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Preliminary results of archaeological research conducted by the CES RAS at Kom Tuman (Memphis) in the season 2021

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The paper presents preliminary results of the latest research by the Russian Archaeological Mission at Kom Tuman (Memphis). In fall 2021 the study of the workshop area, located in the central part of Kom Tuman, was continued. Simultaneously the works were done in the “Rescue Area” and in a newly opened “Temple Zone”. All structures uncovered were used at different times for industrial, administrative, or habitation purposes and belong to the timespan from Saite-Persian to the early Ptolemaic period.

Keywords: Memphis, Kom Tuman, the Palace of Apries, White Walls, workshops, Late Period, Ptolemaic period, Roman period.

In 2001 the Supreme Council of Antiquities¹ granted permission to the Centre for Egyptological Studies of the Russian Academy of Sciences (CES RAS) to excavate the sites of Kom Tuman, Kom Dafbabi and Tell Aziz. Located to the east of the modern Ezbet Gabri village, this area is the north-eastern part of the ancient Memphis site.

The most significant archaeological feature of Kom Tuman is ruins of the Palace of Apries and a military camp that were excavated in 1909 and identified as such by F. Petrie. A plan of the palace drawn up by F. Petrie is still the only existing record of the interior layout of the principal royal residence². In 1977 the British archaeologist B. Kemp made a re-investigation of the Palace of Apries in order to “verify certain points”. The result of this work was a more detailed description of what remained of the structure excavated by F. Petrie³.

¹ Currently, it is the Ministry of Tourism and Antiquities of the Arab Republic of Egypt.

² Petrie 1909: pl. I.

³ Kemp 1977.

In 1955 J. Dimick, who made a topographic plan of Memphis in the course of work of the Pennsylvania University archaeological mission to Mit-Rahina, plotted a massive structure in the central part of Kom Tuman, a nature of which remained unclear until recently⁴.

In December 2001 the Russian Archaeological Mission to Memphis headed by Dr. G. A. Belova started its work on the area to the east of the Palace of Apries⁵. Archaeological survey (sing), prospecting and archaeological excavations made it possible to study occupation of the site at different historical periods⁶. One of the most important results was identification of a core of the ancient capital known as the White Walls, which was presumably located at Kom Tuman⁷.

From October 9 to November 30, 2021 CES RAS conducted a regular archaeological season at Kom Tuman⁸. Work was carried out in following directions: archaeological research (I); topographical survey (II); core-drilling prospecting (III); soil survey (IV); study of objects in the magazine (V).

The archaeological work (I) was carried out at six areas (fig. 1):

I. 1. The area in the central part of the military camp, covering the north-eastern segment of the “Dimick Building” (squares VI.T10–T11, VI.A.11).

I. 2. The area of the so-called Rescue Excavations (squares X.F2–F3, X.G2–G3, X.H2–H3).

I. 3. The area in the south-eastern part of the camp for convenience called the “Temple Zone” (square XI.E6).

I. 4. The site to the south of the Palace of Apries and conventionally named “Postern Gate” (squares II.R15–R17; II.S15–S17).

I. 5. The south-eastern part of the palace platform (squares VI.N4–N5)⁹.

I. 6. The area in the north-eastern part of the palace platform (squares V.R5–R6).

⁴ “Nothing but the foundation plan is discernible, but it is distinct that it merits positive location. No clue exists regarding its original function” (Dimick 1959: 82, no 3). For nature of the structure see below.

⁵ The eastern part of the site was in concession of the Portuguese Archaeological Mission headed by M. H. Tridade Lopes (Tridade Lopes 2011). In 2016 this area became a part of the Russian concession.

⁶ For preliminary reports on work of the mission see Belova, Ivanov 2016; Belova 2018; Белова 2021; Lammel 2021; Yarmolovich 2019; 2021, etc.

⁷ Belova 2022: 317.

⁸ Director of the Mission: Dr. Galina A. Belova; deputy director of the Mission: Dr. Sergej V. Ivanov; inspectors of the Ministry: Mrs. Mary Samir Saib Lazar

(field), Mrs. Amira Saad Abd el-Khalim (assistant field inspector), Mr. Hassan Abbas Hassan (conservation), Mrs. Yousra Samir (magazine), archaeologists: Dr. Alexander A. Belov, Mr. Anton A. Simonenko; pottery analysis: Dr. Sabine A. Laemmel, Ms. Victoria I. Yarmolovich; Egyptologists: Dr. Iury S. Reunov; surveyors: Mr. Konstantin G. Loginov, Mr. Vladimir N. Sorokin; draughtsmen: Ms. Alisa V. Kraniuk, Ms. Svetlana I. Selezneva, Mr. Eugeny V. Levchuk, Mr. Maxim N. Markovskiy; soil specialist: Fatima G. Kurbatova; photographer: Mrs. Ludmila V. Tishkina; foremen of workmen: Mr. Ali Farouk Al-Quftawi.

⁹ Results of excavations at the “Postern Gate” and the palace platforms (I.4–I.6) will be discussed in a forthcoming article.

