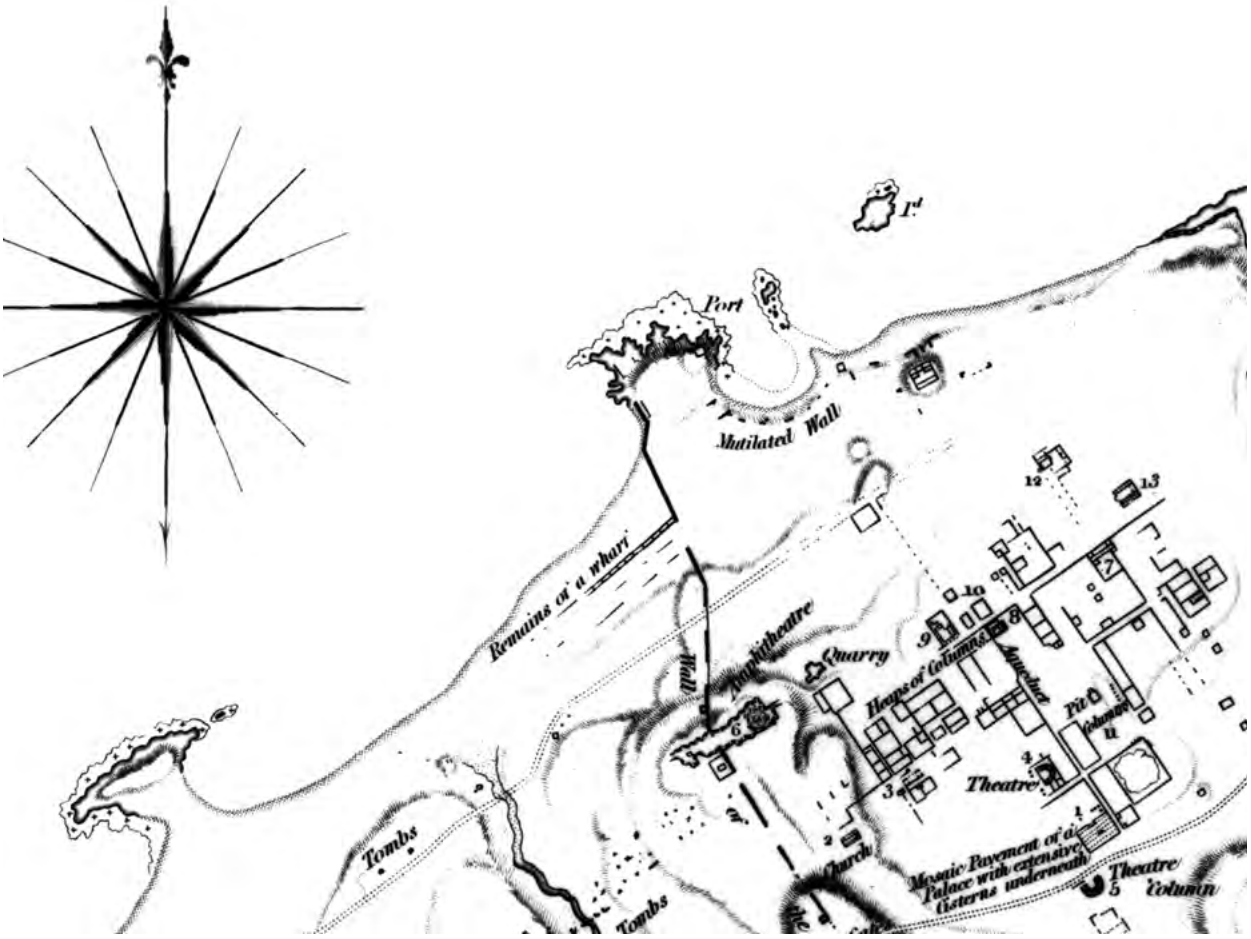


Figure 7. Coastal part of Ptolemais – a fragment of the 19th century plan
(*After Beechey and Beechey 1828: unnumbered plate before 339*)

winds off Cyrenaica to secure safe docking for ships.[20] The interpretation of the visible cuttings in the western side of the promontory as a slipway for military galleys should be rejected and replaced by the idea of traces of stone extraction and relics of storage-tanks; the wall on the western beach seen by the 19th century's travellers previously interpreted as part of the port installation was probably some sort of esplanade, contemporary with the Hellenistic defences [Figure 7].

The port of Cyrene, located at a distance of 20 km from that city, dates back to the Archaic period – the earliest settlement cannot postdate too much the establishment of Cyrene in 631 BC. Here too the choice of location was not accidental. Pseudo-Scylax described the natural harbour as a *panormos*, surrounded by protective headlands in a way as to leave only a narrow entrance oriented away from the direction of the prevailing wind (Scyl. 108). Diodorus (Diod. Sic. 18.19.4) and Strabon (17.3.20) just mentioned the presence of the harbour of Cyrene which, according to Plinius (*HN* 5.31), under the name of Apollonia, formed a part of Pentapolis. The literary evidence also includes Pomponius Mela (Pompon. 1.40), Martianus Capella (Mart. Cap. 6.672), Ptolemy (Ptol. *Geog.* 4.4.3; 8.15.6); *Stadiasmus Maris Magni* (*Stadiasmus* 52, 53, 57: *GGM* 1. 446-50), *Tabula Peutingeriana* (VII.5) and Stephanus Byzantius (Steph. Byz. *s.v.* Apollonia).

Since Antiquity the shoreline changed dramatically. A major part (approx. one third) of territory of Apollonia sunk and now lies submerged at a depth of approx. 3.0-3.5 m below the surface of the sea. Today only two rocky offshore islands and some small reefs stand above the sea-level [Figure 8]. Nevertheless, thanks to the underwater investigations carried out by British (Cambridge Underwater Expedition), American (University of Michigan) and French archaeologists, the shoreline and the port can be reconstructed with a fair degree of certainty[21] [Figure 9]. The oblong-shaped city occupied a narrow strip of the slightly elevated coast. The two-basin harbour underwent several rebuilding

[20] Fulford 1989; cf. also Yorke and Davidson 2017, 53.

[21] Ghislanzoni 1915: 157, Phot. 44-45; White *et al.* 1976*:* 38-40; Laronde 1985: 110, fig. 9; White 2003.


Figure 8. Apollonia's port (*Retrieved from: http://www.ancientportsantiques.com/wp-content/uploads/2014/11/APOLLONIA-ANCIENT-BEACHING-GE2013.jpg (status as of Feb. 21st, 2017)*)

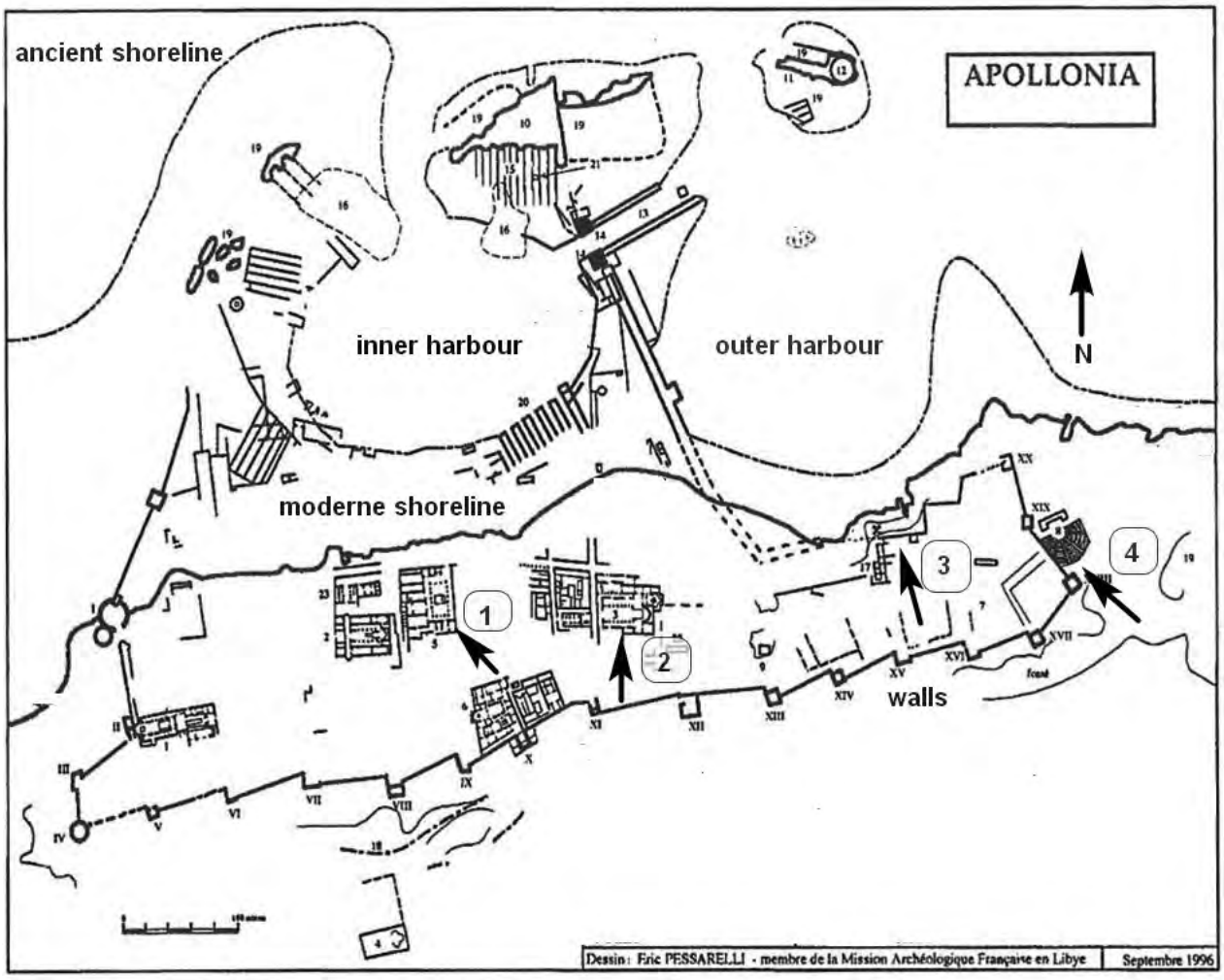


Figure 9. Plan of Apollonia: 1 – Roman baths; 2 – Eastern basilica; 3 – Fishing factory; 4 – Theatre *extra muros* (*Based on Laronde 1985: Figure 1*)


Figure 10. Apollonia's buildings (with the relics of the harbour installations in the background): 1 – Roman baths; 2 – Eastern basilica; 3 – Fishing factory; 4 – Theatre *extra muros* (*Photo M. Rekowska, arrows on the Figure 9 indicate the direction in which the photographs were taken*)

from the Archaic period onwards.[22] The islets visible today formed part of a natural dyke which delimited the entire port from the west and north west. The western, inner harbour included in the city fortification system was about 5 ha in size. Originally, it had an entrance from the north-western side, blocked in a later period. It was also linked to the eastern one through a channel. Its eastern end was marked by a mole, on which a defensive wall was built with two towers at the mouth of the channel. A lighthouse stood at the eastern end of the promontory encircling the port.[23] The outer, main basin of the same size as that in Ptolemais would have provided shelter for a number of civilian ships.

As in Ptolemais, such advantages offered by natural shelters compensated the lack of a water source. The port was watered by the aqueduct that served the city, carrying water from the spring located at the foot of the lower escarpment, running along the road from *Cyrene* to *Apollonia*. The water-supply, as in Ptolemais, was complemented by a system of tanks.

The port of *Cyrene*, named *Apollonia* in honour of *Apollo Apobaterios*, gained its independence, the defence system of walls as well as the regular urban layout, in the 2nd century BC or even the beginning of the 1st century AD.[24] The city saw a period of continued prosperity during Roman rule until its peak in the middle of the 5th century. Only at this moment did *Apollonia*, under a new name of Sozousa, replace Ptolemais as the new capital of *Libya Superior*, and become a seat of the military and civil authorities. Since the middle of the 5th century, the city's extraordinary growth, wealth and prestige is evidenced by few Christian basilicas adorned with columns and architectural details made of imported marble [Figure 10].

At first glance, some similarities in the geographical position, natural environment and early history of two these cities may be observed. Both Cyrene and Barca, early Greek colonies, built inland for safety reasons, needed outlets, or out-ports (*epineion*) to the sea. By assumption, these early foundations were not independent but formed part of the inland cities, even if it was impossible to build a single defence system (as in Athens or in Corinth) due to distance and landform. Both ports shared a similar pattern of settlement, the topographical dependency between a town on the edge of a plateau and one on the coast below included.

[22] Sintes 2010.
[23] Baika 2013.
[24] Laronde 1987a: 461; Pedley 1976: 16-17; White 1976a.

Even if the sites were not equally attractive in their parameters as a port, both became harbours of more than local importance and owed their prosperity to the role played in the economics of Cyrenaica. It would seem that everything that guaranteed this economic success should have enabled them to become independent. Furthermore, it is worth stressing once again that from the beginning of the rule of Ptolemies their development did not proceed in the same way. In an attempt to find the reasons of such difference, we should reconsider their relationships with the mother town.

As previously mentioned, when at the time of Ptolemies Ptolemais was transformed into a new political centre for an old colony, consequently a significant number of Barca inhabitants moved to the new *polis*. Thus, in the late Hellenistic era the name of Barca was not forgotten, although it was used rather in the context of Ptolemais; nevertheless, its inhabitants called themselves *Barkaioi* as late as in the 2nd century BC. Meanwhile, Apollonia, even if in the late Hellenistic period gained the status of a *polis*; until the Late Antiquity it shared the fortunes of Cyrene and the relationships between these two independent cities were very close, although not always easy. In this context, an interesting point to consider is the character of Apollonia's system of defences. From the northern sea side, the defence wall encircled only the western, inner harbour which was transformed from the former landlocked anchorage when the gap between the islands was blocked. Given its location and defensive assets, it has been suggested that this harbour served a military function, while the eastern one was used more for trade-related purposes.[25] Two massive towers standing on the inner side of the entrance as the elements of the defence system can suggest that these changes took place in the end of the 2nd or at the beginning of the 1st century BC. At the same time, the defence capabilities of the south wall built on the crest of the coastal ridge were enhanced – an extensive quarrying of the bedrock on the southern slope created a vertical cliff beneath the walls. Another interesting observation concerns the western limit of the city. When the defence system was built, the walls formed an irregular rectangle of 800 m from west to east and 250 m from south to north. Thus, the district with the sports complex and Doric temple from the 4th century BC remained intentionally outside the city walls. As a result, the area within the protective circuit of the walls limited exclusively to the port and its immediate vicinity, was smaller than the extent of the whole agglomeration. What is really important to notice is the statement that the small extent of the city's area within the walls restricts the number of inhabitants to no more than 10000 or 15000 and there is no indication that this number increased, even during the late Roman period.[26] The city's defence system with the acropolis district serving as a refuge was intentionally built only to protect the port installations against attacks from sea. As André Laronde pointed out, it therefore appears that at some moment Apollonia's fortifications defended the city against possible attack from the direction of the *jebel*, especially in the time of Ptolemy Physcon, who in 163 BC was granted rule over Cyrene.[27] When the ruler convinced the Roman Senate to back his claims on Cyprus, the Cyreneans took advantage of this dynastic quarrel and revolted, fighting for freedom. Laronde's suggestion seems convincing that the development of Apollonia as a *polis*, involving a new street layout, new defences and numerous new buildings would have represented the promotion of a bastion that had remained loyal to Ptolemy in a hostile territory. From the beginning of the 2nd century AD, Apollonia started to compete against Cyrene. During the Jewish revolt, this port city was not affected by the devastation as much as Cyrene. At that moment, the road linking the city to Cyrene was 'reversa et corrupta' (*SEG* IX, 252)[28] and it took some time before the Romans built a new one. Probably it was at this moment that Apollonia began to really gain in importance.[29] Yet, as a strategic port, it was too important for Cyrene, the political centre still dominating the whole province, to remain virtually independent. The following important moment in the relationship between the two cities was the disastrous experience of seismic activity in AD 365.[30] As a result of an earthquake, Cyrene was damaged and began to depopulate and decline, while, in Apollonia little trace of the disaster can be detected. Additionally, as recent research by the French Mission has demonstrated, the submersion of the coast of Apollonia should not be linked – as was previously thought – to this specific disaster, but was rather a result of slow but continuous geological processes.[31] Kenrick rightly notes that the hypothesis that the city was sunk in the AD 365 seems mistaken, given the fact that Apollonia would have lost the basis for its existence and prosperity and yet in the mid-5th century it succeeded Ptolemais as the capital of *Libya Superior*.[32]

**Conclusions**

The essential differences in the development of Ptolemais and Apollonia seem quite clear. They are due to the history of the relationships between these

[25] Fleming 1959; White 1976b; Chamoux 1986; Laronde 1987b.

[26] Laronde 1985: 100, 103-104; 1986: 175.

[27] Laronde 1985: 101-110, esp. 104; 1986, 171-173; 1996: 25-29, esp. 26-27.

[28] Goodchild 1950: 86, no. 4, 88, no. 8; Laronde 1979: 192-193.

[29] Even before however, it must has been the considerable building activity in Apollonia (Pedley 1976: 17).

[30] Goodchild 1968; Hassen 1983: 33-34, 37-39; Guidoboni *et al.* 1994; Bacchielli 1995; Suleiman *et al.* 2004.

[31] Laronde 1981.

[32] Kenrick 2013: 255.

ports and the cities on the agricultural plateau. At the beginning of Ptolemaic rule Ptolemais, as a new urban centre, had already taken over Barca's administrative and political role. Thus, it became one of the few fully-fledged *poleis* along with other cities in western Cyrenaica like Berenike and Taucheira/Arsinoe. Eastern Cyrenaica was different because it was dominated to a greater extent by just one *polis* – Cyrene. This seems to be one of the reasons for Apollonia's delay in becoming an independent *polis*. However, even if rapidly developing international trade contributed as much to the growth of the population and its increasing wealth, Apollonia primarily retained its character of a port only and did not become an uniform urban identity of a comparable size to Ptolemais. Nevertheless, the total number of Ptolemais inhabitants did not exceed 10.000-15.000,[33] more or less the same as Apollonia, although the area of Ptolemais encompassed with walls was five times larger than the area of Apollonia within the walls. It is worth noting at this point that in Ptolemais the course of the city walls was conditioned by the presence of two *wadis* to the west and the east which increased its defence capabilities. It seems, however, that the western part of the city, where the street grid is visible, was built-up, while the eastern area had some empty, undeveloped spaces. As Laronde indicates, the circuit of walls was intentionally bigger at that time to protect the city itself, with the aim of leaving enough space for refugees from the *chora* in case of troubles.[34] *Nota bene*, such a solution also had other consequences. In the late Roman period, the circuit of Hellenistic walls was indefensible: the walls were dismantled and the defence system was replaced by a number of separate forts, or so-called blockhouses, built with re-used materials. Maybe these unmanageable defences of Ptolemais was one of the reasons for transferring the capital to Apollonia. Nevertheless, besides the obvious initial similarities, the two cities had retained a different character. Even if the size of both cities is different, the scale of their harbour installations are very comparable. Prior to the 5th century AD Apollonia was just a port city (with a relatively small area with a harbour contained within the walls), while Ptolemais was a much larger city, although its port seems relatively small compared with the total city's extent.

Ptolemais remained primarily a mercantile town,[35] owing its prosperity to its geographical position on the crossroads of trade routes, having good access to the silphium-bearing region[36] and based on agricultural activity in the hinterland in rural Barca's vicinity. The city's harbour installations and a nearby market place must have been the crucial point of the early city's life and the constant focus of commercial activities also during the Hellenistic and Roman periods.[37] Such a prosperous city could have been a regional counterweight to Cyrene rather than the rival of Apollonia. The importance of Ptolemais was confirmed after the administrative reform of Diocletian, when the city became the capital of the newly established *Libya Superior* province. It must, however, be stressed that when in the 5th century the city lost its status as a capital and suffered some decline and depopulation[38] its role was reduced to that of a port. This can be confirmed by the additional line of fortifications running along the sea and enclosing the eastern harbour and promontory nearby.[39] At this phase of the city, it is interesting to point out the similarity of the extent of the area included within these inner walls to the extent of Apollonia's walled area.

The role played by the latter city differed – the port of Cyrene occupied a strategic position, not only economically but also militarily. The final layout of its harbour installations and its defence capabilities suggests both functions: a civil port and military naval base. As such, Apollonia could not escape the authority of Cyrene, even during the Roman rule. It became a real metropolis only in the 5th century AD reaching its peak of importance under the name of Sozousa.

Considering the differences in the functioning of the harbours and the area of Apollonia and Ptolemais within their walls, keeping in mind the fact that in Apollonia the domestic and sportive quarters laid outside the walls which were only intended to protect the harbour, we could conclude that until the Late Antiquity, Apollonia, even possessing its own agricultural viable hinterland, remained in a constant close relationship with its mother town as its port.

In AD 643, the time of the Arab invasion, neither Sozousa nor Ptolemais were chosen as a refugee for the defenders of Late Roman civilization. The role of the last bastion of defence was played by Taucheira whose defence system was restored under Justinian (Procop. *Aed.* VI, 2). Nevertheless, even after the collapse of classical culture in Cyrenaica, Sozousa and Ptolemais, though depopulated and in decline, did not shared the same fate. Sozousa was demoted to a small fishing village, while Ptolemais revived itself as a vibrant port, serving Barca once again. From the 7th century AD onwards Sozousa and Cyrene remained almost forgotten until the visits of the first European

[33] After Jerzy Żelazowski's estimation of the capacity of a Hellenistic theatre (for 7500 spectators) – Małkowski and Żelazowski 2012: 42.
[34] Laronde 1987a: 397-401.
[35] Even if the idea of a presence of some Ptolemaic war fleet cannot be excluded (Kraeling 1962: 33-37; Laronde 1981: 61-63).
[36] Kraeling 1962: 7.
[37] The remains of the sophisticated fish-factory in the port 'potentially show that Ptolemais was a more important harbour than had previously been supposed' (Yorke and Davidson 2017: 69).
[38] As stated by Procopius (Procop. *Aed.* VI, 2).
[39] However, the dating of walls is uncertain and is still under discussion – Misiewicz and Żelazowski 2015: 81.

travellers, while Barca regained its former position. The city continued to exist and to flourish until the Islamic conquest, and even later, when it gave its name to the entire region. *Barqa* remains the Arabic name for Cyrenaica today. *Fortuna dicitur caeca*.

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# Σαλμεσχοινιακά

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**Summary**
Some scraps of papyrus in the Turin Egyptian Museum are translated and tentatively associated with some already known evidence from rather different periods, that may be related to a variety of (magical) texts, quoted in a letter written by Eusebius. The (Greek) denomination *Salmeschoiniaka* is likely to transcribe two Egyptian terms that were not properly identified, but it can be shown that they occurred both isolated or together, whatever their exact undertones of meaning may be. It is possible that a Greek work like the *Apotelesmatika* by Hephaistion from Thebes drew from an Egyptian model, translating its substance for a larger audience.

**Keywords**
foretelling the future, Turin hieratic papyri, magical spells, secret literature, presages

It is remarkable how long the ancient sayings that were engraved in the kings' pyramids of Memphis in the second half of the third millennium BC were copied in Egypt again and again, some of them until the Roman times.[1] Remaining among the mortuary literature, a holy book like the so-called Book of the Dead, comparable with the holy Bible or the holy Quran, stayed in use for about 1500 years, despite a number of variations. Some wisdom texts however, although preserved only by a later tradition, were referred to the core of the Old Kingdom. It is likely that the same occurred for a variety of ritual and magical texts, which are less known in their tradition due to their more difficult preservation, but can be retrieved from manuscripts scattered between the Ramesside age and the Ptolemaic dynasty.[2]

While it is possible to recover the written archetypes of the Pyramid Texts on the inner walls of the Memphite Pyramids, that gave their (modern) name to this kind of literature, otherwise resumed under several later headings, it is not excluded that some more written redactions known from later evidence hail from the same ancient times as the Pyramid Texts, although they are so far unrecorded from coeval sources, either on stone or papyrus.[3] In later literature there are several instances of writings which must be offshoots of (much) older statements, and even in a piece of (entertainment) literature some preceding materials were entered (intertextuality) or later materials were added (interpolation), despite the changes in meaning and form that a long tradition may entail, as well as likely difficulties in proper understanding. The Egyptians themselves may not have had a clear knowledge of the background of some renowned writings, such as the one which could be envisaged by recent studies.

Little by little more and more evidence has come forth relating to a subject which was largely ignored and even denied in the Egyptian sources as the presages. If they existed in Egypt, we might surmise that some written treatise should have been laid down as early as the beginning of the Second Millennium, when most of the preceding literature began to be disseminated in written form. The already inscribed Pyramid Texts gave way to the so-called Coffin Texts, and the epigraphic records, which single individuals used to leave on their funerary chapels, developed into elaborate novels in agreement with the requests of Power, and a lot of other literature began to be written down, in the fields of wisdom as well as of science and of religion. It seems therefore that some texts related to the knowledge of future events, echoing the request of prophecies made by Pharaoh Snefru to the magician Neferti,[4] were the expression of an inner Egyptian tradition, unlike other works which might be due to the standing influence of Mesopotamian models.[5] Probably its effectiveness depended also on the capacity of its users, according to a statement in the Admonitions of Ipuwer, a text preserved just by one unique copy on papyrus, now housed in the Leiden Museum, where the following passage can be read:

[1] Graefe 1991: 138-139.
[2] Contardi 2013: 79-96.
[3] In the opinion of K. Jansen Winkeln (2012) the netherworld book of Amduat was purposely endowed with archaiising features in order to simulate an older origin. To a similar debate pertains Iversen (1990: 485-493).
[4] Lichtheim 1975: 140.
[5] Collombert 2014.

'Lo, magic spells are divulged,
Spells are made worthless through being repeated by people.'[6]

It is apparent how this misdeed could only be done at oral level, even if somebody ought to have read the written spells, disregarding that one 'should beware that the eye of others see it.'[7] Unlike the speech of the magician, who lets the written utterances materialise and become (spoken) reality, and could even read a book without opening it, the misuse of magical tools by incapable people actually deprived them of their inner force, or it might even hurt them: 'Do not reveal it (that secret book), because the one who reveals it shall die by a sudden death or be killed at once. Keep away from it, because it contains life and death as well.'[8] Eventually we are reminded that the inner rooms of the 6th Dynasty pyramids, engraved with the Pyramid Texts, were not accessible to anyone, nor visible or audible by anybody else but the deceased king who was buried inside. Their spells might have been available on secret scrolls in some restricted place, until they could be copied from the walls after the pyramids had been violated.

Back to the excellent translation by M. Lichtheim of the quoted passage in the Admonitions, we remark that a rather general formulation ('magic spells') covers a quite specific terminology of the original text.[9] Following Lichtheim the text preserved only in that Ramesside papyrus must be dated back to the Middle Kingdom, as a number of clues suggest.[10] The Ramesside copy however is contemporary with the quotations of spells entitled šmw and *sḫnw* to be found on several manuscripts; namely in Turin the discovery among the papyrus fragments of an exact parallel of the Apopis Book in pBremner Rhind at London[11] has resulted in the arrangement of the unknown text in its verso, probably related to spells for foretelling the future.[12] The latter term was already discussed by F. Daumas,[13] while in my paper some previous treatments of the former were acknowledged. Both of them together in a Turin papyrus, as well as in the quoted passage of the Admonitions, suggest some link between them, providing a likely etymology for a similar wording occurring in a letter of Eusebius quoted by Jamblichus.[14]

Looking for a trustworthy translation, šm (in the singular) is currently understood as 'presage, omen.'[15] Likewise *sḫn* is now largely attested on a long span of time in connection with celestial bodies,[16] and it holds a general meaning as 'event, occurrence, effect.' In the ensemble šmw *sḫnw* the relationship between both terms is not apparent. It may be an asyndeton 'šmw and *sḫnw*,' or a genitival compound 'the šmw of the *sḫnw*,' i.e. 'the presages (signs, omens) of the events,' which may become a kind of composite expression as the Greek outcome Σαλμεσχοινια(κά) seems to be.

In the overall documentation both terms occur separately, which means that one does not need the other, although they do not replace each other. If we conventionally translate the first term by 'presage(s)' and the second one by 'event(s),' they may express similar concepts: 'the presage of the sun(-god Re),' 'the events (effects) of Sothis,' but they are not interchangeable according to the available evidence. In the Turin papyri šmw is found on several manuscripts, however fragmentary.[17] Moreover, their invocation wording resembles some sentence found in pBeatty VIII verso, at the end, although neither term occurs there: 'O thou god lord of millions, who ... his ... millions of cubits[18] in the darkness every ..., come to me at thine [fair] hour, rescue and save ...' Similar issues are found in the text of pJumilhac, which is likely to be a late copy of a Ramesside original,[19] or in pLeiden I 348 (vs XII 11) 'Come to me, Hathor my mistress, in this fair abode of mine in this fair hour.'

However several quotations can be read in the temple of Esna, where the god Khnum is lord (*nb*) of both šmw and *sḫnw.* Likewise *Ḥkꜣ* receives several synonymic epithets: *nb* šmw, *nb biꜣ*, *sr ḫprw* 'lord of oracles, lord of presage, who announces the future.'[20] In Coptic ⲱⲙⲛ means 'oracle,' ⲱⲙⲛⲟⲩⲫⲉ cfr. *sr nfr*. See pLouvre 2380 *sr n.s* šm *pꜣ nt-iw.s (r) ḫpr* 'foretell for her a sign (of) what will happen,' and pBM 10238, 2-3 *i.ir.f gm pꜣ mhrr n w' 'ꜣ sty* 'in dung he found the omen of the scarab.'[21]

[6] pLeiden 344 rt 6.6: Lichtheim 1957: 155. Cf. Enmarch 2008: 117.
[7] pBrooklyn 47.218.138 (x + XV 8-10): Meeks 2006.
[8] Derchain 1965: 5.10-6.7; Herbin 1988: 102 and Pl. VII: p. 1, l. 1 (beginning). Cf. pBremner-Rhind 29.16: 'nobody saw it (the scroll).'
[9] Roccati 1994, 493-497. Sometimes translated 'goings and settings' because of the 'feet' determinative of the first word replacing the 'man with a hand at his mouth,' see W. Helck (*KÄT* p. 28) 'Die Sprüche des Gehens und des Totendienstes.' Chr. Leitz, *LGG* III 751 and 740 translates respectively 'Zaubersprüche' (šmw) and 'Konstellation ?' (*sḫnw*). Stadler (2004: 92-93) points out a possible meaning 'winds,' referring also to the inscription of Harchebi of Buto.
[10] For instance, Quack 1996: 75-81.
[11] Roccati 1977: 218-231.
[12] Cf. n. 6 and Demichelis 2002: 149-163.
[13] Daumas 1952: 133, 193 and 282.
[14] Roccati 1997-1998: 196; cf. Boll 1901: 152-153.
[15] Quack 2005: 177.
[16] Hughes 1951: 256-264 (*sḫnyw* of Sothis: Roman); Vernus 1981: 90-124 (*sḫnw* of the feast of Thot: 18. Dyn.).
[17] E.g. CGT 54067 vs. (Roccati 2011: 82), that is on the back side of a roll inscribed with the Isis story. Some similarity is also noticed with pTurin CGT 54068 vs. (back side of a roll inscribed with the Thoth book).
[18] Cf. Roccati 2011: 75 and 12.
[19] Quack 2008.
[20] Sauneron 1982.
[21] Ritner 1993: 36 and n. 167; Stadler 2004: 92-93 (quoted n. 9).

An essay of how the original spells may have looked like is appended below, translating the best preserved text available to me (pCGT 54065 vs):[22]

'[1] ...on the arm [2] in this name of his of carnelian. I light up this room of ... in this name of his of diaper. Come to me, for I am Thoth who completes (?) your [great ones]. I have brought you without any harm (concerning you?). I have counted you, completed you so that you are healed[23] and you are right, and your Horus [likewise]. All those who rejoiced about what I have done, are satisfied about it, so that you are complete, and your Horus likewise. Behold I see this lucky presage of this favourable hour, of this day, of this favourable and fair moment, which will not lie ...[24] being quit from conveying. Give me the truth, so that I may see and recognise your name. Rê is justified against his enemy, as well as you tell the truth; the eye of Horus is given to him, the nose of Thoth is given to him, when I told truth, was justified, no lie was told. **This spell must be recited four times, when you bring various stone-flakes from the mountain ... of Hermoupolis, and put incense on fire. You shall write every matter you want to know either** lucky **or unlucky, and everything you wish to know, and shall put them in a basket, making to them a fumigation of burning incense again, and shall mix them with (?) four times.** You shall say: incense! praise and love! The Horus' eye watches the stone-flakes of Rê, my good lord, who foretells the future and knows what is going to come, without any mistake in what he said. Show me the truth with these stone-flakes, so that truth will occur for you, and you will eat it, and you will swallow it, as your *ka* wishes, as your *ka* may wish. **As for anything which will happen, it will be a lucky matter at once, one** [3] **with ... If nothing is going to happen, [it will be] an unlucky matter ... and the ...** so that you will see a great thing of truth happen. I saw and it happened to me. The matter is useful ... lucky in the regnal year 18 of the king of Upper and Lower Egypt Menmaatrê Setepnerê, l.p.h., for the king ... [with white] barley. **Spell to purify a learned man with an x-drug.** I wash my mouth, my humour is purified, my heart is satisfied about purity. I shine with the ointment at evening time ... is extinguished (?) with a ball of incense ... of natron on my mouth. I am under the protection of a god, my right arm is a god, my left arm is a god, faultless (?) ... is pure, all that comes forth from my mouth is pure: incense! praise and love. Pure! twice ... the solar disc radiates, which established that he lives, when it shines in its horizon for Anat, in all his names in truth. Rê loves the x-drug ... ball, which happens for pure water, springing out of the land of the pure moringa-tree, which comes out of the god. **Spell to grasp the x-plant.** O you who rise! O you who shine! Viceversa. Rise, shine! Viceversa. Those who are among the baboons sing for you ... Those who are in the Netherworld welcome you. Those who sleep upon their tails stand up, they benefit ... again to bind your heart, as the storm breaks out and you appear in ... his children existed. **To recite grasping a laurel (?) plant, put in water in a new pot ...** [4] **[four] times.**

7- FIGURES: If you see this figure the day of fight, it is bad for you, do not come out with words.
If a man ... in his lifetime, it is bad for him and bad for his children.
If a man ... his heart is bad, if he sees this drawing, it is good ...
If the fighters ... Pharaoh l.p.h. will stand up in his town, if he sees this figure, they will raise their faces and he will smite them.[25]

...

8- [**Spell** to act with white barley: beginning of the event (*sḫn*) which is in the sky. **To recite:**][26] **O** Rê, who raise in the sky and lighten the earth in order to wake up, their gods welcome you among the holy people and make ovations to your benevolent face, and repel the evils around the shrine, and give truth in front of ... as it is true. He gave me truth and I saw ... saw these ... your.
**O** he who has a face of crocodile ... Hathor, come to me in your fair walk ... let me see this lucky presage (*šmw nfr*) ...
**O** unique One in the sky, without anybody like you, who lighten ... come to me in this your name, ... let me see this lucky presage of [this fair moment?].
**O** unique lord with multifarious appearance ... in the water of those who live in it, come to me, ... all of this day.
**O** lord of strength ... with many faces, come to me, lord of his tomb, raise ... [let] me know my lucky presage of Rê.
**O** lord of corn (??) lord of his arms, come to me in this your hour, explain the form and tell this lucky matter accordingly.
**O** lord of goods, whose face is in heaven, from whose back all winds come forth, come to me with your Northern wind, so that I be with you and you explain to me the day with the hour in which one is.
**O** father Rê ... way, come to me with truth, split the glass, explain to me the way of the sky and of the earth in which I am.

[22] A picture of a well preserved page of this papyrus is to be found in a number of publications: Donadoni Roveri *et al.* 1988: 162 (below); Donadoni Roveri 1989: 125-127, n° 5; Andreu and Donadoni Roveri 2003: 123, n. 68; Galluzzi 2009: 32.
[23] Cf. Spiegelberg 1918: 89, *irt.k km.t(i) wḏȝ.t(i)* 'your eye is completed and healed' and Kees 1925: 3.
[24] According to Roccati 1996: 109-113.
[25] This section was already published by S. Demichelis in a paper quoted n. 12.
[26] Integrated according to another unpublished Turin papyrus, which holds a similar text.

**O** he who ... secretly, who wishes your ... on the way ... Hathor, come to me, for I am the bull of truth <quit> from the abomination of falsehood.
**O** ... in it, who heals millions in the true way which he wishes, come to me with your sayings ... bring ... if you explain it to me. As for evil, one must find a protection ... I found them in the head, because you ... **white barley ... you put (your) hand on ... This spell is to be recited ... pass ... If you find ... one by one, bad ... to protect ...**'

As it has been noted in the translation, this Ramesside papyrus contains a reminder of Middle Kingdom Coffin Texts, and its bulk may well be older. In spell 154 of the Coffin Texts (II 266 b) Thoth is considered the master of knowledge ('knowing what Thoth knows'). Thoth and Rê are quoted together in another early Middle Kingdom papyrus at Turin:[27]

'The day rises in the eye of Rê, the eye of Thoth rejoices for him, because of this fair (*nfr*) eye of Horus: it has been brought, taken, found, put to its place lest your brother Seth prevails upon him, for he did evil things against it (the Horus eye).'

This spell has not only some relationship with the 'presage papyrus' quoted above, but some relationship with the Daily Cult Ritual can be pointed out. The 'chapter for lightening the lamp' (cf. BD 137 B) reads:

'Welcome – twice – in peace, o eye of Horus, being bright, healed, rejuvenating, in peace!

It shines like Rê in the two horizons, (while) the power of Seth looks at it in front (of it).

The eye of Horus is taken, brought, put to its place for Horus.'[28]

About the praxis, there is a matter of a (new) pot, filled with water, in several practices of unclear nature. In the verso of the surgical papyrus Smith, there is a magic spell for rejuvenating an old man, which deals with different vessels, cooking and drying[29] and reports some issues similar to the red caption in pTurin CGT 54050 verso, page 2 (page 1 with the text of the spell is lost),[30] with which it may be related, and further in the late-antique prayer of the Virgin Mary.[31]

The even more fragmentary pTurin CGT 54064 (verso) conveys no parallel sentences, but some wording goes in the same direction. It is a roll inscribed on its recto with a variety of spells partly corresponding with pGeneva MAH 15274[32] and pChester Beatty VII. Its verso is especially interesting because it holds a parallel to the recto of T. Carnarvon II,[33] from the early New Kingdom, so that it is possible to compare them and to attempt a translation. A red caption states that a glass amulet should be put on the neck of somebody and a '**fair [presage] will happen.**' Then, following to the 'presage (?) the sky will flourish, the earth will thrive, its walls of glass will meet him, Ptah will be alive, Ra Horakhti Atum, the Lord(s) of Heliopolis, (Khepri) who was born by himself ... Khentekhtai lord of Kemwer, Ba-neb-ded (Mendes), Sokar the [strong] bull ... Praise to you, o those gods ... may you let [a fair] presage happen ... the Duat, the sky will be in ... the doors of heaven are of electrum for those [who love] truth and hate falsehood, who create by their hands in a pot. Praise to you, o Sokar, the strong bull, may you let this fair presage happen, (so that) I know and I see that a breaking of this pot happened, that the sky built and the earth founded, their action hinders the theft.' A red caption follows, where clay and pot are mentioned, and then a man of wax, but the context becomes too fragmentary here. The following five (?) pages are almost lost, even if the word '(fair) presage' occurs again at least twice. The Carnarvon tablet adds 'make known (!) to me this fair presage (of) this fair hour. The earth is right, it does not tell any falsehood ... If any effective thing is going to happen, Sokar will watch for him whom he protected on a fair way,' but 'if any effective thing does not happen, it will be a matter (?) for him.'

The wording of such spells does not help to understand what a 'presage' or what kind of request it may be. They look like a prayer to accompany the manifestation of oracles, for instance by means of ostraca ('flake-stones'), according to one prescription. Anyhow the heavenly bodies, in their divine aspects of Rê and Thoth, seem to be the main addressees of such practice. Both of them represent the eyes of the sky, imagined as Horus. However, later documents may shed more light and belong to the same practices, down to some Greek formulas: 'Come to me, lord, you who sometimes raise the light, sometimes lower the darkness [with] your own power. Hearken to me, lord, me, NN, graciously, gladly and for a blessing, from every element from every wind, today, with your benevolent face, in the present hour, because I invoke your holy name from every side;'[34] and 'when you want to put down fear or anger, taking a leaf of laurel, write on it the sign, and having shown it to the sun, say: I call on you, the great god in heaven [...], protect me from all fear, from all danger that threatens me in the present day, in the present hour.'[35]

[27] Roccati 1970: 28, rt 19-21, (Spell V). See also Roccati 2001: 419-421.
[28] Cf. Kees 1925: 3; Gee 2006: 83; Luft 2009: 309-310.
[29] Loret 1935-1938: 853-877; Gardiner 1947: 2.
[30] Quoted n. 17.
[31] Łajtar and van der Vliet 2012: 330-337.
[32] Roccati 1982: 91-94.
[33] Posener 1956: 143.
[34] PGM III 565-570.
[35] PGM XIII 1052-1054. Cf. the Hebrew dream requests from the Cairo Genizah under study by Alessia Bellusci, or the lot oracles from the same source.

May be also the dream interpretation would range in the *salmeschoinia*(*ka*). Even if I could not find any correspondence with the afore quoted Egyptian texts, it is possible that the *Apotelesmatika* (the 'influences of celestial bodies') of Hephaistion from Thebes, who lived in the 4th century AD, may be a Greek remake and both titles may convey a similar meaning.[36]

The šmw *nfr* 'lucky, fair presage' of the Egyptian texts cannot help reminding the *mdt nfrt* of early times,[37] and a parallel meaning might be conveyed by these terms at least at the beginning, disregarding the meaning of *nfr* 'καλός κἀγαθός' acquired later. If that be true, we should have here another clue for the antiquity of such practice, which lasted through thousands of years, in a way similar for example to the tradition of the Maxims of Ptahhotep. Indeed both could be offshoots of wisdom. At any rate it is the Memphite background of the Pyramid Age, where the discussed evidence seems to have its roots.

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[36] Schwartz 1980: 311-321.

[37] Roccati 2014: 238-240; 2018: 490-493.

