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SEASON 2011**

Grzegorz Majcherek,¹ Renata Kucharczyk²

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Abstract: The research program on Early Roman urbanism and architecture in Alexandria assumed a return to the excavation of the northwestern part of the site (sector U). Structures cleared include a series of small unconnected rooms and a large multiseat *forica* featuring a rather unusual linear design. The most remarkable is the orientation of the uncovered architectural remains, which differs from that of other monuments previously discovered at Kom el-Dikka, but is like that further north, in an area traditionally identified as the Royal Palaces quarter (Brucheion). Preservation operations focused, among others, on an overhaul of the mosaic shelter (Villa of the Birds).

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Political events that shook Egypt in early 2011 had also an obvious impact on our current research program, which had to be seriously readjusted. Consequently, this season's fieldwork started later than usual and lasted from March to the end of June. It was followed by an additional period (July–November), wholly devoted to research and documentation, mainly of the pottery. The skeletal material from earlier excavations on the Islamic necropolis was subjected to anthropological examination.

Multiple archaeological and conservation tasks, largely determined by the requirements of the Site Development Project in force since 2005, were carried out despite the program readjustment.

The preservation of the Theater Portico and adjacent academic complex, which is one of the principal objectives of the Project, as well as the preservation of the southern part of the Bath have largely been completed. Further work encompassed the Late Roman domestic quarter (east of R4 street) and the mosaic shelter (Villa of the Birds). Small-scale maintenance proceeded on other architectural monuments as well.

Archaeological fieldwork was focused on excavations of Early Roman architecture in the northwestern part of the site (sector U). Additional explorations were carried out in areas CW and G. Junior SCA staff members were offered a basic field training course throughout the season.

ARCHAEOLOGICAL EXCAVATIONS

SECTOR U:

EARLY ROMAN ARCHITECTURE

The Centre's research program on Early Roman urbanism and architecture in Alexandria, which had been concentrated before on areas F and M, where several well preserved houses have been explored (Majcherek 2007), assumed a return to the excavation of the northwestern part of the site (sector U), located to the west of the Theatre Portico [for the location, see box in *Fig. 7*]. The northern part of this area had been investigated for the first time in 1980–1981 (Rodziewicz 1991) and then again in the 1990–1991 season (Majcherek 1992). Fieldwork in the earlier campaigns revealed the remains of some rather poorly

preserved Early Roman structures. They were found to be built parallel to a street, of which a small but well preserved section had been uncovered in the westernmost corner of the excavated area. The street was approximately 5.70 m wide (its western limit was reached in a small test trench) and was paved with large blocks of dolomite in a manner similar to the R4 street discovered in the eastern part of the site (Rodziewicz 1991). The structures built along the street were damaged to the point that their plan is largely conjectural. They appear to have formed a complex of separate units sharing the same length but varying in size. They were furnished invariably with a tamped-earth floor. Owing to the absence of any

Team

Dates of work: 1 March–30 November 2011

Director: Dr. Grzegorz Majcherek, archaeologist (PCMA UW)

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Epigrapher: Prof. Adam Łukaszewicz (Institute of Archaeology, University of Warsaw)

Numismatists: Assoc. Prof. Barbara Lichocka (Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences); Katarzyna Lach (PhD candidate, Jagiellonian University, Kraków)

Anthropologist: Robert Mahler (PCMA UW)

Conservator: Zygmunt Nawrot (freelance)

Architects: Aureliusz Pisarzewski, Marcin Polak, Marta Sołtys (all freelance)

Documentalist: Ewa Czyżewska (PCMA UW)

Acknowledgments

Our sincere gratitude to all the SCA authorities in Cairo and Alexandria for their help and outstanding support throughout the season. We would like to express our appreciation particularly to Director General Dr. Mohammed Mustafa, Director Dr. Mohammed Abdel Hamid and Ms Bahiya Kamel Mohammed in Alexandria for their invaluable assistance contributing to the success of the present campaign.

domestic installations whatsoever inside these rooms, it was assumed at the time that they had served as *tabernae*.

This season the research focused on the southern part of the area (US), where a large trench, measuring roughly 17 m by 15 m, was excavated (trench supervisors: K. Lach, M. Gwiazda, K. Kapiiec, E. Kulicka). In the past, approximately 80 graves from the medieval Islamic burial ground had been explored in the area. Two previously unexplored burials were now investigated (U82 and U84). Both represented typical box structures, the sides made of vertical slabs and covered with a set of horizontal slabs. This kind of grave is attributed to the so-called Lower Necropolis phase, dated on the whole to the 8th–9th centuries AD.

Once the modern debris accumulated since the 1980s had been cleared, the area

was surveyed and mapped. A substantial stone collapse was cleared directly under the present ground surface [Fig. 1]. It turned out to cover almost the entire surface of the trench with the concentration being particularly thick in the eastern part where it exceeded 1 m. The collapse bordered on a drainage channel running alongside the huge stylobate of the Theater Portico. Both the channel and foundations of the stylobate were apparently built later than the collapse, and obviously some of the stone debris was cleared during the process or recycled into the fabric of the new structures. The stylobate itself suffered heavily from seismic-related devastation and large-scale stone robbing, causing both horizontal and vertical distortion [Fig. 2]. Large sections of its fabric were removed, as were the portico columns.



Fig. 1. The stone collapse in area US, viewed looking south
(Photo G. Majcherek)

Only two partly preserved Aswan granite shafts, most probably toppled during an earthquake, were found here in the 1980s.

The east wall of the channel was practically not in evidence along the entire length of area U. It turned out that the drain (approximately 0.40–0.50 m wide and 0.70 m deep) had been built of small quasi-regular stones, lined with red *cocciopesto* mortar (*opus signinum*). The level of the channel floor was recorded at 7.47 m a.s.l., but the inclination was impossible to establish due to its fragmentary preservation. No remains of the covering were found, but stone slabs laid horizontally seem obvious as a solution.