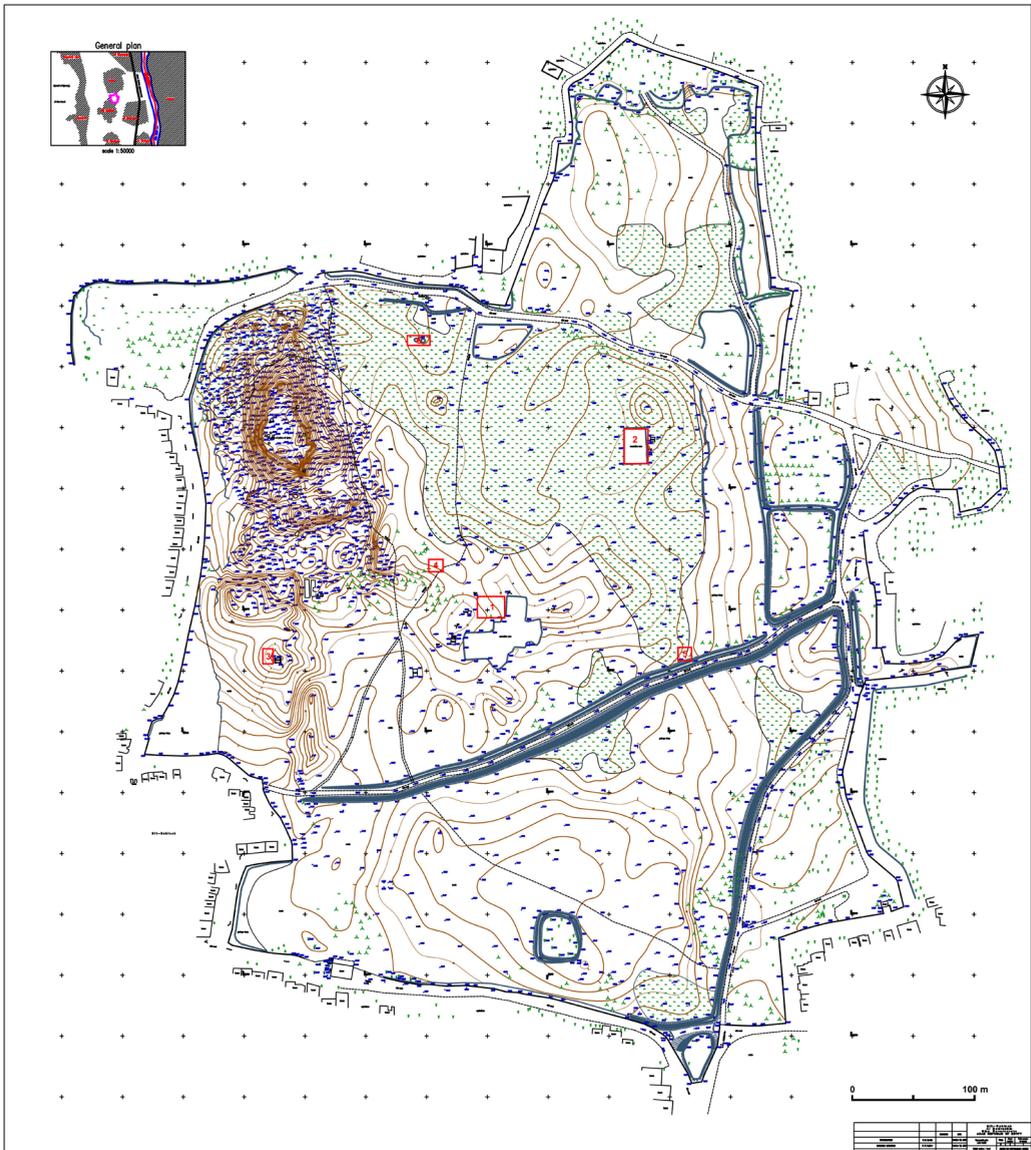


Fig. 1. Topographical plan of the site (by V. N. Sorokin and K. G. Loginov, 2021).
Areas of fieldwork in the season 2021 are marked in red

I.1. Excavations in the central part of Kom Tuman

The central part of Kom Tuman (so-called military camp) has been studied since 2003. By 2018, the total excavation area reached about 3000 m². A significant part of this area overlaps the structure plotted in 1955 by J. Dimick on the map of Kom Tuman. In course of excavations, it became clear that the “Dimick Building” was in fact an imaginary compilation of a number of different structures.

One of these structures was a massive building oriented along the north — south axis (Building 2). Study of its architectural remains showed that it had been administrative headquarters and some of its rooms had been well prepared for the life of the military contingent. The building was protected by a strong defensive wall equipped with architectural elements resembling bastions (Wall 23/30), which was determined in 2015. The walls were covered with a thick layer of white plastering, which has been preserved from a certain depth downwards. A thorough study of fragments of pottery from several accumulations discovered *in situ*, as well as analysis of fragments preserved in the brickwork, led to a conclusion that the building functioned at the time of Persian rule. These facts, coupled with the data from written sources, made it possible to conclude that we have discovered the “White Fortress” mentioned by classical authors. This citadel was built atop remains of earlier structures dating back at least to the New Kingdom.

East and west of the defensive wall lay the area of workshops — c. 1200 m² which were studied by 2020. The area was confined within an enclosure; pair walls oriented along west — east axis ran through the entire complex (for example, Walls 233, 245) and formed long corridors with door openings on both sides, which led to studios of different specializations. Each shop was a separate unit with a number of inner rooms. Thus, the whole area was a large compound consisting of different workshops surrounded by a common outer wall and system of straight passages.

Some rooms were occupied by stone-working workshops, as it can be concluded from numerous stone chips and fragments of unfinished stone objects scattered in the area. The craftsmen processed various materials — calcite, limestone, sandstone, granite and other minerals. These were used for making vessels and daily utensils, as well as reliefs and sculpture. Teaching apprentices was an essential part of the work process, as it can be seen from a large number of training pieces with graticulation found within production waste.

Most likely some workshops were specializing in metal smelting — both for production alloys as raw material for further proceeding and casting popular items (figurines, decorative elements, arrowheads, etc.).

The major part of the workshop area was occupied by furnaces that were arranged in rows in separate rooms. In course of excavations of the seasons 2005–2018 more than a dozen of furnaces were discovered. The furnaces consisted of fire chamber(s) connected to a series of chambers of different sizes and obviously of different temperature conditions.

Preliminary analyses of production waste (slags, fragments of crucibles, production pottery, etc.) makes it obvious that the main purpose of these workshops was making artificial pigments (Egyptian blue and other colours) that were afterwards used by artists for painting and as a raw material for small-sized items. Raw glass, mainly of ruby colour, was also produced there.

Due to bad preservation, exact arrangement of the workshops cannot be securely traced. Most likely, most of the studios had low partition walls, their floors were paved with with square mud bricks.

It is also likely that there were some common spaces shared by several workshops, since some industries were based on proceeding with the same materials or waste of one process could be used as a raw material in another. For example, one of the rooms was used for grinding minerals (limestone, quartz, etc.) that were essential for Egyptian blue and glass production. The floor of the room has circular pits that could be used for installing vessels or grinding stones. Most probably the grinders were using the waste of the sculptors' work.

The workshops had multiple phases of functioning that entailed changes in its size and layouts as well as abandoning old and building new furnaces. It is worth mentioning that the most recent construction horizons are based upon a layer of dismantled furnaces that were aligned along the walls of the rooms. Evenly scattered on the surfaces of the premises, a big number of finds related to high-temperature industries (fragments of crucibles and other production pottery, firedogs, slags, etc.) confirm this suggestion.

Study of ceramics makes it possible to conclude that the workshops excavated so far functioned in the Late Period and Early Ptolemaic time¹⁰.

The program of the season 2021 included cleaning some previously excavated areas (squares VII.A10 and VII.A11) in order to check and amend the existing plans and assess the extent of damage to the site in recent years (A). The new excavation area was extended northwards with two 10×10 m² (VI. T10 and VI.T11) (B)¹¹.

A. Re-clearance of the squares VII.A10–A11 (fig. 2), which were partly excavated and documented in 2004–2005, was caused by need to set a correlation between structures of the “old” and more recent excavations in the neighbouring squares. Results of cleaning square VII. A11 allow us to assume that Wall 22, located north of the Wall 21, ran parallel to Wall 21. The latter is hypothetically the northern wall of Building 2. The walls are preserved approximately at the same height: Wall 21 — at level 17,74; Wall 22 — at level 17,89 m AMSL. However, it has not yet been established whether the fragment of Wall 22 is connected to any wall of Building 2. The brickwork of Wall 22 is not clearly visible. Walls 21 and 22 are separated by a two-meter-wide trench. The trench is filled with fragments of burnt clay, ceramics and solid silt substance. In its western part, there is a dense accumulation of large fragments of limestone. Thus, it cannot currently be claimed that Wall 22 was part of Building 2. On contrary, the presence of a trench indicates that Wall 22 was one of the fragments of another structure just adjacent to Building 2.

In course of work carried out throughout the excavation area at the level of 17,90–17,70 m AMSL, fragments of faience items were found: vessels, beads and amulets (21/0030/002; 21/0030/008, 21/0069/003; 21/0030/003), as well as clay moulds for production of such (21/0030/006). These finds confirm earlier conclusions that the upper layers of

¹⁰ Using the results obtained during study of ceramic complexes, authors of this paper relied on the data provided in personal reports of S. Lammel and V. I. Yarmolovich. For results of previous seasons see Lammel 2021; Yarmolovich 2021.