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# Diachronic Development of a Settlement in the Fayyum Region: Bakchias in Ptolemaic and Roman Times[1]

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**Summary**
The scientific expedition of Bologna University has excavated at Kom Umm el-Atl, the ancient Bakchias, in the north east of the Fayyum, for over twenty years. In particular, the latest studies, accomplished in collaboration with Sapienza University of Rome (since 2005), have revealed several new elements which are useful for reconsidering the urban development of the *kome*.

The on-field archaeological research has brought to light numerous structures, both public buildings and private houses, and it has been completed by an intra-site survey and an important review of the papyrological sources, useful for reconstructing the Bakchias topography and landscape. All the data thus obtained were merged together in a GIS environment, in order to collect and manage all the information and to integrate the individual elements into a coherent workflow process.

Thanks to these important activities undertaken by the Bakchias team, it has been possible to compile diachronical maps of the town and to outline the site's evolution during the Ptolemaic and Roman period.

**Keywords**
Bakchias, Fayyum settlements, urban planning, urban development, Graeco-Roman villages, GIS

During the last twenty years,[2] the regional importance and the *status* of the settlement of Bakchias have been reconsidered thanks to the scientific expedition of Bologna University, accomplished as a joint mission with the University of Salento until 2004, and since 2005 in collaboration with Sapienza University of Rome. In particular, the latest studies have revealed several new elements which are useful for reconsidering the urban development of the *kome*.[3] These results were obtained since numerous multidisciplinary specialists interacted synergistically towards a common aim: i.e. to write the history of the ancient Bakchias.

This paper aims to present some aspects about the urban development of the site and the transformation of the Bakchias topography and landscape, by considering not only the latest on-field activities, but also some information obtained from an intra-site surface survey and from papyrological sources. However, I would like to point out that this analysis does not claim to provide an exhaustive discussion of the topic, but rather aims to highlight some hypotheses, which could inspire and motivate future research.

The archaeological area of Bakchias, the modern Kom Umm el-Atl, is located at the north-east part of the Fayyum, along the modern Abdallah Wahbi canal and halfway between Philadelphia (Darb Gerza) and Karanis (Kom Aushîm) [Figure 1]. The site, nearby the modern village of Gorein (in the Tamiyya *markaz*), occupies about fifty hectares and nowadays is divided into two sectors, north and south, by a strip of land, 50-70 m wide, identified as the ancient canal running through the village since here there are no structures remaining [Figure 2]. The northern part of the village, known as North *Kom*, is a sandy mound on which many buildings are still visible, mainly made of mud-bricks, but in many cases the use of stone and fired-bricks is also distinguishable. This section of the archaeological area hides the remains of the main settlement, built and occupied in the Ptolemaic and Roman period. The southern part, which became familiar in literature as South *Kom*, is actually a flat space where the few remains date back to the Late Roman, Byzantine and Islamic Period.[4]

During the last ten years, some of the main public and private buildings have been extensively excavated and carefully documented [Figure 3].[5] In the north-western

[1] First of all, I would like to thank the conference organising committee for inviting the team working in Bakchias to attend, the former director of the expedition Sergio Pernigotti for his support and the co-directors of the Bakchias Mission, Paola Buzi (Sapienza Universiy of Rome) and Enrico Giorgi (University of Bologna), for their guidance and their useful suggestions.

[2] Regarding an updated history of Bakchias studies see Pernigotti 2014b.

[3] Recently an important volume has been published about the history and the archaeology of Bakchias: Giorgi and Buzi 2014.

[4] In this paper I shall only consider the North *Kom* of the site for chronological reasons, but for more information about South *Kom* see Buzi 2014a, 2014b; Tocci 2014, with previous publications.

[5] Each excavation campaign was regularly published by the Bakchias team and in some cases also conclusive reports were written. In addition to the volume Giorgi and Buzi 2014, where full bibliographic details are provided, I also refer to Rossetti 2008; Tassinari 2009;

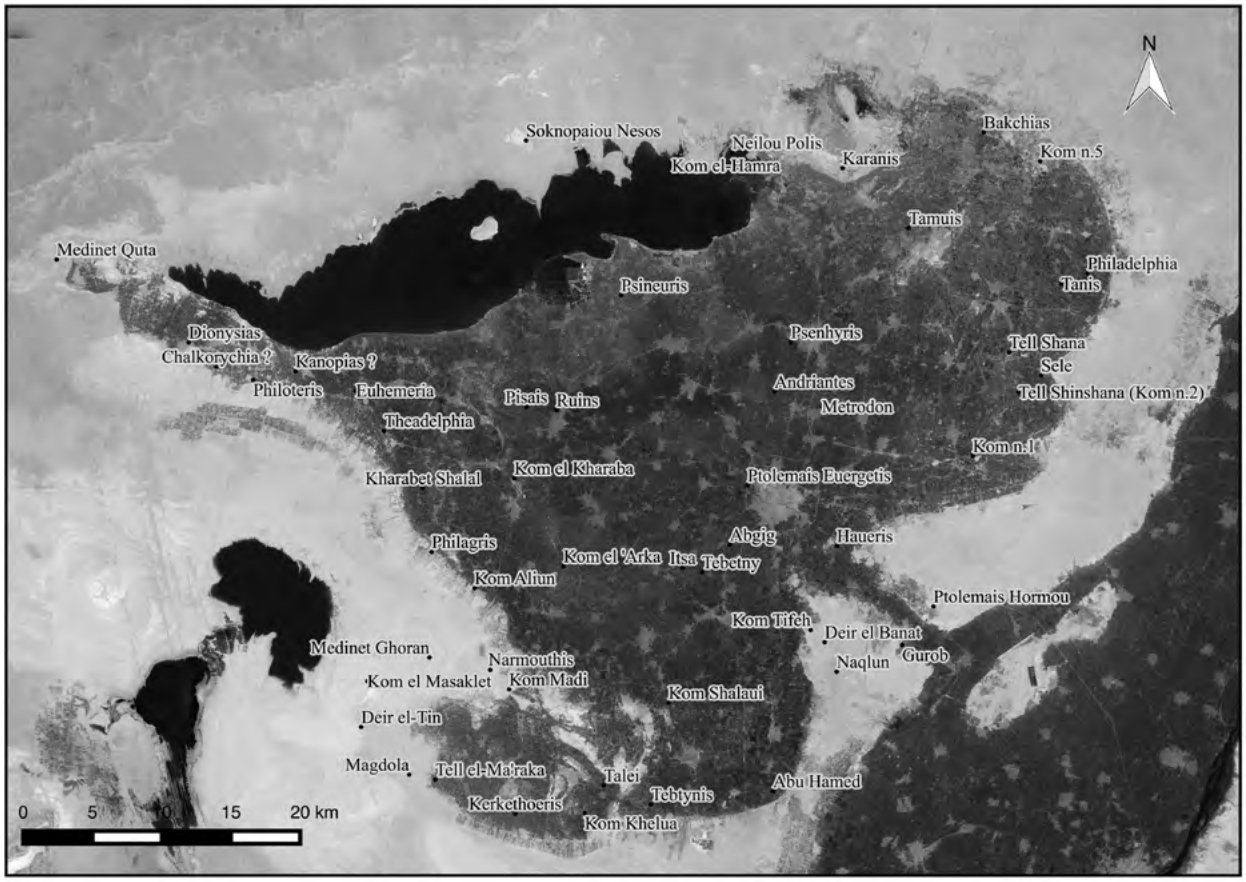


Figure 1. Map of the Fayyum with some of the main villages (*Elaborating I. Rossetti; base-map from Google Map*)

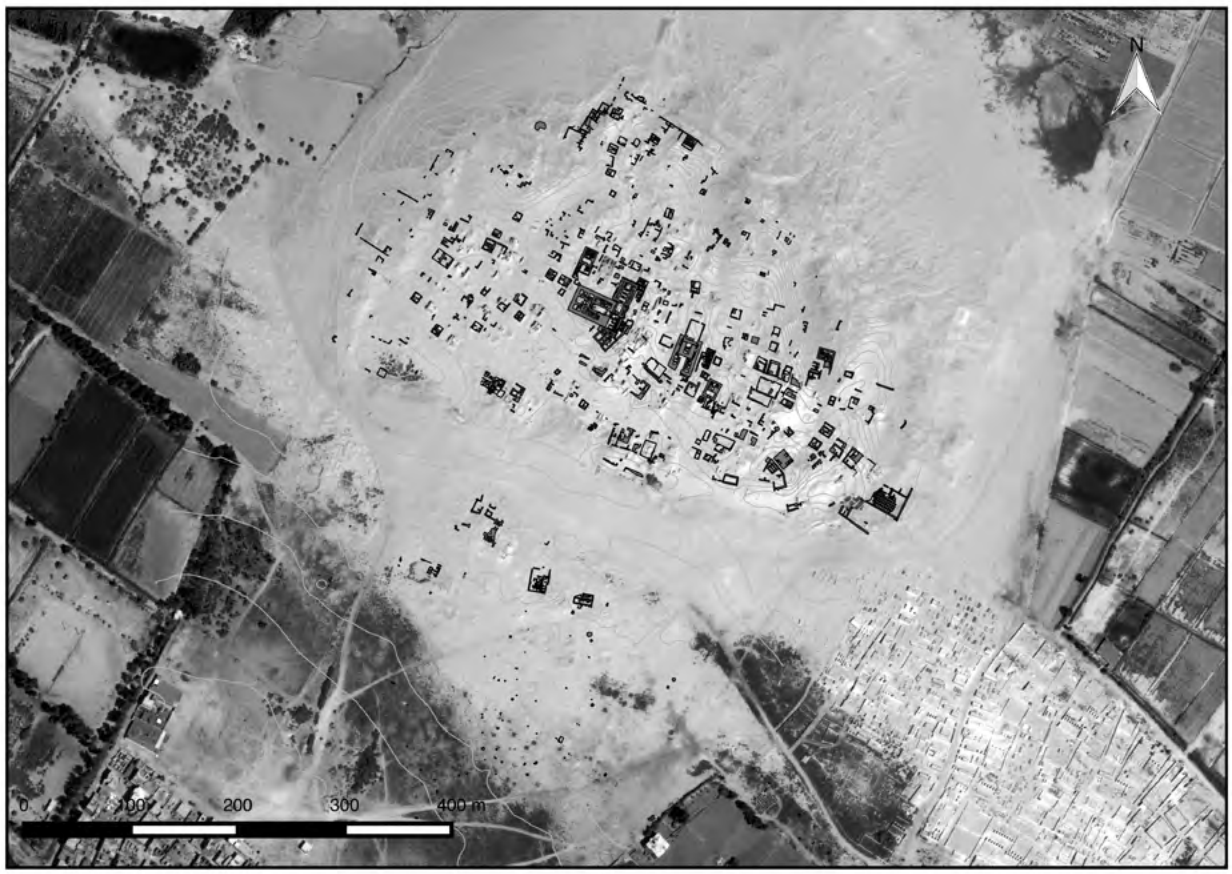


Figure 2. Surface-survey of Bakchias with base-map from Google Map

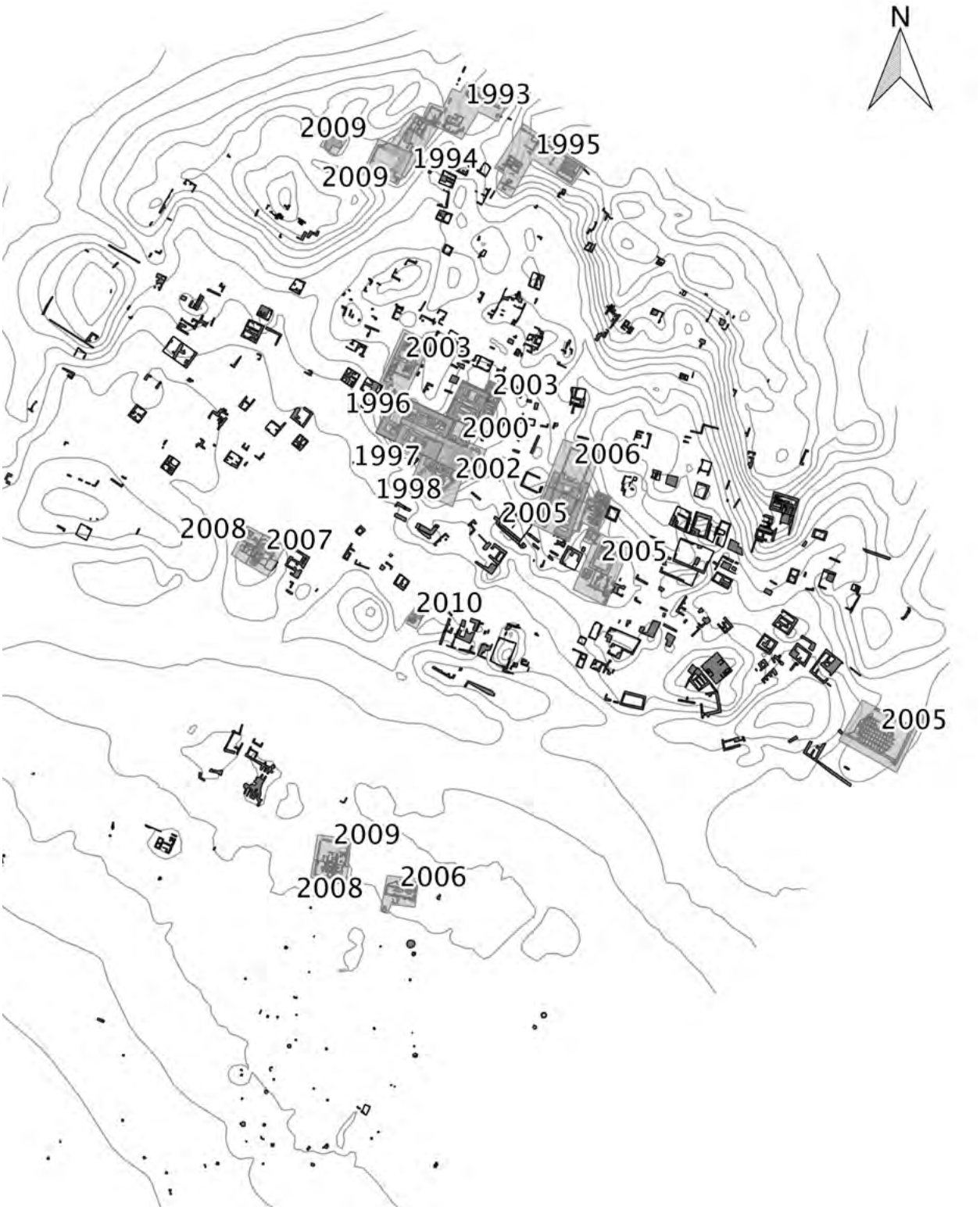


Figure 3. Bakchias plan with the archaeologically surveyed area and the year of the excavation campaign (*Elaborating I. Rossetti*)

part of the North *Kom*, an entire residential district was brought to light, while in the south-east, near the ancient canal, a productive district was uncovered, containing a kiln, a granary and a baths complex. The central part of the village was mainly dedicated to two different sacred areas, with their own annexes, on which the mission spent many years of work to better understand the complicated stratigraphic

Giorgi 2012.

Figure 4. Two overviews of North *Kom*: (above) the western sector of the site, (below) the structures in the south-east (*Photo archives of the mission*)

situation. In the South *Kom*, the investigation focused on two churches, undoubted signs of the presence of an organised Christian community in Bakchias.

Nowadays, Bakchias shares the same fate as other Fayyum archaeological places [Figure 4]: most of the mud-brick structures were destroyed by the *sebakhin* in order to use the organic material as fertiliser for their fields.[6] Looters and illegal diggers plundered the site, in their search for precious objects or re-usable construction materials, and in later years the growth of the nearby village of Gorein and the cultivation of lands had a considerably negative impact on the preservation of the ancient edifices.[7]

For these reasons, and in order to create an up-to-date map and to monitor the state of conservation of the ancient buildings, a surface-survey project has been carried out since the early missions.[8] The intra-site survey method, followed by the project, initially included a topographic survey of all the buildings emerging from the sand, in order to have a representation of all the structural evidence, although not contemporary with each other. In association with this stage of direct measurement, all the buildings that were visible in the ground were recorded and described in detail, compiling a data-sheet which includes information about the structure (dimensions, arrangement of rooms, building materials), the degree of preservation and visibility and a series of useful spatial data. In some cases, an indication about the discovery of pottery finding, if diagnostically useful for the chronology, was also added.

Finally, the high quantity of data resulting from the surface survey and the complexity of information

[6] Uytterhoeven 2009: 66-67; Davoli 2011b: 156

[7] Mandanici 2007; Buzi *et al.* 2011; Rossetti 2013; 2014a.

[8] For some information about the development of the project see Rossetti 2013, 2014a. For an overview of the surface survey in the Fayyum see Uytterhoeven 2009: 73-83.

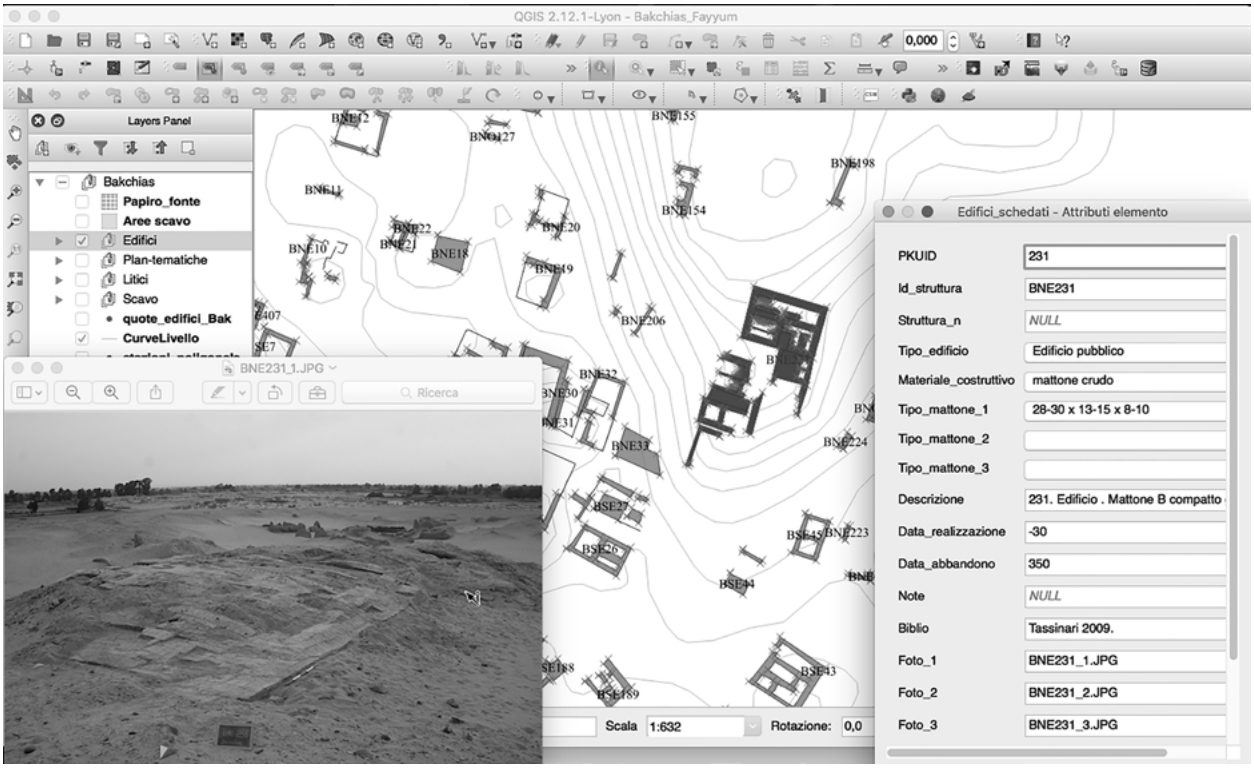


Figure 5. Screenshot of data attributes of the Structure BNE231, in GIS platform with related photo (*Elaborating I. Rossetti*)

obtained from the excavations made it necessary to choose a Geographic Information System (GIS) platform,[9] in order not only to store and manage the huge amount of data collected, but also to analyse and process the various information and to optimise the research goals. Since 2011 a useful database has been compiled and each geographical datum, defined by proper geographical coordinates, is associated with attribute data and descriptive information: the structure ID, the type of edifice, the building material, the type of brick, a general description, chronology,[10] bibliographical references and photos [Figure 5].[11]

This important tool is also useful for the representations of some geographical information obtained from papyri.[12] Indeed, papyri are not only archaeological objects, but also important sources for reconstructing the landscape and urban space. The spatial content, activities and buildings[13] testified by certain papyri, could be transformed into geometric data and represented in the urban space, linked to the GIS platform.[14] Obviously, in some cases, the geographic locations are definite since the edifices were brought to light by the archaeological investigation while, in other cases, the placements could be only hypothesised [Figure 6].

The GIS platform in which archaeological, surface-survey and papyrological data were merged, allowed us to draw a series of thematic and phase maps of the Bakchias site. These were obtained through the spatial analysis and construction of queries requested by the system. The execution of these diachronic plans representing different chronological phases of the town, allows us to evaluate the historical development of the site and urban plan transformations.

The village of Bakchias was founded at the very beginning of the land reclamation project, probably prepared by Ptolemy I *Soter* and accomplished by

[9] The software chosen is QGIS (Quantum GIS), a free and open-source cross-platform. For some information about the application of GIS in archaeology see Bogdani 2009; Conolly and Lake 2006. See also Wilburn 2010, for a practical use of the GIS in studying the nearby site of Karanis.

[10] The chronology of buildings, which have not been archaeologically investigated, has been based on the type of brick employed (morphology and dimension); the correlation table of type of brick-chronology could be found in Rossetti 2014a. Although the limits of mensiochronology are well known, it has not been possible to recognise other chronological elements for some buildings.

[11] For database details see Rossetti 2014a.

[12] In the text when citing documents, I follow the conventions of Sosin et al. 2011 and all sources are available in the online database Trismegistos (www.trismegistos.org) and are identified by a univocal Trismegistos number (TM), where full bibliographic details are provided.

[13] For the public buildings testified by papyri see Łukaszewicz 1986; Daris 2007. The recognition of some public building seems very difficult in the absence of structural elements which characterise them.

[14] See in particular Mueller 2005.

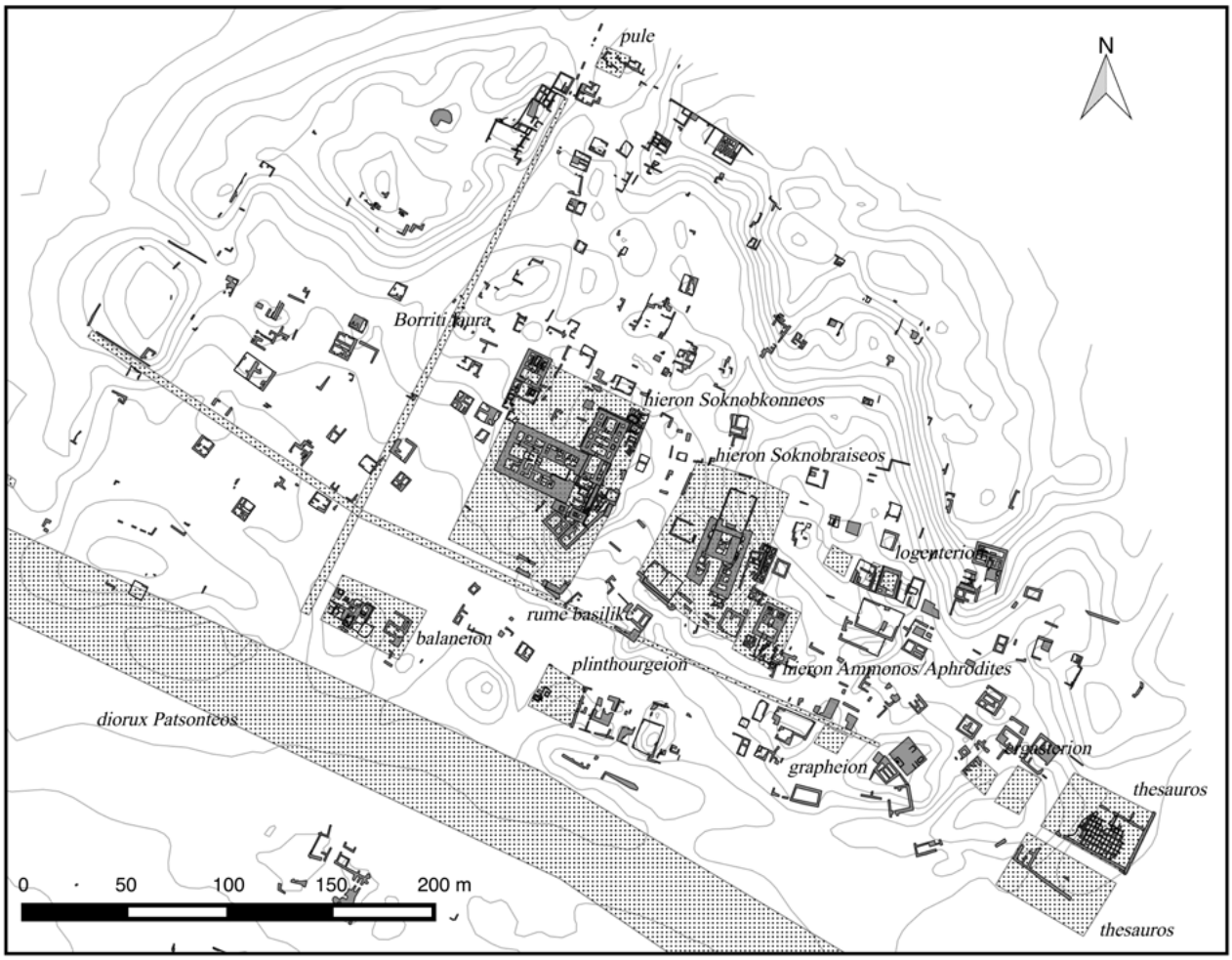


Figure 6. Bakchias plan with some of the edifices testified by papyri (*Elaborating I. Rossetti*)

his successor Ptolemy II *Philadelphus*.[15] However, it is probable that this first hamlet was established in a place formerly occupied by a previous settlement, of which few clues were obtained. Archaeological phases very likely dating back to the seventh and 6th centuries BC were found during the excavation of the northern district, according to radiocarbon analysis of some animal bones, and in the centre of the site, where a kiln with a Phoenicia amphora was brought to light.[16] Furthermore, in the village some other small findings related to the Late Period were uncovered during the numerous excavation campaigns.[17]

The existence of a previous settlement would not be a surprise considering the strategic location of the village: it was situated on the edge of the plateau that borders the Fayyum depression, at an altitude (20 m above sea level) that was unaffected by the fluctuation of the lake Birket Qarum.[18] Furthermore, it is located near one of the main and most ancient canals and at the entrance to the caravan route in the region from the Nile Valley and from Memphis.

When the Ptolemaic Dynasty showed an interest in the Fayyum region and its potential, it is probable that the Late Period village was completely forsaken, since archaeological data still register a period of partial abandonment of the area. In any case, the site placement involved an early genesis of the 'new' village, probably already between the late 4th century BC and the beginning of the 3rd century BC.[19] Bakchias, together

[15] Manning 2003: 99-125; Davoli 2011b.

[16] For the northern district see Giorgi 2014b: 161; while for the kiln see Rossetti 2014b: 110-112, and Gasperini 2014 (catalogue number 556).

[17] Giorgi 2014c: 53. Sergio Pernigotti supposed that the pre-Ptolemaic town was founded during the first important reclamation of land in the Fayyum, achieved mainly during the reign of Amenemhet III and it was probably named after Kemur/Ghenut. See Yoyotte 1962 and lastly Pernigotti 2014b.

[18] A general introduction to Fayyum geology and landscape is provided by Hassan *et al.* 2006; Mandanici 2007; Morini 2007a; 2007b; 2008; Cook 2011.

[19] In this regard, it is important to note that on the site a black-glazed oil-lamp imported from Attic and dated between the second half of the 4th century BC and the first quarter of the 3rd century BC was found (Gasperini 2014, cat. 529). This testifies an early use of the site by the Greeks.

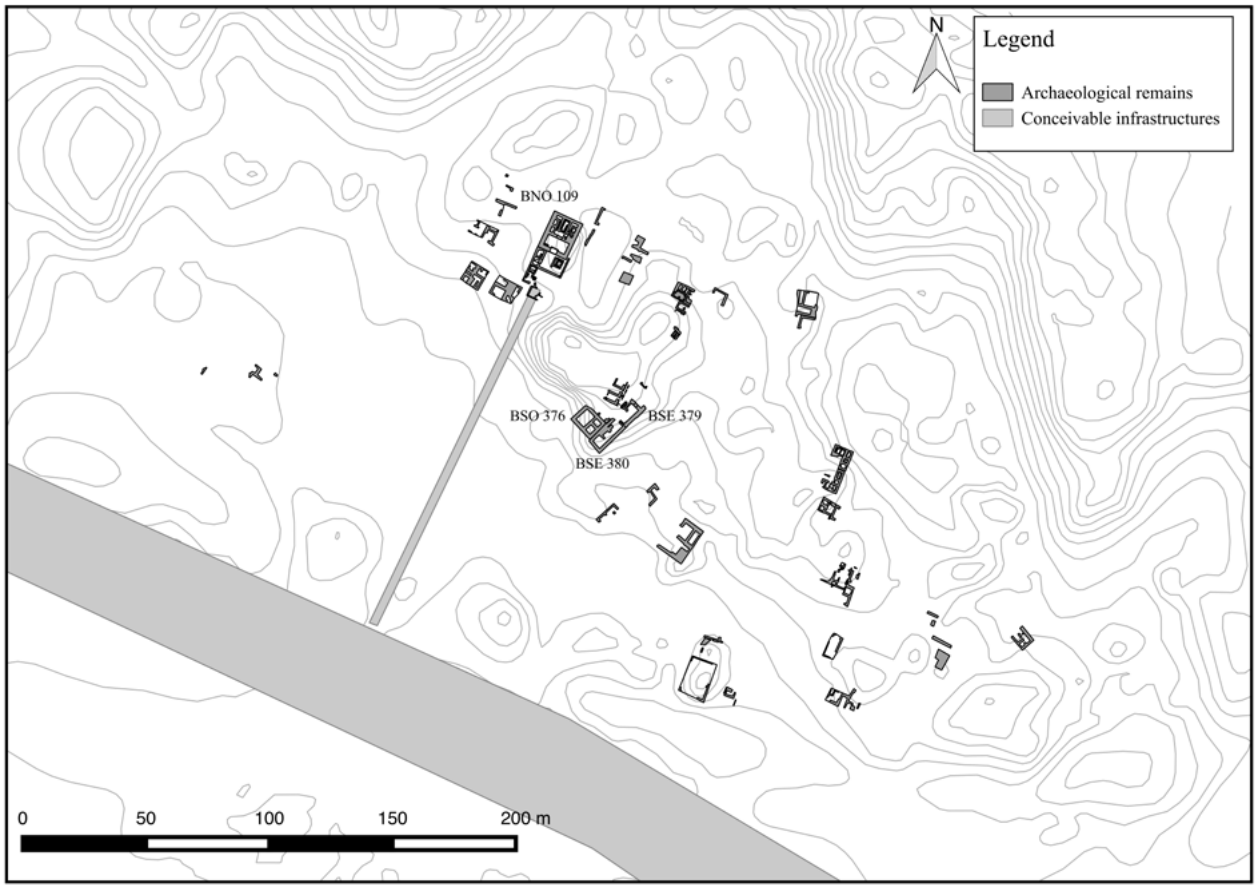


Figure 7. Bakchias plan during the early Ptolemaic period (from the late 4th century BC to the mid third century BC) (*Elaborating I. Rossetti*)

with other Fayyumic settlements (i.e. Krokodilopolis, Philadelphia, Tebtynis, Haueris, Ptolemais Hormou) became a kind of base for the realisation of the reclamation project.[20]

The structures which date back to this early Hellenistic period are very few and their use is not always clear due to their state of conservation [Figure 7]. Among the first edifices constructed in the hamlet of Bakchias, there are the buildings BSO 376, BSE 379 and 380, which present a completely different orientation from the others.[21] Unfortunately, their dating is not entirely certain, but these structures could represent the remains of an early phase of the settlement, built before the town's methodical planning, probably at the beginning of the 3rd century BC.

A few decades later, Bakchias seemed to take on a more complete urban physiognomy, when the quite regular blocks of houses were arranged around the oldest discovered temple, named Temple B (BNO 109) [Figure 7].[22] The sacred edifice was built of mud-brick, except for the entrance doors, which were made of limestone. The temple measures 13 m × 16 m and it is oriented southwards, probably towards the main canal, the crocodile's natural environment – the deity to which the temple was dedicated. The elongated shape of the *naos* and the discovery of scattered crocodile bones, pitched scales and a little statue of the reptile, suggest that one of the Sobek's manifestations was venerated inside the edifice. In front of it, several structures for worship ritual were found, including what appears to be the base of a basin. All the other structures of the site related to this first phase could be identified as houses, at least according to the preliminary surface-survey. These edifices were built of mud-brick and present a similar plan, almost square or rectangular, with sides of more or less 10 m long.

From this first hamlet, extensive data indicate a rapid development of the settlement in reaching its first important and consolidated stage during the late 3rd century BC and the first years of the 2nd century BC [Figure 8].[23] Indeed, in the middle of the 3rd century BC,

[20] Davoli 1998; 2011a; Müller 2002; Mueller 2006: 149-151; Morini 2007a; 2007b; Giorgi 2014c.
[21] Rossetti 2014b: 114-115.
[22] Rossetti 2014b: 115-118.
[23] It is important to remember that the village name occurred for the

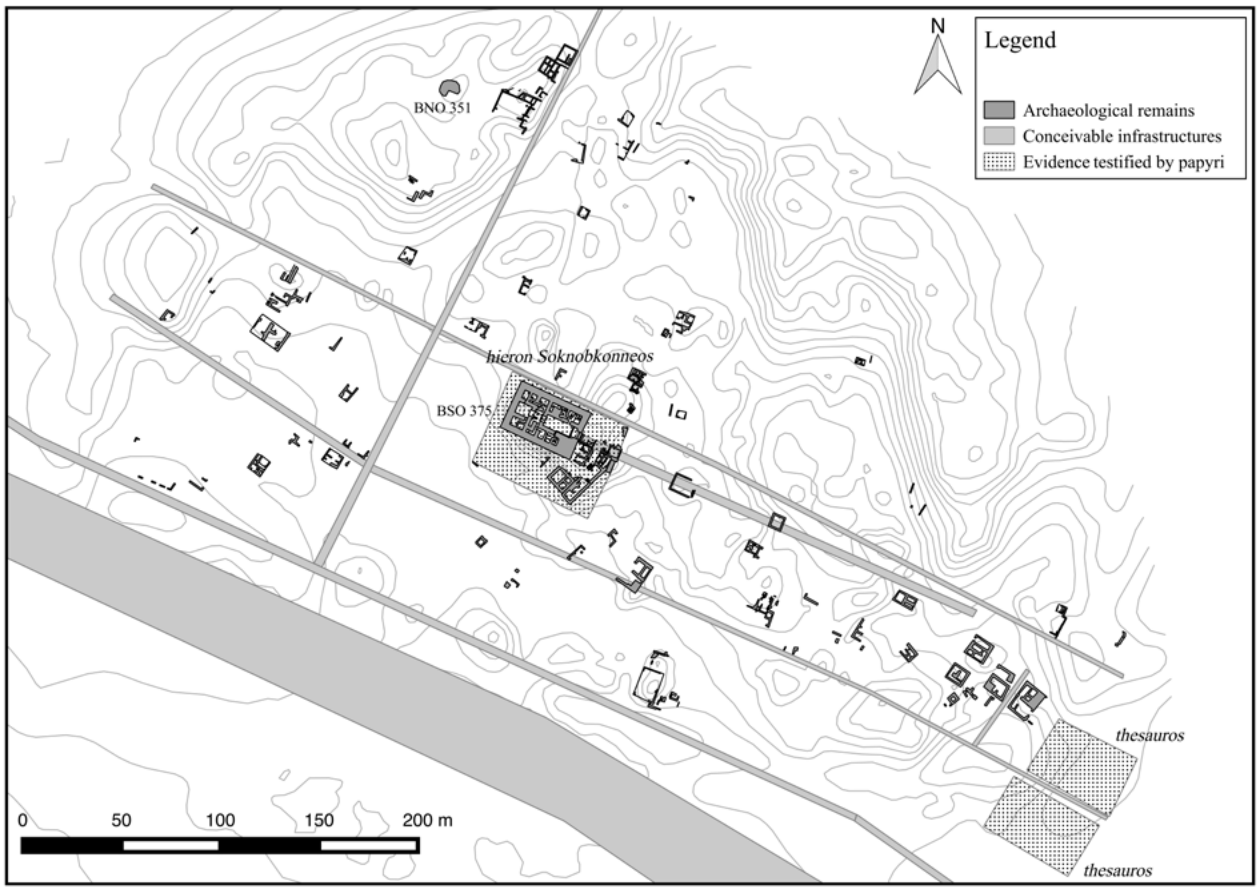


Figure 8. Bakchias plan during the Ptolemaic period (from the late 3rd century BC to the mid second century BC) (*Elaborating I. Rossetti*)

the land reclamation project was almost completed and the settlements began to consolidate their economic organisation and the administration of the area. The expansion of the agricultural area probably boosted the economy and the finances of Bakchias, which invested in the construction of public and administrative buildings and infrastructure. Hence, between the end of the 3rd century BC and the beginning of the 2nd century BC, the village was probably entirely re-organised, in this case, around the new main temple.

This sacred building (Temple A, BSO 375) was oriented orthogonally to Temple B and was dedicated to the crocodile god Soknobkonneus.[24] The first mention of this crocodile deity might be found in a Greek papyrus dating back to 218 BC;[25] according to one of the most corroborated interpretations, the god's name is the Greek transcription of *Sbk-nb-Genwt*, 'Sobek lord of Genwt,' the dynastic name of the site.[26] The sacred building is visible today in its impressive structure of mud-brick (26.3 m × 39.5 m) and it is preserved to a height of about 10 m (corresponding partly to the elevation and partly to the foundation). The temple consists of 25 rooms in total and is the result of several construction stages, the last of which led to the raising of the levels of the internal floors and the creation of an entrance system made of sandstone block.[27] The temple and its poorly preserved annexes were inserted in a mud-brick *temenos*, from which the long *dromos* branched off. The sacred processional way became the most important axis of the settlement, sloping eastwards and running parallel to the main local canal.[28]

first time in the papyrus P. Petrie II 6 (TM 7643), part of the well-known archive of Kleon and Theodoros engineers (ArchId 122 in the Trismegistos archive database) and dated 256-255 BC.

[24] Rossetti 2014b: 118-130. According to the PhD thesis of the writer, it is also not to be excluded that the Egyptian style temple was already a *proton hieron* (first class temple) for the Ptolemaic administration (Rossetti 2015, with previous bibliographic references).

[25] P. Enteux 54 (TM 3329).

[26] Pernigotti 2014a; 2014b.

[27] This raising of the temple's level (more or less 3 m) entailed the obliteration of the earlier buildings, comprising the little Temple B (BNO 109). It is likely that at the end of the 3rd century BC the two sacred buildings (Temples B and A) were both active and that only at the beginning of the 2nd century BC the elevation of the temple floor occurred.

[28] This new orientation of the system temple-*dromos* and consequentially of the main axis of the settlement is probably due to the expansion needs of the village, which preferred to develop the main axis parallel to the canal. It should also be remembered that the temple is oriented exactly like that of Dionysias, for which an astronomical orientation has been postulated (Giorgi 2014c: 58, n. 14), as also suggested by Paola Davoli (1998: 359-370). It is not excluded

The other few streets, conceivable on the basis of the structures belonging to this period, appear to be largely parallel and perpendicular to the *dromos*, although the settlement does not seem to follow a rigid orthogonal scheme. Moreover, in this period three new districts were added: definitely residential in the northern part, while the eastern area probably indicates an economic character along with another one in the west. The development of this last part of the settlement must have been connected with the strengthening of the relationship between the village and Karanis, that in this period was a minor place and dependent on Bakchias;[29] furthermore, according to the survey of lithic elements, it was possible to note a higher concentration of grinding stones and mortars in this part of the site, which may have been hypothetically intended as an area for processing food products.[30]

The new eastern district of Bakchias has different edifices identifiable mainly as houses. In this case, thanks to papyri related to officials and the payment of taxes connected with grain revenues and supplies since the middle of the 3rd century BC,[31] it is possible to postulate here the existence of granaries, one of which was archaeologically discovered but dated a century later.[32] The northern district preserved a very important block of mud-brick houses, reinforced with wooden beams.[33] This district was continuously inhabited until at least the Late Roman times and, for this reason, the structures were repeatedly modified and rebuilt. To the west of the houses a ceramic dump (BNO 351) was recently discovered, dated between the 3rd and 2nd century BC where, in addition to domestic pottery, numerous amphorae were found that had been imported from both Egyptian and Asia Minor, a significant indicator of the extent of the site's Hellenisation.

This new face of the village was not destined to last long. A revolution in the urban planning could be traced back to the end of the 2nd century BC, perceivable particularly in the centre of the village where not only the sacred area was completely rearranged, but also the main street system [Figure 9].

First of all, in front of the most important structure of the village, the Temple A,[34] a new sacred building (Temple C, BSE 384) was erected, made entirely of sandstone and limestone blocks.[35] The edifice was oriented southwards, towards the main canal, and very likely inherited the worship of the local main god, Soknobkonneus.[36] The temple measures 22 m × 17 m and, since late antiquity, the structure was badly affected by the spoliation of the stone material, although the ground plan may be reconstructed on the basis of the foundation rooms. In total, 16 rooms were traceable and the organisation of the inner chambers follow the classical Egyptian style, similar to the sacred edifices of Soknopaiou Nesos (Dime es-Seba) and Dionysias (Qasr Qarun) in the Fayyum.[37] An entrance *pronaos* was erected on the façade, probably decorated with columns, later employed in the realisation of the church (BS 500).