The upper layers and underlying debris were found to be seriously disturbed, both by later construction (*viz.* building of the Portico) and by wide-scale stone

robbing. Artifacts from these layers represented a typical array coming from mixed context (i.e., robber's pits, construction trenches etc.), ranging rather broadly from the 1st/3rd to the 5th/6th century AD). The pottery finds included a typical array of Egyptian and imported common wares and amphoras, but of little, if any chronological value [Fig. 3]. Among the Red Slip Wares, a limited number of Egyptian A and B groups were found next to sherds originating from Northern Africa (ARS) and Cyprus (CRS). Transport amphoras formed most of the recorded pottery material. Egyptian products were traditionally represented by vessels of Mareotic manufacture in addition to shapes originating from the Nile Valley. Foreign wares included amphoras imported from Gaza (LRA 4), Cilicia/Cyprus (LRA 1, "pinched handle" amphoras), as well as some African and Tripolitanian examples.



Fig. 2. Stylobate of the Theater Portico looking north; robbed out section in the right foreground (Photo G. Majcherek)

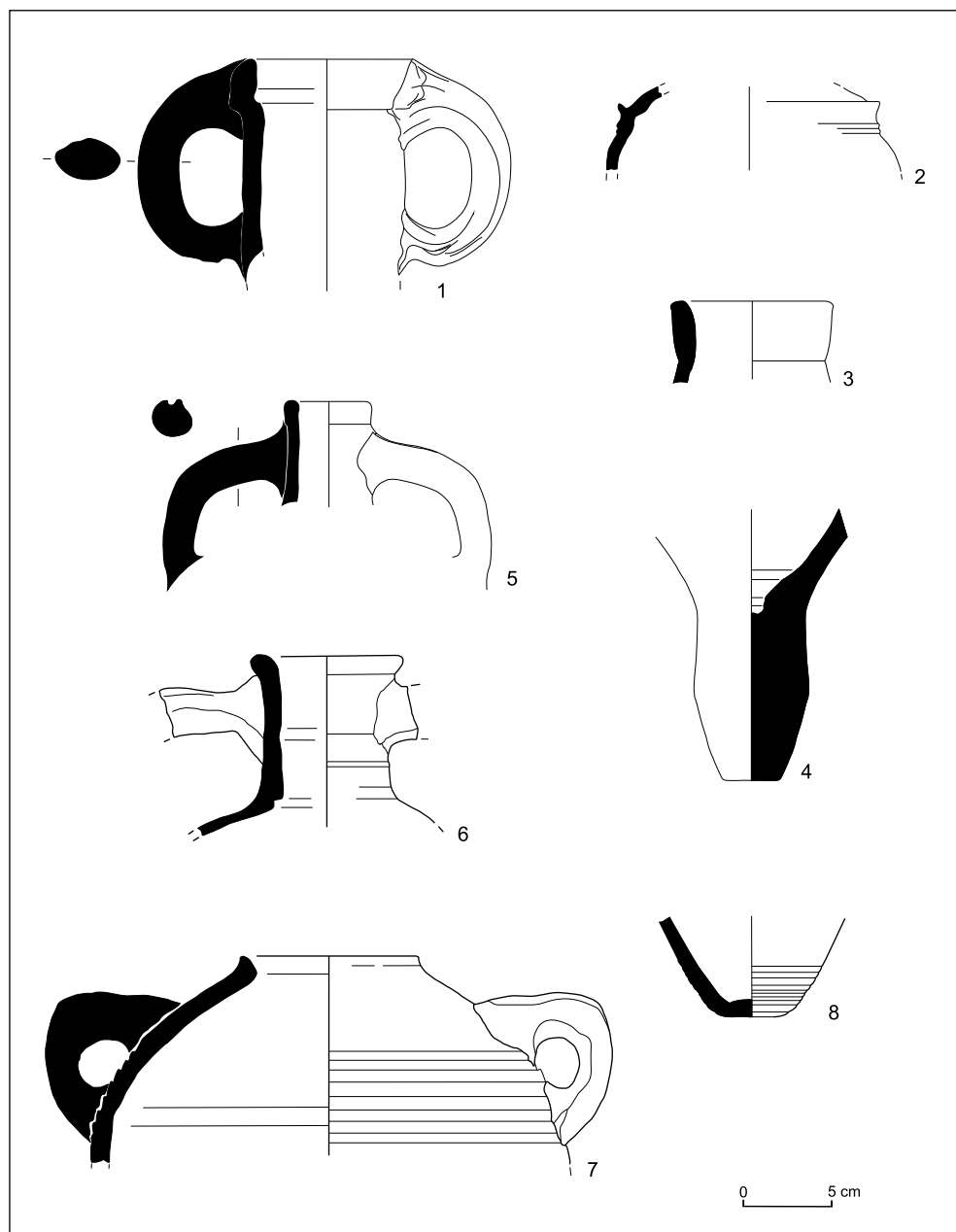


Fig. 3. Selection of Late Antique pottery: 1 – Egloff's 172 Nile silt amphora; 2 – LRA 7; 3, 4 – African II amphoras; 5, 6 – LRA 1; 7, 8 – Gazan (LRA 4)
(Drawing E. Czyżewska, A. Dzwonek)

Glass finds included mostly Late Roman material with a significant number of residual examples attributed to the 1st–3rd century AD. The Early Roman assemblage consisted of simple everyday

vessels, free-blown of nearly colorless or various shades of green glass, often bubbly and of low quality. A milky-white and peacock weathering covers the surface of the fragments. Some shards badly