¹¹ All photographic materials given in the article were prepared by the field director S. V. Ivanov.



Fig. 2. General view to the square A11

the areas located behind the defensive Wall 23/30 were occupied by workshops that produced faience. To measure the raw materials, weights of different sizes and materials were used; one of such weights made of granite was found in square VII.A11 (21/0069/001).

While removing the upper layer of mixed soil (*turab*) at both squares fragments of ceramics were collected; these were distributed in a remarkable way. In the square VII.A10 (21/0031) the layer mainly contained local pottery, with a few body sherds of Levantine and Aegean amphorae, dated to the late 6th — early 5th c. BC; no fragments of Ptolemaic ware were recorded. Pottery from the brickwork of Wall 22 (21/0026) is represented by several sherds of the late Third Intermediate and Saite periods as well as fragments of local ceramics and sherds of East Greek amphorae, which date mainly to the Late Period — the late 4th c. BC.

Pottery from the same layer of *turab* in square VII.A11 (21/0029) dates to a later period: it is mainly represented by Ptolemaic sherds and Greek amphorae imports; latter are also compatible with the same date. However single fragments dating to the late 4th — 3rd c. BC, and some fragments of Lesbian amphorae of the 6th to 5th c. BC were also recorded in this context.

B. The “old” excavation area was extended northwards with two $10\times 10\text{ m}^2$ VI.T10 and VI.T11 (fig. 3). Layers of modern garbage and loose mixed soil were removed, and the upper building horizons were reached at 17,40–17,20 m AMSL. Unfortunately, at this stage of excavation, it is not possible to reconstruct the exact planum and function of the surviving structures. However, judging by the ash patches of destroyed furnaces and accumulations of crushed limestone, we are obviously dealing with the production area. Workshops, in particular, were set up over Walls 23/30. The remains of partition walls indicate that production processes took place in specially equipped rooms of workshops.



Fig.3. General view to the square T10

It is likely that the newly discovered workshops were also mainly specializing in production of “Egyptian blue” (fig. 4). This conclusion was verified both by numerous finds of crucibles with remains of blue pigment on their internal surfaces and by finds of lumps of the pigment itself. Probably, faience objects were also produced here since both production processes seem to have been closely related. Fragments of faience vessels (21/0007/002, 21/0016/003), amulets (21/0007/015) and figures were found (21/0007/006, 21/0086/002, 21/0007/024), as well as clay moulds for their production.



Fig. 4. Faience amulet representing the goddess Isis sitting on throne and suckling Horus

The finds include various utensils: furnace accessories (tuyères, supports, etc.), working tools (grinding, hammer and polishing stones), weights of various denomination (21/0009/001, 21/0009/004), etc.

It is possible that copper casting (21/0007/012; 21/0007/017) and glass melting (21/0016/001) were performed here. Although the material found in the newly discovered areas is not yet enough for well-founded conclusions, nevertheless, such a possibility exists by analogy with the findings of copper smelting furnaces, defective objects from copper alloys and slags from copper smelting production in neighbouring excavation sites. Rare waste from glass production was also discovered during excavations.

Workshops regardless of specialization were usually equipped with drains. One of such installation, consisting of two ceramic vessels put one upon another and installed below a floor level, was discovered by Wall 404 in square VI. T10 (feature 413). The pit, in which this shallow drainage was installed, is c. 0,90 m deep and c. 0,40 m in diameter (fig. 5).



Fig. 5. Drain in one of the workshops in the square T10

Analysis of pottery dates the workshops to the Ptolemaic period. Thus, Egyptian amphorae and cooking vessels of the 3rd to the early 1st c. BC are the dominant component of the small assemblage found in the square T11 (21/0062, 21/0063). Small accumulation 427 in Room 410 is mostly Ptolemaic. The date is confirmed by presence of many cooking vessels of Ptolemaic times (21/0064).

However, in the large assemblage (21/0006+21/0015) collected at the level 18,51–17,76 m AMSL under *turab* over Wall 23/30 and generally giving different dates from Late to Ptolemaic period with a few instructions of Old Kingdom. Ptolemaic sherds of the 2nd to early 1st c. BC are presented in larger quantity. It should also be emphasised that among the discovered fragments of ceramics, a certain part is fragments dated to the time of the early Roman Empire, which leads to the conclusion that the workshops were functioning not only during the Ptolemaic, but also in the Roman period.

This fact is evidence that Memphis still played a significant role in handicraft production and international trade in Roman times, and it deals a blow to the theory that the capital did not survive the decline of ancient Egyptian civilization in the first centuries AD.

It should also be noted that along with locally made pottery, imported forms are widely represented. Among the latter, there are a large number of North Aegean and Knidian amphorae of the 4th and 3rd c. BC (21/0006+21/0015). Many other assemblages are rich in imported amphorae and fine ware Greek imports of the 4th c. BC (21/0008). Probably, this can be explained not only by the fact that such ceramics were a subject of imports but also by the presence of foreign craftsmen, most among whom were Greeks.

I.2. Rescue Excavation Area (X.G2–G3; X.H2–H3)

In the north-eastern part of the site archaeological research began in the fall of 2014, for the locals started illicit digging in the square X.F2 of the military camp. The robbers made a pit measuring *c.* 2×2 m and 3,54 m deep and found a large block of limestone, incorporated in a massive mudbrick wall. The block is rectangular in shape and measures 1,6×1,4×0,4 m. As it turned out later, the stone was decorated with relief representations of *heb-sed* scenes.

In the left part of the scene, there are remains of representation of a sitting king facing left and wearing the White Crown. There are remains of a cartouche to the left of the king's face. Due to the importance of this find, it was decided to carry out excavations in order to understand its context. Since this year, excavations of this zone have been conducted on regular basis.

The *heb-sed* relief is not an extraordinary find. F. Petrie during his excavations of the Palace of Apries discovered fragments of pylons that were originally installed at the entrance to the palace and were decorated with images of *heb-sed* ceremonies.

F. Petrie's interpretation¹² of sequence of the scenes was questioned by the W. Kaiser¹³, who presented a slightly different order of their arrangement, in which the upper right corner of one of the pylons was missing.

¹² Petrie 1909: pl. III–IX.

¹³ Kaiser 1987.

Our block corresponds to the upper right corner of the pylon; however, the images on it do not agree with the context of the others. The reason why images on the block differ from the theme of the images on the pylons requires further study.

During the excavations, it became clear that the block was used as an eastern part of doorway. The image of the king and some other elements were erased, while the block itself bears traces of an attempt to divide it to smaller parts in antiquity. For the time being it is obvious that this representation was not of any importance for builders of this construction, since they located the stone facing eastwards, *i. e.*, the relief was faced by brickwork of a massive Wall 196, which was 2,50 m thick. The western face of the block, like the others that were parts of the gate structure, was covered with a pinkish plaster.

In the course of archaeological research of 2014–2018 Wall 196 was proved to belong to a large mudbrick building, the latter consisted of numerous rooms connected to each other by doorways (fig. 6).