In the direction of the old main axis (the *dromos* of Temple A) a second temple, named Temple E (BSE 408), was built of mud-bricks. The internal organisation of the structure (34 m × 22.5 m), though little preserved, must have been very similar to Temple A and was oriented southwards, parallel to Temple C. This sacred area, located inside its own enclosure, was dedicated to the crocodile god Soknobraisis, probably introduced later in the village *pantheon* and testified for the first time in a Demotic papyrus, yet unpublished and dated not long after 192 BC. The god's name *Sbk-nb-ršy* literally means 'Sobek lord of joy,' the Greek *bakchos* not only the epithet of the god Dionysios, perhaps syncretistically associated, but also the settlement name.[38]

Both these sacred structures altered the ancient processional street, the site's main axis, as well as the structures connected to this. In its place, however, two thoroughfares were realised, the *dromoi* of the two temples, that both reached the canal, which was about 90 m away. The change in orientation and hierarchy of the major roads can be linked to several factors: religious (the streets were directed to the natural environment of the two crocodile gods), economic (a path that proceeds from Ptolemais Euergetes to Memphis was preferred rather than from Karanis to Philadelphia) or simply practical, dictated by the need

that the *dromos* also point to one of the channels that irrigated the field around Bakchias, as assumed by Enrico Giorgi and Anna Morini (Giorgi 2014c: 57; Morini 2008).

[29] Clarysse and Mueller 2004: 54.

[30] One must be very careful with this thesis, since no element can confirm it with certainty. For the distribution map see Rossetti 2013: 195.

[31] Nachtergael 2007.

[32] However, according to Bernard P. Grenfell and Arthur S. Hunt and David G. Hogarth, it is also probable that other granaries were also located to the west and to the north of the site, of which no trace remains (Grenfell *et al.* 1900: 40).

[33] Giorgi 2014b.

[34] The Temple A was dismissed as a sacred building, but it was used as a warehouse.

[35] Rossetti 2014b: 131-139.

[36] The god's name is also testified in this period by a banker's receipt P. Fay 18 (TM 45365). According to my PhD analysis, the Temple C had to be identified as a *proton hieron* (first class temple) according to the Polemaic administration (Rossetti 2015).

[37] Davoli 2015: 122-123; Rossetti 2015: 314-318.

[38] It is the papyrus P. Stan.Green.dem 23(1)-24(1), of which a preliminary information is given by Arlt and Monson 2010: 114. For some consideration about the name of the god see also Pernigotti 2014a.

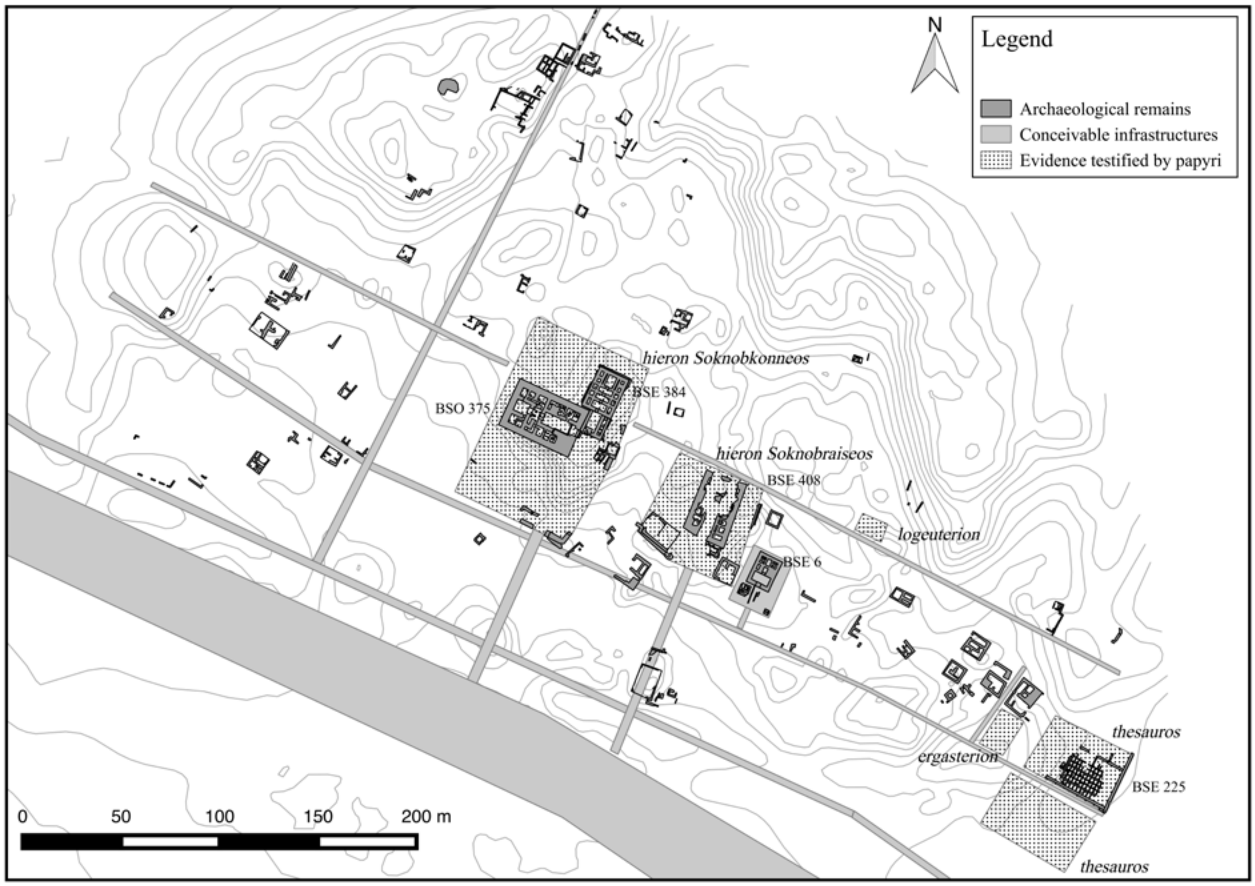


Figure 9. Bakchias plan during the late Ptolemaic period (from the late 2nd century BC to the beginning of the 1st century BC) (*Elaborating I. Rossetti*)

to establish two great sacred areas in a central position of the urban network.[39]

A second temple (Temple D, BSE 6) was built near the new sacred enclosure similar in size (12.50 m × 17 m) and in architectural features to the ancient Temple B.[40] It was positioned inside its own *temenos*, in which a priest's house and a series of annexes were found. The deity that was worshipped in it is still unknown, but it is probable that the sacred edifice housed the cult of the god Amon or the syncretistic goddess Isis-Hathor-Aphrodite, for which papyri of a later period testify a probable independent temple in the village.[41]

During the 2nd century BC the other districts of the village remained almost unchanged, with the exception of the construction of the *thesauros* (BSE 225) in the archaeologically surveyed eastern district.[42] The building, badly damaged by the *sebakhin*, still preserved a paved area in the south-east and a staircase that allowed access to the upper floors, with a central courtyard occupied by many small bins-deposit for storing wheat. According to the most recent study, the central granary sector could store about 9.000 *artabas* of wheat and, for this reason, it seems the largest of this kind of building ever found in the region.

The same amount of grain was received by the village in five days, according to a papyrus recorded at the time in the *ergasterion* of Bakchias.[43] This building, an administrative and book-keeping centre for several *thesauroi*, active only in the Ptolemaic period, had to be positioned to the east in the immediate vicinity of the granaries. This settlement block occupies a strategic position: near the canal and one of the main streets that bordered it and in close connection to its hinterland. On the basis of other papyrus, it seems probable that a *logeuterion* was present at Bakchias, that is a treasury to which taxes and contributions were paid for the sovereign.[44] The building was probably located near the centre of the village, connected to one of the main streets.

[39] Giorgi 2014c: 62-63.
[40] Rossetti 2014b: 139-142. This temple was probably classified as *deuteron hieron* (second class temple) in the Ptolemaic administration (Rossetti 2015).
[41] Respectively, they are the papyri P. Lund IV 9 (TM 11881) and P. Bacch. 7 (TM 15184), both dating back the 2nd century AD.
[42] Tassinari 2009; Giorgi 2014a.
[43] Clarysse and Mueller 2004.
[44] P. Fay 18 (TM 45365); see most recently Strassi 2014: 89-90.

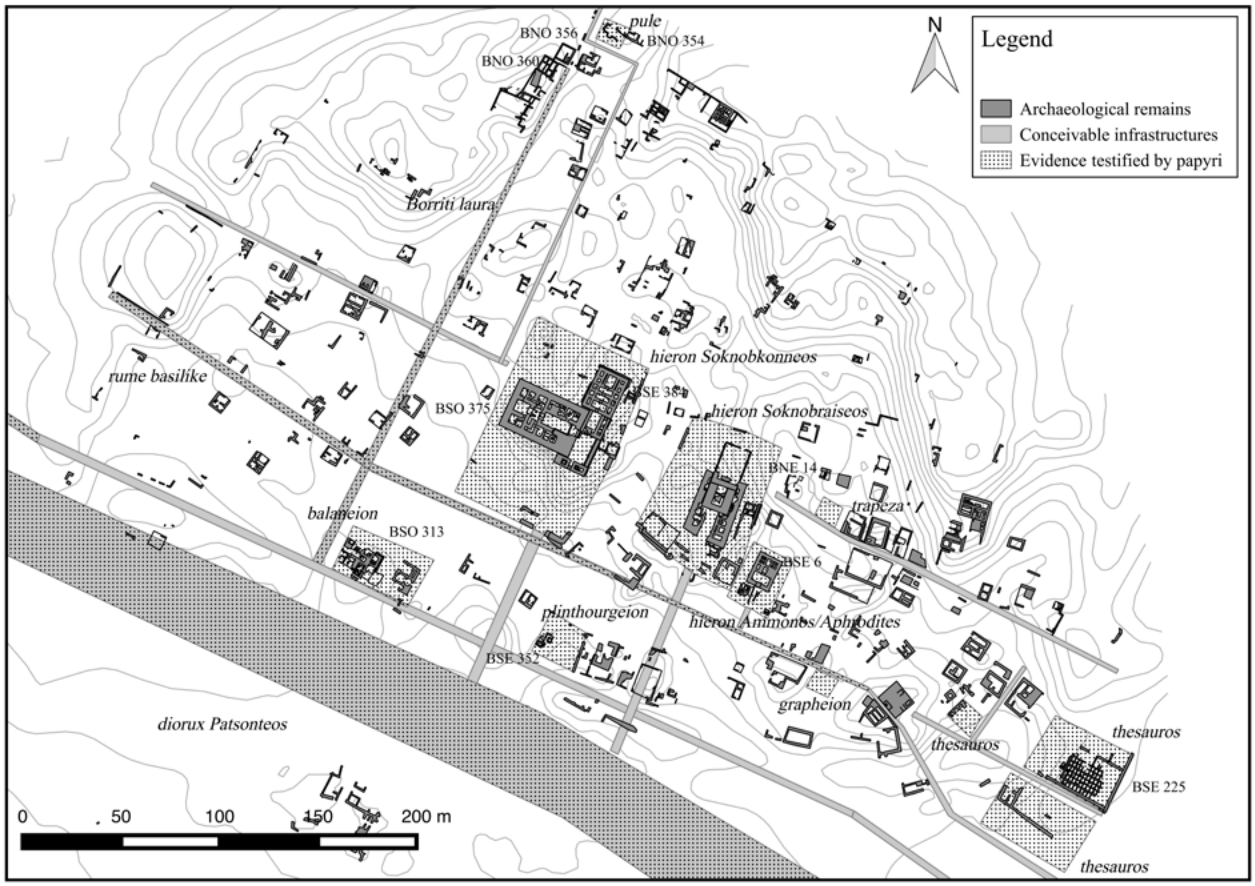


Figure 10. Bakchias plan during the Roman period (*Elaborating I. Rossetti*)

The village's long evolutionary trend was completed in Roman times [Figure 10], when the two sacred areas were significantly monumentalised, in the wake of the religious building policy begun by Augustus.[45] The two impressive *temene* characterised the scenery of the town and they produced an important architectural impact on the village landscape.[46]

The temple of Soknobkonneus (Temple C) was decorated on the front with a new courtyard and a majestic entrance stone pylon, while its twin temple (Temple E) was rebuilt in stone and enlarged in its rear part. Despite the precarious state of conservation, the new temple of Soknobraisis (BNE 14, 21.3 m × 13 m) was probably realised in Egyptian style, similar to the other one, and adorned with an access *pronaos*. A very important archive probably originated from this second enclosure, in which 34 papyri, ranged between AD 116 to 216, attested some aspect of the administrative life of one or, in some cases, of both temples.[47]

The rest of the settlement seems to have remained almost unchanged in Roman times compared to the previous period, with rare exceptions. The system of streets probably consisted of some main wide roads that divided the village into many irregular blocks (*insulae*). Each district was divided by narrower streets and a large number of passageways and alleys that could be rapidly changed, by the construction of new houses or obstruction with other structures. Thanks to papyri, it is also possible to recognise some of these thoroughfares of the town. The *rume basilike*,[48] the royal road, runs east-west and is probably identified with one of the two fully traceable streets in front of the temples; moreover one of these streets led to Karanis, about two hours' walk from Bakchias.[49] A *Borriti laura* is shown in other texts, whose name might evoke the cardinal point 'North' and, for this reason, could be detected with one of the two roads leading to the northern gate of the village.[50]

[45] Menchetti 2008.
[46] The importance of the two sacred areas is also demonstrated by the papyrus BGU XIII 2215 (TM 8745), which stated that at Bakchias there were two *logima* temples, the only Templar class recognised in Roman times. Rossetti 2015.
[47] ArchID 235; Gilliam 1947.
[48] P. Mich. III 188 (TM 11991); P. Mich. III 189 (TM 11992); P. Mich. X 583 (TM 12270).
[49] P. Mich. VIII 496 (TM 27106).
[50] P. Mich. III 186 (TM 11989); P. Mich. III 187 (TM 11990) and probably P. Mich. XII 635 (TM 16060).

The gate (BNO 354), archaeologically surveyed, was located at the north-east entrance of the settlement where the caravan route from Memphis arrived. This structure probably hosted a customs check station, the *pule* through which passed those carrying goods for checks and payment of taxes on products entering and leaving the village. There are several papyri that contain receipts for these duties, all dated between the 2nd and 3rd century AD.[51]

Near the gate, a large area of the residential district was also explored, in which one of the most important and best preserved houses was found. The structure (BNO 360, the House VIII) returned many objects of daily life and various artefacts connected to the Isis cult. This allowed us to assume the presence, in the building, of a priestess of the deity during the Roman period and to identify the nearby structure (BNO 356), almost completely lost, as a small temple dedicated to Isis.[52]

In Roman times, two other important structures were installed, namely the baths and kiln, both known thanks to papyri and identified on-field.[53] These facilities were located near the canal, the *Patsonteos diorux*,[54] for the obvious reasons of water supply. The brick-built thermal building (BSO 313) was constructed during the Augustan age and extended in the 2nd century AD. The bath is in perfect Roman style, which is an important sign of the probable presence of Roman citizens in the town. According to a complaint, an assault and robbery took place in the building to the detriment of a Greek citizen of the metropolis.[55] Not far from the baths, it was brought to light what turned out to be a portion of a large production complex (BSE 352), of which at least two probable tanks for clay settling[56] and a ceramic kiln were found. A brick furnace was also likely present in the area, considering not only the large amount of building material piles that were discovered, but also the testimony of a very important papyrus that confirms the presence of a *plinthourgeion* in the town.[57] The written sources also suggest that the settlement housed some other facilities: a public bank (*trapeza*),[58] and the public registry office (*grapheion*),[59] which also managed the nearby village of Hephaistias. These public edifices were probably located in the centre of the village, not far from the sacred areas.

The urban organisation of Bakchias seems to have remained unaltered throughout the Roman period until the abandonment of the northern area, which probably occurred during the late third and early 4th century AD, when the centre of gravity had moved further south and the ancient remains entered a state of partial abandonment.

As has been demonstrated, the synergy of many scholars and the use of different technologies have allowed us to trace the various stages of the village's developmental parabola: the settlement was reshaped many times during its lifetime and at least two important urban renewal programmes were accomplished during these six centuries.

The definition of the town, given by the three papyrologists,[60] as a small village of mud-brick houses without any architectural ambition can no longer be accepted. Bakchias boasts the remains of many greatly significant architectural structures of the Ptolemaic and Roman period, such as the temples, with so many buildings and public offices that could be rightly included in this settlement defined as third rank. As recent studies have demonstrated,[61] in fact, in the Fayyum region, after the *nomos* capital, some other settlements could be distinguishable: they could not be classified simply as all the other villages. Instead due to their size, the monumentalisation of the public spaces and the presence of some facilities, these settlements were more important and notable. Bakchias, thanks to the multidisciplinary research that has been accomplished, could now be listed among the largest and the most important settlements in the Fayyum region.

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[51] For the archaeological details see Giorgi 2014b, while for the papyrological analysis see Ippolito 1999.
[52] At the moment, it is not possible to understand if the temple is the one witnessed in P. Bacch. 7 (TM 15184). According to its size and some other elements, the sacred edifice could be identified as a third rank temple (Rossetti 2015).
[53] For both structures, see last Giorgi 2014a, with previous bibliographic references.
[54] The main canal of the village had been documented with this name by many papyri, see Calderini 1977: 26-27; Kraemer 2010. The settlement and its territory was definitely watered by numerous other channels, some names of which are known (Calderini 1977: 26-27).
[55] BGU I 181 (TM 8943). See also Nachtergael 2003.
[56] This structure is currently the subject of in-depth examination and it is thought that the tanks could have been used as a fullery.
[57] P. Lund. 4 10 (TM 25645). This papyrus is a very important source for the state monopoly on brick-making (Reiter 2008).
[58] Stud. pal. 4, 119-121 (TM 14984). See also Bogaert 1995: 146.
[59] P. Mich. III 186-189 (TM 11989-11892), P. Mich III 195-199 (TM 11993-11997), P. Mich X 583-584 (TM 12270-12271). See also Strassi 2014: 86-89.
[60] Grenfell *et al.* 1900: 40.
[61] Mueller 2006: 100; Davoli 2011a: 70.

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# Attitudes towards Mythological Statues at the Crossroads of Cultures and Religions in Late Antiquity: Alexandria and Beyond[1]

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**Summary**
This paper presents an overview of the main different attitudes toward mythological statues in Late Antiquity offered by archaeological and literary sources. Mythological statues were an essential part of the urban landscape throughout the Greek and Roman period but with the rise of Christianity they become victims of the controversy between pagans and Christians, and the object of the religious policy by the emperors. Christians condemned mythological statues as cult statues and because they were believed to be 'animated' by demons; pagan writers elaborated theories about the nature of the cult statues and some philosophers admitted the presence of deities within the statues as a result of theurgical actions. Statues were destroyed or hidden, but they were also considered as works of art. Pagan statues played a significant role in religious conflicts in the city of Alexandria, where the episode of the violent destruction of the Serapeum is the most striking case. The city, with its multi-ethnic society, is a vantage point to investigate the different ways in which Christians coped with pagan sculpture and in general with classical culture in Late Antiquity.

**Keywords**
mythological statues, Christianism, Alexandria, Late Antiquity

## Introduction

During the Greek and Roman period, mythological statues were an essential part of temples, public buildings, squares, streets in the cities and they also played an important role within private dwellings.[2] With the rise of Christianity, attitudes towards mythological sculptures changed, together with the transformation of the society, but 'pagan' statuary remained an important element of the cityscape for a long time.[3] This paper aims to present an overview of the main different attitudes toward mythological statues in Late Antiquity offered by archaeological and literary sources.[4] In particular, the latter attest that often the statues were victims of the controversy between pagans and Christians, but it is not possible to attribute every sculpture found in a fragmentary condition to the violence of intolerant Christians. Nevertheless, archaeological evidence and written sources together could provide a more effective image of Christian responses to pagan statues in the late antique Greco-roman cities, as many recent researches have shown.[5] It is also necessary to consider the historical and cultural context of this period when there was a particular confluence and coexistence of religious and cultural traditions in the main cities of the Roman Empire. Alexandria in particular is a vantage point from which to investigate these issues — specifically, the different ways in which Christians coped with pagan sculpture and, in general, with the classical culture in Late Antiquity in a context characterised by the coexistence of different religious and cultural traditions (Egyptian, Greek, Roman, Jews and then Christian).[6]

## 1. Egypt and Alexandria

According to many Christian sources, the idols of the Egyptian temples, where the child Jesus entered, had fallen to the ground and were reduced to pieces.[7] Thus the prophecy of Isaiah was fulfilled: 'Look, the Lord sits on a swift cloud, and will go to Egypt, and the idols of Egypt, built by man, in his presence will shake and fall

[1] I am very grateful to the organisers of the Conference and in particular to Grażyna Bąkowska-Czerner and Rafał Czerner for inviting me to participate and for their warm hospitality in Wroclaw.
[2] Stewart 2003: 118-156.
[3] Lavan 2011: this study focuses on statues of pagan gods and heroes that were displayed in streets, squares and public buildings during Late Antiquity. According to the scholar, Christian attempts to change their uses seem to have had limited effect until the middle of the 6th century. For bibliographic references to statues in Late Antiquity, see Mulryan 2011: 83-85.
[4] In recent years many studies have been devoted to this subject. See in particular: Hannestad 1999; Stirling 2005; Bauer and Witschel 2007; Kristensen 2013. For an overview of the main attitudes toward the statues, particularly with examples of Asia Minor, see also Jacobs 2010. The project of the University of Oxford, led by R.R.R. Smith and B. Ward-Perkins, *Last Statues of Antiquity*, had the goal to document and discuss 'the remarkable changes in the way statues were used in Late Antiquity in the context of contemporary historical and cultural developments' (http://laststatues.classics.ox.ac.uk).
[5] See, in particular, Kristensen 2010; 2012; 2013.
[6] On Egypt and in particular Alexandria in Late Antiquity, see: Frankfurter 1988; Haas 1997.
[7] See *Hist. Mon. in Aeg.* 8.1; Rufin. *Hist. Mon.* 7.1.2. See Sanzi 2006.

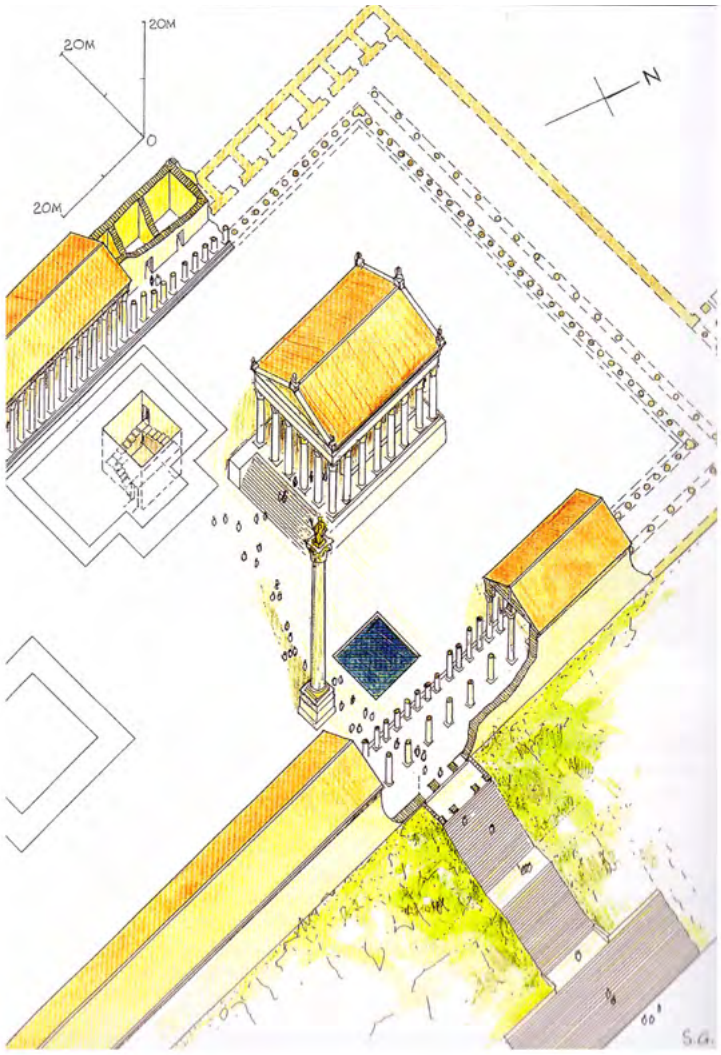


Figure 1. The Alexandrian Serapeum: reconstruction drawing of the last phase, after 298 (*After Meckenzie et al., Pl. 1*)

to the ground.'[8] The Armenian Gospel of the Infancy of Jesus[9] described the arrival of the holy family in the Egyptian city of Mesrin: while Jesus was visiting a large temple dedicated to Apollo, the idols suddenly cried that inside there was the son of a king. Jesus then noted that under the statue of Apollo it was written that this god was the creator of heaven and earth, who has given life to all mankind. Jesus was upset and prayed that God might glorify him. The earth was immediately shaken by a terrible earthquake and the temple collapsed. The statue of Apollo was destroyed and his priests died. At the same time all the idols and their altars in the city collapsed. The episode, on the one hand, is part of the pagan tradition that attributed the idols with the power to warn of danger or to deliver oracles; on the other hand, it insists on the value of the demonic 'false' pagan idols that are destroyed by the one true God of the Christians, thus reflecting a recurring motif of Christian propaganda. Moreover, it is no coincidence that this episode is set in Egypt, where the controversy between pagans and Christians made particular use of statuary, as in one of the most famous cases of religious violence against pagan temples — the destruction of the Alexandrian Serapeum [Figure 1].[10] Inside the temple 'there was a statue of Serapis so large that its right hand touched one wall, and its left the other; this monster is said to have been made from of every kind of metal and woods.'[11] In 391 or 392,[12] it is well known that a Christian mob entered the temple and destroyed the cult image and the temple itself:[13] the episode (along with the murder of the philosopher Hypatia later) has significantly contributed to Egypt's image as a setting for particularly violent religious conflicts.[14] In Alexandria there was a complex network of social and economic relationships among different ethno-religious communities that competed for cultural hegemony, where Christians occupied an increasingly important role. In this context, the destruction of the Serapeum was the spectacular climax of the systematic attacks that the Christian powers of the city, led by bishop Theophilus, unleashed against the local pagan cult sites, also with that aim of plundering the huge treasures of the temples.[15] The image of the triumphant bishop Theophilus standing on the top of the temple with the Serapis statue inside is often used to demonstrate this point [Figure 2].[16] Rufinus, accurately describing all stages of the destruction of the statue of Serapis, concludes significantly: *vetustus error extinctus est*.[17] According to the writer, fragments of the cult statue of Serapis were dragged around various

[8] Is. 19.1.
[9] Armenian Gospel of the Infancy 15.6-17; Peeters 1914: 165-172.
[10] On the destruction of the Serapeum and the conversion of the cult statues, see Hahn 2008. For a reconstruction of the sanctuary on the basis of archaeological data, see McKenzie *et al.* 2004 and Sabottka 2008.
[11] Rufin. *Hist.* 11.23 (trans. Amidon 1997: 81).
[12] The precise year of the destruction of Serapeum is not certain: see Hahn 2008, 340-345.
[13] The most complete description of the episode is Rufin. *Hist.* 11.30; see Thelamon 1981.
[14] Kristensen 2013, 107.
[15] On social conflicts in Alexandria during Late Antiquity, see in particular Haas 1997. Frankfurter (2008) emphasises the importance of the specific cultural and religious Egyptian context.
[16] Alexandrian World Chronicle (P. Goleniscev, VI verso): see Hahn 2008: 364-365, figs 1-2.
[17] Rufin. *Hist.* 11.30. The Serapeum was the most important of all religious sites in Alexandria and its destruction had a deep symbolic value. Hahn 2008: 338: 'Christian and pagan contemporaries alike felt that this destruction was an event of epoch-making character with respect both to Christianity and to paganism.'


Figure 2. A fragment of the Papyrus Golenišcev showing Theophilus standing on the top the *Serapaeum*, with the statue of Serapis inside (*After Kristensen 2013, 75, fig. 1.15*)

districts of the city and burned there, 'before the eyes of the Alexandria which has worshiped him.'[18]

In addition to these actions of strong symbolic value, literary and especially archaeological sources attest to some different attitudes held by Christians towards pagan mythological statues in Alexandria and its territory. For example, T.M. Kristensen pointed out that 'the archaeological and textual sources from late antique Alexandria and its hinterland suggest a wide spectrum of Christian responses to pagan sculpture including: full-scale destruction in the case of the cult statue of Serapis; ritual of exorcism or neutralization such as three examples of Alexandrian statues with secondary carving of crosses; pragmatic reuse as seen at Taposiris, the Serapeum, and the temple of Kronos; public display of mockery of idols (in the case of Serapeum) and finally reinterpretation.'[19] According to Rufinus, small busts of Serapis in public and private spaces 'were cut and filed away that not even a trace of mention of him or any other demon remained;' they were replaced by signs of the cross.[20] In addition to the statues deliberately destroyed, indeed, also for demonstration purposes, some statues were furnished with a secondary carving of Christian crosses: this practice could be understood as a way of neutralising the powers of the image or as form of exorcism. It is also possible that it represents a part of the ritual act of baptism or a way to insert the pagan statuary into the Christian life.[21] Other statues were found mutilated and burnt (Kom el-Dikka).[22] Instead, the finding of some perfectly preserved statues from a suburban villa in Sidi Bishr demonstrates that mythological statuary was still in display in Late Antiquity. The sculptures were intentionally hidden perhaps to save them from Christian violence.[23] A different case is finally represented by the statues of worship in the sanctuary of Isis at Ras es-Soda found in perfect conditions and still *in situ* on a *podium* in the naos. The temple seems to have simply been forgotten.[24] So this is a series of cases fairly wide and representative of what we may see in other contexts.

[18] Rufin. *Hist.* 11.23 (trans. Amidon 1997: 82).
[19] Kristensen 2013: 134.
[20] Rufin. *Hist.* 11.29 (trad. Amidon 1997: 86).
[21] See Kristensen 2012.
[22] Kiss 1988. See also Kristensen 2013: 128-129.
[23] Hannestad 1994, 123-126; Kristensen 2013: 118-119.
[24] Naerebout 2007; Kristensen 2013: 131.

## 2. The nature of cult statues

Attacks perpetrated by Christians were essentially directed against the cult statues, so it is interesting to investigate what pagans and Christians writers and thinkers in Late Antiquity were questioning about the nature of the statues that were worshiped, a problem that in previous times had not been particularly discussed in terms of 'high' speculation. Christian writers always emphasise, with various arguments, what Paul stated: 'The gods made by men are not gods.' [25] Christian arguments are based on the Jewish tradition, always averse to the worship of idols.[26] Some chapters of the Origen's *Contra Celsum* are very useful on this topic, because the author stresses that Christians refused to pray the statues to avoid the idea that the statues would be gods.[27] At the end of paragraph 69, Origen in particular said, 'that is the reason why we have decided to avoid the worship of daemons like a plague. And we maintain that all the supposed worship of gods among the Greeks with altars and images and temples is a worship offered to demons.'[28]

The criticism to the pagan traditions of worship and in particular to the different forms of idolatry, attracted the attention of pagan thinkers on an issue that they had ignored or minimised until then. The pagan writers generally agree that the statues are not gods, but only offerings to the gods themselves. An exception is the author of the *Asclepius*, one of the treatises in the *Corpus Hermeticum*, who adopts a position in the debate that could be defined 'extremist:' he claims that the statues are real gods created by men. In the treaty we read, in fact: 'As the Lord and Father, or to give him the supreme name, God, is the creator of the gods of the sky, so the man is the author of the gods who are in the temples, enjoying the proximity of men ... Do you speak about statues, Trismegistus? Yes, the statues, Asclepius!' [29] Theurgical practices, in fact, included operations designed to 'animate' the statues, as shown by Iamblicus.[30] Finally, the emperor Julian proposed a rational solution to the contrast between the material nature of the statues and the spiritual needs of the faithful who perceived inside them the presence of the deity, or at least a way of getting close to it:[31] 'Our fathers have established the statues, the altars, the safeguard of the inextinguishable fire and, in a word, all symbols of this kind, as the sign of the presence of the gods, not because we consider them gods, but to make us to worship the gods through them. We live in a body: it was necessary, therefore, that the cult of the gods was corporal...'[32] Julian thus believes that the statues are not gods or receptacles of divinity, but that they are not even simple objects: the statues are rather intermediaries between men and the gods.

## 3. Negative attitudes towards mythological statues

The most negative attitude towards the mythological statues manifested, of course, in their destruction.[33] The traditional idea, according to which ancient statuary would be the object of systematic annihilation by the Christians, was essentially based on the reading of some sources:[34] according to Eusebius, for example, Constantine had ordered the destruction of statues and temples,[35] while Firmicus Maternus had asked the emperors Constantius and Constans to remove the idols from the temples without hesitation: *Tollite, tollite securi, sacratissimi imperatores, ornamenta templorum*.[36] The Acts of martyrs constantly refer the refusal to worship the statues and their destruction is considered as a symbol of the victory of the Christian faith on pagan superstition.[37] In some case the destruction of pagan statues was even considered as a way of achieving Christian martyrdom, but it was refused by Christian ecclesiastic authorities.[38] Attacks were also committed by Christians to show that those pagan idols considered 'so powerful' were actually just pieces of wood or stone that could be destroyed without any consequence. A striking example is precisely constituted by the statue of the Serapeum of Alexandria, which was smashed into many pieces to demonstrate its lack of power.[39] The destruction of the statues, then, could constitute a particular form of exorcism, to eliminate demons and hostile powers.[40]

The wrecking of the statues carried out by the Christians was often considered a reflection of the policy of the emperors against pagan religious practices. J.C.G. Thornton notes that only after the persecution of Diocletian were episodes observed during which Christians disrupted pagan ceremonies without destroying the idols.[41] Of course the situation

[25] *Acta Apost.* 19.26.
[26] See in particular the arguments by which Philo, *Decal.* 66-74 condemns worship directed to the statues and the artists who made them.
[27] Origen, *C. Cels.* 7.62-69.
[28] Origen, *C. Cels.* 7.69 (trans. Chadwick 1965: 452).
[29] *Ascl.* 9.23 (Nock and Festugiére 1945-1954).
[30] On theurgy see, in particular, Dodds 1965: 270-297; Luck 1989: 92; on theurgic techniques to animate the statues, see van Liefferlinge 1999.
[31] Bouffartigue 2007: 64.
[32] Iul. *Ep.* 89.23 (Bidez 1924).
[33] On the issue see Thornton 1986; Stewart 1999; Jacobs 2010 and in particular Kristensen 2013.
[34] For a detailed analysis of the ancient sources on the destruction of temples and statues see Caseau 2001: 67-79. The statuary in late antiquity also see Coates-Stephens 2007 and the literature cited by Mulryan 2011: 83-85.
[35] Euseb. *Vit. Const*. 2.45; 3.52-58; 4.23-25.
[36] Firm. *De err.* 28.6.
[37] See for example *Acta S. Martinae* 9-10 (AASS *Ian*. 1.12) and *Acta S. Susannae* 5 (AASS *Aug.* 2.632).
[38] Thornton 1986: 124.
[39] Socrates, *Hist. eccl.*7.17; Sozom. *Hist. eccl.* 15.9.
[40] Kristensen 2013: 87.
[41] Thornton 1986: 125.

changed after Constantine, when Christians could be supported in their actions by the laws against paganism, culminating at the end of the 4th century with the edicts of Theodosius. In 391, the constitution of Theodosius prohibited 'to turn the eyes to the statues made by human hand (*mortali opere formata simulacra*)' inside the temples.[42] The ban is repeated with greater force in the most famous decree of the 392, when the emperors Theodosius, Arcadius and Honorius condemn definitively the traditional cults:[43] 'No person at all, of any class or order whatsoever of men or of dignities, whether he occupies a position of power or has completed such honors, whether is powerful by the lot of birth or is humble in lineage, legal status and fortune, shall sacrifice an innocent victim to senseless images (*sensu carentibus simulacris*) in any place at all or in any city.'[44] The condemnation of the worship of statues is reiterated in the same constitution: 'If any person should venerate, by placing incense before them, images made by the work of mortals and destined to suffer the ravages of time (*mortali opere facta et aevuum passura)*, and if, in a ridiculous manner, he should suddenly fear the effigies which himself has formed ... such person, as one guilty of the violation of religion, shall be punished by the forfeiture of that hose or landholding in which it is proved that he served a pagan superstition.'[45] It therefore insists on the aspect of the 'human manufacture' of the statues that would prevent them from being venerated.[46] Late antique sources always justified the destruction of statues because pagans made sacrifices before them.[47]

Many scholars believe that as a result of the anti-pagan legislation of Theodosius, it was impossible to possess and create mythological statuary. Because these laws essentially acted against cult simulacra and ordered the destruction of the statues only in some cases,[48] more recent research tends to emphasise that while anti-pagan dispositions had a limited application, so too would the violence not have been so widespread nor radical. [49] It is also important to remember that since the 1980s, a growing body of research on late antique sculpture has emerged, focusing on both new archaeological finds and the re-dating of old ones.[50] Thanks to these studies, it is now possible to demonstrate that many mythological sculptures had been made afresh for new settings in the 4th and even 5th centuries AD, despite the legislative measures and the hostile attitudes of some Christians.

Archaeology also shows selective destruction (nose, eyes, mouth) that reveals attitudes towards the body in late antique society: the mutilation of the sculptures is often more difficult to distinguish than normal damage but many cases are evident.[51]

In other contexts, the statues could have simply been removed from the places of worship or they could have been marked with Christian symbols without causing any damage. In particular, the cross was the supreme Christian emblem of power in Late Antiquity (tracing a cross on the forehead was a common form of exorcism, but it was also the sign of baptism): so, the inscription of a cross on a statue could exorcise and purify the image or convert it for reuse in a Christian context.[52] It is important that the cross appear not only on the heads of statuary, but also on other parts of the body: according to T.M. Kristensen, this could be a signal of a re-interpretation of pagan images by Christians, a phenomenon also widely attested without any cross marking.[53]

Statues are often found buried but the reasons may be different: it could have been a means to preserve them from Christian attacks but also from other possible dangers. Augustine recalls why the prohibited idols were hidden: '*quasi nos idola quaeramus et non cultores idolorum cultores dei facere velimus, abscondunt in terra, abscondunt in spelunca, abscondunt in caverna petrae*.'[54] A. Ambrogi indeed noted how many statues were hidden to protect them, probably, from the depredations of the barbarians and then in Rome, in particular, from the Visigoths.[55]

In other contexts, statues have been found in good condition in pits or wells: it is probably that they were buried in order to be preserved and not destroyed.[56]

[42] *Cod. Theod.* 16.10.10.
[43] For domestic cults in Late Antiquity see Sfameni 2014.
[44] *Cod. Theod*. 16.10.12 (trans. Pharr 1952: 473).
[45] *Cod. Theod*. 16.10.12.2 (trans. Pharr 1952: 474).
[46] Rougé and Delmarie 2005: 438, 5, intends *mortali* to mean 'made by human hands,' rather than mortal works that are perishable, because Christians always insisted on the fact that the statues were works made by men.
[47] Caseau 2001: 113.
[48] See for example *Cod. Theod*. 16.10.19, in which there is the order to destroy the statues of the sanctuaries still worshipped by pagans (Rougé and Delmaire 2005: 454-457). The law seems to contradict the previous one which instead prohibited the destruction of temples and idols.
[49] For a recent synthesis of this issue see Ambrogi 2011. A detailed study on the destruction of the statues and their secularisation is provided by Caseau 2004. According to Caseau 2011b, many statues were not destroyed for religious reasons but for practical reasons as, for example, they could be used in building.
[50] See, in particular: Stirling 2005; Hannestad 2007; Bauer and Witschel 2007.
[51] Kristensen 2013: 89-106, with many exemples.
[52] Some scholars have noted that many crosses appear on portraits: if it had been a form of exorcism we would have expected more cases of statues of deities. Marinescu 1996: 288-289. For this practice, see also Kristensen 2012 with repertory and bibliography.
[53] Kristensen 2012: 39-40. See also Mango 1963 on Constantinople.
[54] Dolbeau 1991: 48.
[55] Ambrogi 2011: 525. On concealment of statues made with care to ensure preservation, see also Ambrogi 2012, in particular: 189-205.
[56] Baldini Lippolis 2001: 89. For some examples see Sfameni 2014: 157-161.

The reasons for the concealment of the statues could be very different and in many cases it is difficult to determine whether this was prompted by the need to protect them or by the will to destroy them, if they were ritual deposits or deposits of material to be used for construction once the house had lost its residential function.[57] It is also probable that many statues were buried by accident, after the destruction of the buildings in which they were on display.[58] It is always better, therefore, to avoid generalisations and propose specific interpretations in relation to individual contexts.

As R. Coates-Stephens has demonstrated, it is important to note that statues could have been smashed to pieces not only for ideological but also for practical reasons: for example, stone and marble sculptures had been used in Rome for the foundation of walls since the 3rd century AD and continued to be used in construction for at least two centuries.[59] Pagans and Christians broke up and reused sculptures for construction material even as they continued to display artworks in the same *spolia* built *domus* (like in Rome in the dwellings of Praetextatus, Symmachus and perhaps Palmatus).[60] In other cases, the statues could be used to obtain lime. Cassiodorus pleaded for the preservation of statuary decoration in Rome probably as he saw it disappearing in furnaces and lime kilns:[61] the statues in fact were often destroyed only for the intrinsic value of their material, both metal and marble.