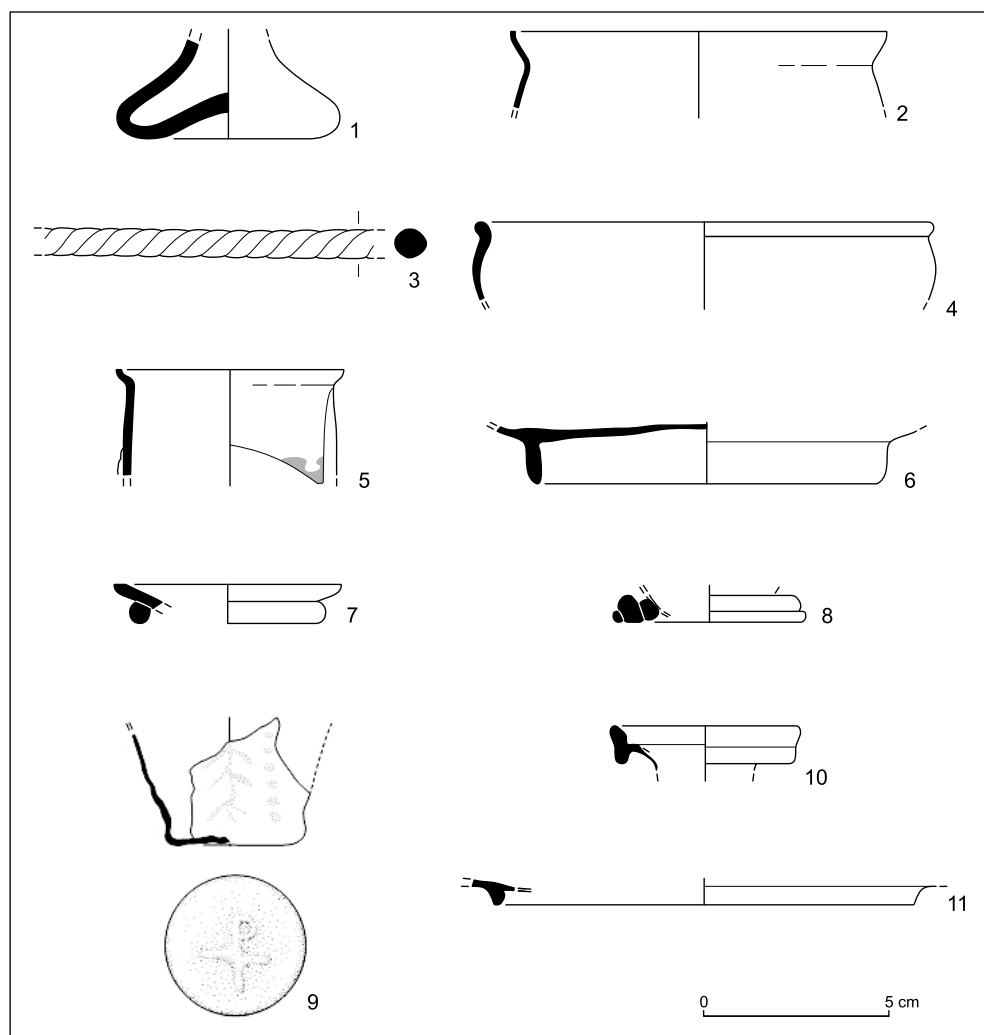


Fig. 4. Glass finds from the US area: 1 – candlestick-type bottle; 2 – globular bowl with cracked-off rim; 3 – stirring rod; 4 – bowl with thickened rim; 5 – lamp or beaker with cracked-off rim and applied blue decoration; 6 – high ring base of plate or bowl; 7 – jug rim with applied trail; 8 – trail-wound base; 9 – basket-handled jar with chrysmon; 10 – toilet bottle rim; 11 – cast low-ring base (Drawing M. Momot, E. Kulicka)

distorted probably by high temperatures were observed. Most of the fragments represented a variety of bottles, flasks and unguentaria. The latter, including a candlestick-type with triangular-sectioned body and concave bottom, merits particular attention as such cosmetic containers are still very rare in the glass assemblage from Kom el-Dikka [Fig. 4:1].

Other forms to be noted include a very thin-walled bowl with cracked-off rim and globular body [Fig. 4:2] and a fragment of beaker-shaped vessel with cylindrical body and thickened, rounded flaring rim, apparently with a thick, solid disk-base. Glasses other than vessels include a small mosaic ball with a pattern imitating *serpentino verde* and two segments of twisted glass rods used probably as medical or cosmetic instruments [Fig. 4:3]. Several fragments of nearly colorless flat windowpanes were also observed.

The predominately late Roman/early Byzantine material consists of simple, free-blown vessels which belong to well-known types, common not only in Alexandria (Kucharczyk 2007; 2010a), but also on other sites in the region, such as Marea (Kucharczyk 2008) and Marina el-Alamein (Kucharczyk 2010b). Various domestic vessels, such as bowls, beakers, bottles, jugs and jars constituted most of the finds. They were blown of bubbly, low quality glass, either yellowish-green, light green, light olive green or light yellow in color. Milky-white and black weathering layers and peacock iridescence can be observed on the glass.

Considering the noticeable homogeneity of the glass fabric, the repertoire of vessel shapes and the similarities in their finishing and careless workmanship,

it is reasonable to assume that the glass was worked in local workshops. This conclusion is also justified by the fact that ordinary, undecorated vessels were the most common component of the assemblage and that there is a small group of finds that constitute direct evidence of glass-making and glass-working: test pieces, fragmentary chunks of raw glass of various colors, a stone mold used for shaping glass tubes and drawn collared beads, usually associated with mass-produced specimens. Similar finds, including a significant number of stone molds with ridged and grooved tops, a number of glass tubes and single-layered drawn beads, made of various colors of glass, were found in the debris of workshops operating between the 5th–7th century AD in the artisanal quarter east of street R4 (Rodziewicz 1984: 87 and 241–243, Figs 83, 265, and 266, and Pl. 72.359–367; Majcherek 1991: 12–13, Fig. 2; for a recently discovered complete stone mold bearing two cut letters on the back, apparently the owner's initials, and some variously shaped beads dated to the 2nd and 3rd centuries, see Kucharczyk 2011: 64–66, Fig. 8).