Fig.6. General view to the the north-eastern part of the building in “Rescue area”

The building was oriented along the north — south axis.

To date, only the north-eastern part of the building was excavated.

Exterior walls of the building have not yet been identified with certainty; hence its configuration and dimensions remain unspecified. Wall 196 ran from west to east, where it connected at right angles with another massive Wall 284. One can only assume that massive walls 196 and 284 formed the outer corner of the north-eastern part of the building. The limestone gate was incorporated into the body of the massive wall 196/337. Inside the gate, at the northern end of the eastern wall at the height of 1,20 m from the floor level, there is a socket for a door bar. The door separated the interior of the building from the open courtyard.

The inner space of the excavated north-eastern part of the building is divided into six small rooms, which were interconnected by doorways. The doorways were small. The height of one of the passages was 1,00 m, and the width was 0,80 m. Apparently, the doorways could be originally closed with doors, or perhaps simply forced by stone blocks. One such a massive limestone block was found in the southeast corner of Room 288. Its dimensions correspond to the dimensions of the doorway.

The walls of the rooms, preserved to height of 1,5 to 2 m from the floor level were covered with a thick layer (up to 8 cm) of plaster and whitewashed. The floors were whitewashed as well. Several layers of whitewashed floors have been preserved which indicates that the floors were renovated several times. The levelling for the floor pavement was the so-called *dakka*, which is a compact layer consisting of reddish mud/clay saturated with limestone chips and fragments of mud brick. The *dakka* was usually paved with a row of large mud bricks. Fragments of such floors were discovered in the north-eastern corner of Room 338 and the southwest corner of Room 288 at level 13,21 m AMSL.

The main tasks of the season 2021 were: to clarify the stratigraphy of this construction; if possible, to restore the plan of the south part of the building; to identify its purpose at different periods. To achieve this goal the entire area (squares X.F2–F3 и X.G2–G3) was cleaned of modern garbage and dust. Re-clearance was also carried out due to damage to the excavation site caused by natural factors.

The main purpose of archaeological work was to determine the chronological framework of the existence of the site and compile its detailed architectural planum. Identifying the period of habitation and use of the site, the history which is counted in centuries, is a necessary and extremely responsible task associated with a complex dilemma: the inevitable partial destruction of the site and the expediency of its preserving as archaeological evidence, in our case a unique palace complex. That is why, since in most areas only the upper layers of the site have been excavated, trenches aiming to reach the foundations of the walls to determine the construction periods were made only in some key locations, and the trenches deep to 6 m from the modern surface level were made only in the eastern part of the adjacent Rooms 289 and 290. As a result of the research, it was found that the structure survived at least four construction periods.

The first construction period

To this construction period, Rooms 289 and 290 can be ascribed. These are the rooms of regular shape measuring *c.* 3,50×3,0 m and located in the eastern part of the building.

Room 289 (fig. 7–8). Excavations in the western part of Room 289 reached the floor level at 13,70 m AMSL, while the eastern part was significantly deepened to a level of 12,60 m in order to determine the time of construction of the building.

An installation lined on the sides with bricks and fragments of ceramics (?) was made in the center of the room at this level. It probably could be round in plan, but since its western part remains unexcavated, this assumption remains unconfirmed. The purpose of this construction is not yet clear. It may have been connected to a small piece of mud brickwork adjacent to Wall 196. In the southeastern corner, large vessels *in situ* were found on the floor, one of which had a diameter of 0,40 m. To date, this is the oldest part of the building.

Thus, Room 289 has gone through at least two construction periods.



Fig. 7. Eastern part of the Room 289



Fig.8. Western part of the Room 289

Room 290. Excavations in the eastern part of the room went down to 12,98 m AMSL. Several floor levels were identified. In the center of the excavated part, a small fireplace was arranged, testified by the preserved ash spot with a diameter of 0,30 m at level 13,10 m. Signs of the vessel standing on it can be clearly traced by the baked clay that has preserved the shape of the vessel's bottom. There is no doubt that the room has gone through at least two construction periods.

The second construction period

To date, it has been established that this period of construction includes Rooms 371, 195, 338, 288, 289, 290, 370, and 388¹⁴.

Rooms 338, 288, 289 and 290 are rectangular in shape and almost equal in size excluding Room 288. The latter occupied a relatively small area. The premises were connected to each other by doorways.

Rooms 388 and 370 were probably corridors. They were adjacent at right angles to each other and thus covered part of the building. The corridors were interconnected by a doorway, allowing inhabitants to reach other rooms.

Room 371 appears to have originally served as an open courtyard preceding the entrance to the main rooms.

Studies of the construction of the walls have shown that at least some of them have undergone repairs, that is, they were either overbuilt or strengthened. These are walls: 210/211, 285, 352/353, 198, 372. At the same time, the repair did not affect the general plan of the building.

Room 338. A limestone gate led to Room 338, formed by Walls 196, 372, 210/211, 198. The surface of the walls was covered with whitewash. For instance, the whitewash of the inner face of Wall 196 remained almost completely intact. Wall 210 was reinforced with Wall 211 and whitewashed anew.

Wall 372 appears to have been strengthened with an additional row of bricks. The floor of the room was lined with a single layer of coarse mud brick and whitewashed at 13,13 m AMSL.

In order to establish the initial configuration of the building, the cornerstone is the dilemma of whether Wall 196 continued westward from the western wall of the limestone gate or Wall 372 was the outer wall of the building. To solve this problem, from the western wall of the limestone gate to Wall 272, trench 337 was laid from the level on which the lower layer of brickwork of Wall 197 was preserved. Its width was 1,40 m and a depth of more than 2 m (fig. 9–10).

At the level of 12,80 m, brickwork similar to that of Wall 196 was recorded. The same brickwork was traced in the southern, western, and northern profiles of the trench, which is determined to indicate that Wall 196 continued towards the west. Thus, the building included rooms located to the west of the limestone gate and was much larger than previously considered.

Room 288. Room 288 was significantly smaller in size than Rooms 338 and 289, which are located on its western and eastern sides. Its area was equal to 12 m². From Room 338 to

¹⁴ A detailed description of the layout of this part of the building was included in previous reports (Belova, Ivanov 2016; Belova 2018, etc.) and it is not the purpose of this article.

Room 288 led a low passage approximately 1,10–1,20×0,90 m, made in Wall 198 separating the two rooms. At the bottom of the doorway, a small rectangular limestone block was installed, which served as a threshold. Another limestone block is much larger (1,10×0,80 m), and may have blocked the passage to Room 289. It was found in the northeast corner of the room.



Fig. 9. Wall 272 with a later superstructure



Fig. 10. Trench 337, between Walls 197 and 272

In Room 288, a deep niche was discovered in the northern wall. Its depth reaches 1,10 m with a height of 0,80 m and a width of 0,55 m (fig. 11). The walls of the niche were whitewashed. Whitewash probably flowing down from the outside of Wall 196 or poured onto the floor formed a kind of threshold.

The niche contained an assemblage of pottery, which was deposited at the level 13,50–13,00 m AMSL (18/0068). This assemblage includes mainly the local Nile and marl clay vessels of the late 5th and 4th c. BC. Imports, both Levantine and Aegean, are only represented by a few body sherds.