It is also useful to remember that there was a pagan iconoclast tradition, the phenomenon of so-called *damnatio memoriae*, confirmed since at least the beginning of the 1st century BC until the end of the 4th century AD.[62] The punishment was directed against people sentenced to be forgotten to preserve the honour of the city and also applied to erase the memory of many emperors after their deaths: by decree of the senate, all the representations of the condemned were destroyed. P. Stewart noted that although *damnatio memoriae* and Christian iconoclasm were not the same, the symbolic language was constant throughout those times.[63] For example, the scene of the destruction of a statue in the via Paisiello hypogeum in Rome may probably represent a Christian mob tearing down a cult statue [Figure 3], but a scene depicting the 'pagan' destruction of a statue would not have been very different.[64]

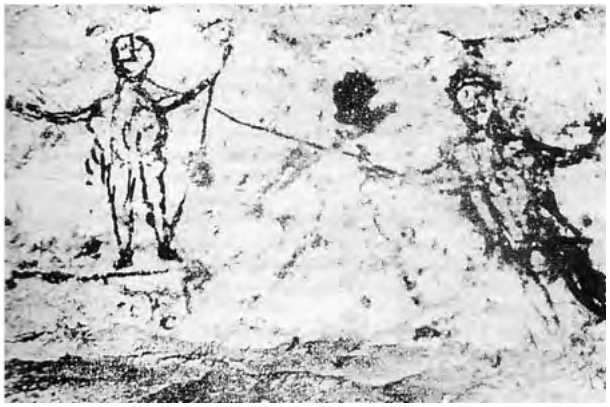

Figure 3. Via Paisiello hypogeum, Rome: a scene of a statue destruction (*After Stewart 1999, fig. 8.3*)

## 4. Neutral and positive attitudes towards mythological statues

Despite the social and religious transformations that characterise Late Antiquity, it is evident that the pagan statues were never completely eliminated from the cities. Moreover, attitudes towards statues by the same Christians were not all negative. Although some Christians considered statues offensive to the 'true' religion, it is probable that most of them viewed the statues with indifference, as a normal part of the world where they lived. There was also the position of those who, like Augustine, approved the imperial decrees against paganism,[65] but insisted that such decrees should be enforced by public authorities and not by Christians through violence.[66] Augustine also criticised the excesses of the Christians against the cult statues and the sacred ceremonies of the pagans.[67] Moreover, some Christian writers argued that the statues had to be safeguarded as works of art. Prudentius, for example, wrote: 'Let the statues, works of great artists, stand as well: these become beautiful ornaments of our homeland.'[68] Statues used as idols, instead, had to be purified (*quae nunc habentur idola*).[69] Moreover Arcadius and Honorius wrote in a constitution of the Theodosian Code on 29 January 399: '*Sicut sacrificia prohibemus, ita volumus publicorum ornamenta servari.*'[70] In another legislative document, the emperors are concerned to preserve temples and statues because they are useful for the monumental decorum of the city.[71] Finally, a constitution addressed to a governor of Osrhoene — possibly in reference to a temple of Edessa — ordered that the temple should be left open as a kind of museum, because it contained statues of artistic

[57] Stirling 2005: 25.
[58] About Rome, see Guidobaldi 1998: 503.
[59] Coates-Stephens 2001.
[60] Coates-Stephens 2007: 177-181. Public buildings in late antique Rome also used fragmented sculptures for their foundations (Coates-Stephens 2007: 181).
[61] Jacobs 2010.
[62] Stewart 1999: 159-169.
[63] Stewart 1999: 173.
[64] According to Stewart (1999: 175), images of *damnatio memoriae* should have been of the same type.

[65] Aug. *Ep.* 93.10 and 97.
[66] Aug. *Ser.* 62, 11, 17; 12.18.
[67] See Thornton 1986: 126.
[68] Prudent. *C. Symm.* 1.502-505.
[69] Prudent. *Perist.* 2.481-484.
[70] *Cod. Theod.* 16.10.15.
[71] *Cod. Theod.* 16.10.8 and 18.

value.[72] According to C. Lepelley, imperial officials supported by illuminated Christians, not only applied but also promoted legislation for protecting the artistic 'pagan' heritage, allowing the preservation of monuments and statues.[73] In other words, some Christians wanted to avoid appearing insensitive to the values of art or bent on annihilating ancient heritage: the statues once desacralised, in fact, ceased to be idols, and could therefore be kept as simple works of art.[74] In this light we can also place the notices of restoration or movements of statues from the temples in public or private places of the cities that appear in the sources until the 5th century and beyond and that are testified by the archaeological remains.[75] If there were many reasons for the removal of statues from temples and their re-installation in baths, private houses or public streets and squares, the most important was probably this kind of 'aesthetic conservatism:' many statues might have been considered as appropriate decoration in specific places or could have also been considered valid examples of moral virtue for classically educated Christians.[76] This also fits the phenomenon of spoliation of the temples, encouraged by Constantine onwards, by which Christians could plunder precious objects from the temples, including statues with which they could then create private collections.[77] In some cases, however, the political and public relevance of some statues requires a different explanation for their survival. Statues of Victory, Tyche, Minerva, emperors, were still used in specific urban settings for traditional purposes until the 5th century.[78] In the last quarter of the 5th century, for example, the urban prefect *Anicius Acilius Aginatius Faustus* restored the *atrium Minervae*, pointing out in particular the restoration of the *simulacrum* of the Goddess.[79] So, according C. Machado, 'Faustus' restored *simulacrum Minervae* was venerable because its antiquity made it an important element in the identity of city and of its elite.'[80] Inhabitants of Rome in Late Antiquity, both pagan and Christian, were obliged to take into account the presence of the past of the city and many pagan statues were then adopted for secular use as art collections. Even at the time of Cassiodorus, Rome had a '*populus copiosissimus statuarum, greges etiam abundantissimi equorum*' that had to be preserved with great caution.[81] Constantinople, until the Byzantine period, was adorned by statues transferred there from different regions of the empire. The position of Constantine appears ambiguous: despite being described by Eusebius of Caesarea as a destroyer of idols,[82] once he had built his new capital, he transferred there a multitude of statues from the main Greek cities:[83] these statues, although diminishing in number over time, continued to embellish the streets of the city until the time of the Crusades.[84] According to Eusebius, Constantine aimed to ridicule the statues, but it is unlikely that this was the true intention of the emperor.[85] In fact, the emperor used the statues 'pour sa propre glorification' and to emphasise their cultural more than religious value.[86] Other emperors followed the example of Constantine, transferring many collections of statues to the capital, and creating in this way a real 'museum of divine statues,'[87] that would influence the attitudes of the population in the following ages.[88] In conclusion, 'the reuse of classical antiquities linked the city and its emperors to the true and indisputable source of late antique power, the moral authority vested in the *paideia*.'[89]

## Conclusion

Beyond the polemics and the more violent struggles, statues were part of the culture that was shared by people in Late Antiquity. Classical educated *domini* enjoyed displaying statues in their houses and villas, even if they were Christians:[90] this was the case, for example, for the *Valerii domus* on the Caelian Hill in Rome where a group of Eros and Psyche was in display in the Late Antiquity, when the family of the owners was composed of both 'pagans' and Christians. The life of S. Melania attests that in the *domus* there was a Christian chapel where, according to B. Brenk, a bronze oil lamp with the image of Peter and Paul could be placed.[91] So it is probable that most Christians viewed the statues with indifference, and that mythological

[72] *Cod. Theod.* 16.10.8.
[73] Lepelley 1994: 12-13.
[74] Lepelley 1994: 7.
[75] For example, Contantine himself furnished the Bath of Zeuxippus and the hippodrome in Constantinole with mythological statues and portraits: Basset 1991; 1996 and 2004.
[76] Lavan 2011.
[77] According to Caseau (2011b: 488-493), many people, including Christians, would take advantage of the closure of the temples to create their own collections of statues. For example, the exceptional collection of Chiragan villa (Bergmann 1999), must have been formed, along with family heirlooms, with statues bought or taken away from the temples (Caseau 2011b: 488).
[78] Lavan 2011.
[79] *CIL* VI 526=1664.
[80] Machado 2009: 354.
[81] Cassiod. *Var.* 7.13.
[82] Euseb. *Vit. Const*. 2.45 and 4.23-25.
[83] Constantine had begun the process of secularisation and spoliation of the temples, making money from the treasures of the temples, but without making any provision for the destruction of the statues: Caseau 2011b, 488.
[84] See Mango 1963. For the presence of classical statues in Constantinople in public and private collections see also Stirling 2014: 101-105.
[85] According to Caseau 2007, a motivation of this kind would be plausible for the readers because Christian mocked the worship paid to the pagan gods and particularly to the statues of deities: this procedure would also remembered the ritual derision for statues following the so-called *damnatio memoriae*.
[86] Caseau 2007: 132.
[87] Lepelley 1994.
[88] Mango 1963: in particular 58-59.
[89] Basset 2007: 197.
[90] Caseau 2011a.
[91] Brenk 1999: in particular 79.

statues remained on display inside both Christian and pagan dwellings.[92]

The fate of statues in Late Antiquity has often been perceived through Christian literary reports, while other documentation and archaeological data allow us to recognise a situation less dramatic than the one told by the sources. Even in Egypt itself, the process of Christianisation was slower and more complex than one might think while reading the texts of contemporaries.[93]

In conclusion, archaeological and literary sources attest to many different attitudes towards mythological statues in Late Antiquity and we should take a prudent approach when analysing statuary condition and deposits because their causes could be very different.[94] Nevertheless it is evident that the statues can offer many important elements to understand the dynamics of the transformation of the Greco-Roman cities through the impact of Christianity.

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[92] Caseau 2011b.

[93] Some temples were still used in 5th and 6th century AD: Thelamon 1981: 259.

[94] As Kristensen (2013: 258), observes, 'Christian responses encompass much more then mindless violence; they need to be contextualised against social and political developments.'

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# Excavating Bethsaida/Julias. Archaeological Documentation of a Town on the Sea of Galilee

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**Summary**
Since 1838, when Edward Robinson — following his preliminary exploration of the highest hill lying in the depression on the Northern shores of the Sea of Galilee — proposed that it might be identified with the Biblical Bethsaida, interest for the place has soared. The first planned scientific exploration began in the year 1987, however [Figure 1]. The oval-shaped mound is 400 m long, 2000 m wide and rises 400 m above the lake of Kinneret, also called Genesaritis or the Sea of Galilee. The river Jordan meets the lake at Bethsaida. The Polish mission participated in excavations in the years 1997-2000. This article presents the remains from the Hellenistic-Roman period, 'The Temple area' and two private houses situated nearby. All these sites were positioned on the highest terrace overlooking the lake. In plain numbers, it lies 165.91 m below sea level.

**Keywords**
Bethsaida, Julias, The New Testament, the temple area, the fisherman's house, the wine-producer's house, professions

The name 'Bethsaida' was used to denote a settlement in Perea on the North-East shore of the Sea of Galilee. According to Josephus Flavius,[1] in the early Roman period Herod Agrippa conferred the rights of a polis on this place and gave it the name of Livias in order to honour the wife of Emperor Augustus. However, when Livia was adopted by the gens Iulia, the town was renamed Julias accordingly.[2] This happened under the reign of Philip Herod, son of Herod the Great. It was apparently an important site in the Galilee-Golan area in the 1st century AD. Sometime later it was annexed by Emperor Nero into the kingdom of Agrippa II.

In the New Testament the town is named Bethsaida and mentioned as being the home of Philip, Andrew and Peter.[3] Near Bethsaida Jesus healed the blind,[4] fed the five thousand,[5] walked on the water,[6] healed the sick,[7] healed many people;[8] but also reproached the city[9] for its lack of will to change its way of life.

Since the commencement of the scientific excavations on et-Tell in 1987,[10] Bethsaida has risen in value to become one of the most important archaeological sites investigated at present. During the exploration of et-Tell, which was inhabited from at least the early Bronze Age (about 3050 BC-2700 BC) to the Middle Ages (ending *c.* AD 1500) various remains of human activities have been disclosed. They reflect the daily, as well as spiritual life, both of individual inhabitants and the community as a whole. The remains have brought an insight into housing and occupations, and indirectly — by interpretation of the finds — into the spiritual aspects of life. Most striking has been the discovery of a cult site at the city gate (high place), connected with the history of Geshur.[11] The question of interpretation of the cult site at the city gate, one of the best preserved in the region, and the kind of offerings performed here is still under discussion as new liturgical vessels have been discovered.[12] The discovery of terracotta figurines, among them the type interpreted as representing the goddess Astarte, on the other hand, points to Phoenician as well as Egyptian cultural trends common to the region.[13]

Besides the religious space, documentation of housing, trade and communication has been disclosed by excavations. The solid city walls with a broad road outside leading to the gate situated in the south-east, indicated the status of the settlement throughout the centuries. In the late Hellenistic and early Roman period, the town apparently rose in importance. Bethsaida was in this period tightly bound to the ministry of Jesus of Nazareth, who spent time teaching in this region and participated in the daily life of the inhabitants. Fishery constituted an important occupation for his followers,

[1] Joseph. *AJ* XVIII. 27.
[2] Joseph. *BJ* II. 168. Wording 'sometimes called Julias' is being used in that text.
[3] John 1:44, 12:21.
[4] Mark 8:22.
[5] Matt. 14: 13.
[6] Matt. 14:22.
[7] Matt. 14:34.
[8] Matt. 15:29.
[9] Matt. 11:21, Luk. 10:13.
[10] Excavations were launched on behalf of the Golan Research Institute and the chief issue was to attempt to resolve the century-old dispute over which of the two sites indicated as ruins of biblical Bethsaida: et-Tell or el-Araj should keep this name. El-Araj and still another candidate for the identification with the biblical Bethsaida, the nearby place called el-Mesadiyeh has shown by testing remains from the Byzantine period only.
[11] Among the new publications on the subject, the large article by Arav (2013) should be mentioned.
[12] Savage 2014: 47-63.
[13] Skupińska-Løvset 2014: 63-84.

Figure 1. Et Tell. General view of the excavated area (year 2000) (*Courtesy of the Bethsaida Excavation Project*)

meetings, as the Bible tells, were organised outside the settlement on the hillsides. As for other occupations, archaeology — by interpreting the biological remains as well as objects made and used by humans — may point to professions such as farming, housekeeping and weaving. Excavated objects such as a group of Roman period nails pointing to a carpenter [Figure 11], objects referring to a blacksmith, a wine trader [Figure 6], weavers [Figure 10], medical personnel, probably soldiers as indicate multifunction iron pick axes used for breaking up ground, but also for fighting [Figure 12] and of course persons connected with the organization of daily life and cult.

In the late Hellenistic period, close to the Iron Age high place mentioned above, a sanctuary with a Phoenician-style temple had been constructed,[14] pointing to a continuity in the consideration of this area as holy [Figures 2, 3 and 4]. The building remained in use during the early Roman period, being sometimes interpreted as 'A Temple of the Imperial Cult,' albeit without relevant archaeological documentation.[15] Terracotta figurines discovered during excavations of 'The Temple Area'[16] together with remains of solid inventory such as a water resistant basin with a connecting channel leading away the fluids from a suggested offering place, ceremonial benches and a 'picnic area' all indicate a local, Eastern Mediterranean cult and local models. An analogy in the layout of the Temple of Apollo discovered in the Phoenician city of Tyre indicates probable similarities in terms of ceremonies.[17]

The Hellenistic and Roman periods were marked as layer 2 in et-Tell. According to literary sources in the later phase of the period included in this layer, Bethsaida passed into the hands of the Herodian family represented by Philip Herod, son of Herod the Great, who ruled the Golan. He resettled Bethsaida and renamed it Julias.[18] It was apparently an important site in the Galilee-Golan area in the 1st century AD. Excavations indicate that in the Hellenistic-Roman period the city was partially walled in, had a large enclosed cult area placed partially over the former cult area at the city gate,[19] houses of large dimensions and specialised profiles such as wine production/distribution, fishing, medical services, repairs, weaving have been excavated. Finds of seeds indicated that the linen was grown on the hills, and may have been

[14] Skupińska-Løvset 2006: 70ff., figs 38 a, b and c (proposition of reconstruction).
[15] Cf. note 22, interpretation by Monika Bernett.
[16] Skupińska-Løvset 2006: 114-116.
[17] Bikai *et al.* 1996: *passim*, see also note no. 14.
[18] Joseph. *BJ* II. 168. Cf. note no. 1.
[19] For the latest interpretation of the cult at the City Gate cf. Savage 2014.


Figure 2. 'The Temple Area of Bethsaida' (*Plan I. Skupińska-Løvset, University of Lodz*)

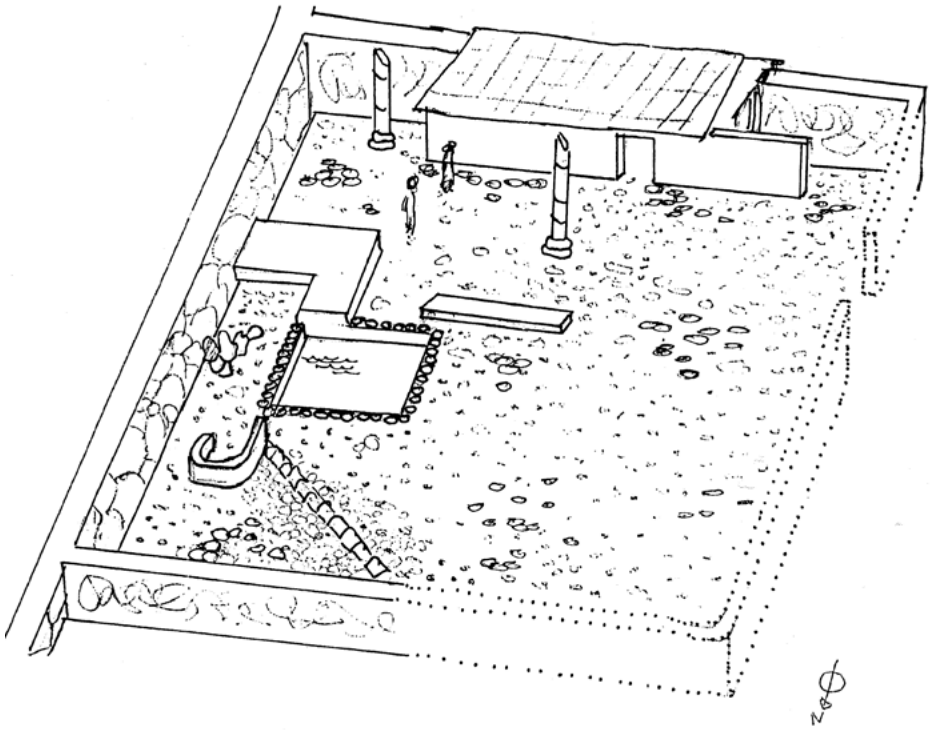

Figure 3. 'The Temple Area of Bethsaida' (*Proposition for reconstruction A. Løvset, University of Oslo*)

Figure 4. 'The Temple Area of Bethsaida' (*Computer generated reconstruction K. Sobczak, University of Lodz*)


Figure 5. Houses next to the city wall. Aerial view (*Courtesy of the Bethsaida Excavation Project*)

prepared to be woven on weaving stools of which some weights have been found [Figure 10]. Fishing utensils such as net-weights indicate fishing and a wine cellar suggests trade [Figure 5] while medical instruments show the workplace of a specialist surgeon.

It may also be pointed out that the spacious Hellenistic/Roman occupation followed the earlier pattern as to rank, as in the same area where a 'Bit Hilani-Styled Palace' had been excavated, centuries later large houses were built. For these reasons, based on the excavation results, Rami Arav proposed to date the first 'Urban

phase' of Bethsaida to *c.* 950 BC (Stratum VI).[20] In doing so he points out the solidity of city walls with a width of 6 m. and strong towers at intervals of about 15 meters. Through these walls led the gate to the large plaza with a 'Bit Hilani-Styled Palace' lying to the North. In the Hellenistic period this area was occupied by a sanctuary and quality housing — apparently the properties of well-to-do landowners, owners of workshops and traders.

The so-called 'Temple area' of layer 2 (from early Hellenistic period through the early Roman period (*c.* 333 BC till AD 67)) had been subjected to research by Polish archeologists [Figures 2, 3 and 4]. It was previously excavated by the German mission under the direction of the University of Munich,[21] and the remnants of the building were interpreted by Monika Bernett as belonging originally to a Temple of the Imperial Cult.[22] During Polish excavations[23] it became apparent that the building was of dimensions still bound to Mediterranean standards, although deviating from the Hellenistic norms. Three layers of floors have been preserved, indicating remodelling. The building [Figures 3 and 4] was placed within a large court with a water resistant basin, a walled in area and a picnic area; through the court-yard a covered channel runs diagonally, connected with the probable offering place. Subsidiarily, betyls and free-standing column parts were discovered. The placement of columns, column parts and betyls under the open sky close to the building has analogies in the discussed region. The use of free standing columns in general has a long tradition in prehistoric Greece; the famous Naxian column from Delphi (dated *c.* 560 BC) is a still standing memory of this custom; Herodotus saw such columns while visiting Tyre.[24] As mentioned, a close functional analogy to the arrangement of the Bethsaidan sanctuary can be seen in the case of 'The temple of Apollo in Tyre.'[25] However, the 'betyls' were unusual, standing more or less up-right in the court analogously to the sanctuaries recorded on archaeological prospects of holy places on Mount Hermon, interpreted as symbolising the presence of the Holy.[26]

The large, paved court of the Bethsaidan temple that was open to the sky could, no doubt, be used for meetings and events of all kinds. In fact some remnants were found in pits under the surface of the courtyard of the Temple,[27] as was also the case of 'The Temple of Apollo in Tyre.'

The buildings dated to this period were constructed in locally available fieldstone and are recorded practically all over the excavated surface of et-Tell. These are public buildings and private houses. In area A these houses are built on a slope; in areas B and C the houses are constructed on a levelled surface. The houses were spacious, consisting of a courtyard and a covered area. Most information is to the present available on the so-called 'House of the Vintner' [Figures 5, 6 and 7] and 'House of the Fisherman' [Figures 8 and 9]. In the year 2000, the 'House of the Surgeon' was cleaned.

Already in the first season of excavations Hellenistic-early Roman houses were excavated both in area B and in area C.[28] The house in area B, nick-named 'The Fisherman's house' [Figures 8 and 9] measured 18 m by 27 m on the surface. Its ground plan was composed of a central court surrounded by smaller rectangular compartments. The steps probably led all the way to the second floor or even onto the roof. A spacious kitchen, with a rich selection of kitchenware in situ and two ovens, was located to the east. The walls, built with small field stones, were 0.7 m. thick, but only on the east side was the wall kept at a height of 1.3 m, otherwise only the level of one course was left. Probably the steps led all the way to the second floor or the roof. Inside the house many fishing tools such as lead net-weights of two types, needles for repairing fishing nets and similar items were discovered.[29]

The so-called 'House of the Vintner' — a large house thus named because it possessed a cellar full of vine amphorae dating to the late Hellenistic-early Roman period [Figures 5, 6 and 7] — shows typical features of a Bethsaidan house.[30] It is [Figures 6 and 7] a roughly rectangular structure (16.2 × 18 m). Older walls, usual for the countryside, are included in this building (wall W 209). Access to the house was gained through an opening in the southern wall of the courtyard (12 × 12.8 m), which was at least partially paved. To the east there was a paved kitchen (9.9 × 4.49 m), its floor remained higher in the southern portion. An oven, threshing boards of basalt, numerous pottery sherds, utensils such as pruning hooks and other objects were found here. East of the kitchen there was a cellar (4.5 × 3.5 m) in which four large Hellenistic storage vessels and

[20] Arav 2013: 14. The 'Urban Phase' of Bethsaida was dated according to archaeological criteria to *c.* BC 950 (stratum VI). While discussing stratum VI he uses the wording 'Urban landscape.' Cf. Arav 2013: 10-11.

[21] An excellent quality publication of excavations concentrating on two main approaches 1) to follow the process of excavations from the beginning, 2) being a postscripts of the published essays and including essays not published before mainly from the Hellenistic and Early Roman periods has been publish recently by professor Emeritus of the University of Munich, Heinz Wolfgang Kuhn, cf. Kuhn 2015.

[22] Bernett 2007: *passim*.

[23] Skupińska-Løvset 2006: *passim* and figs 38a, b and c.

[24] Hdt. 2.44.

[25] Bikai *et al.* 1996: *passim*, see also note no. 14.

[26] Dar 1993: 87-101. Cf. especially — a cult site at Qalat Bustra (Dar 1993: 93-101). Column parts in pairs were considered as representations of a local Baal and his female mate (Dar 1993: 87).

[27] For description cf. Skupińska-Løvset 2006: 79ff.

[28] Arav 1995: 26-52.

[29] Cf. note 28.

[30] Cf. Skupińska-Løvset 2007: 109-117.

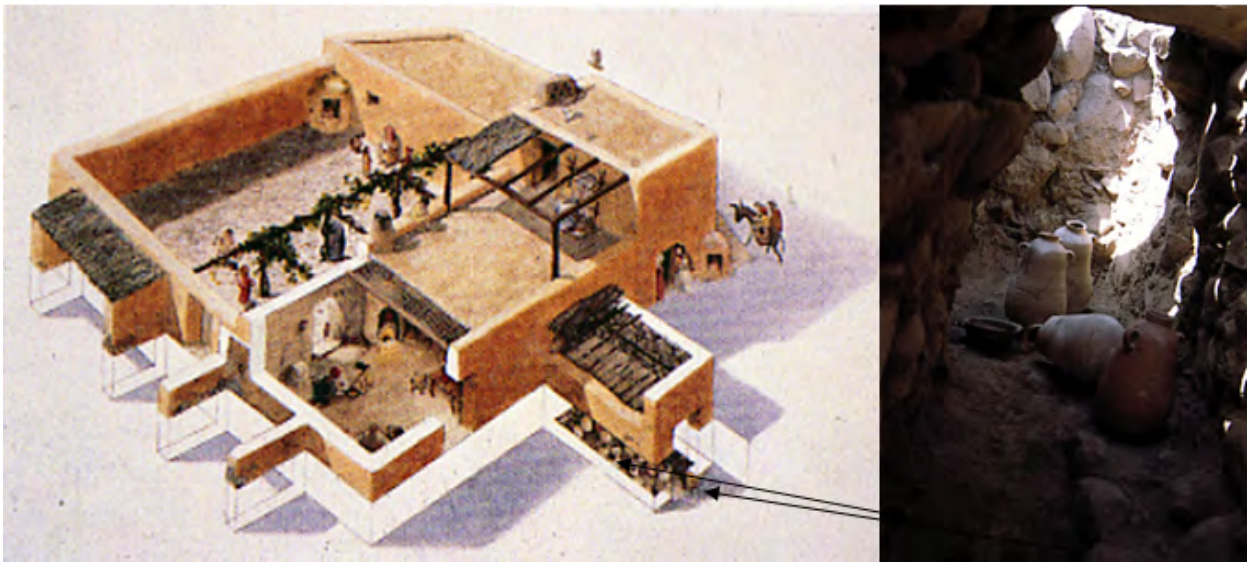

Figure 6. 'The Wine Producer's House.' Drawn reconstruction and a photograph of the cellar (*Courtesy of the Bethsaida Excavation Project*)

Figure 7. 'The Wine Producer's House' (*Computer generated reconstruction K. Sobczak, University of Lodz*)

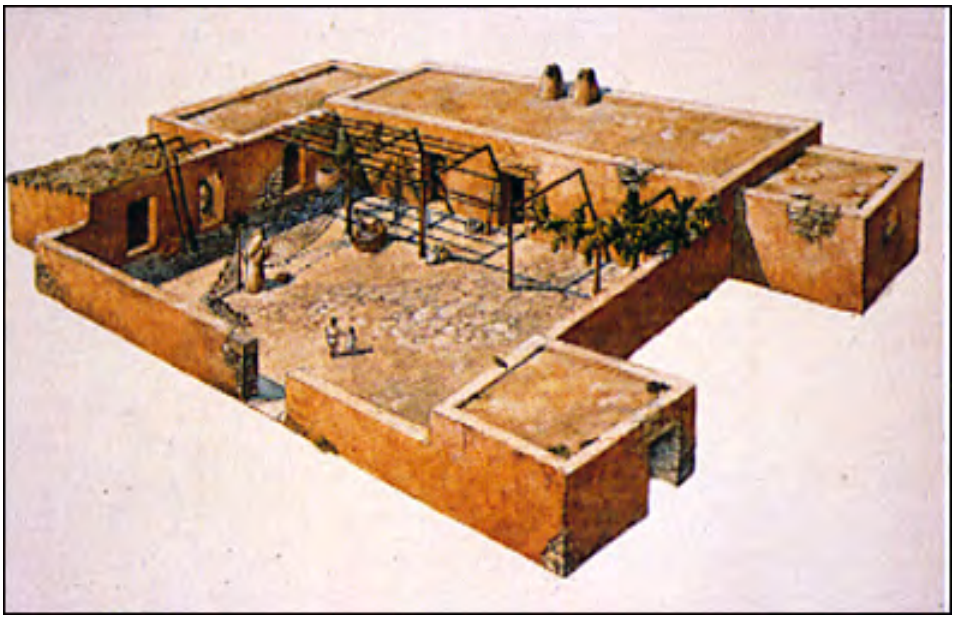

Figure 8. 'The Fisherman's House'. Drawn reconstruction (*Courtesy of the Bethsaida Excavation Project*)

Figure 9.. 'The Fisherman's House' (*Computer generated reconstruction K. Sobczak, University of Lodz*)

Figure 10. Hellenistic weaving set excavated in Bethsaida (*Courtesy of the Bethsaida Excavation Project*)


Figure 11. A group of Roman nails left by a carpenter (*Courtesy of the Bethsaida Excavation Project*)

Figure 12. Dolabrum, a multifunction iron pick ax, discovered at Bethsaida (*Courtesy of the Bethsaida Excavation Project*)

a bowl were found, crushed by falling basalt beams of the roof.

The residential part, probably in two stories, was to the north. It was composed of three rooms, while the middle one, incorrectly considered to be a triclinium, was rectangular in shape (4.5 × 5.4 m). Tools related to fishing, agriculture and weaving were found in the courtyard, where apparently industrial activities such as storage, repairs, processing of food, weaving took place. Furthermore, the arrangement was in line with the climatic conditions of the region. Nowhere in this vicinity has a wine press been recorded, but this is probably because the wine press was generally located in the fields, and the fields have not been subjected to archaeological excavations to the present.

As stated above, there exists textual and archaeological documentation on wine production and consumption in Palestine. The documentation is especially rich for the Roman period. Statistical methods have been applied to elucidate various aspects of wine production, trade and consumption. The palynological analysis undertaken by prof. Patrick Scott Geyer of the University of San Diego, then an MA candidate, documented high values for vitis, olea and cereals both Iron Age and Roman period Bethsaida. Viticulture, besides fishing and the growing of grain, olives and flax seems to be the main occupation of its inhabitants through an extended period of time. Besides, apparently the sweet smelling Artemisia (sagebrush) was grown, probably to be used dried as incense for offerings in the local temple.[31]

[31] Cf. note 30 above.

The city of Julias is mentioned in Josephus Flavius' autobiography twice; firstly[32] information is given that Sylla, the commander of Herod Agrippa II, positioned his camp at five furlong's distance from Julias and set a guard upon the roads to Cana as well as to the fortress of Gamla; later[33] we learn that Josephus is sending 2 000 armed men lead by Jeremiah to raise a bank a furlong (700 ft) from Julias, near to the river Jordan.

At the end of the 1st century AD, according to archaeological documentation, et-Tell (Bethsaida) was depopulated and 'then abandoned entirely and forever by the time of the late Roman period — a boon and a blessing for archaeologists.'[34]

This event was most probably connected with the Jewish War as presented recently by John T. Greene[35] who speaks about a partial occupation, if any. The inhabitants may have abandoned the city and found refuge in Roman-controlled Galilee or elsewhere in Golan (he suggests Gamla).

The question of Bethsaida, however, may be brought into discussion again in connection with Jewish congregational buildings of a Late Antique date. A group of eight synagogues recorded in the area neighbouring et-Tell is known as 'The Bethsaida group.' The buildings have a plain facade except for the Horvat Dikke synagogue, which is extraordinary as it has three entrances in the westwards oriented facade, a feature explained by the influence of non Jewish Southern Syrian architecture. According to recent research by Zvi Uri Ma'oz[36] the synagogue lies 3 km north of the estuary of the river Jordan into the Sea of Galilee. In the chapter entitled 'Khirbet Dikke — A Fifth Century Synagogue Carved in Stone,' the author emphasises that 'the earliest and the most lavishly decorated synagogues are found in Bethsaida valley and around it, immediately north from the Sea of Galilee.' Furthermore, he states that synagogues belonging to the 'Bethsaida Group' were encompassed within a circle of 6.5 km in diameter with the synagogue of ed-Dikke as the centre. This synagogue, analogously to the sacral and profane buildings of Bethsaida was constructed in basalt of local origin, the thickness of the walls varies from 80 cm to 100 cm.[37]

Not a single one of the eight synagogues of the 'Bethsaida group' has been submitted to a broader archaeological investigation in 20th century. The building in Khirbet Dikke (called in the 19th cent. ed-Dikke) was discovered

[32] Joseph. *Vit.* 71.
[33] Joseph. *Vit.* 72.
[34] Cf. Arav and Freund 1995: XII (foreword by D.N. Freedman (University of California, San Diego, Summer 1994)).
[35] Greene (2014: 296-297) while examining the Late Hellenistic/Roman strata at Bethsaida concludes that there is nothing that would suggest that the town came to a violent end.
[36] Ma'oz 2009: 3ff. Cf. also Levine 1981: 102-103.
[37] Ma'oz 2009: 6ff.

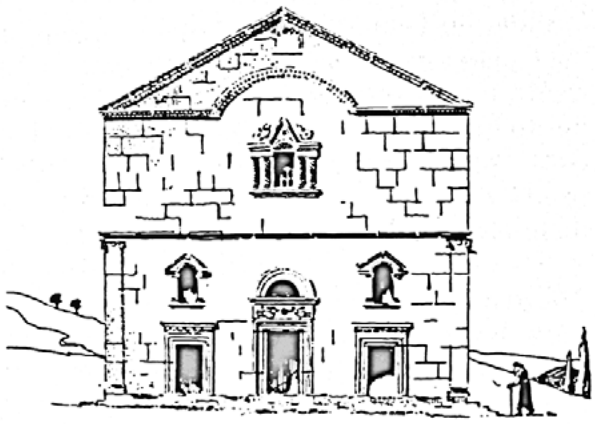


Figure 13. Drawn reconstruction of the facade of the ed-Dikke synagogue (today covered by vegetation) (*After Kohl and Watzinger 1916; copyrights do not apply*)

by the German archaeologist Gottlieb Schumacher in 1883.[38] He identified the building as a Jewish congregational house on his second visit in 1889. The synagogue is situated on the east bank of Jordan, at a distance of about 300 m from the river, on terraces which were already filled with ancient and modern debris when visited by Schumacher.[39] Oliphant, who visited the site in 1884 produced a sketch plan of it. Heinrich Kohl and Karl Watzinger excavated Khirbet Dikke from April 29 to May 1, 1905; they produced a preliminary analysis of the ruins, as well as drawings [Figure 13] of the restored façade,[40] which is exceptional in having three entrances in the westward-oriented façade,[41] the features being explained by the influence of Southern Syrian architecture. During the first expedition by the Hebrew University to nearby er-Rafid (September 28, 1933) ed-Dikke was visited and photographed but not surveyed until Claire Epstein came there after the Six-Day War. When this author visited the site lying half an hour's walking distance from the excavation area on et-Tell in the year 2000, the ruins were overgrown by rich vegetation making the remains of the synagogue almost unrecognisable.

*Cogito ergo sum*, to coin a phrase.

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[38] Oliphant 1886: 245-247 = Oliphant 1885: 82-84..
[39] Ma'oz 2009: 6-7.
[40] Kohl and Watzinger 1916, *passim*.
[41] The front side of the synagogue should be oriented towards Jerusalem, which is situated south from et-Tell/Bethsaida.

# Public Toilets between Greece and Rome: a Neglected Aspect of the Roman Revolution[1]

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**Summary**
The spread of public toilet facilities in Roman towns should not be ascribed simply to processes of Hellenisation, nor taken as a natural consequence of the rise of Roman urban infrastructure addressing the needs of growing communities. In the Early Roman Empire, the combination of intertwined factors opened up a new chapter in the history of urban landscapes. Key developments in civic infrastructure and related specialised administration were initiated at the very beginning of the Principate, in the Age of Augustus. His new idea of *cura urbis*, which incorporated investments in sewage disposal and an interrelated drainage system, must have played a pivotal role in this. As one of the indispensable component parts of such infrastructure, latrines were a natural extension and continuation of such urban planning. And yet, one gets the impression that the public toilets themselves, as one of fundamental aspects of urban infrastructure, had been largely ignored by this new ideological frame of the Principate.

**Keywords**
Latrines, public toilets, *Prachtlatrinen*, Greek, Roman, Augustus, Principate, urban infrastructure

The study of Roman latrines emerged at the end of the 20th century as a new field of ancient history, quickly drawing the growing attention of a number of archaeologists, architects, historians, and art historians. Ancient latrines had been a neglected topic for a long time, with the exception of a handful of daring forerunners active at the turn of 19th century. Now, after several decades of specialised scholarship, this branch of classical studies is expected to hold the most promising prospects. Moving the topic towards the mainstream of ancient history has brought some natural benefits. It is getting more attention, and is becoming the focus of proper archaeological scrutiny and conservation projects. So far some major studies were undertaken, dealing with most important categories of Roman latrines (with the luxurious *Prachtlatrinen* in particular) and covering some areas of the Greek-Roman world (Near East, France, and Italy). Various aspects of Roman 'toilet culture' were the subject of several thematic surveys.

Still, much remains to be done. As some local developments of latrines are clearly recognisable, one should study the nature of their regional diversification. We are now more and more aware of the competing forces of 'globalisation' set against the distinct characteristics of latrines discernible in some of the Roman provinces. Perhaps more consideration should also be given to the differences between the East and West of the Roman Empire. On a more general level, the study of Roman latrines is inextricably bound to be influenced by the perennial controversy between 'optimists' and 'pessimists' themselves clashing about the hygienic standards of Greek-Roman cities. Here, I will discuss yet another important and challenging issue. Even if the public latrines were invented by Greeks, the Romans themselves take the credit for their later propagation and impressive development. But what were the key factors behind such a tantalising spread of public installations for personal hygiene among the Romans?[2] What was the chronological frame of this sanitary revolution? A further related issue is the genesis of the distinctly Roman phenomenon of the so-called *Prachtlatrinen*, that is of the monumental, luxurious latrines occupying prominent positions in an

[1] his is a revised and expanded version of a paper 'Toalety w augustowskim Rzymie' which was presented in the form of an initial draft (to be published in Polish in 2016) at the conference 'August i Rzym: pamięć, rytuały i praktyki życia codziennego,' organised by Poznańskie Towarzystwo Przyjaciół Nauk and Instytut Kultury Europejskiej (UAM) and chaired by Prof. Leszek Mrozewicz in Gniezno, December 10th, 2014. I would like to extend my thanks to Adam Ziółkowski, Lechosław Olszewski, Paweł Sawiński and Michał Baranowski for their helpful comments and encouragement.

[2] For a recent pioneering study of Roman latrines before the era of *Prachtlatrinen*, see Koloski-Ostrow 2015. Her interpretation of this point is strikingly ambiguous and problematic: 'No such public toilets are known in Italian cities of the late republic, although this absence does not necessarily argue fairly against their existence. They may have simply vanished in the course of time, since such structures were often made of wood that has not survived. The mention of latrines in Roman comedy proves only that they were an understandable concept to the Romans, and not their existence in the real urban landscape at this early date. The assumption that there were latrines at this early date, however, is both tempting and highly feasible. As early as 161 B.C., according to one Roman writer, we learn that simple urinals were available in the Roman Forum. Once latrines were a fixture in the Roman marketplace, the stage was set to utilise them in other settings in the city with an increasing realization of their potential to confine the somewhat distasteful human activities of moving the bowels and urinating to specific places. In the hands of the Romans the construction of toilets most certainly evolved in cities, and we must also consider the reasons for that transformation and how it was brought about.' Koloski-Ostrow 2015: 60.

urban context. I hope that the following considerations can offer some helpful insights concerning such basic, and still largely unexplored, questions.

Public latrines had emerged in a number of Greek cities sometime between late 4th and 2nd BC. Major well-documented instances of such establishments come from Delos. Hitherto, excavations on this island had brought to light 77 building provided with no less than 88 toilets and latrines. It seems that 54 of them may have belonged to private houses. In many cases, however, it difficult to tell whether the nature of such rather small and modest establishments (attracting several visitors at a time) was private or public. Existing utilities were based on modest, achievable standards for sewage-disposal. For the most part, cesspits were used, and only in a few cases was running water supplied. Similar installations have been discovered on Paros and Amorgos. The latrines in Thera on Thera/Santorini, with underground drains connected to the street, certainly stand out, but still, without access to running water they had to be serviced manually.[3] In any case, the latrines of the Hellenistic era still did not acquire the status they had in the Greek-Roman setting, where they constituted an essential element of urban or municipal infrastructure development. As far as one can see, they were few in numbers, and were supported by modest infrastructure capabilities, usually conditioned by access to sources of water and operating sewer systems. These small, dim and modest establishments, as a rule, were devoid of any decorative elements, except perhaps with small niches for lamps (the few extant larger niches perhaps housed statues) and marble paving discovered in latrines on Amorgos and Thera.[4]

For all their simplicity, however, the toilets of Delos seem to imply some interesting changes in attitudes towards personal hygiene among the local, cosmopolitan communities of traders. But the radical breakthrough was only made when this Greek innovation was adopted by the Romans. There is some controversy regarding who should be credited with this. One might assign it to the ever more numerous Roman merchants sailing from one side of the Mediterranean to the other, or specifically to the large Roman community of traders on Delos.[5] It might also be that a significant contribution has been made by growing numbers of Greeks themselves populating Roman towns.[6] At any rate, from now on the Romans had followed the example of Greeks who were the first to provide prototypes for multi-seat latrines. In this, they were certainly not inconsiderably helped by the development of their own water infrastructures (aqueducts and *cloacae*) and building technologies (concrete!), allowing the production of larger, complex structures.[7] Without doubt other factors were also relevant, most importantly the wealth, prosperity and luxury of the cities of the Late Republic. All the collective benefits of urban infrastructure were also offered to the vast bulk of the *populus Romanus*.[8] Next to the public baths and taverns, the latrines served the needs of the plebeian masses as well.[9] By then, their reservations toward communal toilets would be overcome inasmuch as, thanks to facilities of this kind, they must have been accustomed to various forms of communal life.[10]

And yet the spread of public toilet facilities should not be ascribed simply to processes of Hellenisation, nor taken as a natural consequence of the rise of Roman urban infrastructure addressing the needs of growing communities. First of all, seen from a chronological perspective, the sequence does not converge. In Italy, the latrines became widespread sometime at the end of the Republic.[11] Their beginnings may originate back to 2nd BC, but the first examples probably date to sometime between the mid-1st and the late 1st century BC.[12] Some of the earliest known latrines in Italy come from Minturnae in Campania and Bolsena in central

[3] In Thera the largest of several public latrines, located next to trading hall near agora, could house only up to 8 visitors. The chronology of the Latrines in Thera comes, however, with a caveat, see Truemper 2011.

[4] For possibly the earliest epigraphic testimony of a public latrine equipped with seats and drain, alluded to in the so-called Astynomoi Law of Pergamon, see Zuchtriegel 2008.