Bowls of various sizes and with different rim shapes were the main vessel forms in this assemblage. They ranged from deep vessels with internal open-fold rims or plain fire-rounded rims, sometimes thickened [Fig. 4:4]. The latter were furnished with high ring bases [Fig. 4:6]. Such finds are common in the Late Roman glass assemblage from Kom el-Dikka.

A noticeable number of vessels was made by the cracking-off method. The S-shaped profile of cups, beakers and lamps is typical, the surfaces occasionally decorated with applied blobs, dark blue in color [Fig. 4:5]. The excavation has

also produced significant numbers of body fragments of various bottles and jugs. Among the latter is a shard from a tall jug with thick fire-rounded rim and a thick, single applied trail below the rim. The trail is the same color as the main body [Fig. 4:7] (for already published similar material from the site, see Kucharczyk 2011: 57–58, Fig. 1:11; for other parallels from Marina el-Alamein, see Kucharczyk 2010b: 116–117, Fig. 1:13). Few bases have been retrieved: a high concave base and a trail-wound one [Fig. 4:8]. The latter is paralleled by other objects from the site (Kucharczyk 2007: Fig. 3:3; 2010a: 57–58, Fig. 1:11–13; 2011: 57–58, Fig. 1:5–7) and from Marina el-Alamein (Kucharczyk 2010b: 116–117, Fig. 1:11–12).

A distinctive feature of this material is its plainness. Decoration is rare and was executed with simple techniques. These included thin, horizontally wound coils, applied blobs and abraded lines. An isolated example represents the molded-blown technique. The lower part of the vessel, which most probably came from a basket-handled jar, features a herringbone pattern and a vertical row of circular bosses, all in low relief. A Christian *chrysmon* is clear on the underside, at the center of the base [Fig. 4:9]. This is only the second fragment of a vessel with this kind of motif from Kom el-Dikka (Kucharczyk 2012: 151–153, Fig. 1:1).

The upper layers of the collapse consisted mostly of small assorted and heavily weathered blocks, whereas quite a number of larger blocks were recovered from zones deeper down. Some of them even retained large patches of the original plasterwork [Fig. 5, bottom]. Preserved fragments showed typical geometrical decoration, featuring square panels

framed with red bands enclosed by thin black lines. Some loose remains of figural representations were also recorded. Similar ornamentation was recorded previously from an Early Roman House MB located next to the theatre (Majcherek 2002). The collapse yielded also several elements of architectural embellishment: fragments of engaged columns, cornices and a small marble capital [Fig. 5, top].

Some still standing walls were exposed directly below [Fig. 7]. They were structured in the rather unusual technique of vertically set slabs, some 22–25 cm thick. Such technically unstable structuring implied a single-storey building. Three sections of such walls were uncovered, forming four units of varying width [Fig. 6]. The largest of them (No. 12) was 5.50 m wide. The length was not established as neither the western nor the eastern limits of the structure could be traced. The eastern end was destroyed most probably during the later construction of the portico, making it impossible to determine the full dimensions of particular rooms. In consequence, the general layout of the uncovered structures is mostly conjectural. The function of the structures is also unclear. Some decorative elements and artifacts would point to domestic use. In all of the newly explored area, a destruction layer was discovered directly superimposed on the Early Roman ruins. The nature of this layer, when considered together with the evidence provided by numerous elongated vertical cracks in the walls, leaves no doubt that the destruction of the building had been cataclysmic. Evidence of this disaster is also to be observed in the countless bulges caused by thermal expansion of limestone subjected to high temperatures.



*Fig. 5. Fragment of marble capital, top, and early Roman plasterwork
(Photos G. Majcherek)*