In the season 2021, a study of the structure in the southern wall of Room 288, traces of which were discovered in 2018, was continued (fig. 12). The bottom of the wall opening according to its outlines was slightly above the floor level of the room. The socket installed on the right side of the wall opening (13,20–13,30 m AMSL) indicates the presence of a door. In the course of further clearing, another installation was found below the socket. It was a pit 0,60 m deep and 0,50 m wide. The walls of this pit were coated with lime-like plaster. The purpose of this structure is ambiguous. Perhaps this is a fragment of the doorway with a threshold. The walls of the threshold were made of solidified lime mortar that strengthened them. The interior space was filled with mud brick material. However, the small size of the wall opening (width approximately equal to 0,60 m) testifies in favour of the assumption that there was another niche. That is, there were two niches located one under the other that formed a single structure. If so, then the top of the lower niche had to have a strong covering, as it went under the floor level.



Fig. 11. Niche in the northern wall of Room 288



Fig. 12. Niche (?) in the southern wall of Room 288

The location of the room in the center of the eastern part of the building, its small size, and the presence of hidden niches suggest that it was one of the most significant premises for its purpose, probably a repository of the most valuable items.

Room 289. Wall 351 separated Rooms 288 and 289, and a doorway in Wall 351 connected them. Room 289 was formed by Walls 196, 284, 285, 351. Room 289 was larger than Room 288 and about the same size as Room 338. The floor level in Room 289 was the same as in Rooms 338 and 288 (13,12–13,03 m AMSL). In the northwest corner of the room, as well as in the center by Wall 351, some vessels were found standing *in situ*. Along Wall 351 fragments of ceramics and weights of unfired clay for looms were discovered¹⁵. The room was originally connected to Room 290 by an aisle located in the southwest corner of Room 289. The walls of the passage were whitewashed. Later the passage was sealed with a superstructure to Wall 285. This is evidenced by the preserved whitewash of Wall 351 hidden by the late extension of Wall 285 and the fact that Walls 211 and 351 formed an angle, the whitewash of the southern face of which was preserved, being later closed by the attached Wall 352.

Room 290. Room 290 was about the same size as Room 289. Formed by Walls 285, 352/353, 284 and 355. Several fragments of the walls preserved in the southern part of the room are not yet amenable to interpretation.

Over time, a child was buried at the southern end of passage (fig. 13)¹⁶, partially under the floor at the level of 13,19–13,15 m AMSL (floor level is 13,40 m). After that, the passage was closed with brickwork, continuing wall 285.

Room 370. The configuration of Room 370 resembles a corridor, the length of which is 6,75 m. The “corridor” goes along Wall 210/211 at the level of 13,57 m. However, it cannot be said with confidence that the room was a corridor. It is possible that this is the surviving part of another room located between Rooms 388 and 290. Thus, Wall 352/353 was continued at a later period.

Wall 339 and the trench dug under it, despite the fact that they are parallel to Wall 210/211, are not components of the corridor itself, but from the northern wall of another structure. The door, the presence of which in the north-western corner of the room can be judged by the preserved limestone threshold and a socket of the same material, could open access both to the corridor and to another room located under a later construction (see below). The floor of the so-called corridor could be either a layer of densely rammed brick material or was lined with mud bricks, which has not been preserved. The latter is evidenced by the difference in the levels between the threshold (13,87 m AMSL) and the layer with a dense filling of the floor (13,57 m AMSL). Some fragments of the doorway preserved in the room suggest that it was connected with Rooms 338 and 288 by narrow passages. Further excavations will confirm or refute this assumption.

Room 388. The north-eastern corner of Room 388 was formed by Walls 456/196, 197. Other walls have not been traced yet, so the configuration of the room, despite its similarity to the corridor, is still to be identified. The room was connected by doorways with Rooms 338 and 370. The floor surface of the room at the level of 14,24–13,75 AMSL retained traces of a strong fire: in the center of the “corridor”, there were recesses filled with the remains of burnt bricks and clay (3,00×1,20 m), as well as ash spots (1,20×1,20 m), the depth of which reaches more than 0,10 m.

¹⁵ Ярмолович, Орфинская 2022: 57–58.

¹⁶ See Belova 2018: 12, fig. 14.



Fig. 13. Burial of the child in Room 289

Room 371. Open courtyard 371, formed by Walls 196, 350/214 and 282, was rectangular in plan. Its area is not exactly calculable, since Wall 197 cut off part of it. However, if the western part of the open courtyard was equal to the eastern, its entire area was rather large. Wall 350 was built during the later reconstruction of the building. The levelling of the floor in Room 371 at 13,00 m was a tightly rammed brick material with rather large fragments of broken limestone and inclusions of fragments of ceramics. Quite large fragments of this layer have been preserved in the western part of the courtyard.

Thus, the layout of the building provided for functional rooms, that is, the architect clearly understood how it is possible to move inside the building from one room to another in a particular situation and how convenient it is.

According to the analysis of ceramics found *in situ*, as well as the study of fragments and whole forms found in various parts of the building, it was constructed and functioned in the Saite-Persian period.

The third construction period

This period is associated with the reconstruction of the old part of the building. Walls 197, 272, 282, 283, 350/214 were erected later. Although all four Walls 197, 282, 283 and 272 run in parallel, each of them performed a separate function.

Wall 197 had the north — south orientation. Badly damaged by robbers, it can be still traced in the squares X.F2–X.G2. Its length is *c.* 10,0 m, its width is *c.* 1,90 m. Its base level

is quite high — 14,20 m AMSL, its preserved top is at 15,14 m AMSL. Wall 197 is built of bricks measuring c. 40×20×14 cm, made of light Nile silt or Nile mud with inclusion of small fragments of limestone and pottery. Wall 197 in Room 338 was built to reinforce Wall 372 and closed the passage from Room 338 to the west side of the building. Wall 197 also overlapped Wall 456/196 and cut off the western part of the open courtyard, forming an angle with Wall 214/350. Due to this, the size of the open courtyard 371 was significantly reduced. Thus, Wall 197 for some reason cut off the western part of the building.

Wall 272 is preserved quite well; it can be traced in the squares X.F2–X.H2, and apparently goes further north. Its traced length is 23 m with a width of 1.80+x m. Its bottom level is at 13,56 AMSL, its preserved top level is at 14,99 m AMSL. The wall is made of mixed silt and dark mud quality bricks whose size is 40×20×12–14 cm, which corresponds to the size of the bricks of Wall 197. Wall 272, like Wall 197, cut off the western part of the building, leaving a passage to structures located further north of the open courtyard. Probably, the building was extended in this direction. Wall 282, running parallel to Wall 272, went beyond the square X.F3 and stretched further north.

Wall 283 was built over Wall 284. During the construction, mainly Nile silt bricks were used with rare inclusions of mud bricks. The dimensions of the brick: 40×20×12 cm corresponded to the dimensions of the bricks laid in Wall 272. Unfortunately, the main parameters of the wall are not clearly traced, however, its orientation and position relative to Wall 272, and the size of the revealed fragments suggest that the wall limited the building from the east.