[5] According to Koloski-Ostrow (2015: 18) the Romans had built public toilets by the end of the 1st century BC, and very likely much before. For the earliest testimonies of toilets and latrines in Roman literature see e.g. Plaut. *Curc.* 580 and Varro, *Rust.* 1.13.4, discussed by Hoss *et al.* 2011. Koloski-Ostrow (2015: 62-63) adds yet another conjectural factor, namely early adoption of such facilities by Roman military: 'By the first century B.C., and probably much earlier, the cities of Roman Italy had already learned latrine technology well from the Hellenistic East (as we saw above) and transformed it for their own Roman urban-planning needs. By the time soldiers were constructing these northern barracks in the first century A.D., latrine construction designs had been informed by the designs of toilets within Roman cities, which themselves were informed by those of the Hellenistic East. [...] We may surmise from this that Roman soldiers possessed the technology for building latrines in the second to first centuries B.C., and maybe much earlier [...] soldiers who had served in the East may have been influenced by the *luxuria* of baths and toilets they saw there (even with their varied design features) and, upon their return to Italy, they may have contributed their ideas to the design of the facilities constructed in the Roman cities where they settled.'

[6] Acero Pérez *et al.* 2011.

[7] Fagan 1999: 83, n. 31.

[8] See Cic. *Mur.* 76: 'odit populus Romanus privatam luxuriam, publicam magnificentiam diligit.'

[9] Fagan 1999: 75-84; Yegül 1992: 411-413. For the chronology of baths see Fagan 2001.

[10] Fagan stresses the importance of the phenomenon of social bathing for transformation of urban landscapes in 1st century BC. Public toilets dating to the 1st century BC to the 2nd century AD are usually found in the context of public baths, Koloski-Ostrow 2015: 57.

[11] Neudecker 1994: 16-17.

[12] Probably the first latrines in Italy during the Republic were made of wood, similarly to early theatres and amphitheatres, Neudecker 1994: 16. Koloski-Ostrow (2015: 58) speculates on early dating of earliest facilities of this kind in a variety of Greek cities (from the 6th to the 4th century BC) and in Roman Italy (from the 2nd century BC onward).

Italy,[13] as well as from Rome itself.[14] During the 1st century AD they also emerge in a number of sites in the Roman provinces.[15] The impressive public toilet in Athens dates to the 2nd quarter of the 1st century AD.[16] In Gaul, such facilities had originated during late 1st century BC, to become more and more visible during the first half of the 1st century AD.[17]

It is also important to note that in the first stages of their development, Roman latrines had followed the Greek tradition to a large extent. As a result, their standards were still relatively poor and did not differ much from their Hellenistic counterparts. Represented in small numbers, dim and muggy, early Roman latrines still did not attain the status of an integral component of the urban landscape, with the related accessibility and degree of prestige. In an urban context, such structures were characterised by relative out-centrality and lack of any conspicuous decoration. Whereas Vesuvian cities give us a good picture of this stage in the development of such facilities, almost nothing is known about the origins of public toilets in the city of Rome, except by the way of some accidental literary references.[18] But one can presume that by Nero's reign, large and elaborate buildings of this sort were erected in Roman capital, as jealousy of others' fame had incited the emperor to order the statues of famous athletes to be pulled down and dumped into public latrines.[19]

The turn of the 1st century AD witnessed the next step. Luxurious multi-seat latrines, purely Roman in technology and substance, increasingly started to appear in the very centres of Greek-Roman towns, located in or near public areas or buildings.[20] These so-called *Prachtlatrinen* date for the most part to the 2-3rd century AD. R. Neudecker in his ground-breaking study of *Prachtlatrinen* put forward the idea that their emergence followed deep changes in the mentality of the Greek-Roman municipal elites, who adopted new attitudes toward personal hygiene. Philosophically and medically oriented self-discipline placed more and more emphasis on the proper control of bodily functions, including diet and bowel movement.[21] In other words, the evolution of Roman latrines was determined primarily by ideological, and only secondarily by technological factors. For a long time, existing water distribution and sewer systems did not induce the elites to make additional investments for 'elitist' sanitary structures, as the elites still stuck to their chamber-pots and private toilets.[22] According to Neudecker, it was the new socio-political context under the Principate (1st to 3rd centuries AD) that made the difference. The imperial government had reduced the status of Greek-Roman members of the civic elite. Banished from real political life, they substituted it for a distinct lifestyle. For them, luxurious porticoes, baths, gymnasiums and monumental *Prachtlatrinen* became kinds of status symbols beyond simple functionality or technological advances — new 'centres' of municipal life. Neudecker's argument is based upon the assumption that such public toilets must have been used exclusively by *honoratiores*, and not by the plebeian masses. Indeed, there are some indications that would seem to confirm this. Probably the payment of an entrance fee was required at such facilities.[23] In some cases two latrines of different standards were available for different clientele (Pozzuoli, Baths of Hadrian in Leptis Magna, as well as multiple, diverse toilets and latrines in Hadrian's Villa in Tivoli).[24] The *Prachtlatrinen* were frequently located in the 'business' and 'recreational' areas of the towns, attracting urban upper class regulars.[25]

For all its unquestionable merits, Neudecker's argument does have its weak points. The differentiation between 'functional' and 'luxurious' gives the impression of being unclear, inaccurate and subjective. Serious doubts may have been raised about the concept of elitarian *Prachtlatrinen* that excluded simple, plebeian clientele. For the elites, it was always a chamber-pot in hands of the slaves, subservient to every nod of their master, that was, generally speaking, a fitting symbol of upper class

[13] According to Hallier *et al.* (1982: 55-71) Bolsena latrine dates to the 2nd quarter of the 1st century AD. For Augustan latrine in Roman colony of Minturnae see Koloski-Ostrow 2015: 33-34.

[14] Neudecker 1994: 157, cat. 9; 158, cat. 15; 159, cat. 31; 163-164, cat. 96. According to Koloski-Ostrow (2015: 26) in Rome only one toilet can be dated with some certainty to the early 1st century AD, the large *forica* in Largo Argentina; five other toilets date across the 1st century AD.

[15] For chronology, see Thüry 2001: 12 and 63, n. 24. See also Acero Pérez *et al.* 2011.

[16] Neudecker suggests 1st century AD.

[17] Bouet 2009; see also Koloski-Ostrow 2010.

[18] Cass. Dio 47.19; Sen. *Ep.* 70.20.

[19] Suet. *Ner.* 24.

[20] Kamash 2010.

[21] As examples of this ideology Neudecker invokes e.g. famous Pompeian graffito of imperial medic (*Apollinaris, medicus Titi Imperatoris, hīc cacavit bene*, *CIL* 4.10619), graffiti and frescoes from the so-called *Terme dei Sette Sapienti* in Ostia (dated from the Traian-Hadrian period; it was in this period that the complex has been transformed into baths) and scatological epigram from the latrine in Ephesos (*Die Inschriften von Ephesos*, v. 2, no. 456.1, early 4th century AD).

[22] Neudecker 1994: 17.

[23] Numerous latrines were operated by private entrepreneurs who took them on lease (*foricarii*, *conductores foricarum*). It seems that small fees were necessary to keep their businesses profitable.

[24] In *Villa Adriana*, Hadrian's enormous palace complex in Tivoli, altogether as many as 35 latrines and toilets were found. Some of them were quite plain, but some lavishly decorated with *opus sectile*, stuccos and marbles. See Jansen 2003; Jansen 2007.

[25] A number of literary testimonies seem to imply that members of upper class visited such establishments, see especially Suet. *Poet.* 31 ('Siquidem aegre ferens, recitante se subito ac nulla nisi refrigerandi sui causa indicto senatu recessisse, neque verbis adversus principem neque factis exstantibus post haec temperavit, adeo ut quondam in latrinis publicis clariore cum strepitu ventris emissi hemistichium Neronis magna consessorum fuga pronuntiarit: 'Sub terris tonuisse putes.' Sed et famoso carmine cum ipsum tum potentissimos amicorum gravissime proscidit'). See recently Cowan 2012.

comforts.[26] Or, a single-seat toilet at the very least.[27] One might equally argue that the growth of 'luxurious' latrines next to 'functional' ones was rather due to the prosperity of Greek-Roman cities flourishing in the very prime of the Roman Empire. At the end of the day, 'luxurious' fora and porticoes present similar cases.[28] The phenomenal spread of latrines as such, effecting a real revolution in the domain of public hygiene, should not be overshadowed by the *Prachtlatrinen*. Taking over this Greek invention, the Romans had not only vastly improved it with water supply installations, but also they had turned it into an important architectural element in urban formation.[29] The archaeological evidence from Ostia led us to believe that the most vital improvements to public toilet facilities were carried without marked signs of prestige.[30] Apparently, they grew in number, and were substantially larger: many of at least the 27 extant Ostian public latrines could host between 35 and 80 visitors. Here, the majority of the population lived in crowded *insulae*, as opposed to the cities of Vesuvius, where many houses were equipped with private toilets. It seems the latrines of Ostia may reflect some universal developments which made Roman latrines more and more different form their Hellenistic predecessors.

Hence a question may arise: what was the critical moment in the development of latrines in the cities of the Roman Empire? To answer this, we need to consider the characteristics of the administration of the urban infrastructure in the late Republic. Such responsibilities were diffused among aristocratic magistrates and officials — *aediles*, *curatores* and censors. Besides being few in number, they served within a limited time, usually one year. Their lack of knowledge and experience was not helped much by relying on professional personnel of lower rank.[31] There was yet another major impediment to improvements in the less glorious (and costly) domain of drains, fountains and streets. Euergetic contributions of these aristocratic politicians were usually limited to spectacles and games, that is to the areas that could confer prestige and instant popularity, and not necessarily affect the health and welfare of the general public. Apart from appropriate personnel deficiencies and the lack of any long-term administrative strategy, the historical circumstances were not favourable. The unrests, conflicts, wars and reprisals responsible for the decline of the Republic had a largely negative effect on the level of infrastructure expenditure. At the same time, during the 1st century BC, the Roman Republic had achieved the size of the world's largest empire to that date. Republican administration was unable to cope with the growing difficulties arising from the inadequate infrastructure of the city of Rome itself and that of dozens of Greek-Roman cities.

In the Early Roman Empire everything changed. Augustus had initiated an autocratic system of government, accompanied by radical reforms.[32] At the same time, the combination of intertwined factors opened of a new chapter in the history of urban landscapes throughout the empire, starting with the city of Rome as the representative capital of the Empire.[33] Roman emperors — as the new rulers of the world — were eager to surpass the grandeur of their royal predecessors in Antioch, Alexandria and Pergamum, eclipsing the impressive urban environments of the old metropolises of the Hellenistic East.[34] For Augustus himself, the city of Rome was a monument and a symbol of his own rule, and hence he felt fully responsible for its appearance and design.[35] Apart from the new prospects, the very end of the Republic's political system was of great importance. Finally, the sovereigns of Rome wielded power of an unprecedented scope, making the widespread transformation of the urban landscape possible. One of the distinct advantages of the Principate was the extension of acts of civic patronage to mundane tasks focused on urban development. Augustus himself had initiated the reform of the municipal administration. His own elaborate and extensive building projects on the Field of Mars included public structures (aqueducts, baths, and theatres) and were preceded by massive drainage and sewage works.[36] But it is the activity of his close friend, general and official Marcus Vipsanius Agrippa, who held the office of edile and then that

[26] See e.g. Petron. *Sat.* 27: 'Trimalchio cracked his fingers. One eunuch came up at this signal and held the jordan for him as he played. He relieved himself and called for a basin, dipped in his hands and wiped them on a boy's head' (transl. M. Heseltine).

[27] Pliny's description of the role of luxury perfectly illustrates the relativity of this concept: when the pearls were first introduced to Rome they were an exclusive luxury, but with a massive imports of luxury goods by his day, the women of all sorts wore pearls. Thus pearls had become a mass luxury, carried around even by 'the poor' (*pauperes*), see Plin. *HN.* 9.106-124.

[28] For parallel evolution of *balnea* see Fagan 1999: 8, n. 22.

[29] Wilson 2000: 151-179. The two large latrines in Roman *macellum* of Pozzuoli have been dated to a Severan refurbishment. Koloski-Ostrow argues that they had already been constructed in the Flavian age in in the late 1st century AD. According to Koloski-Ostrow (2015: 34-35) they are are among the best examples of the luxury type of latrines, testifying to the new attitude of Puteoli's ruling class toward this aspect of the urban environment.

[30] For the Hadrianic datation of the earliest latrines in Ostia see Koloski-Ostrow 2015: 32.

[31] Most importantly the assistant magistrates drawn from the upper strata of the *plebs urbana*, the so-called *vicomagistri*.

[32] See generally Homo 1932; Shipley 1933; Homo 1951.

[33] Cic. *Ver.* 2.4.68-69. See Cass. Dio 52.30: 'Adorn this capital with utter disregard of expense and make it magnificent with festivals of every kind. For it is fitting that we who rule over many people should surpass all men in all things, and brilliance of this sort, also, tends in a way to inspire our allies with respect for us and our enemies with terror' (transl. E. Cary).

[34] Strabo. 5.3.8; Cic. *Leg.* 2.35.95-96. See also Favro 2005.

[35] The first steps had already been made by Julius Caesar, in his *Lex Iulia municipalis*.

[36] Notabene renovating *Forum Romanum* Augustus made efforts to keep the altar for *Venus Cloacina* in front of *Basilica Aemilia*, Wallace-Hadrill 1993: 51.

of *curator aquarum* of the city of Rome, that merits particular attention. In contradiction to Republican ediles,[37] he took great care, without any inhibitions, of the city's drains and sewage systems — e.g. inspecting and renovating the *Cloaca Maxima*.[38] This meant a new approach to the office of *cura Urbis*.[39] A variety of such less glamorous undertakings included the aqueduct expansion and repairs within the city, together with the construction of hundreds of basins, fountains, and distribution reservoirs.[40] The system was managed by trained slaves and probably additional personnel were employed in administrative bureaucracy, foretoken of a separate permanent administration with a specialised profile and 'office' staff. Henceforth, Agrippa's work was continued after his death by *curatores*, who managed the different types of city infrastructure.[41] Supervisory boards of were established (*curatelae* e.g. *viarum* or *aquarum*).[42] Apart from the typical tasks connected with *cura aquarum*, an additional important task was conferred upon them — to make sure any surplus water from the water supply system was used for flushing the streets and sewers.[43]

Such developments were certainly encouraged by Augustus himself in his lifetime. What's more, his interest in the public infrastructure and keeping the cities clean was shared by his successors. Under Tiberius' rule, the jurisdiction of the *curatores* had reached Ostia. Caligula had famously rebuked the future emperor Vespasian for his failure as edile to keep the city's alleys (*cura viarum*) free of muck and mire.[44] In his turn, it was Vespasian's wish as Emperor (69-79 AD) that the public toilets subjected to Urine Tax should generate income for the state.[45] Nerva had a vested interest in the streets' cleanliness and in keeping them constantly flushed with excess water from public sources.[46] Under Trajan, *curatores* were entrusted with responsibilities concerning the sewage system as well. Finally, a separate office for municipal *cloacae* emerged, but not before the early 2nd century AD, when the official title *curator alvei et riparum Tiberis* has been supplemented by the expression *et cloacarum urbis*.[47] It is worth mentioning that R. Neudecker, while emphasising the leading role of local municipal elites for the development of 'luxury' latrines in Greek-Roman cities in the 1st century AD,[48] has pointed to some early indications of the new 'taste' in this domain that are attested in imperial residential areas in Rome. The evidence of one of the first attempts to embellish such conveniences with some artistic decoration is given by modest toilet on Palatine under *Domus Tiberiana* from the reign of Vespasian, with the interior ornamented by frescoes representing lemon trees and gladiators. According to Neudecker, such nuances might suggest some kind of 'dignifying' of latrines in courtly venues.[49] These attitudes and policies of the 1st century AD emperors go back to Augustus and his revision of the concept of *cura urbis*.[50] Before, there was no glory for anyone from such mundane or downright embarrassing matters as sewage facilities for the general public. Even the poets and prose writers of this age viewed them with disdain. For contemporary orators and men of letters it would be a stylistic indelicacy to even mention such a thing.[51] From Augustus onwards, literature took on a different tone.[52] Augustus himself apparently did take to heart his role of being a father (a refounder ?) to a city (*pater urbis*).[53] In his *Res gestae* he has made it clear

[37] With some praiseworthy exceptions, e.g. of the censors of 184/183 BC, who put together large sums for renovation and expansion of sewers in Rome.

[38] Cass. Dio 49.43. See also for Agrippa Plin. *HN.* 36.24.

[39] Cass. Dio 54.11; Frontin. *Aq.* 99.3. For Augustan *Stadterneuerungsprogramm* and its ideology equating cleanness with state order see Neudecker 1994: 29.

[40] See Dodge 2000.

[41] See Suet. *Aug.* 37. When the city was divided into XIV *Regiones* and CCLXV subordinate *vici*, the officials who controlled them, including *vicomagistri*, cooperated in maintaining the sewage system. See Suet. *Aug.* 30. Augustus made some efforts to elevate the status of these magistrates, Cass. Dio 55.8.

[42] It is telling that, starting with Augustus, *curatores aquarum* were given a number of privileges and honours, which by then were bestowed upon high ranking Republican officials, like i.a. the right to *toga praetexta* and *sella curulis*. Under Nero, after AD 59, *cura aquarum* had made it into the senatorial *cursus honorum*!

[43] Frontin. *Aq.* 98-99. See generally Evans 1994; Robinson 1994: 72-73; Peachin 2004.

[44] Suet. *Ves.* 5.3; see also Cass. Dio 59.12.3.

[45] Suet. *Ves.* 23.5.

[46] Frontin. *Aq.* 88.

[47] For the controversial dating chronology of *cura riparum et alvei Tiberis* (Augustus according to Suetonius, Tiberius according to Tacitus and Cassius Dio) see Kamińska 2013a.

[48] Neudecker 1994: 101: 'erste Versuche weit in das 1. Jh. n. Chr. zurückreichen müssen.'

[49] Neudecker 1994: 99-100.

[50] See Kamińska 2013b; in her view, for all the debatable points in extant accounts of the Augustan urban policy, one can safely assume that already the 2nd decade of his reign saw an efficient *cura urbis* in place. Kamińska (2013a) emphasises that the origin of the office of *curator aquarum* most probably goes back to the Republic. Augustus' lasting contribution was the advancement and increased functionality of the office. As a matter of fact, however, the very concept of *cura urbis* was not invented by Augustus himself. Already during the Republic *cura urbis* implied a broad range of ediles' tasks across a wide range of domains required from the overseers of the capital.

[51] Gowers 1995: 30. To Seneca the Elder even a mere mention of toilet sponges brought irreparable damage to the style of an orator: 'idem res dicebat omnium sordidissimas: acetum et puleium et lanternas et spongias; nihil putabat esse, quod dici in declamatione non posset. Erat autem illa causa: timebat, ne scholasticus videretur. Dum alterum vitium devitat, incidebat in alterum, nec videbat nimium illum orationis suae splendorem his admixtis sordibus non defendi sed inquinari,' Sen. *Controv.* 7 prol. 3. In his turn, Cato found it necessary to use euphemisms when writing down the word 'sewage:' 'cloacale flumen dixit Cato pro cloacarum omnium conluvie' Paul. *Fest.* 52.14.

[52] Strabon admits that the Romans were skilled in some domains where the Greeks were not, e.g. when it came to road construction, building of aqueducts and sewers (Strabo. 5.3.8). Dionysius of Halicarnassus was of a similar opinion, Dion. Hal. 3.67.5.

[53] Favro 1992. See also Cass. Dio 56.30.3; Suet. *Aug.* 28: 'fecitque ipse se compotem uoti nisus omni modo, ne quem noui status paeniteret. Vrbem neque pro maiestate imperii ornatam et inundationibus incendiisque obnoxiam excoluit adeo, ut iure sit gloriatus marmoream se relinquere, quam latericiam accepisset.'

that he was really proud of his investments in Rome's infrastructure.[54]

Now, it is important to realise that the example of the capital was imitated by other cities of the Empire. Provincial, municipal elites were eager to follow suit, constructing not only basilicas, amphitheatres, and baths, but also roads, streets, aqueducts and sewage systems.[55] The feverish pace of this age finds its literary echo in one of the *Satires* by Juvenal (late 1st, early 2nd century AD). Alluding to constant building operations in the capital, including drainage works, he mentions ambitious, greedy nouveaux-riches leasing public toilets and charging their visitors for admission (*conducunt foricas*).[56] And yet, one gets the impression that the public toilets themselves, as one of the fundamental aspects of urban infrastructure, had been largely ignored by this new ideological frame of the Principate. In this context we should address some broader issues — the factors determining the primary sources of our knowledge and, consequently, the modern historical narrative. It seems that we are dealing with the inherent bias, as facilities of this kind, being somewhat less prestigious than other types of urban features characteristic of Roman towns, such as gymnasiums, baths etc. — intentionally passed over in extant literary and epigraphic records.[57] But we know very well that there was a growing willingness of local elites (following the example of the imperial capital) to expend their own resources on such unassuming investments. Archaeology has revealed the remains of altogether more or less 250 extant Greek and Roman latrines (most of them dating to the 2nd-4th century AD). The artefacts speak for themselves; they show the impressive scale of many such establishments and the substantial donor funding involved. The civic munificence comprised donations to cities for all possible projects and there must have been numerous donors (including officeholders) offering their benefactions to the construction of local latrines. The total absence of latrines in such documentation is remarkable when one considers the fact that such commemoration was an integral part of civic munificence. Thousands of inscribed honours that were bestowed on benefactors survive, whereas not a single inscription mentions a latrine! Individuals vying for prestige and appreciation were simply opposed to being publicly honoured for their efforts if their scope included the latrines. This phenomenon becomes even more striking once a larger perspective is taken into account. Much the same as baths and amphitheatres, the latrines constituted one of the important indications of the Romanisation process in the provinces of the Roman empire. For this reason we may assume that the cultural connotations associated with them were quite likely to have been positive. After all, they could form a valid symbol of the adoption of day-to-day Roman practices, or even the indicator of loyalty towards the Empire as such.[58] For example, in Roman Africa, home to so many magnificent Roman latrines, only a handful have been discovered in Mauretania, which was far from being an extensively Romanised region.[59] Throughout the Near East, only 22 public toilets are known to us so far.[60] Most of them date to the 4th century AD. In Judea itself, however, there is evidence for only 2 of them. They were located in Caesarea Maritima and in Scythopolis — that is, in the areas where the deepest advances of Hellenisation and Romanisation were made. This striking scarceness of toilet facilities probably reflects cultural influence: the negative stance Judaism took toward human nudity and the observance of rules of ritual purity and pollution that required human excrement to be buried in the ground. In Greek-Roman latrines this was typically flushed away.[61]

Although it is dangerous to use *argumentum ex silentio*, I would like to stress the fact that there are no extant inscriptions that celebrate the Greek-Roman benefactors for building, repairing and maintaining the latrines, in contrast to the large numbers of euergetic inscriptions recording other activities. This prevailing silence can be explained as follows. Augustus and other emperors as well, who appeared as the source

[54] See *RGDA* 20: 'Rivos aquarum compluribus locis vetustate labentes refeci, et aquam quae Marcia appellatur duplicavi fonte novo in rivum eius inmisso.'

[55] For the diverging concepts of civic communities between the Greeks and Romans (the Greeks emphasised the political institutions, whereas the Romans emphasised the valour of *urbanitas*, public buildings and infrastructure available to the citizens) see Owens 1992: 1-2.

[56] Juvenal, *Satires* 3.31-38, For some striking aspects of Juvenal description of Rome's hygienic conditions see Kron 2012.

[57] This goes for drainage and sewage systems in general. For implicit negative social associations of such facilities see Plin. *Ep.* 10(32).41.2: 'Solent enim eiusmodi homines ad balineum, ad purgationes cloacarum, item munitiones viarum et vicorum dari.' During Tiberius' reign people were punished for bringing emperor's effigies to the latrine, Suet. *Tib.* 58: 'this kind of proceeding [i.e. accusations of treason] was carried so far, that it became capital for a man to beat his slave, or change his clothes, near the statue of Augustus; to carry his head stamped upon the coin, or cut in the stone of a ring, into a necessary house, or the stews; or to reflect upon anything that had been either said or done by him.' I have mentioned already (see n. 24 above) a similar episode during Nero's reign is described in Suetonius' *Vita Lucani*.

[58] Neudecker 1994: 133-134.

[59] Few Roman latrines were found in Britain. Here, for some reasons, the municipal elites were simply not interested in constructing such facilities. Probably this was due to the lower level of urbanisation of the region and to the influence of local traditions, incompatible to the Mediterranean lifestyle. Probably the inhabitants of this province still stuck to traditional chamber pots and toilets with cesspits.

[60] Of them, as many as 15 were located next to the baths.

[61] In Judea, the latrine in the so called Second Palace of Herod in Jericho merits particular attention, as it presents some kind of anomaly. Constructed at an earlier date than others, it might have been an outgrowth of a compromise of sorts between two different models of personal hygiene. The drain was placed under the seats, which was typical for Greek-Roman latrines, but it was not connected to the source of water from the bath. Probably the content of the drain was emptied with buckets and buried in the ground. For the latrines in this region see generally Kamash 2006 I: 179-184.

of incessant inspiration and an unparalleled model for hundreds of local city benefactors, altogether all shared the same disposition. Even if their building projects in their entirety or in part did make allowances for the development of latrines, they preferred not to pride themselves on this kind of improvement to the urban infrastructure. The result is a striking gap in the exceptional wealth of epigraphic documentation produced on Augustus and his reign, as well as that on his 1st century AD successors. That's why we know almost nothing about the way the public toilets were established in Rome during the late Republic and early Principate. The administrative aspects of their management remain — and probably always will — a matter of speculation. In the recent scholarly explorations of urbanist trends in Augustus' Rome there is not even a hint to be found on the latrines or toilets.[62] Instead, perhaps in line with his own expectations, modern historians tend to focus on the grandiose aspects of Augustan culture.

Nevertheless, key developments in civic infrastructure and related specialised administration were initiated at the very beginning of the Principate, in the Age of Augustus. His new idea of *cura urbis*, which incorporated investments in sewage disposal and interrelated drainage system, must have played a pivotal role in this. As one of the indispensable component parts of such infrastructure, latrines were a natural extension and continuation of such urban planning premises.

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# Some Aspects of Urban Space at Ptolemais in Cyrenaica

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**Summary**
Research into the topography of Ptolemais, a large coastal city in western Cyrenaica, calls for a historical perspective, since we are dealing with a Hellenistic foundation, probably under Ptolemy I Soter, whose millennium-long history until the end of the city's existence in the 7th century AD can lead to a conflation of images from various stages of its development. As a result, in order to recognise the urban character of Ptolemais, it is necessary to conduct interdisciplinary studies: as well as non-invasive survey methods these must also include analysis of excavations conducted to date by Italian, American, British and Polish archaeologists in different parts of the city to check against the geodesic and geophysical data. Although departures from the city grid can be seen in Late Antiquity, particularly in its western area, the general plan of the city did not undergo any changes: quarters with a different orientation and streets or insulae delineated according to different rules are absent.

**Keywords**
Cyrenaica, Ptolemais, topography, city plan, Romanization

The topography of Ptolemais, a large coastal city in western Cyrenaica, reflects its millennial history starting from the Hellenistic period until the times of the Arab invasion in the 7th century AD. It was built on the site of a former harbour that belonged to Barca, an important city located in the hinterland that had been founded by some dissidents from Cyrene in the 6th century BC. Consequently, Ptolemais took after its predecessor the traditional role of counterbalancing Cyrene in the region.[1] The foundation of the city by one of the first Ptolemies was undoubtedly a symbol of their power in Cyrenaica, considering that Cyrene, the main city in the region, was still able to demonstrate some signs of its autonomy. Moreover, it is significant that in the 3rd century BC new cities were emerging beside Ptolemais, such as Arsinoe renamed after the ancient colony Tauchira as well as Berenice that replaced Euesperides, perhaps all of them intentionally located on the coasts of western Cyrenaica.[2] The interest of the Ptolemaic dynasty in that particular part of the region was not only a consequence of their aim to counterbalance Cyrene, but was also determined by the Mediterranean politics of Egyptian rulers as well as the dynasty's interest in the lands located west of Cyrenaica, particularly visible in the activity of Ptolemy I Soter and his emissary Ophellas in the last two decades of the 4th century BC. Perhaps the decision to found Ptolemais had been already made back then as a way to punish Barca for its support of Thibron's uprising. Moreover, numerous groups of expellees returning from Cyrene and the necessity to keep mercenary troops might explain the desire to found a new city and a new settlement.[3]

It was pointed out for a long time that the layout of Ptolemais was extremely regular and had managed to preserve this characteristic until the Late Antiquity[4] [Figure 1]. Even though one can notice a slight deviation in the plan of the city in its latest development, found in the western part of the city in the area of the Western Basilica, the basic urban structure remained intact. Moreover, despite the fact that the streets were closed for wheel traffic, for example the eastern avenue in the harbour area in the 5th century AD and in spite of having been built over gradually, the urban quarters remained persistent until the end of the city's existence and there are no differently delineated districts.[5]

This situation suggests the creation of a complete city plan at its very beginning and a singular settlement action. However, it is difficult to assume that such a big area, enclosed by urban walls was constructed so quickly. Polish topographic research, geophysical measurements in particular, allowed us to particularise the orthogonal plan of Ptolemais containing two main streets that ran perpendicular to the sea coast (*cardines* in Roman terminology) and a third one crossing the city in half (*decumanus*).[6] Consequently, the street network made up of parallel streets deviated 40 degrees to the west, which could be read as a sign of Vitruvius's recommendations. It is characteristic that the eastern

[1] Chamoux 1952: 144-168; Bacchielli 1997; Bacchielli and Santucci 2005a; 2005b.
[2] Lloyd 1985; Leggio 2005; Cohen 2006: 68-70, 385-396; Huss 2008; Wilson 2013: 120-124.
[3] Laronde 1987: 41-42, 49-52, 379-404.
[4] Greco and Torelli 1983: 339-340.
[5] Żelazowski and Gasparini 2014: 303-306 (J. Żelazowski); Żelazowski and Misiewicz 2015: 35, 68, 81-83.
[6] Małkowski 2009: 125-132; Misiewicz *et al.* 2010: 197-203; 2011: 73-80; Małkowski *et al.* 2012: 15-34; Małkowski and Żelazowski 2012: 44-48; Żelazowski and Misiewicz 2015: 35-44.

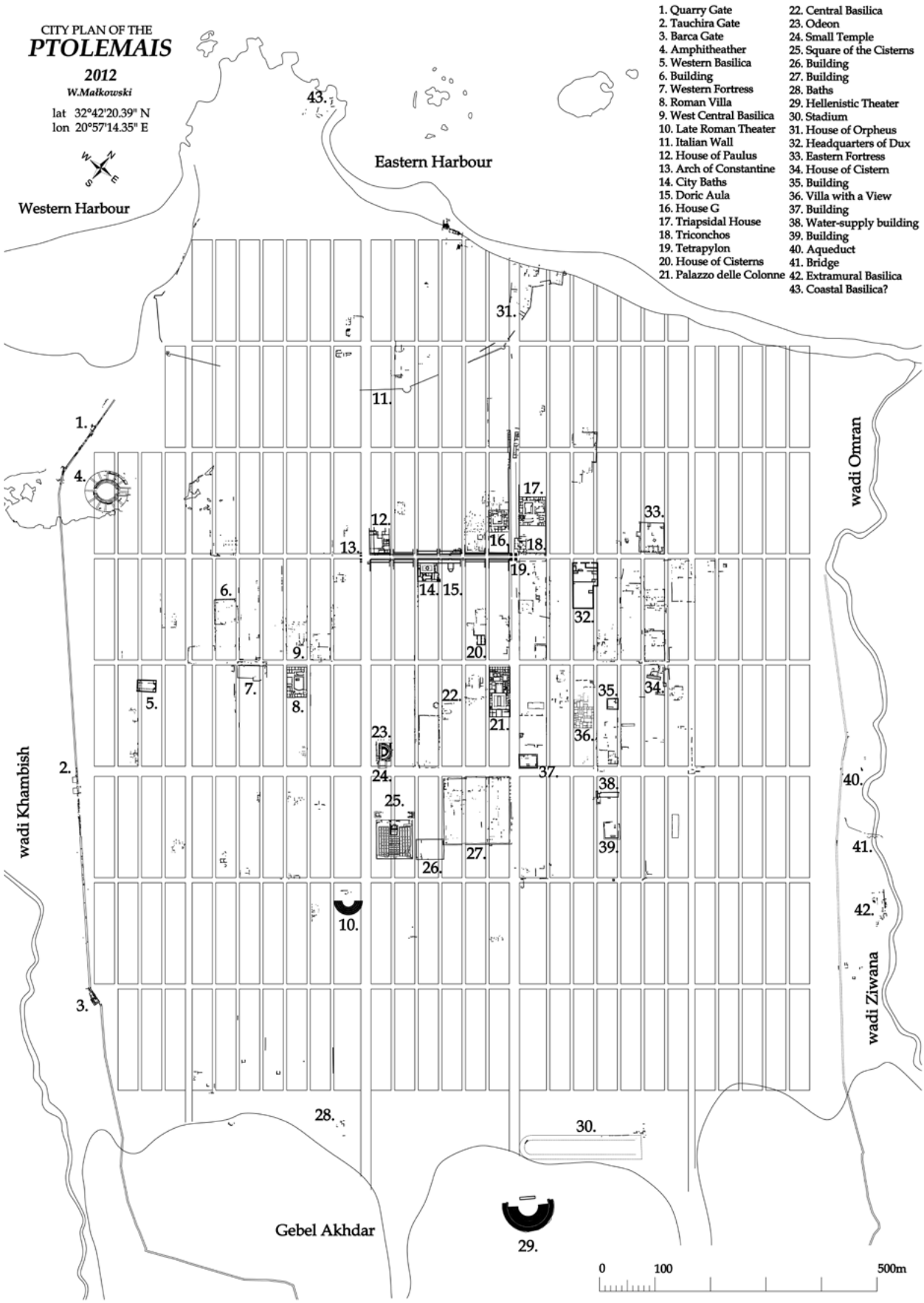


Figure 1. City plan of Ptolemais (*Elaborating W. Małkowski)*

Figure 2. Remains of the Upper Theatre (*Photo J. Żelazowski*)

*plateia* which contains slabs with clear traces left by wheels, leads from the sea directly to the theatre situated on the slope of Gebel Akhdar. This suggests that the building was contemporary to the street layout or that the city plan was adjusted to the already existing theatre. It was not well-preserved, becoming probably a source of building stone in Late Antiquity [Figure 2]. However, Polish research managed to reconstruct its plan which is surprisingly consistent with Vitruvius's model[7] [Figure 3].

The cavea which had been carved in a rock was able to contain approximately 7 thousand spectators, which allows us to roughly estimate the number of citizens and their families as well as the scale of the settlement in Ptolemais. If we consider the assessments made by the Copenhagen Polis Center, focusing mainly on Greek cities from earlier periods, proving that the bigger the city was, the less private houses it had,[8] we can estimate that about a thousand settlers were moved to Ptolemais along with their families. Admittedly, the city was established on the site of the former port of Barca and at the expense of this agricultural city, located about 30 km inland. However, it is difficult to expect that its inhabitants willingly left their farmlands and moved to coastal Ptolemais. It is true that with the passing of time the big harbour city attracted many inhabitants of Barca, which saw its civic status reduced to that of a mere village, but it was the new settlers who constituted the base of the inhabitants of Ptolemais, as it was in the case of Apollonia, a harbour of Cyrene that presumably became an independent polis in the 1st century BC.[9]

It is worth mentioning that there was also a stadium built by the theatre whose auditorium was supposedly located on the hillside of Gebel Akhdar [Figure 4]. This structure was also adjusted to the city plan. Its size suggests that horse races were not organised here, although further research should be made in order to confirm this.[10] Moreover, it seems that this area of the city was used as a cultural centre and abounded in public and religious buildings, which can be deduced from the remaining traces of votive plates on the hillside east of the theatre.

Polish topographical and geophysical research allowed us to better understand the plan of Ptolemais and

[7] Kraeling 1962: 93-95; Stucchi 1975: 136-137; Gros 1996: 275-280, 301-304; Małkowski and Żelazowski 2012: 40-43, fig. 5-6; Żelazowski and Misiewicz 2015: 35-38, fig. 4-6.
[8] Hansen 2006: 73-76; Mikocka and Misiewicz 2015.
[9] Goodchild 1971: 177-179; Laronde 1987: 457-461; 1996.
[10] Kraeling 1962: 95; Stucchi 1975: 137, 296; Małkowski and Żelazowski 2012: 40, fig. 4; Invernizzi and Luni 2014: 205-206 (L. Invernizzi).

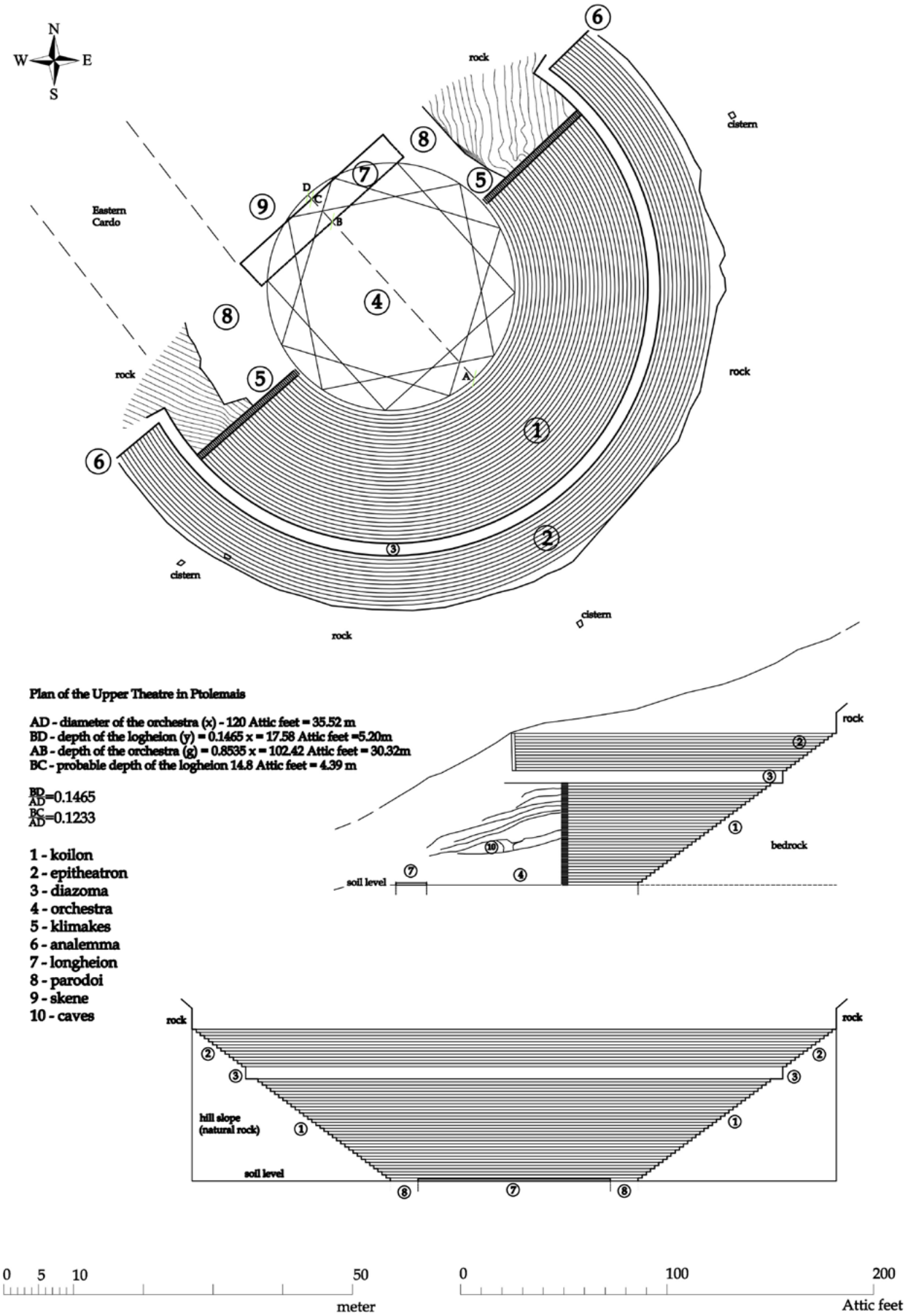


Figure 3. Plan of the Upper Theatre (*Elaborating W. Małkowski, J. Żelazowski*)

Figure 4. Stadium near the Upper Theatre (*Photo M. Bogacki*)

most importantly to return to S. Stucchi's suggestion that the city was delineated according to the so-called Ptolemaic foot (36.5 cm).[11] Its existence, sometimes contested by researchers in the past, was confirmed thanks to the geophysical map and the Polish archaeological excavations in the eastern part of the city.[12] As a result, it may be posited that the division of the unit of measurement by six turns out to have been important to the creator of the Ptolemais city plan. A stadium (600 ft) divided by six gives the 100 ft (36.5 m) width of an insula. The basic unit of the street width amounted in turn to 100 ft divided by six. The city was laid out according to these widths within the walls on an east-west axis and the width of the eastern and western *cardo* was set at three times the standard street. Moreover the analysis of the geophysical map allows us to complement this picture with another pair of streets running to the sea, this time of a width twice the standard street width, and so accessible to wheeled transport.[13]

If the standard insula width of 100 Ptolemaic ft finds its confirmation in the excavations, then to date nobody has managed to excavate an insula along its entire length. Nevertheless, analysis of the available geodesic measurements and the geophysical map seems to confirm C.H. Kraeling's suggestion[14] of 1 : 5 being the proportion of an insula and thus of a size of 100 × 500 ft (36.5 × 182.5 m). In turn, the starting point for determining the width of the streets that run east to west – the *decumani*, to use Roman terminology – remains Via Monumentale, which has been excavated in detail over a large part of its length[15] [Figure 5]. The measurements suggest that its original width was 25 ft, that is half of the width of the eastern and western *cardo* and thus one and a half times the module of the standard street at Ptolemais. C.H. Kraeling has already suggested the presence of seven such *decumani* in the city grid, but the street running through the city centre from Tauchira Gate is twice as wide as the other ones and at 50 ft is equal to the eastern and western *cardo*.[16]

In a way we can classify such a city plan that contained three *plateiai* and the elongated insulae or *per strigas* as a typical characteristic for Greek urban planning, although similarities with cities in Sicily and southern

[11] Kraeling 1962: 39; Stucchi 1975: 117-118, n. 7; Laronde 1987: 397.
[12] Żelazowski 2012a: 155-156; 2012b: 74-77.
[13] Małkowski *et al.* 2012: 27; Małkowski and Żelazowski 2012: 45; Żelazowski and Misiewicz 2015: 38-40.
[14] Kraeling 1962: 39.
[15] Kraeling 1962: 74-83 (G.R.H. Wright and C.H. Kraeling); Stucchi 1975: 274, 341.
[16] Małkowski and Żelazowski 2012: 48; Małkowski *et al.* 2012: 27; Żelazowski and Misiewicz 2015: 43.