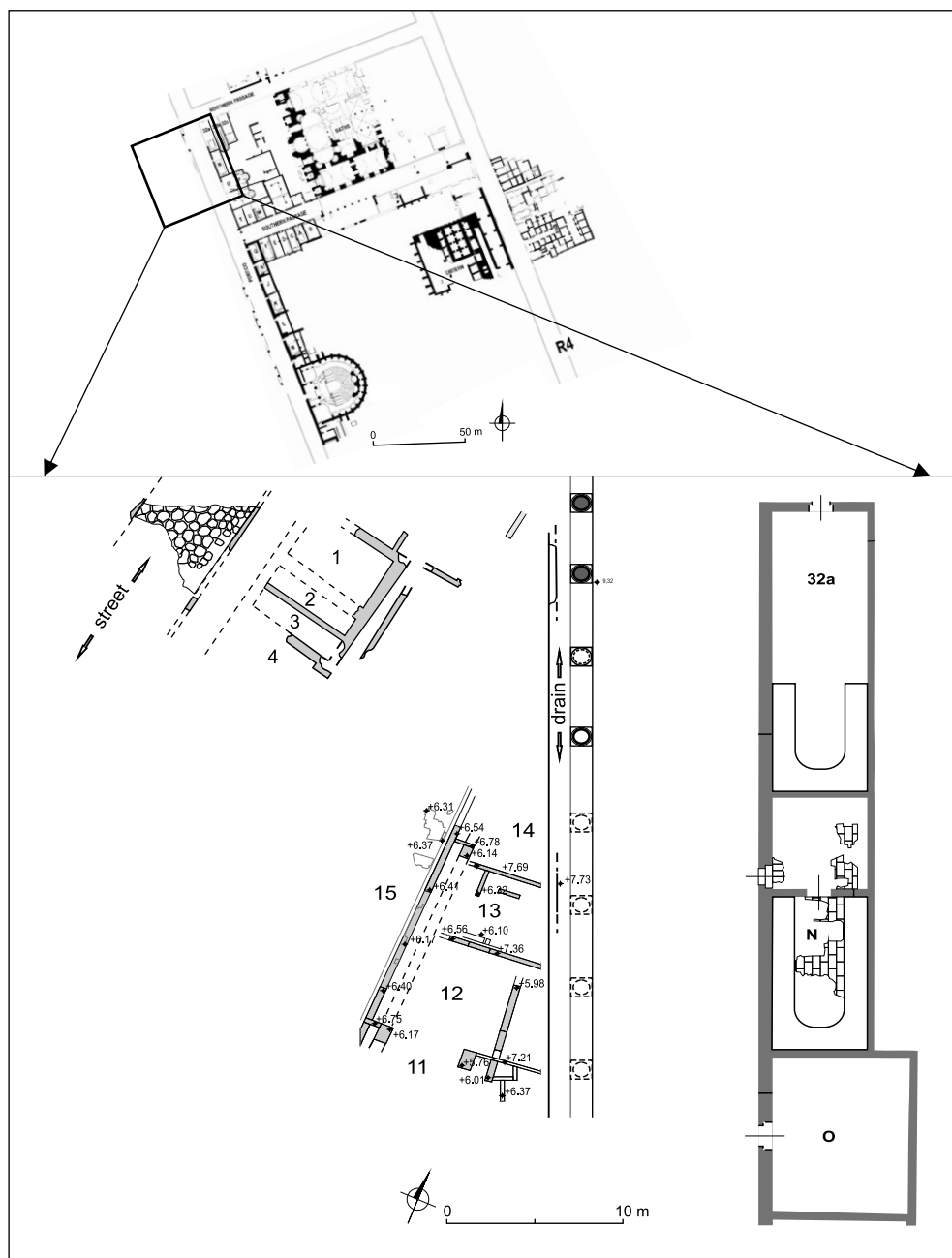


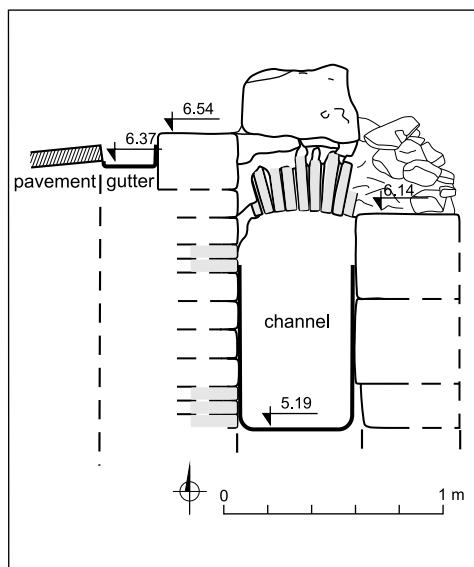
Fig. 6. Area US. Plan of early Roman structures; top, location of sector on a plan of the Kom el-Dikka site (Drawing M. Polak, A. Pisarzewski, G. Majcherek)

In unit 13 (3.85 m wide), a small paved area edged with a low stone barrier showed an abundant concentration of ashes. In units 12 and 14, hearths were found, accompanied by a thick ash deposit. There, a number of broken and burnt vessels, stone mortaria and other utensils were unearthed. Nevertheless, at this stage of research, it is still unclear whether both the ashes and the hearths should relate to the original occupation period or rather to the secondary occupation following the abandonment of the building. In unit 13, a small latrine channel (2.40 m by 0.35 m) was found alongside the wall [Fig. 8]. It emptied into a large sewage

channel running N–S, found along the western edge of the trench. The channel, some 0.60 m wide and some 1.70 m deep, was bordered by two massive walls. The eastern one was found to be almost entirely dismantled, whereas the western one was almost intact save for the damaged midsection. The said wall was structured of regular isodomic layers of stone masonry (blocks not exceeding 0.20 m by 0.35 m), set in ashy mortar and reinforced with interlacing double or triple layers of bricks set every four courses of masonry. The inner face was covered with *cocciopesto* mortar. The east wall, although severely damaged, was apparently built of extremely



Fig. 7. Early Roman structures in area US, view looking north
(Photo G. Majcherek)



large ashlars. Extant sections of the wall showed some blocks almost 0.60 m wide and exceeding 0.85 m in length. On the western side of the channel, several patches of flooring made of broken nummulithic limestone pavers and some reused assorted fragments of colored stone tiles (Proconessian, *cippolino* and even several fragments of *verde antico*) were cleared [see *Fig. 8*, bottom]. Beside the wall was a small channel-like (approximately 0.20 m wide) depression with impressions preserved in mortar indicating that it may have housed a stone gutter for running water, used for individual cleaning. The cover of the latrine channel was most unusual: brick-made arches positioned at regular intervals,



Fig. 8. Small latrine, view looking east and, top left, section through the latrine channel in Unit 13 (Photo G. Majcherek; drawing K. Juszczyk)

some 3.50 m apart (two were found still in place) [Fig. 8, top]. They were typical radial arches made of large flat brick-tiles, usually encountered in structures from the early Roman period. These arches appear to have supported the seats, which were probably wooden, of what appears to have been a public latrine (Hobson 2009). This apparently large multiseat *forica* featured a rather unusual design. The marble floored area would have formed the main hall of the building. Instead of the typical rectangular layout with a channel running along the walls, we have here a single long channel (a stretch at least 12 m long has been cleared), accessed from the floored area cleared to the west of it (Unit 15).