Wall 282. A fragment of it has been preserved, which is a logical continuation of Wall 351, the latter was one of the elements of the old part of the building. The southern end of the wall crossed with Wall 196. The length of the revealed fragment is 7,50+x m with a width of 1,50 m. The base of the wall is presumably at the level of 13,60, and the top is at the level of 14,56 m AMSL. The extension of Walls 282, 272 and 283, indicates that the old part of the building was expanded to the north.

Fourth construction period

In 2021 excavation area was significantly enlarged to the south of the “old” part of the building and covered the southern parts of the squares X.G2–G3 and squares X.H2–H3. Rooms were revealed here, representing part of a rather large building of a relatively later period. The structures discovered here are in connection with the “old” part of the building since their layout corresponds to the overall construction, and some elements of the previous structure, such as walls, passages, etc. were included in the plan of the new building or fragmentarily used as its basis (fig. 14).

However, the level at which the development took place (14,70–14,50 m AMSL) and the quality of the material used, indicate that the construction belongs to a later phase of construction. To date, the building plan and architectural details of this structure have only been partially revealed. The purpose of the structure has not yet been established.

Rooms 382, 387, 386, 452, 453, 464, 451, 450 have been excavated.

The rooms were interconnected by doorways and passageways; some of them were rebuilt and repaired; some continued the plan of the “old” part of the building, others were partially built on its remains.

Room 382 had a space of approximately 18.00 m² (fig. 15). This is the largest room in the excavated part of the building. It is formed by Walls 339/438, 352/353 +353/469,



Fig. 14. General view to the later part of the building (X.G2-G3, X.H2-H3)



Fig. 15. Room 382

476, 384/472, 383, where Walls 383 and 353/352 + 353/469 formed respectively the western and eastern sides of the room. Walls 476 and 384/472 made up the south wall of the room and were separated by a doorway. The width of the doorway was 1,50 m. The walls were laid mainly of silt bricks with small inclusions of mud bricks, the dimensions of the bricks were 40×20×12 cm. The width of the walls was approximately 0,75 m. The walls of the room have been preserved to a height of about 0,50 m. from the floor level (14,80–15,30 m AMSL). Walls 384/472, 339/438, 352/353+353/469 have signs of reparation.

The reconstruction of the room can be traced by Wall 339/438. The traces of Wall 438 are clearly visible at the northern end of Wall 383. Consequently, Wall 438 was replaced by Wall 339 during the rebuilding process and only a small fragment of it was left separating a small room in the western part. It is also possible that the initial width of Wall 339/438 was much larger.

As far as can be judged from the two small fragments of the floor in the southwest corner and in the center of the room, it was lined with bricks of smaller sizes than the bricks used to erect the walls. The size of the bricks is 30×20×12 cm. The floor has been preserved at about 14.60–14.50 m AMSL.

A rather large vessel fixed in the recess of the floor and a tray next to it were found *in situ* under Wall 339 at level 14,52 m (21/0094). Probably it was a place for cooking.

Corridor 386 had a rectangular shape; its area was more than 16,00 m² with a length of 8,00 m and a width of 2,00 m.

Wall 389 limited the room from the south (fig. 16). The height of the preserved part of the wall is about 1,5 m and its length is 6,20+x m. The lower part of brickwork, at least of its northern face was composed mainly of good quality mud bricks of large size: 40×20×14 cm. (13,90–14,90 m AMSL), then the quality of the brickwork changes. Low quality silt bricks are used up to the top level 15,32 m. In general, the brickwork of dark mud bricks is not typical for this part of the building, where the main type of brick used is silt brick. Neat brickwork of mud bricks can be traced only at the base of the walls that form Room 450. Most likely, Wall 389 rested on the remains of previous buildings. Walls 384/472 and 476 limited the room from the north. Wall 353/469 was the east side of the room; the Wall 430 may have been its western side (fig. 17).

Four doorways, arranged in Corridor 386, connected the rooms of this part of the building with each other. So, Corridor 386 connected another Corridor (?) 388 with rooms located to the north, east and south of it. Corridor 386 may have docked with corridor 388 at right angles, however, the issue remains unresolved, as the nature of structures 388 and 430 is not yet clear. Perhaps the corridors were connected by a doorway located in the south end of Corridor 388. A passage within Walls 384/472 and 476 connected Room 382 to the rooms located to the south. A doorway in the east wall of the Corridor 386 led to Room 387.

The wide threshold composed of two large limestone blocks was installed at the bottom level of 13,98 m in the doorway, located in the south wall of Corridor 386. Its width of it was 0,55+x m. The doorway led to Room 464 (fig. 18).

Thus, Corridor 386 connected several rooms inside the building.

Interesting finds were made in the fill of Corridor 386 include a fragment of a figurine of a horse-rider (?) of baked clay (21/0080/001).



Fig. 16. The northern face of the Wall 389



Fig. 17. Doorway in Wall 353



Fig.18. Threshold between Rooms 386 and 464

Wing 451. In square X.H2, several rooms were revealed, forming a separate part of the building, which was probably, a wing. The arrangement of rooms, their size and layout, the surviving fragments of decoration and the use of certain accessories inside the rooms suggest that the rooms were a single structure separated from other rooms, the purpose of which is still difficult to determine.

The structure was formed by Walls 389 (see above), 431, 432 and 466. The inner walls separating the rooms were Walls 433, and 467.

Despite the fact that the connection of the rooms of the structure with each other is not revealed due to the absence of clearly defined traces of doorways, nevertheless, in some places, the height of the walls drops to the level of 14,53 m AMSL, that were slightly above the level of the floors, what may correlate to the location of thresholds. The internal unity of the structure is confirmed by the presence of the only doorway with a limestone threshold connecting the structure with other parts of the building via corridor 464.

In the lower part of the walls, as noted above, the brickwork of an earlier period can be traced. Walls 431 and 433 are north — south oriented. The width of the walls is an average of 0,60 m. They have been preserved at top level 15,25–15,35 m AMSL. The walls are composed of three rows of mainly silt bricks laid in a certain order. The exception is Wall 466, discovered at level 14,53 m, the base of its brickwork is formed by mud bricks. The outer rows of brickwork are oriented by flats according to the north — south axis, and the inner row of flats is going according to the west — east axis. Wall 432 was made of three rows of bricks; however, the system of its brickwork is not traceable.

The floor of Room 451 was probably lined with limestone blocks. One large bloc and several smaller ones were found at the bottom level of 14,34 m. The limestone threshold was approximately set at the same level.

In the south-eastern corner of the narrow room was built a circular furnace with a diameter of 1,20 m (fig. 19).



Fig. 19. A furnace found in Wing 451

Corridors 386, and 464 and probably the corridor located west of Wall 431 and another one to the south of Wall 432 highlight this wing as a free-standing structure. It can be assumed that this extension served as a living quarter for a person-in-charge or it was a small chapel. That is somehow confirmed by the find of the bronze feather of atef-crown in the fill of Room 452 (21/0088/001).

Corridor 464 was at right angles connected to Corridor 386. Through this corridor, it was possible to get to Rooms 451, 452 and 453, as well as to other rooms that were connected to Corridor 386. The long Walls 466 (14,53–14,75 m) and 434 (14,99–15,26 m) are oriented along the north — south axis. The floor level of the corridor is not clearly defined. Originally, the corridor was probably lined with limestone blocks, preserved only on the floor close to the threshold at level 14,44–14,40.