Figure 5. Via Monumentale (*Photo M. Bogacki*)

Italy are striking.[17] However, there are doubts about the fact that the Ptolemaic foot is only attested in Cyrene at a relatively late date – in the second half of the 2nd century BC – and characterises buildings from late Ptolemaic and early Roman periods. S. Stucchi claimed that Ptolemais should be treated as an example of the well-known phenomenon in the Greek world where the foundation of a new polis was a mere renaming and did not necessarily entail urban transformation from the very beginning.[18] It may thus be thought that the foundation of Ptolemais under, presumably, Ptolemy I Soter[19] would not have involved large-scale settlement or the construction of a new city. These developments would not occur until over a century later, in the 2nd century. Looking at Cyrenaica's history in that period, it would be most reasonable to link this new and final layout of Ptolemais with the activities of Ptolemy Physcon in the mid-2nd century BC.[20]

His long and autonomous rule in Cyrenaica until 145 BC was characterised by a power struggle with his brother in Egypt, involving the participation of the Romans. At the same time, similarly to Ptolemy's I Soter dominion, Cyrene tried again to win the unstable situation of Ptolemaic rule to achieve its autonomy and independence once again, by rebelling against Physcon.[21] Perhaps, the ruler of Cyrenaica in order to strengthen his governance might have sought for a counterbalance for his rebellious city and develop Ptolemais through a new settlement process involving his followers and mercenary troops which finally lead to the definitive spatial organisation of the city. The presence of a Libyan strategist in Ptolemais is noteworthy[22] and the researchers are prone to admit that the well-preserved mausoleum in the western part, outside the city walls and shaped like a tower – one of a group of tombs that dominates the sea-coast – could have been built for Physcon, or his family and attendants[23] [Figure 6]. The king of Cyrenaica could

[17] Greco and Torelli 1983: 186-212 (Selinunte, Agrigento, Metaponto, Poseidonia), 274-279 (Napoli).
[18] Stucchi 1975: 117-118, n. 7; Hellmann 2010: 204-213.
[19] Mueller 2004; 2006: 142-146, 207 (App. III, no. 62); Żelazowski 2012b: 67-70.
[20] Małkowski and Żelazowski 2012: 55-56; Żelazowski and Misiewicz 2015: 46-50.
[21] Romanelli 1943: 13-24; Laronde 1987: 417-454.
[22] Laronde 1987: 418-420.
[23] Kraeling 1962: 112-115; Stucchi 1975: 178-181; Laronde 1987: 443-444; Rekowska-Ruszkowska 2009; Rekowska 2012: 28-31.

Figure 6. Mausoleum (*Photo M. Bogacki*)

not have been able to predict that he would actually manage to return to Egypt. Naturally the uniquely shaped mausoleum, showing micro-Asiatic or Sicilian influences, cannot really prove that Ptolemais became an administrative centre. However, the well-known Palazzo delle Colonne, a Late Hellenistic luxury residence raised next to the alley leading up to the theatre, is worth mentioning [Figure 7]. Even apart from the collection of Egyptian antiquities[24] discovered in it, the Alexandrian influences in the decoration of the building had already been noticed a long time ago.[25] The spatial arrangement with two big ceremonial halls on a peristyle axis recalls the houses in the coastal Marina el-Alamein, located on the route from Cyrenaica to Alexandria.[26] This huge residence, even though often compared with the palaces of Hellenistic rulers as well as Casa del Fauno in Pompeii[27] was not necessarily the residence of the Ptolemaic administration, but its size indicated that the city started developing from the 2nd century BC.

Even though Physcon's activity in Ptolemais is only an interesting guess, it is worth pointing out that researchers argue this was the ruler who also left traces of his construction work in the rebellious Cyrene. Large-scale Italian archaeological and restoration research has allowed us to state that the enormous, public gymnasium known as *Ptolemaion*, which became a place of Ptolemaic cult as well as a symbol of power, should be dated to the middle of the 2nd century BC[28] [Figure 8]. Moreover, it was noticed that the part of the city east of the gymnasium adopted a new layout in this time.[29] These types of interventions suggest that Physcon was interested in reaching the stability and entrenchment of his power in Cyrenaica in order to create a solid base in the region for his long-term politics.

It is symptomatic that an analogous gymnasium with a characteristic tank of massive proportions under the palaestra, where rainwater from the surrounding hills was collected, also appeared in Ptolemais – the location of a dynastic cult, as we can assume from the remaining bases and Ptolemaic dedications[30] [Figure 9]. Even though S. Stucchi dates this building to the turn of the 2nd century BC,[31] it matches well the period when the

[24] D'Este 1998.
[25] Pesce 1950; Lauter 1971; Stucchi 1975: 215-219; Lauter 1999: 130-131; Wilson 2005; McKenzie 2007: 95, 153; Bonacasa 2009.
[26] Daszewski 2011: 423-435; Bąkowska-Czerner 2014, Czerner 2017.
[27] Gros 2001: 48-52.
[28] Stucchi 1975: 125-128, 204-208; Laronde 1987: 435-437; Luni 1990; 2006: 37-45; 2009: 75-80; Trifogli 2014.
[29] Luni 1990: 99-101; 2006: 42.
[30] Kraeling 1962: 62-67 (J.E. Knudstad); Stucchi 1975: 128-131; Laronde 1987: 398; Luni 2009: 58-67.
[31] Stucchi 1975: 131.

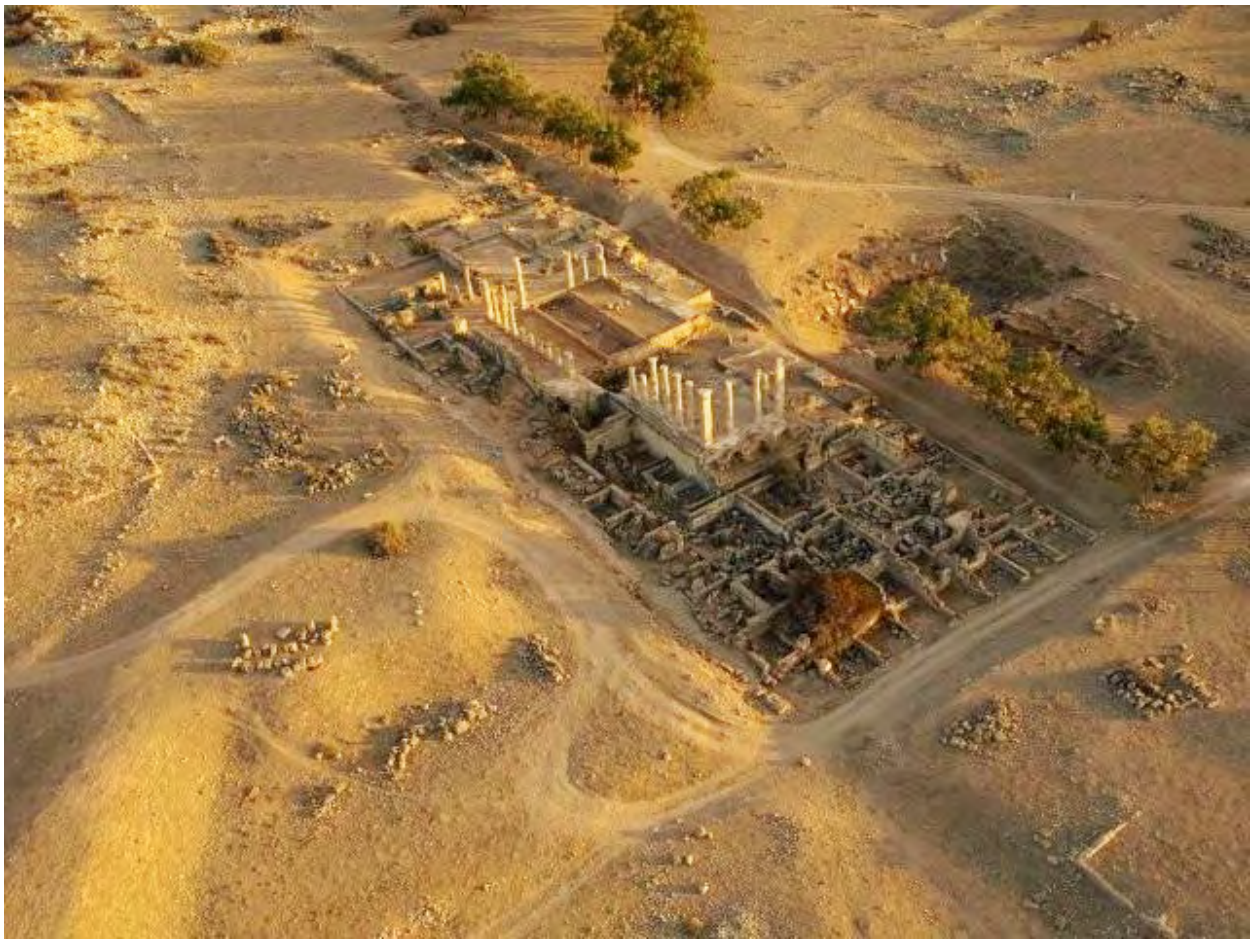

Figure 7. Palazzo delle Colonne (*Photo M. Bogacki*)

Figure 8. Gymnasium-*Ptolemaion* at Cyrene (*Photo J. Żelazowski*)

Figure 9. Square of the Cisterns (*Photo M. Bogacki*)

city was developing and perhaps it is no coincidence that the oldest buildings in the city discovered by archaeologists do not date back to early times.

It is usually assumed that the will of Ptolemy Apion in which he gave Cyrenaica to the Roman Republic in 96 BC triggered a period of destabilisation in the region.[32] The lack of Ptolemaic administration and the weak presence of the Romans made the surrounding Libyan tribes more independent and allowed them to plunder the territory of the cities where, concurrently, internal fights for power were not rare. The Romans took over the local properties of Ptolemaic kings and might have charged a tribute which consisted of the famous plant *silphium* and resulted in the appearance of *publicani*. However, they announced the freedom and independence of the Greek cities where not having a Roman centralised power triggered old antagonisms.[33] At the same time, the cities located on the coast were exposed to pirate attacks from bases in Crete or maybe even Cyrenaica that destabilised the maritime trade routes. The Romans were trying to reign over the situation, as proved by the activity of L. Licinius Lucullus in Cyrene in 86 BC and in order to fight the pirates, Roman vessels might have been present in the area as well.[34] Finally, the takeover of Cyrenaica in direct administration as a Roman province in 74 BC and the spectacular victory of Pompey over the pirates in 67 BC made the situation stable, although not for a long time given the rising crisis in the Roman Republic and the civil war.[35] The inhabitants of the cities in Cyrenaica might have been a bit surprised by the nature of Roman rule when they saw the constant changing of province governors and judges dealing with the most important issues, or when they met with the briefly visiting Roman legates or when they wondered how to welcome the troops of Pompey's followers that were passing by Cyrenaica after the battle of Pharsalos.[36] The Romans did come and go but that didn't mean a lack of interest in the far away region of their state and a lack of willingness to intervene in the life of the province. The cities' elites could count on obtaining Roman citizenship but had to endure the presence of four legions of Antony and his decision to hand over Cyrenaica to Cleopatra Selene in 36 BC as well as the gradually developing idea of being administratively conflated with Crete.[37] Much agitation was caused by Roman settlement initiatives such as the

[32] Reynolds and Lloyd 1996: 619-624.
[33] Romanelli 1943: 39-41; Laronde 1988: 1008-1011.
[34] Romanelli 1943: 43-46; Laronde 1987: 456-457, 463-479; 1988: 1009; Keaveney 1992: 22-23.
[35] Romanelli 1943: 47-51; Laronde 1987: 478-479; 1988: 1011-1012.
[36] Romanelli 1943: 60-63; Laronde 1988: 1012-1013.
[37] Romanelli 1943: 63-65; Laronde 1988: 1012-1015.

Figure 10. Square of the Cisterns (*Photo M. Bogacki*)

supposed location of the defeated pirates in Ptolemais which were promised parcels of land.[38]

Finally, Augustus's exceptionally long rule brought the moderation of moods and a final decision about conflating Crete with Cyrenaica into one province ruled by senate proconsuls. Admittedly, some problems persisted, such as the necessity to fight with Libyan tribes (*bellum Marmaricum*) or conflicts in cities with Jewish communities, but the stable rule gave the inhabitants of Cyrenaica a sense of belonging to the Roman state.[39] Such a feeling was emphasised by the promoted imperial cult which, given the advanced level of research, is well confirmed in Cyrene where it dominated the northern side of the agora. The situated next to it, the previously mentioned gymnasium-*Ptolemaion* began, at the end of Augustus's rule, to be known as the *Caesareum*. This enormous building covering over a hectare and a symbol of the new rule, in the next decades of the 1st century AD was complemented by a three-aisled basilica which replaced the areas for the ephebes. Moreover, when Bacchus's temple appeared in the centre of the courtyard in the 2nd century AD the whole construction assumed a Roman character.[40]

Undoubtedly, Ptolemaic traditions helped the citizens of Cyrenaica accept the imperial cult, as we can also deduce from the gymnasium in Ptolemais. It is assumed that the huge *quadriporticus* gained its monumental character in the 1st century AD, when the original palaestra was surrounded with Doric porticoes and the general opinion holds that this was an important urban square, dedicated first to the cult of the Hellenistic Ptolemies and then to the Roman emperors [Figure 10]. It retained its importance all the way through the 5th century AD, when its northern part was reconstructed under Arcadius with a monumental tribune.[41] The so-called Square of the Cisterns was such a characteristic spot that it led some scholars to consider it to be the city's most important square – the forum – and thus to deny its function as a gymnasium. This was due mostly to the lack of ephebic inscriptions, which are present

[38] Reynolds 1962: 102; 1990: 66; Laronde 1988: 1012.
[39] Romanelli 1943: 69-91; Laronde 1988: 1015-1022, 1043-1045; Reynolds and Lloyd 1996: 630-636; Żelazowski 2017.
[40] Laronde 1988: 1034-1042; Luni 2006; Trifogli 2014.
[41] Stucchi 1975: 203-204, 458-462.

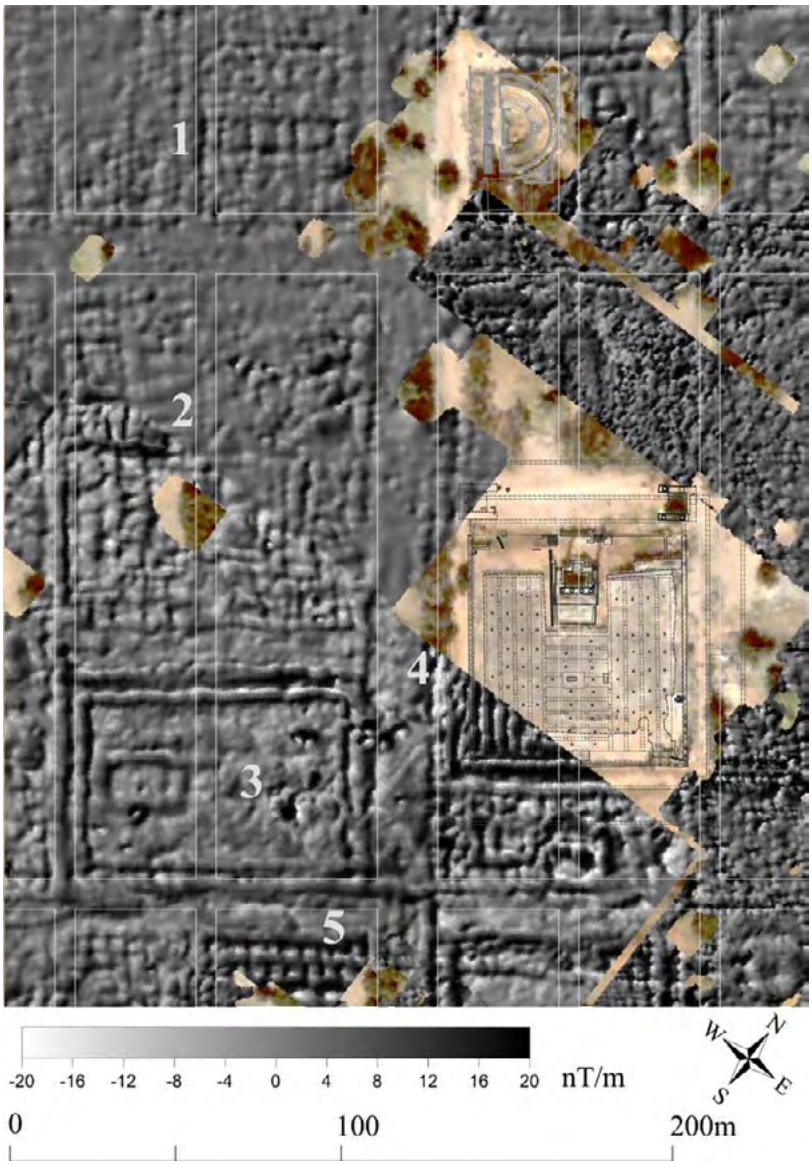


Figure 11. Results of the magnetic survey near the Square of the Cisterns (*Elaborating K. Misiewicz*)

in the western part of the city.[42] Presumably, just as the case with the gymnasium at Cyrene, the presence of the Ptolemaic, then imperial cult led to the withdrawal of athletic activities from the structure, which migrated elsewhere.[43] It is, however, symptomatic that G. Caputo, during the course of his archaeological-conservation works at the Square of the Cisterns, failed to conclude that a basilica had been there, as one would expect by analogy with the gymnasium at Cyrene.[44]

By now it is, however, known that the *Sebasteion* (or *Kaisareion*) in the cities of Asia Minor and *Augusteum* (or *Caesareum*) in Italy could take many forms and thus the three-aisled, apsidal basilica of Cyrene did not constitute an archetype or even a model for a place of imperial worship.[45] Nevertheless, the Square of the Cisterns in its role as the centre of the imperial cult called for a more closed spatial organisation and it is in this context that one must recall the existence in Ptolemais of the *stoa basilike* mentioned by Synesios at the beginning of the 5th century AD.[46] Its location is unknown but despite the many proposals, if we link the Square of the Cisterns with the imperial cult, it may have closed off one of the square's sides and gathered imperial statues and altars even without taking the form of a three-aisled, apsidal basilica. In this context, it is worth looking at the southern side of the Square of the Cisterns, where geophysical surveys indicate characteristic structures on the axis of the rostra on the opposite sides of the square. Although the picture is not quite clear due to earlier works in archaeology and conservation, for people standing on the monumental tribune it was the southern side that was the most important for the spatial organisation of the square and for the imperial cult.

Undoubtedly, worship of the emperor as an element of the religion of loyalty determined the spatial organisation of cities, so in Ptolemais we can, therefore, also expect 'marble rooms' in large baths, imperial nymphaea or imperial temples. Paradoxically, the excavations to date have mostly led to the uncovering of private houses and large residential structures,[47] leaving public architecture largely unexplored, but it is enough to cast a glance at the geophysical map of the Square of the Cisterns to realise that Ptolemais was not deprived of monumental temples and other public buildings[48] [Figure 11].

It seems that R.G. Goodchild was right in looking for the forum further to the north, albeit still alongside

[42] Laronde 1987: 398; Roques 1987: 90.
[43] Luni 2006: 50-51; Trifogli 2014: 186.
[44] Caputo 1954: 51-55.
[45] Gros 1996: 235-244; 2003; Wilson 2005; Gros and Torelli 2010[2]: 453-459 (P. Gros).
[46] Synes. *Epist*., 41. 60. 2-3; Roques 1987: 199.
[47] Gasparini 2009; Mikocka and Misiewicz 2015.
[48] Misiewicz *et al.* 2011; Małkowski *et al.* 2012.

Figure 12. Odeon (*bouleuterion*) and the area of the forum (*Photo M. Bogacki*)

the western *cardo*, where a large square surrounded with colonnaded porticoes appears and where the fragment of a Latin inscription was found, which clearly states that it was displayed at the forum[49] [Figure 12]. R.G. Goodchild's suggestions are fully supported by the Polish geophysical research, although without the temple on the square's axis and adjacent basilica, frequent elements of Roman fora.[50]

Between the Square of the Cisterns and the hypothetical forum, there is another building, the so-called Odeon, which also faces the western *cardo* [Figure 13]. R.G.Goodchild saw Hellenistic origins for this building and despite the lack of a stage building, insisted on seeing it as a theatrical venue, which was symbolised by its adaptation to aquatic displays in

Figure 13. Odeon (*bouleuterion*) by the western *cardo* (*Photo M. Bogacki*)

[49] Stucchi 1975: 276; Goodchild 1976b.
[50] Misiewicz 2009.

Figure 14. Arch of Constantine at the crossroads of the western *cardo* and Via Monumentale (*Photo M. Bogacki*)

its last stage at the end of antiquity, as G. Traversari observed.[51] It seems, however, that G. Caputo was right in suggesting it was a *bouleuterion* built in the Roman period.[52] The building was clearly adjusted to fit the small temple right next to it, which is dated on the basis of a surviving column capital to Hadrian's period.[53] The *bouleuterion* should thus be seen in the context of the growing ambitions of Ptolemais under the Antonines, as indicated by the traces of the city's correspondence with Antoninus Pius.[54] Undoubtedly, locating such a building in the vicinity of a large forum provides another argument in favour of its role as the seat of the municipal council.

P. Gros pointed out that three things determined the architectural development of Greek cities in the Roman Empire.[55] In addition to the imperial cult and the broadly understood presence of the emperor and the imperial administration in the cities, which required an appropriate architectural framework, another important element was the so-called *aemulatio municipalis* or rivalry between cities in a given region, which could have escalated the construction of increasingly impressive buildings in search of fresh honorary and religious advancements granted by the emperor to various cities. In some way Ptolemais must have won the competition against the other cities of Pentapolis, since it won the status of the provincial capital of Libya Superior in the administrative reform of Diocletian, who set up the new province, although the decision may have been dominated by his desire to move the capital city away from Cyrene and to the safer regions of Cyrenaica after yet another round of fighting against the nomads of Marmarica.[56] No doubt the symbol of the newfound importance of Ptolemais was the Arch of Constantine [Figure 14], built at the crossroads of the western *cardo* and Via Monumentale,[57] while the presence of the Roman civilian and military administration accelerated the process of Romanisation and imitated the Roman model.

The third factor determining vigorous construction in cities was *imitatio urbis*, the desire to follow the Roman 'model,' which did not, however, entail uncritically adopting the architectural styles of Rome. It is, however, symptomatic that if Cyrene, in a manner typical for

[51] Traversari 1960: 43-45; Kraeling 1962: 89-93 (R.G. Goodchild); Stucchi 1975: 278-279, 465-467.
[52] Stucchi 1975: 278-279; Balty 1991: 431-432, 496-498, 620.
[53] Stucchi 1975: 240.
[54] Reynolds 1978; Boatwright 2000: 182.
[55] Gros and Torelli 2010²: 410-420 (P. Gros).
[56] Romanelli 1943: 130-141; Kraeling 1962: 20; Goodchild 1976a; Roques 1987: 85.
[57] Kraeling 1962: 75-78; Stucchi 1975: 338-341.

Figure 15. Harbour area with remains of the amphitheatre in the foreground (*Photo M. Bogacki*)

the Greek East, adapted the orchestra for gladiatorial contests, then Ptolemais built a separate amphitheatre to host them[58] [Figure 15]. In this context one must also consider the construction of great public baths, which are symbolised by the structure uncovered by C.H. Kraeling at the Via Monumentale, but which must have been much more numerous[59] [Figure 16].

The state of archaeology at Ptolemais means that architectural evolution is best traced in private construction. It is enough to compare the Palazzo delle Colonne with the House of the Triapsidal Hall (House T) by the eastern *cardo* to realise the great distance the city's inhabitants had travelled from the late Hellenistic to the late Roman period[60] [Figure 17].

The construction of large, representative rooms with apses in private residences, as well as the conversion of the now-unnecessary *bouleuterion* to an aquatic theatre may be understood in the context of ongoing changes, including cultural ones. A degree of attachment to tradition is, nevertheless, evident: the same public buildings were constantly rebuilt, especially under emperor Arcadius, whose reign featured the reconstruction of the Square of the Cisterns or the Via Monumentale. We can thus talk of continuity and change, but it would certainly be premature to make generalisations on the scale of the city especially that it is difficult to assess where the influence came from. On the one hand in a city that used to belong to the Greek world one should expect a certain attachment to Greek traditions. On the other hand, it is difficult to consider the process of Romanisation merely as a small influence and concession towards the Roman reality. The Romans created a multicultural state which underwent globalisation with a free flow of people and ideas and consequently the architectural solutions and decorative motifs were used in the East and West, which of course did not exclude regional customs. Notwithstanding, the imperial power in Rome was also experiencing globalisation and the desire to imitate it in provincial environments made the capital city's ideas and trends popular even without the ruler's initiative. This is why when analysing influences it is sometimes difficult to assess if they came directly or through imperial Rome and whether the Alexandrian influence on Cyrenaica which might seem natural was not in fact

[58] Kraeling 1962: 95-96; Stucchi 1975: 295; Ensoli 2010: 130-140.
[59] Kraeling 1962: 160-175; Yegül 1992: 397-400, 471.
[60] Gasparini 2009; Żelazowski and Gasparini 2014: 306-310 (E. Gasparini); Pensabene and Gasparini 2014.

Figure 16. City Bath in the middle on the south side of the Via Monumentale (*Photo M. Bogacki*)

Figure 17. House G and the House of the Triapsidal Hall alongside the eastern *cardo* (*Photo M. Bogacki*)

the result of a couple of emperors' fascination with Alexandrian artistic heritage.

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# Restoration of the Osiride Statues of Hatshepsut in the Lower Portico of the Temple of Hatshepsut in Deir el-Bahari

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**Summary**
In the first section, the authors wish to present a short story of the reconstruction works on the sculpture of Queen Hatshepsut as Osiris which is situated in the northern Lower Portico of Hunting of the Temple of Hatshepsut in Deir el-Bahari. Later, the results of architectural research and of studies regarding the design of the correct reconstruction of the statue will be presented. The design was prepared by architects from the Polish-Egyptian Archeological and Conservation Mission in the Temple of Hatshepsut in Deir el-Bahari in Egypt. Two architects – Teresa Dziedzic (the main architect of the mission) and Mariusz Caban – undertook an attempt to verify mistakes in the reconstructed monument. The incorrect reconstruction took place in the 1930s and was conducted by American mission led by H.E. Winlock. The sculpture presents the Queen Hatshepsut as Osiris decorated with the double crown of Lower and Upper Egypt. The statue with the crown reached the upper edge of the wall of the northern porch. Sculptor Wojciech Myjak is working on the reconstruction of the statue. He is also behind the method of reconstructing the statues of the façade of the Upper Porch. Another artist and sculptor – Andrzej Sośnierz – also participates in the project and he is in charge of the reconstruction of the head of the second colossus of the Queen, whose original location was most probably the southern wing of the Obelisk Porch.

**Keywords**
Osiride statues of Hatshepsut, Temple of Hatshepsut, Deir el-Bahari, restoration, conservation of monuments

## History and the present state

Herbert E. Winlock, who led the American mission from the Metropolitan Museum of Art in New York, began the excavations at the Temple of Hatshepsut in Deir el-Bahari in 1911. Over the following years, the mission he directed made many discoveries, from foundation deposit pits, sarcophagi and mummies, to a large number of temple sculptures. Winlock presented the results of his work in reports, such as the *Excavations at Deir el-Bahari 1922-1931*, published in New York in 1942. The authors were able to obtain valuable additional information from the archives of the Metropolitan Museum of Art in New York.[1] In the 1927-1928 season, the discoveries of the American mission included a large group of fragments of Osiris statues with the queen's face. The eight identified figures were a little over 3 m high and, as the researcher suggested, most likely came from the niches in the Upper Terrace wall. According to Winlock, the statues of about 5 m in height belonged to the uppermost portico: the Coronation Portico. The conducted research determined that the statues located on the northern side wore the double crown – white and red, symbolising Upper and Lower Egypt – whereas the statues in the southern part of the temple wore just the white crown of Upper Egypt. It was also possible to sort and separate groups of blocks which enabled the reconstruction of the statues. The blocks of Osiride colossi of Hatshepsut turned out to be a significant group. The statues were established to be 7.25 m high. In this case, too, it was possible to determine that one of them had a double crown, while the other wore only the white crown. Recognising a limestone plinth on the sandstone floor in the northern part of the Portico of Hunting within the smooth, slanted crowning wall was a significant discovery by Winlock. The object was documented, marking all the identified builder's marks. During research, sketches were also identified and documented on the wall crowning the Portico of Obelisks. The Portico of Obelisks had already undergone reconstruction by the end of the 19th century, when E. Naville led the mission working at the Temple of Hatshepsut, and S. Clarke conducted the reconstruction works. The interpretation of the sketches and discovery of fragments of the queen's statues enabled Winlock's team to determine the function of the chipped stone block protruding from the wall. It was concluded that the block had anchored a colossus to the wall.[2] The southern statue of the queen was not constructed along

[1] The authors' own research based on the excavation notes of the Polish-Egyptian Archaeological and Conservation Mission and on Herbert E. Winlock's notebooks in the Metropolitan Museum of Art archive. The authors and the head of the mission Dr Z. Szafrański are sincerely grateful to Dorothea Arnold for granting access to this archive.

[2] Winlock 1942: 161-163.

with the wall crowning the portico, while the northern wall was built as an integral part of the wall from the plinth upwards. This fact shows, Winlock notes, that the intention to decorate the crowning walls with Osiride colossi of the queen had not yet been considered at the beginning of the construction of the Lower Terrace porticos. As we could learn from Winlock's notes, a decision was then made to reconstruct the northern colossal statue of the queen. The reconstruction was to be made by E. Baraize[3] on the extant plinth in April 1928. It was decided to reconstruct the northern statue since the Lower Portico North was only preserved to a very minor extent, and the queen's statue was to be a compilation of both colossi including newly sculpted parts. Reconstructing the colossus by the Southern Portico would obliterate valuable extant traces of the construction of both the southern and the queen's Osiride statue. Winlock wrote in his notes that the adopted assumptions for the reconstruction were most likely correct (MMA archive VII: 61).

In 1961, the concession for research and preservation works went to the Polish Centre of Mediterranean Archaeology of the University of Warsaw, led by Professor Kazimierz Michałowski. The question of the reconstruction of Queen Hatshepsut's colossal Osiride statues from the Lower Portico was not taken up until the 1990s. The sculptor A. Sośnierz reconstructed the head of the northern statue using an original mortar-based sculpting method. This method, developed by A. Sośnierz and W. Myjak, both sculptors, involved putting together the original fragments of a sculpture and filling the missing parts with mortar.

The reconstruction of the statue according to Winlock's research that is still in existence contains the incomplete head from the Southern Portico. In 2005-2016, documentation was carried out and the Lower Terrace porticos were studied in order to verify the achievements of Winlock's mission concerning the queen's Osiride statues. These studies will then serve as the basis for a new reconstruction of the colossus of the queen from the Northern Portico. An inventory of the walls crowning the Lower Terrace porticos was taken in 2005-2016. The northern wall with the colossus and its base was inventoried by T. Dziedzic and Sara Arbter, and the southern one by P. Srokowski. Based on this documentation and thanks to the possibility of using the notes from the archive of the Metropolitan Museum of Art in New York, the authors of this paper were able to examine the proportions of the queen's colossus, verify its parameters, and perform a photographic simulation of its possible appearance.

**Historical outline of the research of measures and proportions in ancient Egypt**

Every known civilisation had, over the centuries, set generally accepted principles of depicting various figures. Having already conducted empirical observations in the Predynastic Period, the ancient Egyptians established the mutual relations of proportions, on which their measurements of length were based. The Egyptian linear measurement was based on units corresponding to body parts which, as metrological entities, maintained the mutual ratios of their natural proportions. Officially, the Egyptian measuring system included the oldest small cubit, also called the carpenter's cubit, identified as a forearm's length to the tip of the thumb. For some specific purposes, from the earliest times the small cubit had been replaced by the royal cubit, also known as the stonemason's cubit: until the 26th Dynasty it was legally reserved for the construction of objects of worship and official construction purposes, while the small cubit was no longer mentioned in documents or marked on cubit rods. According to the publication by Iversen,[4] the lengths of the small cubit and the royal cubit were 45 cm and 52.5 cm, respectively. During his research of the tomb of Ramesses IV, H. Carter determined that the small cubit was 44.752 cm long, while the royal cubit was 52.3 cm long and divided into 7 hands.[5] W. Połoczanin, who also worked at the Temple of Hatshepsut, studied the cubit rods from the tomb of Tutankhamen at the Museum in Cairo. He measured the length of 6 extant cubit rods of 1.5 royal cubits each. It varied between 79.4 cm and 79.9 cm, which could be rounded up to make 80 cm. Consequently the royal cubit length in this case was 53 cm.[6]

The first attempt to answer the question of canonical rules in the Egyptian art was made by R. Lepsius in his *Denkmäler aus Aegypten und Aethiopien* from 1900. He noticed that, in various epochs in the history of Egypt, guidelines, grids, and points were used in the creations of drawings and bas-reliefs in order to help the sculptor express certain canonical proportions in the depiction of people. He determined that there was a vertical line going through the central axis of human shapes and a regular grid dividing a man into 18 modules from the bottom of feet to the hairline. Lepsius also found that there was a change during the 25th Dynasty introducing a division of human shapes into 21 squares. It was revealed later that the modular grid was used in drawings, bas-reliefs, and free-standing sculptures as well. It was found that the grid mesh had to be regular but differed in size for individual depictions. Further studies by many scholars confirmed Lepsius' theory of

[3] Baraize was the director of works of the Upper Egyptian Antiquities Services at the time. He worked at the Temple of Hatshepsut in 1925-1944 (Wysocki 1983: 71).

[4] Iversen 1975: 14-17.

[5] Carter and Gardiner 1917: 149.

[6] Połoczanin 1980: 2.

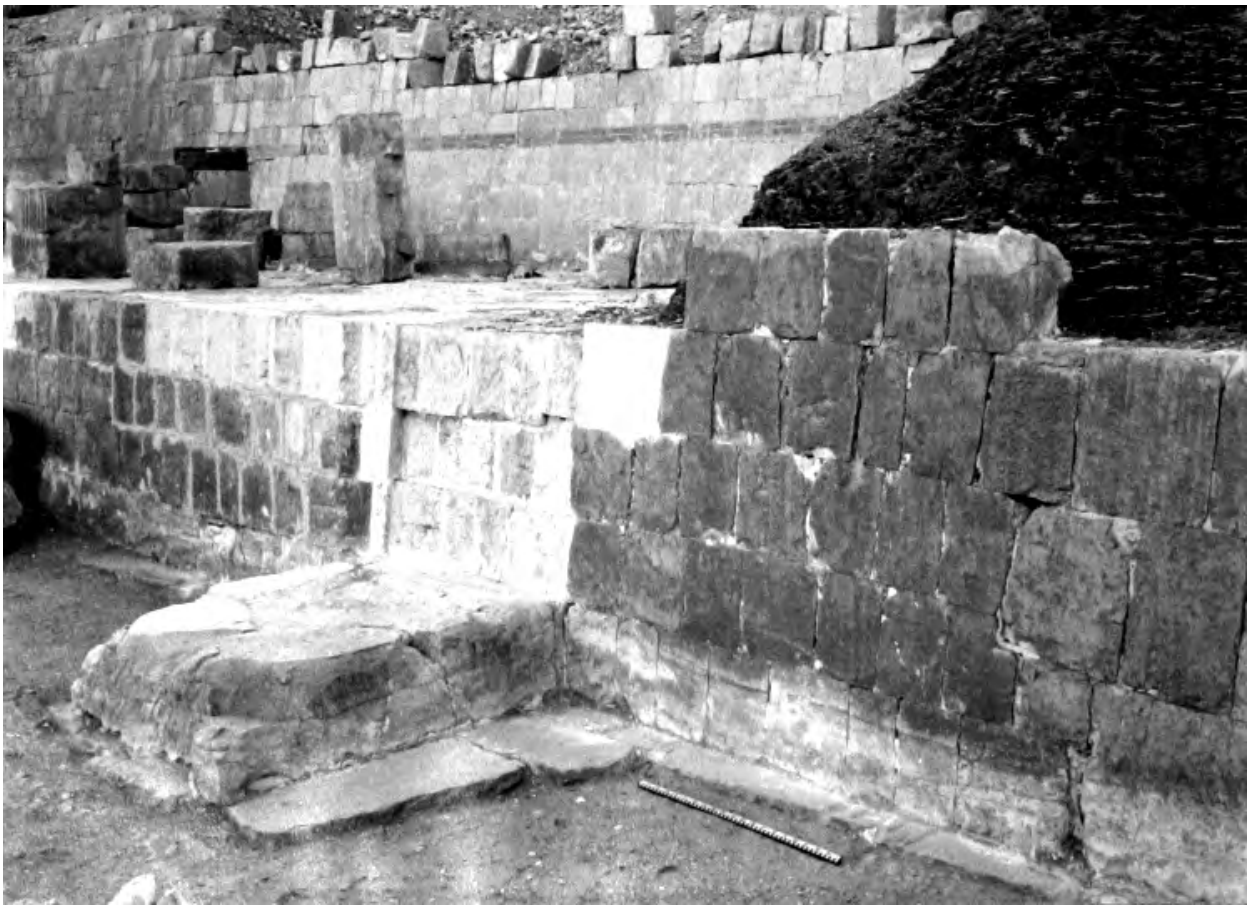

Figure 1. View of the base with the adjoining Northern Portico wall. State as of 1927-1928 (*Courtesy of the Metropolitan Museum of Art in New York; M9C251 13×18*)

Figure 2. Reconstructed statue of Queen Hatshepsut depicted as Osiris. State as of 1929: A – M10C140 13 × 18 B – M10C151, 13 × 18 (*Courtesy of the Metropolitan Museum of Art in New York*)

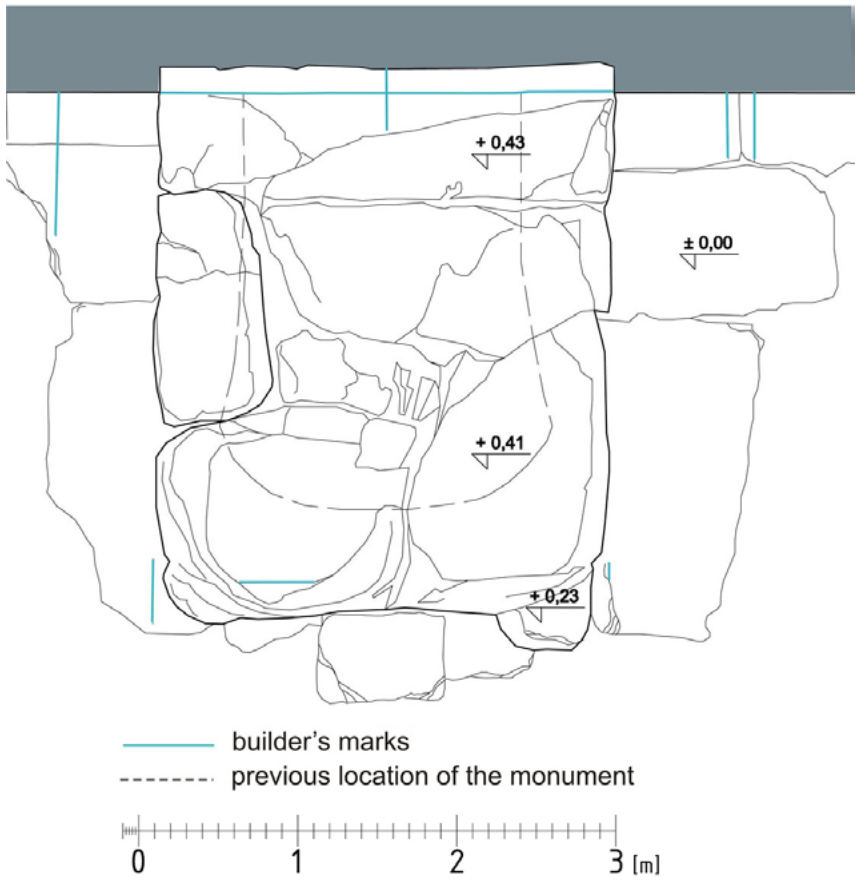


Figure 3. Documentation of the preserved northern Osiriac colossus plinth (*Drawing T. Dziedzic and S. Arbter*)

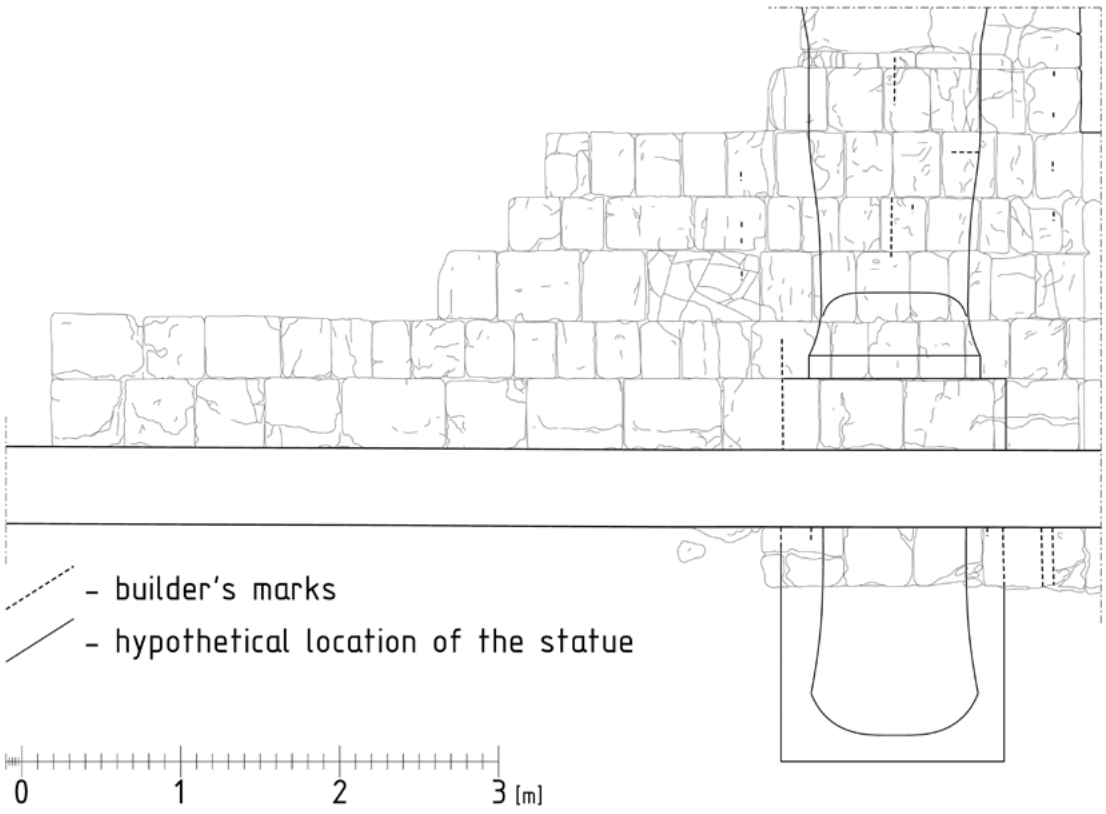


Figure 4. Documentation of builder's marks on a fragment of the preserved wall closing the Southern Portico (*Drawing T. Dziedzic and P. Srokowski*)

the division of a human body into 18 squares and its change to 21 during the Late Period. The lengths of individual body parts were established by expanding the research.[7] The locations of particular body parts were determined; e.g., for a bas-relief from the times of Amenhotep III, the hairline is at the height of 18, upper lip at 16, neck at 16, armpit at 14.5, elbow at 12, knee et 6, etc.[8] W. Davis states in *The canonical traditional in ancient Egyptian art* that the grid allowed the ancient Egyptians to copy paintings, bas-reliefs, and sculptures. In the case of large-format sculptures, the grid enabled the transfer of multiplied dimensions to the final depiction of a king from a prior small model. In yet another interesting observation, Davis pointed out that, in spite of detailed modular grid and precisely set frames, which made strict adherence to the guidelines of the Egyptian canon of human depiction possible, artists had the capability to emphasise in their art the characteristic traits of a given person such as distinctive ears, a pot belly, or a long face.[9]

**Architectural studies of the Osiride colossi of Queen Hatshepsut**

The authors based the research which enabled the reconstruction on the analysis of the documented builder's marks, Winlock's notes, studies of measurements and proportions of human depiction in ancient Egypt, and computer simulation based on 3D scanning and three-dimensional documentation. It was found that the conception for crowning the walls enclosing the lower porticoes must have changed during their construction.[10] The lack of a plinth and preserved builder's marks on the southern wall may indicate that the decision to erect an Osiriac statue there was made during the construction of the wall. The binding of the southern colossus to the portico wall begins only above the 6th layer, while the lower blocks of the statue simply touched the portico wall. In the case of the northern wall of the Portico of Hunting it can be seen that both the plinth and the projected colossus were planned from the very beginning of the construction of this part of the portico. It can be seen from the indentation in the wall visible in Winlock's photographic documentation, as he was able to analyse it without any secondary build-up. It may be concluded, therefore, that the construction of the Lower Porticoes began in the south and proceeded northward, and once it was decided to add the colossi to the façade composition, the northern colossal statue was bound from the foundation. In Winlock's reconstruction of the statue, an additional 18 cm high layer of stone was placed on its plinth, raising the whole statue upwards. The authors of this paper find no justification for such a conception and have assumed in their reconstruction that the height of the plinth should equal the height of the first layer of blocks in the wall with which the plinth is bound. According to the authors, the builder's marks preserved on the upper side of the colossus' plinth, covered by Winlock, indicate that it was the final layer. Moreover, after analysing the proportions and measurements, it was found that the basic module for the projected Osiriac colossi of the queen in the Lower Porticoes equalled 35 cm, or 2/3


Figure 5. 3D documentation of the reconstructed head of Queen Hatshepsut from the northern colossus (*Drawing M. Caban combined with the modular analysis of facial proportions T. Dziedzic*)

[7] Iversen 1975: 20-25.
[8] Iversen 1975: 38, Pl. 4.
[9] Davis 1989: 13, 42.