At this stage of research it is still too early to assess the plan and dimensions

of the building, but the parameters of the preserved walls indicate a very large edifice.

Contexts related to the occupation and destruction of all revealed structures produced quite a number of 1st–3rd century AD finds. A number of lamps and their fragments, as well as terracotta figurines were recovered. Among the lamps some of undoubtedly Alexandrian manufacture bore representations of Isis or Serapis on the discus or attached figural handle [Fig. 9].

The range of glass finds did not differ substantially from what was recovered from the upper layers. Most of the assemblage consisted of free-blown vessels, most of them of almost colorless glass with a greenish tinge and of light green glass of



Fig. 9. Clay oil lamps with representations of Isis and Serapis found in area US: left, Field Inv. No. 137.08.11; right, Reg. No. 5327 (Photos E. Kulicka)

very low quality, often covered with milky-white weathering, silver and peacock iridescence. A few of the shards were severely deformed by high temperatures. In some areas the glass had been melted. Most of the assemblage represents domestic glassware, such as bottles, flasks, beakers and bowls. Fragments of two vessels, both representing toiletry specimens, can be singled out. One is a large, very thick-walled long necked bottle with a spout. The second, probably belonging to a bottle or jug with cylindrical neck and pear-shaped body, is represented by a thick, neatly worked, flaring rim forming a horizontal exterior rib [Fig. 4:10].

The remainder of the fragments comprised open forms, among them thin-walled, cylindrical beakers with rounded, thickened rim. A fragment of thin flat base with ring foot is of special interest. It belonged to a cast shallow bowl or plate [Fig. 4:11]. It is noteworthy that the good-quality cast colorless tablewares of the early Roman period are still rare finds at the site. It seems that contrary to the prevailing opinion favouring Italy as the place of manufacture, significant quantities of similar material excavated at Qusair al-Qadim, the Eastern Desert sites, and recently also at Berenike on the Red Sea coast (Kucharczyk 2010: Fig. 9-6:4–6, Fig. 9-9) argue in favor of their Egyptian origin. In addition, a few objects executed in the non-blowing technique, including plain collared beads, a deformed glass tube and a game counter, have been recorded. Several fragments of flat colorless windowpanes, apparently made in a cast process, also came to light.

Ceramic material was plentiful. Apart from domestic wares [Fig. 10:1] and toilet

vessels [Fig. 10:2], a surprisingly large number of vessels of Egyptian manufacture closely imitating some Cypriot Sigillata forms was noted [Fig. 10:3,4]. Most of them imitated common Cypriot bowls and craters (P40 and P42). Amphoras of diverse origin were prolific as always. Apart from vessels produced in the Mareotis (mostly of AE3 and AE4 types), some forms originating from centers located in the Nile Valley and manufactured in conspicuous Nile silt were identified. These included AE3 *similis* forms and early versions of the notorious LR 7 amphoras (Egloff 177). North African containers (Africana I and Tripolitanian I and II, Fig. 10:5) came first, quantitatively speaking, among the imported vessels. Eastern amphoras, although surprisingly less prolific, formed quite a numerous group representing various regions. Products from Crete (AC1–2) [Fig. 10:6], “pinched-handle” amphoras from Cilicia and Cyprus, as well as early forms of Gazan/Askalonite amphoras were recognized.

Small stone mortaria, made of granodiorite and Egyptian alabaster (travertine) were also present [Fig. 10:7].

Overall, the artifactual material (pottery, glass finds, lamps and coins) recorded during exploration provided a relatively sound basis for detailed periodization. At this stage of research, one can safely date the initial phase of occupation to the beginning of the 1st century AD and abandonment of the area to not before the end of the 3rd century AD. Later, during the construction of the new civic centre in the center part of the Kom el-Dikka site, this area was left unoccupied and was used most probably as a park (Rodziewicz 1991). Only later, in the 8th–9th century, the area was turned into a cemetery.

Still, the most remarkable is the unusual orientation of the uncovered structures. All of them follow a nearly exact geographical orientation (N-S), differing in this respect from the ancient street network and other monuments of the early Roman age previously discovered at Kom el-Dikka. Instead, they were built parallel to a small diagonal alley, of which a small section was uncovered

in the northwestern corner of the area in the early 1980s (Rodziewicz 1991). More interestingly, a similarly oriented structure was also recognized further north in the area traditionally identified as the Royal Palaces quarter (Brucheion) (Rodziewicz 1995). The cause of this orientation is as yet unclear. It may have been designed to respect earlier pre-Roman structures occupying this part of the city.