Room 387 was located in the eastern part of the late building. It was connected through a doorway in its southwest corner to Room 386. Whether Room 387 and Room 290 were linked will be ascertained in further excavations.

The room in the plan is close to the square with a side of 4,00 m, that is, its area is 16 m². The room was formed by Walls 355, 253/469, 385 and 283. The Walls 353/469 and 283, were oriented along a north — south axis. The southern, eastern, and western walls of the room were quite massive. The width of Wall 283 is 2,50+x m, and the width of Wall 385 is 2,25 m. The width of Wall 353/469 was 1,20 m. This width was achieved due to the fact that Wall 469 was attached to Wall 353. This is indicated by the brickwork, where the two outer rows of bricks of Wall 353 are laid with flats along the north — south axis, and the inner row of bricks is laid with flats orientated along the west — east axis, while the brickwork of the Wall 469 consists of one row of flats laid along the west — east axis. Wall 353/469 formed an angle with Wall 355, the latter separated this part of the building from its older segment. The existence of an appendix in Wall 283, which could have appeared as a result of illegal excavations, is questionable.

The walls of the room were built mainly of silt bricks with rare inclusions of mud bricks, their size is 40×20×14 cm. Walls have been preserved to a height of up to 1,00 m.

Unfortunately, the level of the floor in the room can be determined only approximately. Judging by the location of the two limestone blocks that strengthened the wall joints in Rooms 387 and 452, as well as the level of the lower part of the doorway connecting Rooms 386 and 387, the floor level most likely corresponded to 14,80–14,90 m AMSL (fig. 20).

Rooms 452 and 453. The part of the building where Rooms 452 and 453 are located requires further research. It can only be said that the walls of the rooms, with the exception of Wall 385 (see above), were about 1,00 m wide, built mainly of silt bricks, the size of which is difficult to restore due to their poor preservation.

Therefore, the building has gone through several construction periods.

The nature of the building and the chronological sequence of its use

The rooms discovered in the northern part of the structure date with certainty back to the Saite-Persian period and were the “old” part of the building.

In those days it was used as a storeroom. The cleanly whitewashed walls and floor, the low doorways that were closed with heavy doors, the deep hiding niches inside the rooms, and the noticeable lack of household activity, indicate that the rooms were not intended for daily use. The architectural plan of the “old” part of the building is similar to the so-called

“clean storerooms” of the Saite period and suggests that the building was used as a storage for donations, however, the significant difference is that it did not refer to the temple economy, but to the royal one.

In the Ptolemaic period, the building was rebuilt and expanded. Judging by the finds, including the “home burial” of that period, it began to be used for housing and household purposes.

The newly excavated part of the structure, partly evidently built on the remains of the former building and partly rebuilt, is tentatively dated to the Ptolemaic period. Some rooms in the southeastern part of the building, erected on the ruins of previous structures, may have been used in the Roman period.

In the 2021 season, our attention was again drawn to a block depicting *heb-sed* scene, because after a heavy rain that washed away the smoothing dirt and plaster, the name of the famous pharaoh of the Saite dynasty Necho II (Nekau) can be read in the cartouche (fig. 21). None of the royal representations on the pylons found by Petrie was named, as the places for royal names in cartouches were left blank.

The cartouche with the name of the pharaoh, well-known for his deeds, made it possible to raise the question of the time of construction of the Palace. It's unlikely that the block was brought in from other neighbourhoods of Memphis to be mounted inside the wall of a Persian building. For such a prosaic manipulation, the heavy block had to be found next door. It is possible that the Palace, decorated with pylons depicting *heb-sed* rituals, was erected long before king Apries, whose name was ascribed to it, and before he took the Egyptian throne.

I.3. Excavations at the “Temple Zone”

Already in the 2018 season, the site, located in the southeastern part of the camp (XI.E6) and for convenience called the “Temple Zone”, was noted as promising since large loose granite and limestone blocks that are usually associated with temple buildings were visible there. Local old-timers remembered that in the days of their youth they saw massive columns sinking into the soil. These legends are not surprising, as massive blocks with fragments of images or inscriptions were often found on the surface of the site as evidence of its irreversible destruction. In 2021, fragments of blocks with hieroglyphs were also found in a layer of modern garbage (21/0003/001, 21/0003/002, 21/0003/003).

The archaeological survey at the site started in 2021. First of all, the area was cleared of 1–2 m thick layer of modern garbage. Below *turab* a regular masonry of large limestone blocks was opened, on both sides of which there were large granite blocks, probably beaten by locals, it is not excluded that these boulders were the remains of the same columns that they remembered. In any case, the finds indicate the existence of a large building on this site. According to written sources, the temple of Mithras was supposed to be nearby. Proper archaeological works scheduled for the next seasons will specify the nature of this stonework.



Fig. 20. Limestone block laid under the corners of the docking of two walls



Fig. 21. Representations of heb-sed with Necho II cartouche

II. The topographical survey

The topographical survey on the site has been conducted since 2003¹⁷. One of the results of the research was a detailed topographic map of the area, which is updated each season (see fig. 1).

The topographic survey gives a possibility to record the peculiarities of the landscape and to define the limits of the palatial complex. Besides, the current work records the encroachment and other changes, that happened to the site in recent years.

In 2018 topographical survey was focused on the Palace of Apries. Surveyors correlated the data of space images with the plans made by F. Petrie and J. Dimick, as well as with the results of work carried out by B. Kemp in 1976¹⁸ to find out the size of the platform on which the palace was erected. Four spots were located on the site in order to trace the corners of the palatial platform, the approximate contour of which is visible on a satellite image. Around each point, a square 5×5 m was marked.

In 2021, the location of the two identified points corresponding to the north-western and south-eastern corners of the platform was once again verified. Archaeological research conducted in the squares where the southeast corner of the platform is supposed to be located confirmed the correctness of the calculations. The work performed made a significant contribution to the reconstruction of the palace complex to its original appearance.

III. Core-drilling prospecting¹⁹

For many years, during the study of the site, methods of core-drilling prospecting were used. The work was carried out with a hand auger. Drilling was planned along certain significant lines. For example, along the massive wall surrounding the Persian administration quarter. The drillings provided a collection of samples of soil from different depths that were thoroughly analyzed.

This season our team continued a series of drill holes (18 in total) with a hand auger.

The augering program was compiled in accordance with the task to get some more information on significant soil beddings and their saturation with archaeological material. This data has been used to study the stratigraphy of the complex.

Thus, the analysis of core samples obtained from holes located near the palace made it possible to build the following stratigraphic columns.

Profile 140. VII.H18. (14,73 m AMSL), coordinates: N–S 172,8, W–E 124,64²⁰; pottery assemblage 21/0034.

–100–200 cm — mainly represented by fragments of ceramics from the Late Period to the reign of the Ptolemies.

¹⁷ Starting from 2015 topographic survey at the site is carried out by surveyors K. G. Loginov and V. N. Sorokin.

¹⁸ Kemp 1977: 101.

¹⁹ Work on core-drilling was carried out by archaeologists A. A. Belov and A. A. Simonenko. Reports on

the results of the research were prepared by S. Lammel, A. A. Belov, A. A. Simonenko.