[10] The information about the change in the construction concept of the Lower Porticoes can be found in Winlock's notes and reports.

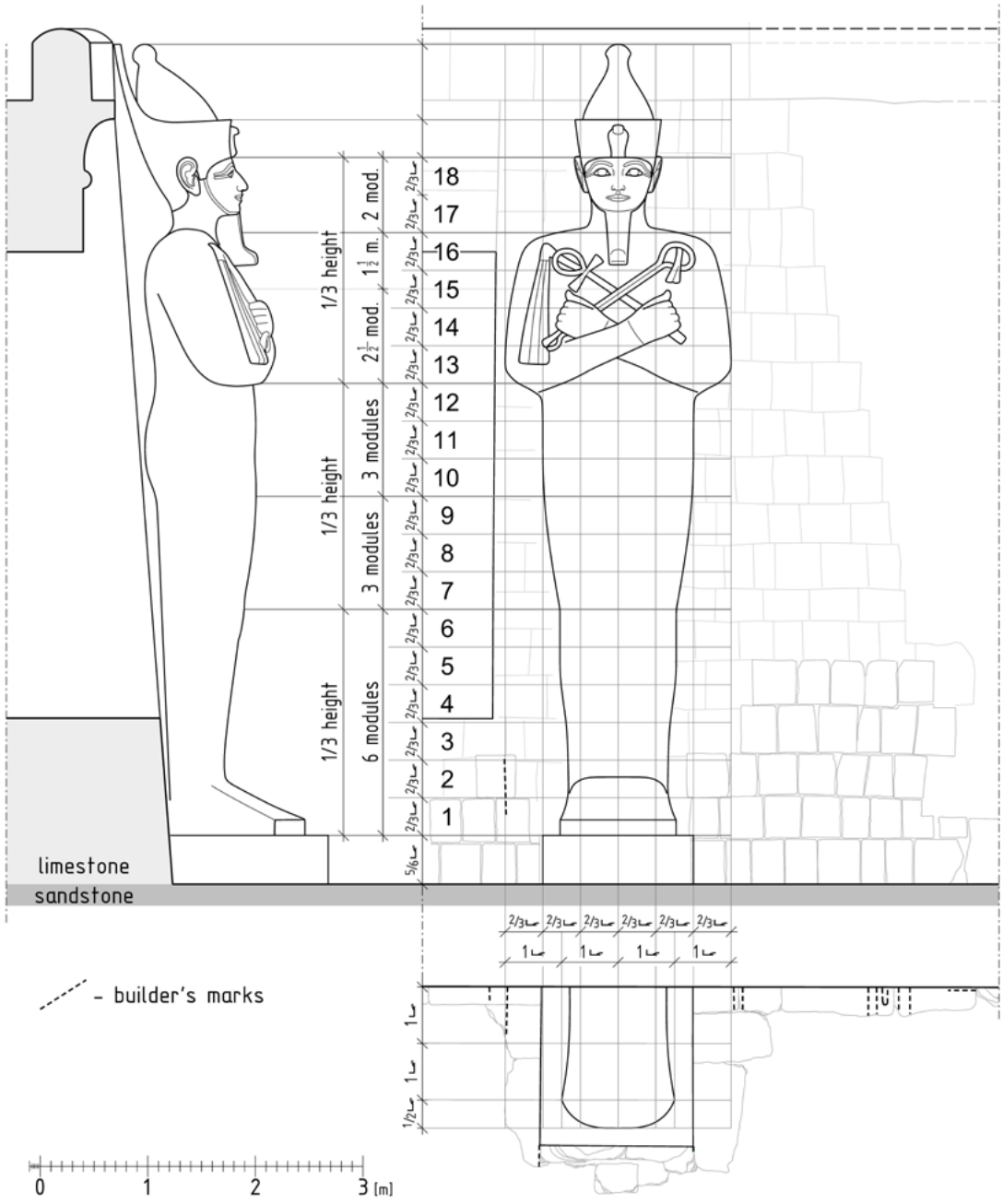


Figure 6 - Theoretical reconstruction of Queen Hatshepsut's Osiride statue. (*Drawing T. Dziedzic*)

of a royal cubit.[11] The height of the plinth is 43 cm – i.e. 2/3 + 1/6 of a royal cubit. Both on the preserved northern plinth and floor and the Southern Portico wall there are extant builder's marks showing the axis and width of the statues. The builder's marks defining the width of the statue lie from about 102 cm from its axis (southern wall) to 105 cm (floor by the northern wall), which is 3 × 2/3 of a royal cubit [Figure 5]. In line with the analysis of proportions by Lepsius and Iversen, among others, the most distant part of the arm was 3 modules away from the axis of the statue. It was thus confirmed that the module adopted by the creators of these statues was 2/3 of a royal cubit, or 35 cm. Yet more evidence that the assumed module length was correct came from the analysis of the reconstructed head of the queen. According to Iversen, the distance from the hairline (crown) and the upper lip of a human figure was one module [Figure 6].

We know from Iversen's research presented above that the hairline and mouth should be at the height of 18

[11] The authors assume that the royal cubit for the lower portico equalled 52.5 cm, as in various parts of the Temple of Hatshepsut measurements based on royal cubits of both 52.5 cm and 53 cm were used, according to their own research.


Figure 7. 3D documentation of the reconstructed of Queen Hatshepsut's Osiride statue from the northern colossus (*Drawing M. Caban*)

Figure 8. 3D reconstructed of the Temple of Queen Hatshepsut at Deir el-Bahari (*Drawing M. Caban*)

and 17 modules respectively. Further analysis allowed the exact dimensions of the Lower Portico colossi to be established [Figure 7]. The full height of a statue reaches the rounding in the balustrade of the Middle Terrace of the temple, measuring 735 cm, or 14 royal cubits.

## Conclusions

The results of the presented research may establish the dimensions of the queen's colossi crowning the walls of the Lower Porticoes and state that the 1928

reconstruction was almost appropriate. The height of the statue specified in Winlock's[12] reconstruction, 725 cm, also reaches the Upper Terrace balustrade. It should be noted, however, that Winlock did not analyse the module, basing his research on the extant builder's marks and his extraordinary sense of proportion instead. The current research shows that the statue is 735 cm high and also reached the level of the balustrade of the terrace above; the difference in height is thus 10 cm. However, even though the statue is 10 cm higher than the one reconstructed by Winlock, its base is 15 cm lower. The work planned for several seasons involving the reconstruction of the northern Osiride colossus again will enable the correction of this insignificant error and include a greater number of original parts of the statue, found and selected during the recent years of the mission's work, as well as installing the proper head of Queen Hatshepsut, belonging to the northern colossus. The head of the Osiride statue from the Southern Portico will be shown as an additional exhibition. The principal author of this reconstruction is sculptor Wojciech Myjak.

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[12] Winlock 1942: 162.

# Description of Selected Building Conservation Works Carried Out in the Area of the Ancient Town of Antiphrae Situated at Present in Marina el-Alamein in Egypt

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**Summary**
In the article, selected conservation works are described carried out in the years 1998-2017 in the area of an ancient town at the Marina el-Alamein archaeological excavation site in northern Egypt. The geological history of the excavation site and history of archaeological activities are discussed briefly. Conservation works are presented having been performed on the remains of the buildings in the town zone and at the necropolis, such as dwelling houses, the main square of the town with column porticos, public buildings – Hellenistic and Roman baths, objects of worship – rooms with aediculae in houses, a town cistern, hypogeum tombs, graves surmounted with a pillar.

**Keywords**
Egypt, Marina el-Alamein, Hellenistic-Roman town, forum, baths, dwelling houses, aedicule, necropolis, hypogeum, monumental tombs, conservation, anastylosis,

## Geological history of the excavation site and history of archaeological and conservation activities in Marina el-Alamein

Resulting from numerous earthquakes in antiquity (a huge earthquake was reported in Libya in AD 262, in the nearby Alexandria around AD 25 followed by a huge fire, as well as in AD 365, 535 and 797, which was reported by historians; after the last one Alexandria failed to rise from the ruins) in Antiphrae walls, roofs, columns of porticos in squares and porticos in houses, columns and pillars in basilicas, pillars in pillar tombs, columns in the above-ground kiosks of hypogea also collapsed and the limestone that covered burial chambers in hypogea cracked (the halls were cut deep into limestone).

In the area of the town, whole walls of buildings can often be found which fell to the ground in the aftermath of an earthquake and have survived in this form to this day, with the arrangement of stone blocks in layers and the arrangement of layers remaining unchanged, often with joints. In such cases it is easy to carry out an anastylosis of the walls, replacing some single blocks which have eroded.

Similarly, at the ancient necropolis in the years 1987-1993[1] collapsed monumental pillars that used to crown box-shaped graves T1, T1B, T1D, T1J were found, later also from T12, and from a box-shaped grave topped with a sarcophagus T17, pyramidal graves T2 and T3, as well as wall fragments of an above-ground kiosk that was an entrance to a stairwell and further down into the interior of tomb T1GH. Other discoveries from the same period include: box-shaped graves T1C topped with a sarcophagus and T1A and T1F without anything above them, as well as hypogea of the II type (above-ground and underground structures connected by a stairwell): T8, T10A (T10) and S6 (T6), and a hypogeum of the I type (the underground part connected with the surface by a stairwell): T7.[2] In the following years next graves were discovered and partly dug out, reaching hypogeum T29. The archaeological work remains considerably ahead of the conservation work, which has resulted in major loss of stone blocks and all architectural details. Egyptian archaeologists also dug out several graves of the hypogeum type in the western part of the town, on the other side of an inspectorate building towards the western cistern.

In the years 1990-1993, the Polish-Egyptian Conservation Mission run by architect Jarosław Dobrowolski carried out an anastylosis of funerary monuments belonging to box-shaped graves topped with pillars: T1, T1B, T1J; T1C topped with a sarcophagus and T1A and T1F without anything above them, pyramidal graves T2 and T3, as well as graves T1E1, T1E2 and T1E3 [Figure 1].[3] Also a ceiling above the lower part of a stairway leading down to a burial chamber in tomb T1GH was reinforced. An inventory of preserved relics of newly discovered pillar tomb T1K, situated next to tomb T3, was made and a project of its anastylosis was drawn up.[4]

[1] Polish Archaeological Mission run by Professor Wiktor Andrzej Daszewski.

[2] Daszewski 1992: 29-32; 1993: 23-31; 1994: 23-33; 1995: 28-36.
[3] Dobrowolski 1991: 44-47; 1992: 40; 1994: 34-37.
[4] Daszewski 1995: 31-32.

Figure 1. Pillar tombs in the central part of the necropolis highlighted at night; in the foreground tombs: T1, T1B, T1C, T1J, T2, T3, in the background: T1K, T12 (*Photo W. Wójtowicz*)

In 1988 a group of restorers from the department of the Ateliers for Conservation of Cultural Property in Zamość also worked, as well as a group from the Polish Centre of Mediterranean Archaeology of the University of Warsaw run by engineer G. Zamojski, making an inventory and study of the discovered and mostly uncovered items. 31 items were inventoried then. The team prepared a conservation project for anastylosis of tomb T1 as a very well preserved one, and conservation documentation for work on the town cistern situated in the eastern part of the town and the complexes of houses H9, H9A situated in its centre.[5]

Working since 1995, the Polish-Egyptian Conservation Mission run by architect Professor Stanisław Medeksza from the Wrocław University of Science and Technology continued these works. At the necropolis it carried out an anastylosis of the pillar tombs T1K[6] and T12,[7] and of box-shaped grave with a sarcophagus T17,[8] and a reconstruction filling in the lower parts of the walls in the above-ground parts of the tombs-hypogea of the II type: T6,[9] T21.[10] In the town area the Mission cleaned and restored remains of the walls in the dwelling houses and column porticos in them (houses H1,[11] H2,[12] H9,[13] H9A,[14] H10,[15] H10A,[16] H10B,[17] H10E,[18] H19,[19] H21,[20] H21'N'[21]) and public facilities: the ancient basilica, the northern baths (Hellenistic),[22] the southern baths (Roman),[23] the main square of the town with column porticos, rows of benches, exedra.[24] In the area of the

[5] Bentkowski 1991a: 38-43; 1991b: 19-42; Fidecka 1991: 33-42; Radzik 1991: 45-46; Sawecki 1991: 43-44.
[6] Medeksza *et al.* 2004: 97-98; 2005: 112-113.
[7] Medeksza *et al.* 2007: 108-109; 2008: 76-77.
[8] Czerner and Bąkowska-Czerner *et al.* 2014: 64-67.
[9] Medeksza 2002: 87-104; Medeksza *et al.* 2003: 92-93; 2007: 107.
[10] Czerner *et al.* 2015a: 97-99.
[11] Medeksza *et al.* 2004: 93; 2005: 108-109; 2007: 101-104; 2008: 71-73; 2010: 83-86; 2011: 105-109; 2012: 82-84.
[12] Medeksza *et al.* 2007: 104-106; 2008: 73-75; 2010: 86-88; 2011: 109; Czerner *et al.* 2015a: 91-94.
[13] Medeksza 1996: 44-52; 1997: 83-87; 1998: 73-76; 1999: 53-55; 2000: 51; 2001: 68.
[14] Medeksza 1998: 73-76; 1999: 55-57; 2000: 51; 2001: 68.
[15] Medeksza 1998: 76; 1999: 57-62; 2000: 50-54; 2001: 68-72; 2002: 93; Medeksza *et al.* 2003: 87; 2004: 94-95; Czerner *et al.* 2014: 76.
[16] Medeksza 2001: 68; 2002: 93; Medeksza *et al.* 2003: 87.
[17] Medeksza 2002: 93; Medeksza *et al.* 2003: 87-89.
[18] Medeksza 2002: 92-96; Medeksza *et al.* 2005: 109.
[19] Medeksza 2002: 91-92, 96; Medeksza *et al.* 2003: 89; 2004: 95; 2005: 109.
[20] Medeksza 2001: 72-74; 2002: 92-93, 96-97; Medeksza *et al.* 2003: 89-90; 2004: 93, 95; 2005: 109-112; 2007: 106-107; 2008: 75-76; 2010: 88.
[21] Medeksza *et al.* 2003: 90-92; 2004: 96-97.
[22] Czerner *et al.* 2016b: 179-180.
[23] Medeksza *et al.* 2011: 116-118; 2012: 84-90, 94-100; Czerner *et al.* 2014: 67-71, 75-76: Zambrzycki *et al.* 2014: 82-84; Czerner *et al.* 2015b: 133-137; 2016a: 161.
[24] Medeksza *et al.* 2008: 76; 2010: 93-94; 2011: 109-113, 118.

Figure 2. Anastylosis of a pillar of tomb T12: layout of blocks in the pillar layer (*Photo W. Grzegorek*)

main square of the town an anastylosis of the western part of the southern column portico was carried out (three columns up to their full height)[25] and of the eastern part of the northern column portico.[26]

Below, using the example of several important item reconstruction, the range of conservation activities carried out in the process of their anastylosis was discussed.

**Description of conservation work with anastylosis of pillars of pillar tombs T1K,[27] T12[28] as an example**

As a result of archaeological work, stone blocks toppled after an earthquake in the first centuries of the Common Era were uncovered, layout (dispersion) of which remained unchanged for ages since the disaster.

At the beginning of the conservation activities, pictures of the building's dispersion were taken. The dispersion of successive layers and individual stones of the shaft and the pedestal was analysed, individual blocks numbered and described, and blocks from successive layers were marked with information concerning their position relative to the directions of the world.

The lower part of the tomb which has survived in situ was cleaned thoroughly – stone blocks lying on the foundation and within its outline and stone slabs placed obliquely inside creating a false vault over a burial lying in a trench grave (T1K); then successive layers of the pedestal running upwards in steps (several layers) and becoming narrow were laid on mortar, and the outline was filled in with small stone blocks and stone rubble little by little as the pillar grew taller. Stone blocks in successive layers of the pedestal are supported on one side along the perimeter by the blocks in the lower layer and in the middle by a tightly laid and compressed stone deposit. On the top of the pedestal the first layer of a shaft was laid with four stones cut evenly, forming an empty shaft inside, which was filled in with smaller blocks up to the upper level of the layer. Then similarly the next layers were laid [Figure 2], preassembled on the sand next to the tomb on a trial basis and described in detail (measurements, directions of the world, upper surfaces) to facilitate the assembly. The trial assembly confirmed the measurements of the tomb's pillar, and

[25] Medeksza *et al.* 2010: 88-91; 2011: 113-116.
[26] Czerner *et al.* 2016a: 162.
[27] Medeksza *et al.* 2004: 97-98; 2005: 112-113.
[28] Medeksza *et al.* 2007: 108-109; 2008: 76-77.

Figure 3. Anastylosis of a pillar of tomb T12: layout of blocks in the capital layer with clamps fastening pairs of stones together visible. (*Photo W. Grzegorek*)

also revealed the size of the missing blocks which broke completely when the shaft collapsed or its state of preservation was unsatisfactory (erosion). The missing elements were cut by stoneworkers from blocks of new stone in advance, to avoid stoppages in the building work.

Usually the building work progressed at the speed of one layer per day, to provide the mortar enough time to bind well and allow the shaft to carry an increasing load. All stone surfaces supposed to touch the mortar were profusely saturated with water before setting in the structure in order not to take the water necessary for the process of mortar binding, which was relevant due to the high temperatures during the work.

During masonry work lime-cement mortar was used, mixed with an addition of white Portland cement of class 350 and hydrated lime in proportion of sand : lime : cement as 6 : 3 : 1. Enough tap water was used to obtain a consistency of high plasticity.

After completing the vertical transportation, block assembly and masonry work within one layer, the surface of stones was preliminary cleaned, the joints mortar attended to by pouring water over it and covering it with plastic wrap (large evaporation in temperatures of 30-40 degrees).

Next day in the morning wooden wedges were removed from the joints and the mortar was filled in wherever any spaces were left; the side surfaces of the stone blocks were finally cleaned of mortar remains with wire brushes. The mortar in the joints was shaped in order to make its surface slightly withdrawn relative to the face of neighbouring blocks and the mortar surface was given a matt texture. The mortar in the joints was roughened with ends of short wooden slats. These activities improve aesthetic impressions during visual reception of the item.

After a dozen or so days, the capital layer was reached. In the layer already put together on sand, future grooves, or cut-outs, were marked out (paste in with epoxy resin) to hold bolts of stainless steel in order to combine the stones into larger wholes to stabilise the stones in the layer at the top of the pillar [Figure 3]. After lifting the stones up (the corner capital stones were much heavier than those from the lower layers of the shaft) they were laid on wooden wedges, obtaining suitable thickness of lower joints and width of joints between the blocks; then the bolts of stainless steel prepared earlier (rods-clamps with diameter of 14 mm bent into a C shape) placed in pairs at the junction of individual stones, perpendicularly to them, were paste in with epoxy resin with filler of sieved limestone aggregate, and after 30 minutes after the resin bound the joints between the blocks were filled in with lime-cement mortar.

On successive days, the next layers were assembled in a similar way up to the top [Figure 4] in the shape of a stone cube (T1K) or a copy of Horus' sculpture curved

Figure 4. Work on the scaffolding on the anastylosis of a part of tomb T1K above the capital (*Photo S. Medeksza*)

Figure 5. Completed anastylosis of tomb T12: south-eastern view (*Photo W. Grzegorek*)

in limestone by professional sculptor Piotr Zambrzycki (T12), which was installed on a dowel of stainless steel. The head of the sculpture was turned to the east similarly to the inscription engraved on the side surface of the shaft [Figure 5].

To carry out the work at heights a tubular frame scaffolding was assembled, higher than the shaft – about 9 m high. Wooden boards 50 mm thick and 25 cm wide were used as catwalks. The blocks were lifted up with the use of a manual chain winch with a load capacity of 0.5 tons mounted on a beam placed on the upper frames of the scaffolding, and the blocks were tied up with a hemp rope, putting a loop on a winch hook.

To fill in the joints with mortar, wooden slats 8, 10, 12 mm thick were used, which could stick deep into the joints, so that ultimately the joints would be full and tightly packed; the joints were filled in person, without any help of workers, using well worked lime-cement mortar with a consistency of high plasticity, made on the basis of sieved fine-grained sand and sieved lime.

Before laying the mortar, the surfaces of the stone in the spaces of the joints were thoroughly moistened with water. To produce the blocks meant to fill in the losses in some layers, historical stones were used with patinated hard walls, and after cutting them into the wanted size they were placed with those surfaces outside, in order to protect the stone from the rapid onset of erosion in this climate.

Figure 6. Commemorative monument to Commodus after completion of the work (*Photo W. Grzegorek*)

In a similar way, an anastylosis of box-shaped tomb topped with sarcophagus T17 was carried out,[29] as well as the anastylosis of walls of an above-ground kiosk of tomb T1GH,[30] of a colonnade in a portico in the above-ground part of hypogeum T6,[31] or of the columns in the porticos in the main square of the town and in the porticos in the dwelling houses.

**Description of conservation work on the reconstruction of a pedestal and anastylosis of columns in the commemorative monument to Commodus situated in house H21c [Figure 6]**[32]

After cleaning stones and sand from the main reception hall in house H21c, the remains of low walls of limestone slabs situated by the western wall were discovered, separating a closed room in the shape of an elongated rectangle divided inside in half with a wall.[33]

During earlier cleaning work in the neighbouring rooms, drums of columns with small diameter and height were found, as well as their bases and capitals, and also bases, capitals and blocks from shafts of rectangular pillars-pilasters situated by the western wall in the reception room. After an analysis of the material collected, a thesis was formulated that the columns, being low, must have stood on a platform. Knowing their height and the presumed height of the room, the height of the platform was determined as 0.78 m. The walls of the rectangular closed room were duly reconstructed up to that height. The inside was filled in with deposit of stone rubble and topped with a slabbing of stone blocks.[34] Slabs of marble mensa 4.8 cm thick might have laid originally on a closed box constructed this way, some fragments of which were found during cleaning of the room. On the slabs' edge an inscription in Greek is engraved, which informs that the monument commemorates Commodus and refers to the 23rd year of his reign as the date when the inscription was made, which corresponds to the period between 29 August 182 and 28 August 183.[35]

[29] Czerner *et al.* 2014: 64-67.
[30] Medeksza *et al.* 2005: 112-116.
[31] Medeksza *et al.* 2003: 92-93; 2007: 107.
[32] Czerner and Medeksza 2010: 104-113; Medeksza *et al.* 2004: 93, 95; 2005: 109-112; 2007: 106-107, 109-110; 2008: 75-76; 2010: 88.
[33] Czerner and Medeksza 2010: 98-99.
[34] Czerner and Medeksza 2010: 109-111; Medeksza *et al.* 2004: 93, 95.
[35] Łajtar 2003: 178.

Figure 7. Assembly of elements of a cornice crowning the commemorative monument to Commodus (*Photo M. Mrozek-Wysocka*)

In the next conservation season, the bases and shafts of several small columns were placed on mortar on the box prepared earlier, and one of the two pillars-pilasters was erected, as well as a wall running between them, making a surface to which the monument was adjacent.[36] In the upper parts of the drums under the capitals, some cut-outs were discovered in which wooden elements of a peripheral entablature might have been fitted joined together into a rectangle. The entablature might have served to hang curtains between the columns, and behind the curtains a statue of Commodus might have been situated.

The wall to which the commemorative monument was adjacent used to be topped with a layer of cornice blocks with dentils, which were also found while cleaning the lower part of the room [Figure 7]. The blocks with dentils were also mounted with mortar as a coping of the western wall.

During building work, tubular frame scaffolding was used along with a chain winch to lift up the elements of little columns and pilasters, as well as wall blocks.

Not all the drums of columns and bases and capitals have survived, so as a result of our work only two little columns were reconstructed up to their full height, and some others in fragments. The anastylosis of the little columns was carried out using the originals along with some drums cut from new stone and a capital cut from limestone by restorer and professional sculptor Piotr Zambrzycki with the use of a detailed template made on the basis of the measurements of the capital which has survived.

**Description of conservation work with anastylosis of aediculae in houses H10,[37] H21'N'[38] [Figs 8 and 9] and H9[39] as an example**

As a result of the archaeological work on the lower level of the deposit in the main reception hall in house H10, stone blocks of a wall and an aedicula were discovered fallen after an earthquake and lying in situ, the layout (dispersion) of which remained unchanged since the disaster.[40]

Figure 8. Aedicula in the southern wall of house H10 after anastylosis (*Photo W. Grzegorek*)

[36] Czerner and Medeksza 2010: 110-113; Medeksza *et al.* 2005: 109-112; 2007: 106-107, 109-110; 2008: 75-76; 2010: 88.

[37] Medeksza 1999: 57-59; 2000: 50-53; 2001: 69; Medeksza *et al.* 2003: 87, 95.

[38] Medeksza *et al.* 2003: 90-92, 94-95; 2004: 96-97.

[39] Medeksza 2000: 51, figs 9 and 10; 2001: 68.

[40] Medeksza 1999: 57-59.

Figure 9. Room in house H21'N' after completion of anastylosis of an aedicula and walls (*Photo W. Grzegorek*)

At the beginning of the conservation activities, a picture was taken of the aedicula blocks' dispersion. The top and side surfaces of the blocks which have survived in situ – plastered stone blocks lying on a thin layer of sand and stone slabs closing the niche in the outer face of the wall – were cleaned thoroughly. As it turned out later, on some stone slabs plasters have still survived and paintings on them. The discovered fragments of a stone pediment were also cleaned.

After marking the blocks, they were brought out of the room and placed on the sand in order. The stone slabs with paintings were subjected to processes of desalination and cleaning with swabs with distilled water and later to conservation work carried out by a painting restorer.

In house H10 stone walls were filled in up to the height of the aedicula's sill; the joints were filled in and some weathered blocks or their fragments were replaced. The place where the original blocks of the niche's sill were to be mounted in the southern wall of the main reception hall were reinforced particularly carefully, especially in the spots where the side little engaged columns of the aedicula were planned to be mounted later.

Then after conservation of the blocks in the middle part (stainless steel dowels and epoxy resin were used in order to join together the broken pieces of two blocks) and mounting two new outermost blocks of the aedicula's sill cut from limestone, the prepared blocks with engaged columns and pilasters constructed on both sides of the aedicula were remounted, finishing the work on the level of the top of both capitals. During the next three seasons, elements of the pediment were prepared for mounting: its missing elements were cut from new stone and joined together into two slabs with a serration on the edge. Elements of the aedicula's pediment closing it from the top and crowning the whole work were mounted in 2002. In the following days on both sides of the aedicula and above the pediment, blocks were added constituting a continuation of the southern wall, closing the aedicula within the wall. No blocks with paintings were incorporated into the back wall of the aedicula; they were deposited in the storeroom.

In house H21'N', blocks of the sill had to be cut from new stone since the old ones failed to survive intact. The sill of the aedicula was laid on a layer of stone blocks lying in situ. The blocks in this layer, as well as in the layers below are massive and well-preserved blocks with a size of 50-67 × 35 × 35 cm and patinated hard surfaces.

In the place of a tectonic fault an offset in the wall between H21c and H21'N' appeared: the wall broke in some sense leaving several centimetre gaps between

Figure 10. Assembly of elements of a pediment in the aedicula in house H21'N' (*Photo R. Czerner*)

toothings created on both sides of the fracture [Figure 9]. On the level of the floor in house H21 the gap was left as a record of the process, also using it as a drain for the upper level (H21c).

The next stage was a repeat mounting of blocks of the right and left little engaged column and pilaster constituting a side frame of the aedicula[41] arranged in order, carefully matching all the edges and surfaces of the plaster preserved and keeping the joints 10-12 mm thick. Successive couples of blocks (the left and the right one) were placed on wedges and, after checking the plumb and level of the blocks as well as the level of the layer's top, the joints were filled in with mortar with a consistency of high plasticity. Before the blocks were laid, water was poured over bottom and top surfaces thoroughly and several times. Furthermore, after mounting, the mortar in the joints was attended to. The mortar was made of sieved constituents (binders and aggregate) and using white cement.

In the next season, the original decorated stone blocks of the pediment covering the aedicula from above which have survived were prepared. A trial assembly on an even surface was carried out and the dimensions of the missing fragments were measured, which were later cut from new limestone blocks by stone restorers: Irma Fuks-Rembisz, Eryk Bunsch and Piotr Zambrzycki.

In the next season, the slabs of the aedicula's pediment joined together were lifted up the wall and mounted on a formwork above the side engaged columns of the niche[42] with the ends resting on the engaged columns' capitals, in order to obtain a proper height of the pediment in its midspan and an even overhang relative to the wall face (from the side of H21'N').

Then openings were drilled through the abutments of the pediment (the parts of the pediment resting on the capitals of engaged columns and pilasters) reaching about 20 cm deep into the capitals of the aedicula's side engaged columns [Figure 10]. Stainless steel rods were inserted into the openings and epoxy resin was applied to paste them so that they could join the support area of the covering with the side engaged columns. When the resin had set, all the remaining joints were filled in with lime-cement mortar.

The next stage was the construction of a wall closing the back of the niche, using new relatively thin stone

[41] For H10 see: Medeksza 2001: 69; for H21'N' see: Medeksza *et al.* 2003: 90-92.

[42] For H10 see: Medeksza *et al.* 2003: 87, 95; for H21'N' see: Medeksza *et al.* 2003: 94-95; 2004: 96-97.

slabs (52 × 40 × 12 cm). The surface of the new limestone blocks, which was very white in comparison with the old patinated one, was treated with a paint made on the basis of natural ochre present in the natural sand aggregate. The dimensions of the niche in house H21'N' are: height of side engaged columns: 2.15 m, height from the bottom of the sill to the top of the pediment in the midspan: 3.07 m, width between the outer sides of engaged columns: 2.15 m, total width of the sill: 2.15 m.

A similar procedure was applied during the reconstruction of the niche in house H9, where it was also necessary to cut in limestone a capital and drums of a little side engaged column in the niche.[43] The size of the niche in house H9 is much smaller than of those described above, and work was carried out on it first. So far all the niches are in good technical condition, without any serious visible damages.

**Construction and conservation work on selected elements in other structures of the ancient town**

***Dwelling houses, public buildings, above-ground parts of hypogea***

Walls of crushed stone, walls of stone blocks in dwelling houses, public buildings (basilica, baths, the town's main square), above-ground parts of hypogea (T6,[44] T21[45]), and also fragments of floors in these structures were reconstructed using stone material (slabs, blocks) found near the walls' relics, and also deposited by the archaeological mission in heaps next to the structures.[46] Simple stone blocks of appropriate size were easily found there. Sometimes door and window frame blocks, stones framing entrances to cisterns, stones covering ducts conveying water to cisterns were missing and stoneworkers cut them from stone brought from the nearby quarry.

A problem was posed by blocks and stones whose outer surfaces were not patinated in ancient times. Such blocks were extracted from a damp deposit or dug out during cleaning work from a damp layer and used during reconstruction work. In such cases the stone becomes powdered on the outer surfaces due to the migration of damp together with salts from the inside of the blocks used to build a wall, and after several years with strong winds and heavy rains the losses in the blocks reach several centimetres. This results in a wall face with projecting joints and losses in stone. After a longer time without ongoing conservation activities the walls even collapse. Similar things happen in places where the stone has an appropriate hard surface, but the mortar fails to fill in the whole space of the joints: due to destructive effect of strong winds and precipitation after several years the joints disappear, which also leads to the collapse of wall fragments.

In order not to allow destruction to advance too far, a decision was taken to plaster the outer surfaces of construction elements responsible for support, such as the columns situated in the buildings H2, H9, H9A, H10, H10A, H10B, H19, H21c, the porticos of the southern baths and the column porticos in the town's main square.[47] Plasters once applied are not permanent, so it is constantly necessary to fill them in places every year. For the overall good, the structures require constant ongoing conservation.

***Main town square***

The whole layout makes a great impression and refers to similar solutions in Greek or Roman towns. Along three sides of the square (the southern, eastern and northern ones) column porticos used to run. The grandest southern portico was a double one (with two rows of columns) and along its back-wall stone benches were located [Figure 11] with their middle section situated in an exedra (an apse rectangular in plan) intended for the most distinguished people in the town. The whole square together with the porticos was paved with limestone rectangular slabs. The floors in the roofed porticos were on a higher level and the floor in the remaining middle part of the square on a lower level.

From the uncovered part of the square to the eastern and southern porticos stone steps lead situated on its axes of symmetry: east-west and north-south.

In the southern double portico an anastylosis of columns made of drums of limestone was carried out, replacing some drums with others with suitable diameters. In 2007-2008 the reconstruction of four columns topped with Ionic capitals up to their full height (9-11 drums and bases and capitals) was carried out and then in 2009 the remaining five were built up to a height of 2-5 drums. In 2012, three full columns were partially plastered, and in 2016 the highest of the remaining lower ones was plastered, located closest to the corner of the wall behind which an apse of the civic basilica is situated. In 2017, the joints and plasters of columns plastered already earlier were filled in.

In 2003-2009, the reconstruction of stone benches in this part of the portico situated along the back wall together with the exedra benches was carried out using the original, broken seats of the benches and

[43] Medeksza 2000: 51, figs 9 and 10; 2001: 68.
[44] Medeksza 2002: 87-104; Medeksza *et al.* 2003: 92-93; 2007: 107.
[45] Czerner *et al.* 2015a: 97-99.
[46] Piled up after salvage archaeological work made by an Egyptian team under Mohammed Ali Abd el-Razek, and as a result of the work of the Polish Archaeological Mission run by Prof. Wiktor Andrzej Daszewski.
[47] Czerner *et al.* 2015a: 94, 95-97, fig. 5; 2016a: 165.

Figure 11. Main town square southern portico (*Photo W. Grzegorek*)

the majority of the original legs, and cutting from new blocks some new legs and missing fragments of seats. Elements of the seats were joined together with the use of stainless-steel rods pasted with epoxy resin in openings drilled into the neighbouring surfaces of the fractured fragments. The set consists of 7 benches on the left, 7 benches on the right side of the exedra and 2 + 3 + 2 benches in the exedra. By the wall in the western part of this portico only the legs of the original benches were placed (the seats' slabs failed to survive).

Archaeologists from the Polish Archaeological Mission preserved fragments of two upper sections of shafts with Ionic capitals which have survived entirely after collapse, and of two plastered double drums, all plastered with fluting and relics of outer paint layer. In 2006 and 2012 the restorers reinforced surfaces of plasters and pasted the backs of all edges of plasters on the ends of the drums, protecting them from detachment and falling.

In the northern portico in 2014 and 2015, when two stone benches situated by the northern back wall were being reconstructed (the only ones which have survived), a corner column situated in the north-eastern corner of the square was made higher at first up to a height of 5 drums, and finally up to 8 drums. Anastylosis of the other columns was not carried out since suitable drums were lacking; mainly the bases remained in situ.

In the eastern portico reconstruction work was not carried out due to the lack of column drums of suitable diameters. What remains of the columns are bases placed in situ and only some of drums from the higher parts of the columns lying loosely on them. In the location of a huge landslide (the southern part of this portico), two bases are missing.

In the area of a block of public buildings situated east behind the eastern portico, on the northern side a row of columns' bases and collapsed drums from the lower parts of their shafts were dug out in 2016. After cleaning the floor of stone slabs and making an inventory of drums, an anastylosis of the fragments of the 5 columns was carried out up to a height of 2-4 drums.

In 2017 a paving of a street running east from the southern portico, made of stone slabs, was cleaned of rubble and sand.

***Southern baths***[48]

In the southern (Roman) baths, in their western part, an anastylosis of a column portico was carried out with elements dug out during the cleaning of the interior, bringing three columns to their full height, topping them with surviving Ionic capitals, and bringing several others to a height of 2-3 drums placed on bases lying in situ [Figure 12].[49] In the central area of the baths, in room no. 5 (*tepidarium*; 5.80 × 3.20 m), which floors were covered with marble slabs. During the elimination of deposits a marble *labrum* basin and its marble pedestal[50] were uncovered and later thoroughly cleaned and

[48] Medeksza *et al.* 2012: 84-90, 94-100; Czerner *et al.* 2014: 67-71, 75-76; Zambrzycki *et al.* 2014: 82-84; Czerner *et al.* 2015b: 133-137; 2016a: 161.
[49] Medeksza *et al.* 2012: 84-86, 94, fig. 4.
[50] Czerner *et al.* 2014: 76, fig. 4.

Figure 12. Southern baths. The courtyard after the anastylosis of the columns (*Photo P. Zambrzycki*)

protected with a plastic semi-permeable membrane from sandblasting, aggressive precipitation and sun-rays. In room no. 6 after digging out and cleaning relics of a system distributing heat were protected. Fragments of some pillars of the hypocaust made of small bricks (23-25 × 23-25 × 2-3 cm) were reconstructed, as well as fragments of several pipes (*tubuli*) running vertically, situated along the faces of stone walls, made of special ceramic fittings and enclosed (encased) with marble slabs of facings about 22 mm thick, fastened with hooks anchored in the walls.[51] The ceramic *tubuli* may also have been fastened to the wall with small hooks placed every few layers along the pipes. The spaces between the ceramic elements of the hypocaust which have survived were refilled with sand and covered with an air-permeable textile (interfacing), providing overall protection from wind. Everything was buried in sand up to the level of original marble floor, fragment of which have survived.[52] Between rooms 8a and 8b (two parts of *frigidarium*) on two foundations two fragments of marble columns with bases (height up to 0.5 m) were placed on mortar, insulating the foundations from the columns' bases with squares of bituminous waterproofing.[53]

In order to reconstruct a fragment of a destroyed wall between the north-western corner of room no. 8a and a stairwell situated behind it above the ground level and to keep the empty space under it below the ground level at the same time, precast reinforced concrete beams were used to build a lintel. The ends of the reinforced concrete beams were placed in prepared mortises cut out in stone blocks of the wall toothings, and stone blocks were placed on lime-cement mortar around the beams in the clearance between the support zones. In the bottom of the blocks, along their longitudinal axes, chases were cut in order to encase and hide the reinforced concrete beams. From underneath the bottoms of the beams were also covered with mortar and the joints were filled in.[54] A hidden reinforced concrete lintel was thus constructed, bearing several layers of a wall of limestone blocks and leaving an opening under it to connect with the lower storey the stairs leading from the surface of the land with a room where a furnace was probably housed (under room no. 8a) without any fear that the wall will collapse in the future. Through this passage it will be possible to transport sand and rubble outside during cleaning works in the next seasons.