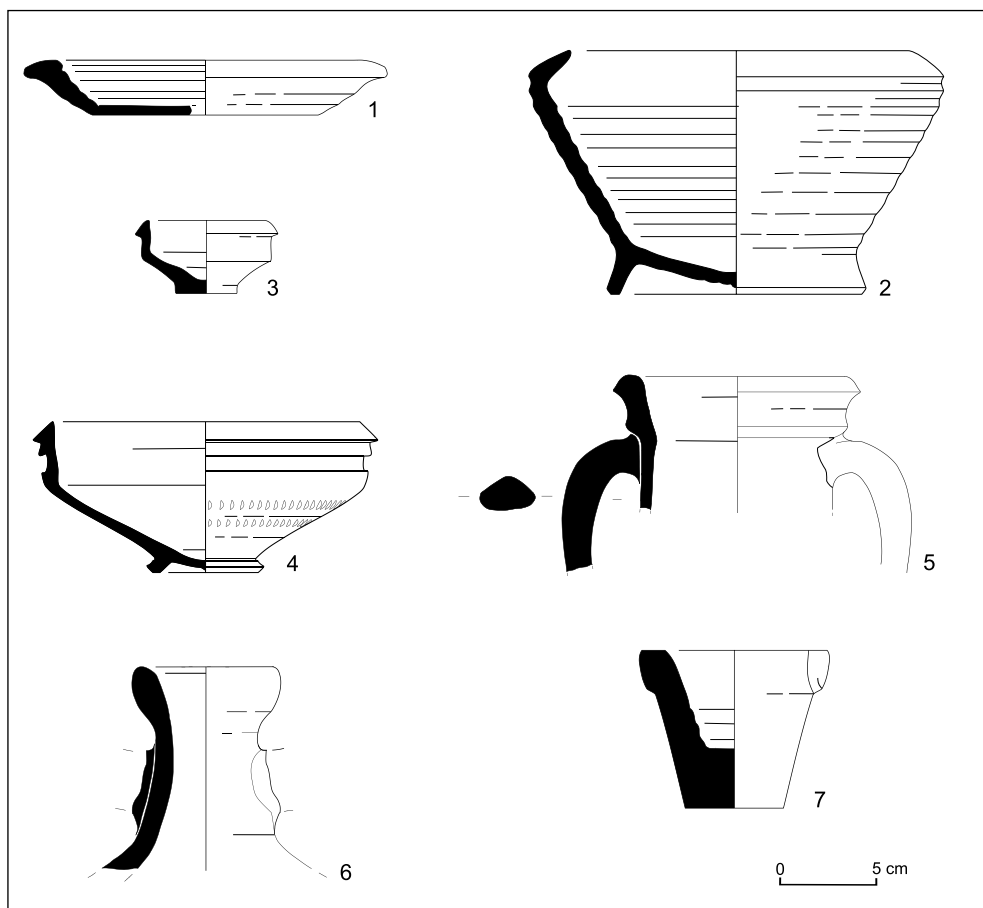


Fig. 10. Selection of Early Roman pottery from area US: 1, 2 – domestic wares; 3, 4 – Egyptian vessels imitating Cypriot sigillata forms; 5 – Tripolitanian III amphora; 6 – Cretan amphora; 7 – travertine mortarium (Drawing M. Węch, A. Jurgielewicz)

AREA CW: ISLAMIC NECROPOLIS AND EARLIER AUDITORIA

Additional research focused on establishing the chronology of the academic complex (auditoria) located along the Theater Portico was also continued. Two groups of Early Islamic graves belonging to the so-called Upper Necropolis (CW41–CW53) and Lower Necropolis (CW310–CW315) were explored in auditorium RS (area CW) (trench supervisor E. Kulicka). Further excavation revealed some predating structures of 5th century date. A section of the original wall closing the auditorium from the east was discovered. It was built 4.70 m west of the portico backwall, roughly aligned with the respective east walls of auditoria

N and U. Due to it having been robbed almost totally, it is difficult to identify the building technique, although some extant remains preserved at the northern end may point to it being built in regular ashlar masonry (approx. 0.45 m wide). It appears that similarly to auditorium OP, investigated last year (Majcherek 2013: Fig. 8), auditorium RS in its original phase was also much smaller and rectangular (9.40 m by 4.70 m), following the usual plan encountered in other lecture halls. Only later, in the 6th century AD, was it enlarged, reoriented and completed with an apse pointing east. The said wall was dismantled and a new wall built some 1.40 m further east, turning the former auditorium R into a large vestibule.



*Fig. 11. Oven in layer predating auditorium E
(Photo K. Kapiec)*

AREA G: ARCHITECTURE PRECEDING THE AUDITORIA COMPLEX

In auditorium E (area G; trench supervisor K. Kapiec), exploration of underfloor layers added substantially to data on the architectural history of the area in periods preceding the building of the academic complex. A large rectangular oven was cleared in the southern part of the room [Fig. 11]. It was built of large fired bricks, used mostly in structures dated to the Late Antique period. The oven featured an almost square chamber (2.00 m by 1.80 m, internal dimensions). Remains of two pillars preserved on the longer sides indicated the presence of a vault

supporting the floor. The oven was used most probably for cooking purposes; in similarity to yet another such structure discovered previously in the adjacent section of the passage leading to the bath (Rodziewicz 1984: 285, Pl. I,10). Exploration of ash deposits inside and around the oven did not produce any substantial chronological evidence. It is obvious though that it postdated a large *forica* discovered there the previous year, and could in all probability belong to the late 5th century AD phase. A small section of the latrine channel was discovered along the south wall of auditorium E, confirming the proposed hypothetical general layout of the *forica* (Majcherek 2013: 43).

PRESERVATION WORK

As before, the most challenging operation undertaken this season was the overhaul of the mosaic shelter (Villa of the Birds). In order to prevent further damage to the mosaics, constantly threatened with water seepage both from the escarpment and nearby Fire Brigade buildings, a series of protective measures were undertaken. A new drainage system introduced in the shelter in late 2010 served its purpose, as did the natural ventilation shafts specially designed for the most endangered, southeastern corner of the shelter. A high performance industrial ventilator was installed additionally, to improve forced ventilation inside the shelter. The 2010 season also saw the consolidation of the mosaics inside the shelter. Two of the most endangered mosaic floors: the “panther” mosaic (α-6) and the mosaic with birds (α-5) were treated (for a plan of the Villa of the Birds with identification of individual mosaic floors, see Kołataj *et alii* 2007:

Fig. 12). Such conservation measures will also be continued in the next season.