²⁰ Location data is given in local system of coordinates.

-300 cm — among the fragments of pottery of the Late Period there are fragments of the New Kingdom.

-600 cm — only fragments of pottery of the Old Kingdom have been recorded.

Profile 141. VII.H7. (14,78 m AMSL), coordinates: N–S 124,15, W–E 63, 8; pottery assemblage 21/0035.

-600– 800 cm — among the fragments of ceramics that cannot be studied, there are those that definitely date back to the time of the New Kingdom.

Profile 142. IX. L13. (12,81 m AMSL), coordinates: N–S 481,72; W–E 320,36; pottery assemblage 21/0036.

-100–300 cm — there are fragments of ceramics from the reign of the Ptolemies.

-300–700 — ceramic fragments date back to the Late period.

-800–900 — there are ceramic fragments from the Late period to the New Kingdom.

Profile 143. I.06. (12,07 m AMSL), coordinates: N–S 458,65; W–E 144,3; pottery assemblage 21/0037.

- 900– 1000 cm — the layer contains ceramic fragments exclusively of the Old Kingdom.

Profile 144. X.R17 (12,58 m AMSL), coordinates: N–S 224,73; W–E 364,67, pottery assemblage 21/0038.

-600–1000 cm — a mixed layer with fragments of New Kingdom pottery, and inclusions of the Third Intermediate and Late Periods.

-1000 – there are fragments of the Old Kingdom.

Thus, the conclusions made in the course of archaeological research of the previous seasons were confirmed: the site was inhabited at least from the Old Kingdom up to the Ptolemaic period.

Borings were also aimed to estimate the thickness of the platform, on which the Palace of Apries was built and set the time of its construction. Using additional sections for the auger allowed reaching a maximum depth of 14,5 m.

Unfortunately, samples directly taken from the body of the palatial platform at the level 15,13 m AMSL were few in number for well-grounded conclusions. So, of the selected fragments of the New Kingdom, the only diagnostic sherd is a rim of a New Kingdom meat jar. One of the body sherds could be Late Period in date; the other is Old Kingdom (21/0049).

Identification of construction periods of the platform itself will continue next season.

IV. Soil survey

Important task assigned to soil specialists²¹ was to identify the location of the ancient bed of the Nile relative to the site²². The study of the granulometric composition of core profiles, allow us to conclude that the ancient bed or channel of the Nile passed near the Apries' palace, not far from which there was also a fairly extensive reservoir. These data correspond to the description of Memphis left by Strabo. An ancient historian and geographer who visited Memphis in I BC, *i. e.*, at the beginning of the Roman occupation, mentioned “the lakes

²¹ The results of the soil study were analysed by F. G. Kurbanova.

²² On the alterations of the Nile bed see: Jeffreys 1985: 57–58, fig. 2; Jeffreys 1986; Jeffreys 1988, etc.

lying in front of the city and the palaces, which are now destroyed and deserted; they are built on hills and reach the base of the city”²³. Among the mentioned “deserted palaces” was, of course, the Palace of Apries. According to the papyri of Zenon’s Archive, the richest collection of documents on the socio-economic history of Ptolemaic Egypt, the royal palace owned a plant nursery producing experimental plants intended for the new lands of the Fayum²⁴. A mound 1 km long surrounded the royal gardens from the west. D. Thompson proposes to localize the nursery between Kom Tuman and Aziziya²⁵. The plant nursery, in all likelihood, was a collection of rare plants from Egypt and abroad.

This information is confirmed in particular, with a pollen analysis, which is one of the methods of palaeobotany and involves the determination and registration of fossil pollen and spores in the corresponding fraction isolated from samples and studied under a microscope. In samples taken in the vicinity and in the brickwork of the Palace of Apries there were found remains of angiosperm woody species, represented by the following families and species: *Magnolia* aff. *flexuosa* Lubom. (*Magnolia flexible*), *Magnolia* aff. *textiles* Lubom. (*Magnolia woven*). The results of pollen analysis make it possible to suggest the existence of a magnolia grove near the Palace. However, these rare plants are not native endemics and were most likely brought from other areas for adaptation to specific environmental conditions and subsequent breeding.

Thus, the results of research conducted in 2021 significantly expanded our knowledge of the history of the ancient capital in the Late, Ptolemaic and Roman periods.

V. Study of Objects and Work in the Magazine

This season we continued the study of finds and pottery discovered during this and previous seasons. The work was done in the Mit-Rahina magazine during October — December 2021.

1. One of the principal objectives of the pottery analysis during this excavation season at Kom Tuman was to clarify the overall chronological sequence at the site. All pottery assemblages collected in 2013–2018 were reviewed that making it possible to accurate dating for archaeological strata. More than 30 series of pottery coming from different archaeological locations were analyzed, drawn and photographed.

In general, the study proved the previously defined stratification, relating to the strati of the Roman Period down to the Late Period. A considerable number of sherds dating to the New Kingdom and to the Old Kingdom admixed with the pottery of later periods let us suggest that the site of Kom Tuman was also inhabited at that period, and the corresponding archaeological strati are still to be reached during further archaeological excavations at the site. Many sherds analyzed this year were defined as import wares, what gives an idea of trade contacts of Egypt, and Memphis in particular, with Greek islands, Cyprus, Levant and Asia Minor in the 6th c. BC — 1st c. AD.

2. In course of excavations a number of small finds were discovered. They are mainly represented by fragments of pottery, fragments of household items, and faience pieces.

²³ Strabo *Geography* XVII: I, 32.

²⁴ Leclère 2008 : I, 83.

²⁵ Thompson 1988: 17.

The study of small finds of seasons 2001–2018 was focused on technological aspects of their fabrication, which provides important information on production activities, which took place in the Late Period at Memphis in general, and at Kom Tuman in particular.

Finds of the 2021 season were described and analyzed, photographed, and some of them were drawn. Studying these objects provides new data and helps a better understanding of Ancient Egyptian manufacturing technologies.

3. The study of stone tools discovered during the excavations of 2003–2021 continued. Based on the traceological analysis of the stone inventory, its functional specificity was determined. The study of traces of wear on the working surfaces of tools made it possible to establish chronological markers of their use. The stone tools and their fragments were sketched and photographed. The research was conducted by archaeologist A. A. Simonenko.

All finds were catalogued and delivered to the magazine of the Mit-Rahina Museum.

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Предварительные результаты работы археологической экспедиции ЦЕИ РАН на памятнике Ком-Туман (Мемфис) в 2021 г.

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В статье представлены предварительные результаты последнего сезона Российской археологической экспедиции на Ком-Тумане (Мемфис), состоявшегося осенью 2021 г. В ходе полевого сезона были продолжены исследования производственного комплекса, расположенного в центральной части Ком-Тумана, зоны «спасательных работ» и территории так называемого «храма». В разное время обнаруженные здания использовали для размещения ремесленных мастерских, административных целей или в качестве жилища. Бытование построек относится к периоду от саито-персидского до раннептолемеевского времени.

Ключевые слова: Мемфис, Ком-Туман, дворец Априя, Белые стены, мастерские, Поздний период, период правления Птолемея, римский период.

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