[51] Medeksza *et al.* 2012: 95-99, fig. 13.
[52] Zambrzycki *et al.* 82, fig. 3.
[53] Czerner *et al.* 2015b: 135-136, fig. 5.
[54] Czerner *et al.* 2015b: 136; 2016a: 160-161, fig. 11.

***Northern baths***[55]

In the northern complex of the (Hellenistic) baths, some layers of rubble were removed, the *tholos* and neighbouring rooms were cleaned down to the floor from the sand lying there. The joints in the stone walls were filled in with mortar and their upper fragments were rebuilt in some places, sometimes replacing the weathered blocks with good ones of similar size, taken out from deposits. Inside the cylinder of the *tholos* the walls were filled in to a height at which most probably a brick dome covering it was supported. In this way, the ceramic dome rested on the top of the *tholos* was marked with a few layers of bricks (sized 25 × 25 × 3 cm) laid on mortar and slightly inclined towards the inside, which were found in deposits during cleaning of the rooms [Figure 13].[56] Inside the *tholos* a flooring was uncovered creating a basin without an outlet, lined with a thick layer of hydraulic mortar. On the flooring by the walls, traces of ancient mortar have survived, showing how the hip baths were arranged around the interior.[57]

Figure 13. *Tholos* in the southern baths (*Photo W. Grzegorek*)

***Tomb (Hypogeum) T29***

The tomb was found by the Polish Archaeological Mission.[58] At the beginning of the conservation in tomb T29 a shoring was made of square timber, supporting a formwork around the edge of an opening in a layer of limestone rock above the tomb's courtyard. It was necessary to set beams framing the opening. The ferroconcrete beams were almost square in cross section, reinforced along the bottom and top with reinforced steel bars with smooth finish, of concrete made on the basis of white Portland cement of class 350. They supported a stone wall surrounding the opening: a well providing more light and ventilating the lower courtyard of the hypogeum [Figure 14], as well as the burial chambers, albeit indirectly. The wall was topped with a layer of stones cut diagonally on both sides (in the shape of a tent) with characteristic corners (two original corner stones have survived).

***Tomb (Hypogeum of the II-type) T6 (S6)***

The tomb was found by the Polish Archaeological Mission run by Prof. Wiktor Andrzej Daszewski, who carried out the archaeological work in the western part of the necropolis. In the above-ground part of the tomb T6 a column portico was reconstructed (two columns up to their full height of 10 drums with bases and capitals, the other columns and engaged columns partly: up to a maximum height of 4 drums/engaged drums) [Figure 15], as well as parts of walls of limestone blocks, conservation work on stone couches *klinai* in the banquet hall and stone floor was carried out.[59] Due to the lack of old elements, a part of drums was cut by stoneworkers with tools similar to those used when it was originally built. Since the tomb is situated close to the road from Alexandria to Marsa Matruh, in 2007 electrical illumination was installed in front of the entrance to the portico of the kiosk, highlighting the structure together with tombs T12, the T1 group and house H21'N' at night.

***Tomb (Hypogeum of the II-type) T10***

In tomb T10, as in hypogeum T29, two corners were repaired in an opening in a native limestone rock, providing more light and ventilating the lower courtyard of the hypogeum, and shoring and formwork of square timber and boards was made to reconstruct a stone tunnel vault covering a passage down from the level of the floor in the above-ground kiosk onto the level of the floor of the hypogeum's courtyard (about 4 m below).

***Tomb (Hypogeum) T1GH***

In 1990-1992 the archaeological mission run by Prof. Wiktor Andrzej Daszewski carried out archaeological work in the area of tomb T1GH.[60]

[55] Czerner *et al.* 2016b: 170-172, 179-182, Koczorowska *et al.* 2016: 187-188.
[56] Koczorowska *et al.* 2016: 187-188.
[57] Czerner *et al.* 2016b: 179.
[58] Daszewski 2003: 51-53.
[59] Medeksza 2002: 97-99; Medeksza *et al.* 2003: 92; 2004: 98; 2007: 107.
[60] Daszewski 1991: 33-34; 1992: 33; 1993: 23-27.

Figure 14. Hypogeum T29. In the background: a wall framing an opening above an underground courtyard (*Photo W. Grzegorek*)

Figure 15. Columns of the portico in the above-ground part of hypogeum T6 after completion of the anastylosis (*Photo S. Medeksza*)

In a kiosk built on the surface of the land, an impressive entrance into a stairwell covered with a tunnel vault made of stone slabs on lime mortar is situated. About half of the stairway tunnel's length was cut into limestone rock. The entrance to the stairwell was framed from above with a lintel with a protruding cornice with dentils and two pilasters on the sides.[61] The stairs lead to a lower burial hall, in whose walls *loculi* were cut out to bury the bodies of the dead. Above the place where the flight of the stairwell joined the lower burial hall, a ventilation shaft was made, which also illuminated the interior, square in cross section, with a side 120 cm long, which now juts out above the limestone rock surface up to the height of about 120 cm. The internal surfaces of the walls in the corners of the shaft were shaped in the form of pilasters.

In 1991 the conservation mission run by Jarosław Dobrowolski made a frame in tomb T1GH: two posts resting on the lower landing of the stairs supporting an arch above.[62] The left of the posts (looking from the stairs) was made wider and it descends about 1 m lower onto the floor of the burial hall. The structures were built like the reinforcing ones of typical limestone cubes used in modern Egyptian construction with the size of 14 × 14 × 28 cm, to support the bottom of a rock constituting a ceiling over the passage down to the tomb's hall described above and a later corridor running next to it on the left side (looking towards the north). In 2002 and 2004 the team led by Prof. S. Medeksza reconstructed an entrance kiosk to tomb T1GH, using all the original stone relics (lower base stones, framing stones and wall blocks, slabs of the tunnel vault above the stairs, lintel) and completing the reconstruction of its walls with new blocks cut from limestone blocks by traditional methods.[63] The wall coping of the shaft illuminating and ventilating the hypogeum was also levelled.

**Eastern town cistern[64]**

In 1988 the conservation mission from the Ateliers for Conservation of Cultural Property (PKZ) run by Bentkowski worked out a way of stabiliising the cracking natural limestone ceiling of the town cistern located on the eastern side of the town, with the use of a reinforced concrete binding joist – a beam placed above the rock, fastening (tightening) together the rock ceiling on both sides of the cracks with the use of steel rods anchored in that beam and running perpendicularly to it through the rock into the inside of the cistern, and there anchored with screws under the surface of the ceiling in steel profiled beams. The binding joist was to be covered with a layer of sand. However, the project was not completed. Its author was a member of the mission, construction engineer Andrzej Sawecki from PKZ.

All responsible building conservation work described in the article was carried out by the members of the Polish-Egyptian Conservation Mission: Eryk Bunsch, Rafał Czerner, Irma Fuks-Rembisz, Wiesław Grzegorek, Joanna Lis, Wojciech Osiak, Tomasz Pawlak, Walter Wójtowicz and Piotr Zambrzycki.

[61] Medeksza *et al.* 2005: 112, 114-115.
[62] Dobrowolski 1992: 45-47; 1994: 37.
[63] Medeksza *et al.* 2005: 112, 114-115.
[64] Bentkowski 1991a: 36 -37, fig. 1; Sawecki 1991: 43-44.

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# Conservation and Restoration of Polychrome at the Polish-Egyptian Conservation Mission in Marina el-Alamein

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**Summary**
The role of restoration is to return aesthetic and historical qualities based on the knowledge provided by research conducted by archaeologists, architects and conservators.

The vicinity of the sea bringing humidity and salt from one direction combined with hot and dry air blown from the desert from another direction create extremely unfavourable conditions for all the items which have survived and also constitute the main reason for damages in the area. Polychromes preserved in fragments feature a very high level of salinity and weathering of the limestone blocks. While migrating, the salt creates precipitates, often filling in even the smallest empty spaces in the structure, so it is impossible to extract it completely during conservation work without weakening the component layers significantly at the same time. Awareness of the problems determines the course of the conservation work and the choice of materials thereof. When engaging in conservation and restoration in this area, weather conditions and the specific location of Marina el-Alamein— located between the desert and the Mediterranean Sea — should be taken into account.

The painting restorer operates in three areas: initial conservation work, emergency conservation (conservation and restoration transfers) and preventive conservation (objects stored in warehouses). The first involves taking action at the moment when polychrome relics are discovered during research and cleaning work at the site. The main work of a painting conservator is the conservation and restoration of objects transferred to storerooms from the excavation site — these works are often of a rescue nature. The mission also carries out preventive work. At the beginning of each season, the condition of the items stored in the storerooms is checked and necessary conservation work is made.

**Keywords**
high level of salinity, weathering of limestone blocks, initial conservation work, preventive conservation, emergency conservation, transfers with paintings

The work at the site of the Polish-Egyptian Conservation Mission in Marina el-Alamein is carried out within the scope of three sciences: architecture, archaeology and conservation. Thanks to the cooperation of experts in these fields, it is possible to understand this ancient place fully, to interpret the functions of the structures and their original form properly. The preserver's role is to restore aesthetic and historical qualities based on the knowledge provided by the research mentioned above. When writing on conservation and restoration in this area, it is impossible not to mention its geographical situation. Considering the weather conditions prevailing at the latitude where Marina el-Alamein is located, the nature of work carried out outside is salvage in character and needs to be repeated cyclically. The vicinity of the sea bringing humidity and salt from one direction combined with hot and dry air blown from the desert from another direction create extremely unfavourable conditions for all the items which have survived and also constitute the main reason for damages in the area. Polychromes preserved in fragments feature a very high level of salinity. Humidity and temperature fluctuations cause the salt in the limestone, which is a primary building material in the area, to circulate in the limestone blocks and migrate outwards in the dry period resulting in the detachment of the outer layers including mortar, whitewash and polychromes. While migrating, the salt creates precipitates, often filling in every smallest empty space in the structure, so it is impossible to extract it completely during conservation work without weakening the component layers significantly at the same time.[1] Awareness of the problems determines the course of the conservation work and the choice of materials thereof.

## Conservation work

In order to restore paintwork, three problems must be considered. The first involves taking action at the moment when polychrome relics are discovered during research and cleaning work at the site [Figure 1]. After excavating such an item from damp sand, and thus from stable thermal and humidity conditions, it is very important to protect the item from uncontrolled drying, which is tantamount to salt precipitation, resulting most frequently in the detachment and destruction of the mortar layer together with the paint. In such situations the process of drying the item is usually controlled, while the polychrome layer together with

[1] Mahmoud Marey *et al.* 2010: 133-142.

Figure 1. Work on protecting the item on site (*Photo W. Osiak*)

the mortar is protected at the same time with bands of lime-sand mortar with additional glue which reinforces the joint and serves as a plasticiser. Additionally, in the spots where the layers detach from the support, an injection is made of water-based dispersion glue or — if the detachment is considerable — glues with mineral filler or synthetic hydraulic lime with a filler of various grades are used.

A fragment with relics of several-layer plasters in one of the houses may serve as an example of such an intervention [Figure 2]. The polychrome layer together

Figure 2. Photo with a fragment of a polychrome discovered at the site visible while protecting the item from detachment. The empty spaces between layers were filled in with synthetic hydraulic lime (*Photo M. Koczorowska*)

with the layer of original mortar was protected with bands of lime-cement mortar with a small addition of the Primal AC 330 glue at the manufacturer's concentration (about 1% of the mortar volume). When the mortar had dried, an injection was made, filling in the empty spaces with a water solution of glue (after an earlier reduction of the surface tension), and then with a suspension of hydraulic lime.

It happens that despite preventive and salvage work on the items, it is impossible to protect them at the place where they were found. In that case, after protection work they are covered with sand again, or a decision is taken to move the polychrome together with the support substrate to the storeroom.

Taking care of the items protected and moved to storerooms is another area of a painting restorer's work [Figure 3]. In the 1999-2002 seasons, painting restorers Małgorzata Ujma and Maciej Dąbrowski brought surviving fragments of paintings with polychrome from the Hellenistic period to the storeroom, where they underwent conservation and restoration treatment — that is, the items were cut from the salinated support substrate, protected, transferred onto substitute substrates and deposited in the storerooms.[2]

The mission re-entered the rooms with the protected relics of wall paintings (among other things) after the revolution in 2011. After several years without necessary emergency conservation work, the items were in very bad condition. The work in the storerooms was resumed in 2013 [Figure 4].

The conservation work described below was of a salvage nature. The storerooms fail to provide steady thermal and humidity conditions and inevitably the items — despite being stored in closed rooms — deteriorated to a large extent because of the migration of salts contained in the items. As a result of salt influence, the component layers of the original (mortar, paint layer) lost their inter-structural cohesion as well as their inter-layer adhesion.[3]

***Conservation work on a transfer with a painting fragment: three figures — representations of Helios, Harpocrates and Serapis***

After transferring onto a substitute ground in 1999, the painting underwent thorough conservation.[4]

[2] The items included: representations of Helios, Harpocrates and Serapis, a polychrome with a representation of Heron, a polychrome with the head of Alexandria and a fragment of a polychromed column's shaft. Other fragments with polychrome which had survived were also moved. The detailed course of the work is described in reports from 1999-2002. Medeksza 1999: 53-54; 2000: 70-72; 2001: 100-101; Medeksza *et al.* 2003: 94-95.

[3] Arnold and Zehnder 1996: 103-135.

[4] The cut off and conservation was undertaken by painting restorer

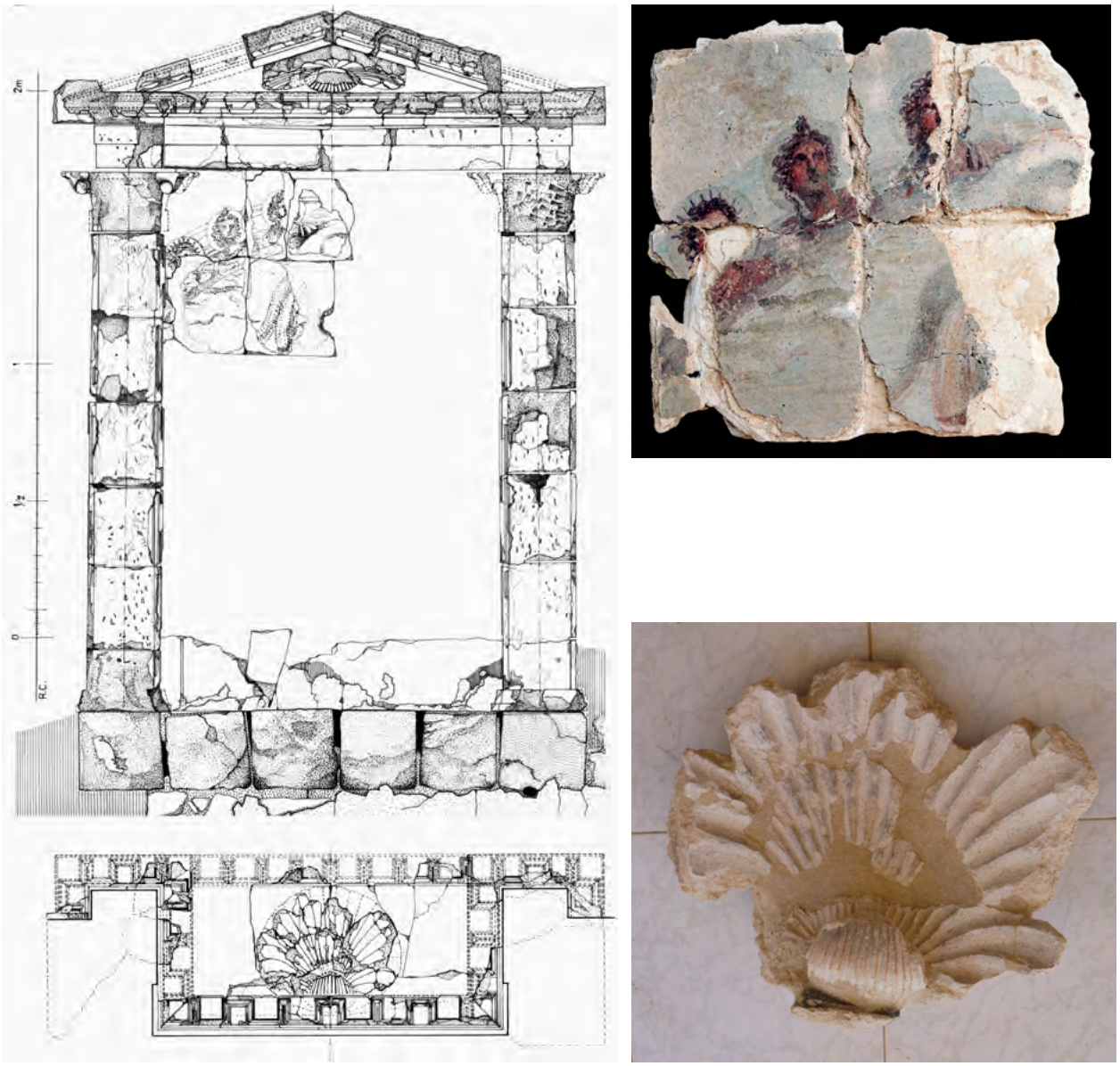



Figure 3. The work carried out at the site should also include the decisions made to move the items to storerooms if that was the only chance to preserve them. The drawing shows the place from which the painting with representations of Helios, Harpocrates and Serapis, and the shell made using the floating coat technique were taken to the storeroom and restored (*Photos M. Koczorowska, drawing R. Czerner and A.B. Biernacki*)

Unfortunately, while stored in the storeroom it became damp. About 60% of the item was completely detached from the substitute ground; in the centre a considerable part of the painting was missing [Figure 5]. The transfer was cleaned of loose deposits. An injection of a water glue solution was made after an earlier reduction of the surface tension. The wet layers were pressed against the ground with flattened marble pieces, and simultaneously small fragments of paint layer non-adherent to the mortar were put in their right place [Figure 6]. Furthermore, in the places where the mortar layer degraded and crumbled, the original paint layer lost its support layer. It became necessary to fill in the empty spaces with a suspension of hydraulic lime with a filler of various grades. The next step was to fill in the losses in the mortar layer by using lime-sand mortar with a filler consisting of fine-grained sand fraction and marble powder with additional glue as a plasticiser. The mortar applied was minimally thinner than the original, and its surface was smoothed. Next, on the filled-in spots a kind of levelling whitewash was applied, made of hydraulic lime coloured with pigments. On the ground prepared in this way a retouch was made using pigments with a 5% water solution of glue.

Maciej Dąbrowski. For detailed information on the course of conservation see: Medeksza 1999: 53-54.

Figure 4. Photo taken before undertaking the work in 2013 (*Photo M. Koczorowska*)

***Conservation work on a transfer with a painting fragment: a head, most probably a personification of Alexandria***[5]

After transferring onto a substitute ground in 2000, the painting underwent thorough conservation.[6] Unfortunately, while stored in the storeroom it was affected by damp and all the component layers were damaged due to salt migration [Figure 7]. In 2013, the item underwent more conservation as a part of an intervention procedure, stopping at the stage of structural reinforcement [Figure 8] and with applying lime-sand putties in the spots where the paint and mortar layer had been lost. In subsequent season a documentation of the preservation condition was made; the transfer was cleaned of loose deposits. Stuccolini putty was applied on the putties to level the surface of the fillings and make it similar to the original whitewash layer. The retouch unifying colours applied on the paint layer in 1999 was partially removed, since due to inappropriate storage conditions it became partially damaged or changed its colour and differed from the colour of the original. A unifying retouch was done using mineral pigments and Winsor & Newton watercolours with a 5% solution of Primal AC 33 in water [Figure 9].

Figures 5 and 6. Photos showing the transfer of fragments during conservation work. A hole is visible, left after crumbling resulting from salt migration which 'blasted' the reinforced paint layer. On the second photo, moisture is visible indicating the place where glue was injected into the empty space between layers (*Photos M. Koczorowska*)

***Conservation work on a cut off fragment of a painting depicting a man's figure: a representation of Heron***

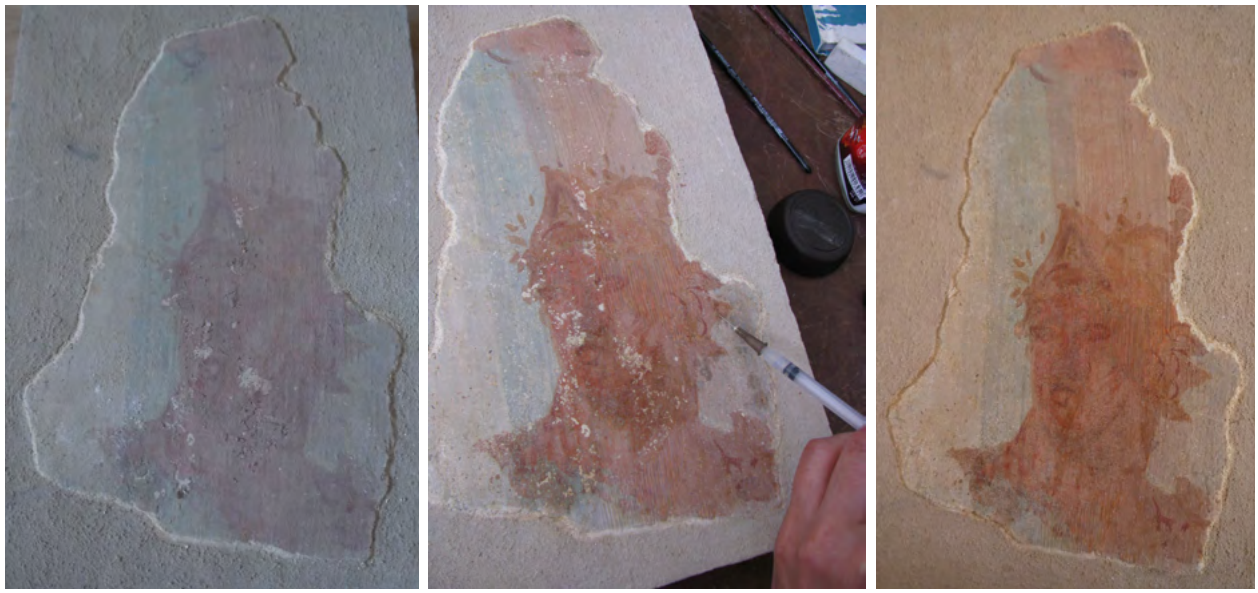
During reassessment in the storeroom in 2013, the item was found to be in a worst condition, with detachments of the surviving original up to 80%. In 1999 the painting was cut off with a fragment of its original ground: a limestone block.[7] That was also the moment when a complete conservation of the paint layer together with the mortar layer was carried out.[8] Unfortunately, while stored in the storeroom, the item was affected by damp and all the component layers were damaged due to salt migration [Figures 10-12]. In the top right corner, a considerable part of the painting was missing. The whole surface of the paint layer was covered with a salt layer about 0.5 mm thick, which had hardened and

[5] Another possible hypothesis is that it is a personification of the town of Marina or a representation of Queen Berenice (Bąkowska-Czerner 2012: 135).

[6] Detailed description of the work carried out in that season by painting restorer Małgorzata Ujma in: Medeksza 2000: 70-71; 2001: 100-101.

[7] Medeksza 1999: 54.

[8] Medeksza 1999: 54. The work was carried out by painting restorer Małgorzata Ujma.



Figures 7, 8 and 9. Photos show the fragment of a wall painting which has survived at successive stages of work continued through the 2013-2014 seasons. The first photo shows the condition found in 2013. The second photo shows the item during conservation work. The third photo shows the item after finishing the conservation work (*Photos M. Koczorowska*)

Figures 10, 11 and 12. In the photos, the condition of the item after re-entering the storerooms in 2013 is visible. In close-ups, the results of salt migration are visible: the detachment and destruction of the paint layer together with the mortar (*Photos M. Koczorowska*)

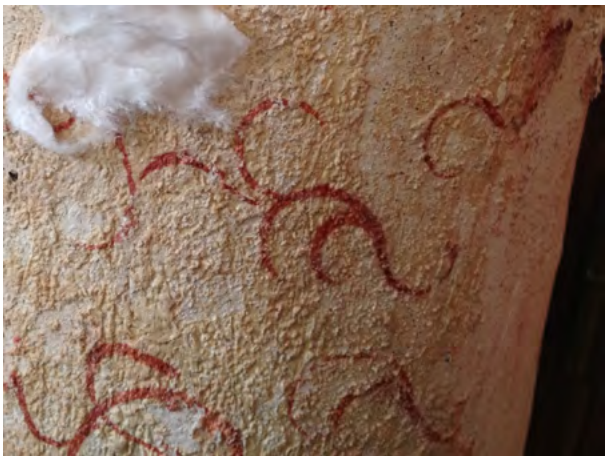
strongly integrated with the polychrome. As a result, the whole was much less distinct; moreover, due to the influence of continuous salt migration from the stone, the paint layer was lifting and piling up. The paint layer was cleaned of loose deposits. Similarly to the transfers restored earlier, an injection of Primal AC 33 with water in a proportion of 1 : 3 was made after an earlier reduction of the surface tension by using ethanol with water in a proportion of 1 : 1. The wet fragments of the paint layer were pressed against the ground with little spatulas and small marble blocks. In the places where the mortar layer degraded and crumbled, it became necessary to fill in the empty spaces with a suspension of Ledan TC1 and water in a proportion of 1 : 1. The next activity was to fill in the loss in the mortar layer by using lime-sand mortar with a filler consisting of fine-grained sand fraction and marble powder (1 : 1) in a proportion of 1 : 3, adding water and about 2% of Primal AC 33 as a plasticiser. The mortar applied was minimally thinner than the original, and its surface was smoothed. Next, on the filled-in spots, a kind of levelling whitewash made of Ledan TC1 coloured with pigments was applied. On the ground prepared this way, a retouch unifying with the background colour was made using pigments with a 5% solution of Primal AC 33 in water.

***Conservation work on a fragment of a polychromed shaft of a column [Figures 13-15]***

Similarly to other items from the storeroom, the column's shaft with painted decoration had been previously restored.[9] The item was in a poor condition, with detachments from the support ground (stone) and between the mortar and paint layers reaching 80%. Similarly to other items, the main reason for the damage was salt migration from the stone, resulting in the layers lifting and separating. In order to prevent the mortar from falling off together with the paint layer, it was necessary to put bands of lime-sand mortar with the addition of Primal AC 33 as a plasticiser. After drying, the lower bands also served as a barrier preventing the preparations applied from leaking out. Since the crack between the mortar layer and the shaft was even up to 4 mm wide, the work began with an injection of Primal AC 33 with water in a proportion of 1 : 3, after an earlier reduction of the surface tension by ethanol with water in a proportion of 1 : 1. Next, the empty spaces were filled in with a suspension of Ledan TC1 in a proportion of 1 : 1 with water. The whole surface of the paint layer was covered with blisters and without any adhesive. The only reason the pigment stayed on the surface of mortar was salt. The paint layer was detached from the mortar layer in small pieces. Therefore, it was impossible to extract the salt completely; it was only executed to a reasonable extent by applying water compresses alternately with dry ones. The wet layers became more plastic. In order to reduce the surface tension, as well as to make the paint layer more flexible, it was additionally saturated with ethanol with water in a proportion of 1 : 1. Next, Primal AC 33 with water in a proportion of 1 : 3 was applied and the small fragments of paint layer were put in their proper place while wet, pressed down with little plastic spatulas. Next, excessive glue was removed with wet cotton wool. The final stage was to fill in the losses in the mortar layer on the edges of the item by using lime-sand mortar with a filler consisting of fine-grained sand fraction and marble powder (1 : 1) in a proportion of 1 : 3, adding water and about 2% of Primal AC 33 as a plasticiser. The mortar applied was minimally thinner than the original, and its surface was smoothed.

Figure 13. Photo before conservation. Detachments of the mortar layer are visible together with the paint layer (*Photo M. Koczorowska*)

[9] Medeksza 2001: 100-101.



Figures 14 and 15. Photos taken during the progress of work. The paint layer covered with blisters and moisture is visible after the injection of the water glue solution (*Photos M. Koczorowska*)

***Conservation work on a polychromed shell from house no. 10, made using the floating coat technique***

When work began, the item was in a poor condition, with detachments reaching 80% of the shell's surface. In 1999 it was found in house no. 10, divided into many parts, which was then reintegrated with polyester resin during intervention work. In 2015 a complete preservation was carried out. Similarly to other items, the main reason for the damage was salt migration from the stone, resulting in the layers lifting and separating. The original mortar layer was reinforced with Primal AC 33 with water in a proportion of 1 : 3, after an earlier injection of water solution with ethanol in order to reduce the surface tension. Next, the empty spaces between separate fragments of the original were filled in with lime-sand mortar with the addition of Primal AC 33 as a plasticiser. The work was carried out by stone restorer Wojciech Osiak.[10]

The paint layer was cleaned mechanically of loose deposits, and then cleaned thoroughly using cotton wool with water. Similarly to items restored earlier, an injection of Primal AC 33 with water in a proportion of 1 : 3 was made after an earlier reduction of the surface tension by ethanol with water in a proportion of 1 : 1. The wet layers were pressed. Also the back of the paint layer was pasted to the whitewash using Primal AC 33 with water in the proportion of 1 : 6 with a small addition of ethanol, taking care not to allow glossing to appear on the surface of the painting. Finally, small fillings were conducted in the places with losses in the mortar and whitewash layers, remembering to make the putties slightly thinner than the original. The fillings were made using lime-sand mortar and a putty on the basis of Ledan TB1.

**Preventive work**

The mission also carries out preventive work. At the beginning of each season, the condition of the items

Figure 16. Column's shaft protected with interfacing (*Photo M. Koczorowska*)

[10] Cf. Osiak 2018: figs 15 and 16, in this volume.

stored in the storerooms is checked and necessary conservation work is done. In 2015 the restored items were protected with interfacing, which allows air to circulate and simultaneously prevents the salty sand carried by strong winds from being deposited on the items [Figure 16]. It also protects them from mechanical damage. Notices placed on the items in Arabic and English offer further protection from mechanical damage.

Conservation work in the Polish-Egyptian mission in Marina el-Alamein is of a different nature than in other missions in Egypt, dictated by the special microclimate of the ancient town's location. Understanding this uniqueness and an attempt to find optimal methods of working in this area on those exceptional items remain a challenge to be taken up every season. We hope that in the not too distant future each of the renovated items will find its place in the Marina museum built specifically to exhibit and store in the future the artefacts discovered in the area of the ancient town. The items will be ensured stable conditions of heat and humidity, which guarantee the further preservation of the Hellenistic paintings, low reliefs and architectural details.

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# The Conservation and Restoration of Works of Architecture and Sculpture by the Polish-Egyptian Conservation Mission in Marina el-Alamein

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**Summary**
The article presents the scope of conservation regarding presentable examples of architectural detail carried out in 2006, 2012, 2013, 2014 and 2015. The works were primarily of a preservative nature. In necessary cases, missing or heavily damaged elements were reconstructed. This was necessary for the good of the objects, both to strengthen the structure and to make the composition readable. Both reasons were equally important for the reconstruction of the stone benches. The preserved elements had to be stuck together and some new legs made to restore the benches' form and function. The case of bathing tubs in the southern baths was similar. Protecting the preserved fragments of plasters, bathing tubs, furnaces and supplementing their shape was necessary in order to make their form legible. Materials that are durable and safe for historic structures were used.

Tholos of Hellenistic baths required the reconstruction of the base of its brick dome. Three layers of bricks were embedded, taking into account their inclination. In terms of quantity, preservation activities prevailed. Protective bands, preventing sandblasting and water erosion in the winter season, were made to reinforce the remains of plasters. The archaeological site is located in difficult climatic conditions. They are extreme in terms of weathering factors for stone and mortar. Therefore, protecting the original material from destruction is a priority.

Monitoring the state of preservation of the objects stored in the museum storeroom is another aim of the Mission. Conservation activities have been necessary in the case of some monuments. Although they were placed in the storeroom a few years earlier, they did not always have favourable storage conditions. This especially concerned wall paintings. The aim of the work was to stabilise their condition and strengthen the structural and aesthetically unification. An experienced painting restorer, Marlena Koczorowska cooperated in the works. In a shell sculpture, made of lime mortar, any gaps were supplemented, and thus the object was reinforced structurally and unified aesthetically.

**Keywords**
architectural detail, conservation of stone decoration elements, reconstruction, prevention

I have been a member of the Marina project since 2006 and worked at the site five times: in 2006, 2012, 2013, 2014 and 2015. So far, in each of the seasons, the range of work has been wide and diversified. The characteristics of this particular place, especially the weather conditions, make the area really demanding for relics exposed outdoors. High soil salinity, heavy rain in winter, and frequent and strong winds carrying sand throughout the year, all put the remains at risk of damage.[1] The Polish-Egyptian Conservation Mission puts the preservation of the excavated items first. This purpose remains crucial under such difficult conditions as those experienced locally. However, reconstruction is often necessary to restore the integrity of the ruins and their details. This also protects the original parts of the relics from further decay caused by winds carrying sand, and pouring rain in winter. The activities of the author of the article fall within the scope described. The extent of conservation work on the architectural detail will be presented using examples of the conservation of several important items.

[1] Doehne and Price 2010: 15, 28.

Considering the number of activities, those requiring intervention dominate. Every season, protecting items *in situ* turns out to be necessary: putting up bands protecting plaster relics (also with fragments of wall paintings) or filling in those put up earlier. Such elements decidedly prevail in the area of the southern Roman baths.

## Architectural detail

In 2006, work started on the remains of benches in the exedra [Figures 1 and 2]. This included seven seats and six legs. The preservation condition was around 50%. The original elements of the benches were joined together and filled in where necessary with stone and lime-cement mortar with sand filler in the following proportions: sand : lime : white cement = 6 : 1 : 1. Epoxy resin was used as an adhesive and bolts of stainless steel as a reinforcement. Since one of the legs (the middle one on the east side) had become heavily weathered, a decision was taken to replace it with a copy. According to the measurements of the supports which survived in the neighbouring benches, a copy of such an element

Figure 1. Exedra. Condition before conservation (*Photo W. Osiak*)

Figure 2. Exedra. Condition after conservation (*Photo W. Osiak*)

Figure 3. Bench before conservation (*Photo R. Czerner*)

was made in limestone and fitted in place of the ancient leg. Seats (joined together and filled in) were located on it. Three of those horizontal elements have failed to survive until our times, hence it was necessary to produce copies. While doing that, a decision was taken to use texture characteristic of a wide chisel. Such surface emphasises the difference between the original elements which have survived, and the reconstruction of the fragments which have failed to survive, and the copies of whole seats. At the front, half rounds copying those in ancient benches, were made. Fragments of well-preserved plasters in the exedra were protected with bands of mineral mortar in the above proportions.

As a result of the conservation work in the exedra,[2] the original elements which have survived have been combined harmoniously with the reconstruction [Figure 2]. Since its conservation in 2006, the exedra has been willingly chosen as a resting place by visitors and often photographed as a distinctive structure on the axis of the layout.

In 2014, similar work was carried out on the opposite northern side of the so-called main square of the town [Figure 3]. Seats of two benches have survived there, which are around 90% intact and required joining

[2] Medeksza *et al.* 2008: 76.

together and the filling in of the missing fragments with stone. The horizontal elements of the benches were fixed with epoxy resin by the restorer, Piotr Zambrzycki.

In order to restore the loss of shape, a replacement was fitted at the front of the seat of each bench above its middle leg [Figure 4]. The size of both replacements was 8 × 25 × 15 cm. Heavily weathered half rounds in the seats of both benches were filled in using lime-cement mortar. Considerable losses in cracked places and on the upper surface of the seats were also filled in, as well as vertical sandblasted cracks between the layers in the best preserved middle leg. Two of the three legs (excluding the middle one) had been destroyed, hence it turned out to be necessary to replace them with copies. Only the middle support of the benches was retained as the most durable. According to the measurements of the original legs which have survived *in situ*, two new ones were sculpted [Figures 5 and 6]. New supports were fitted in place of seriously damaged and weathered originals [Figure 7].

Figure 5. Making a copy of a bench leg (*Photo W. Grzegorek*)

Figure 4. Filling in a gap in a half round of a seat with a cover (*Photo W. Grzegorek*)

Figure 6. Copy of a bench leg (*Photo W. Osiak*)

Figure 7. Bench after conservation (*Photo W. Osiak*)

Figure 8. Tholos before conservation (*Photo R. Czerner*)

Figure 9. Tholos after conservation. Reconstructed base of a brick dome (*Photo R. Czerner*)

While fitting the benches, a peculiar land inclination, resulting from an earthquake in ancient times, was taken into consideration. Restorer, Piotr Zambrzycki and architect engineer, Wiesław Grzegorek, were consulted during the work.

**Tholos Hellenistic baths**

The tholos constitutes the central element of the Hellenistic baths complex.[3] The purpose of the work was to make a structure of original bricks,[4] which would show the visitors the base of a non-preserved dome [Figures 8 and 9]. While building this, loosely stored, well-preserved, ancient bricks, lying in the area of the complex, were used. Extracted during the excavations, they had been deposited in several places. On the top of the ellipsoidal wall, layers of original bricks were set, keeping their rotation towards the centre in order to imitate the dome structure [Figures 10 and 11]. In places, three layers were reconstructed. Lime-cement mortar was used in the proportions shown above.

**Roman baths complex**

In the seasons of 2012, 2013, 2014 and 2015, I took part in extensive work in the southern Roman baths complex. This was necessary to protect numerous plasters and to fill in bathing tubs[5] and furnaces.[6]

[3] Czerner *et al.* 2016: 167-184.
[4] On the conservation of bricks see: Soldenhoff 1999.
[5] Koczorowska and Osiak 2015: 102.
[6] Koczorowska and Osiak 2015: 106.

Figure 10. Tholos. Bricklaying during the reconstruction of the dome's base (*Photo W. Grzegorek*)

Figure 11. Tholos. Condition after the reconstruction of the dome's base (*Photo W. Osiak*)

**Bathing tubs 7a and 7b [Figures 12 and 13]**

Bands of mineral mortar were used to protect plasters from becoming detached from the foundation. The mortar was coloured with lamp black and fine-grained ceramic filler to make it resemble the original. In bathing tub 7a, the upper surface of the surrounding wall was reconstructed in places. The biggest loss was filled in in the eastern wall, at the front.[7] In a breach in the wall of crushed rock gravel, a layer of local limestone was set using mineral mortar. Besides sand, finely crushed ceramic was used as a filler to give the mortar features similar to the preserved original. On the wall of crushed rock gravel, a layer of ancient brick, taken from nearby heaps, was added [Figure 14]. Whole bricks or fragments were chosen and matched so that they were no higher than four cm and no longer than twenty-four cm, and corresponded to the same size of bricks, which have survived in the bathing tub *in situ*. To fill in the wall, four whole bricks and ten fragments of bricks, which were 30-50% preserved, were used, as well as lime-cement mortar as above, with ceramic filler similar to the original preserved in the ancient mortar.

The bathing tub 7b required the protection of numerous and extensive plaster relics. On its front (southern)

[7] Koczorowska and Osiak 2015: 104.

Figure 12. Bathing tubs 7a and 7b before conservation (*Photo R. Czerner*)

Figure 13. Bathing tubs 7a and 7b after conservation (*Photo R. Czerner*)

wall, big gaps were filled in in the corners. Surrounding bands were put around the mortar, which used to be an undercoat for the facing marble slabs. Deep gaps in the joints and openings in the upper parts of the wall, resulting from intense weathering of the limestone, were filled in.

At the front of the eastern wall, on the whole surface of a heavily weathered block, a socket, 25 cm deep, was cut, and a worked cover was fitted using mineral mortar as above.

**A shell made of lime mortar, from the collection of relics stored in the storeroom, coming from the house H10 (collaboration with restorer Marlena Koczorowska)**

Sometimes, an intervention on the items stored in the archaeological storeroom is necessary. In the seasons of 2013, 2014 and 2015, indispensable salvage work was carried out on the wall paintings from the storeroom. This included structural reinforcement of the relics, filling in the gaps in the shape and aesthetic unification. Together with an experienced painting restorer,

Figure 14. Work on the bathing tub 7a. Reconstruction of a layer of bricks (*Photo W. Grzegorek*)

Figure 15. Shell of lime mortar coming from the house H10. Condition before conservation (*Photo W. Osiak*)

Figure 16. Shell of lime mortar coming from the house H10. Condition after conservation (*Photo W. Osiak*)

Marlena Koczorowska, paintings which have survived on stone blocks were protected and restored (e.g. the representation of a woman wearing a nautical crown,[8] the painting with Helios, Harpocrates and Serapis).[9]

In 2015, conservation of a shell sculpture, made of lime mortar, was carried out [Figures 15 and 16].[10] Coming from the house H10 and discovered in previous years, the item was found in fragments, and soon after, elements of the sculpture were stuck together with precision using polyester resin. The item was found in the storeroom in exactly such form, that is, fragments stuck together. Considering the significant structural weakness of the ornament, a decision was taken to fill in the spaces between the elements stuck together, in order to reinforce it [Figure 17]. Lime-cement mortar was used with sand filler in the proportions of: sand : lime : white cement = 6 : 1 : 1.

After filling in, the durability of the item substantially improved. Moreover, the filling in of empty spaces gave a favourable aesthetic effect, and the visibility of the sculpture has now improved for visitors.

[8] Medeksza 2001: 71, fig. 7.
[9] Koczorowska and Osiak 2015: 109.
[10] For more on conservation of stone objects see Domasłowski 2003.

Figure 17. Shell of lime mortar. Conservation work. Filling in with mineral mortar (*Photo M. Koczorowska*)

The purpose of the work was, first of all, structural reinforcement. Next, losses in shape were filled in and protective bands were put around relics of original mortar. Painting restorer, Marlena Koczorowska, restored the paint layer.[11] The item was packed with precision and, thus protected, left in the relics' storeroom.

Very diversified in its nature, the conservation work in Marina has allowed relics of the ancient town to be protected and improved their visibility for visitors. The range of requirements certainly remains immense. This exceptional place is worth being preserved systematically.

[11] Cf. Koczorowska 2018, in this volume.

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