The principal task this year was to reduce humidity inside the shelter. In order to achieve the desired effect, a breather membrane was introduced as underlaying (mdm^R AQ 180). The whole operation, carried out expertly by Zygmunt Nawrot, was time consuming. In order to install the underlaying, the trapezoidal roofing sheets had to be removed piece by piece. Strips of underlaying 1.50 m wide were laid perpendicularly over a supporting wire net [Fig. 12] and fastened to the channel steel purlins using galvanized clout nails, leaving airspace between the underlaying and roofing sheets for drainage and ventilation. Overlaps 15 cm wide were fixed with caoutchouc contact glue. Additional polypropylene supports, triangular in shape (8 cm high), were installed for better ventilation and improved stability of the roofing sheets [Fig. 12, top]. This season

the entire northern part of the roof was treated. The southern part is planned to be treated likewise next year.

Conservation measures were taken also in a large fragment of the Late Roman domestic quarter (area W₁N) (supervised by Aureliusz Pisarzewski and Marcin Polak) [Fig. 13]. This year's activities should be seen as a continuation of the procedures applied last season. More sections of the walls, already damaged or dismantled in antiquity, were again either consolidated or rebuilt. In building G, a large part of the wall dividing rooms G9 and G14–G15 was completed with

Fig. 12. Installing roof underlaying in the mosaic shelter; top, section through the roof underlaying (Photo and drawing G. Majcherek)

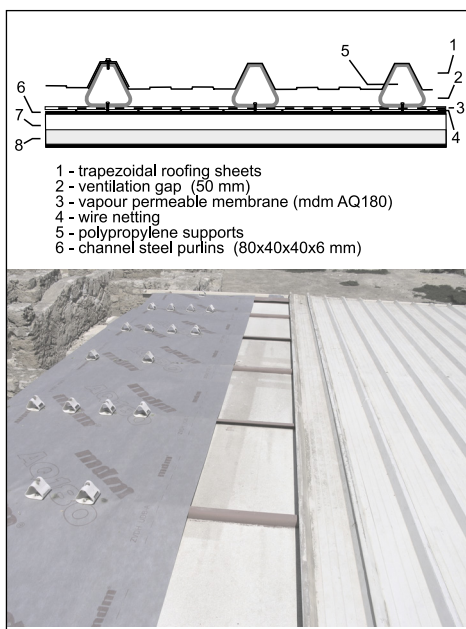


Fig. 13. Area W₁N following conservation work in 2011, view looking west (Photo G. Majcherek)

new stones (Majcherek 2013: Fig. 13). A section of yet another wall separating G9 and G17a was also restored. In both cases, the walls were structured in the pillar technique. The pillars were constructed of large blocks, the spaces in between filled with small undressed stones in an ashy mortar to create a two-faced screen wall. While the screen walls were easily restored using material obtained from debris explored in the nearby excavations, the rebuilding of the pillars necessitated the use of blocks originating from other areas on the site. Restoration was subsequently completed using mortar corresponding to the ancient one. The wall coping was additionally protected from damp with a layer of mortar with some white cement added for reinforcement.

Restoration in building H focused on rebuilding the walls of a public lavatory occupying room H-11 (Majcherek 1992). It was a sizeable latrine, measuring 6 m by 3 m. The floor of the latrine, a large fragment of which was found in the northern section of the room, was made of small bricks set on end in a herringbone pattern (*opus spicatum*). A channel (0.50 m wide), built along the walls, emptied into the main sewer in the alley, running parallel to the southern facade of the house. The latrine was obviously accessible from the street as indicated by the position of two large slabs covering the channel on this side. The south wall (some 7 m long) and the west wall (6 m long) were both restored to a height of approximately 1.50 m [Fig. 14]. Some elements of the



Fig. 14. Latrine H-11, following the 2011 restoration, view looking north
(Photo G. Majcherek)



*Fig. 15. New steps leading to the cellar in the bath complex
(Photo G. Majcherek)*



*Fig. 16. Protected plastering in auditorium K
(Photo G. Majcherek)*

solid, floor-supporting structure were also repaired, as well as adjacent sections of the sewer.

Work in the bath area encompassed a set of modern steps leading down to the cellar level, designed and built by Aureliusz Pisarzewski. Altogether 17 steps negotiated some 3 m difference of levels between the frigidarium floor and the cellar floor [Fig. 15]. An adjacent part of the frigidarium was also rearranged. The area between the brick-made *thermae* proper and the eastern entrance to the bath complex was leveled and covered with gravel as part of the final site development project.

In the cisterns (area L), an operation aimed at the restoration of a large well, explored in the 2007 campaign (Majcherek 2010), was initiated. The well, located in the southwestern part of the building, was a large structure, measuring internally some 3.25 m by 1.25 m. Similarly to other wells in the cisterns, it was originally structured from huge blocks exceeding 1.20 in length. Having suffered from earthquakes and stone-robbing, a substantial fragment of its structure was almost totally gone, exposing and seriously threatening a nearby brick-made channel. Conservation proceeded in two stages. The first involved a large-

scale stonecutting operation, preparing 13 suitable limestone blocks (1.20 x 0.80 x 0.60 m) and placing them in the prescribed position on top of the wellhead, to be adjusted and fixed in the coming season.

The conservation of auditoria discovered during previous seasons (Majcherek 2006) was also continued. In auditorium F, the stone benches were treated, their structure being reintegrated, joints filled with new mortar and plaster extant on the seats protected. Mortar based on an ancient formula was used (1:3:0.5 of lime, sand and crushed bricks). Similar treatment was undertaken in adjacent auditoria G and K. The seriously damaged and partially dismantled southern run of benches, including the honorary seat, was now restored. Original blocks were fixed in new mortar, while some missing fragments were restored with new blocks. The edges of extant plasterwork were also secured with a protective mortar band [Fig. 16]. The huge wall dividing auditoria F and G was treated as well. One course of masonry was added on the existing top of the wall. This operation was undertaken not only in order to protect the existing ancient substance, but also as an attempt to recreate the original layout of the auditoria.

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