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THE "SQUARE FEATURE" IN THE HARBOR: EXCAVATIONS IN BERENIKE 2010–2011

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Abstract: The Berenike Project team explored, as one of a number of objectives, a square feature situated on an island or promontory in the southwestern harbor bay of the Berenike port, directly to the northwest of the "Lotus Temple". The report is a preliminary assessment of the results of excavations carried out in 2010 and 2011, which uncovered the inside of the structure as well as a continuous surface of melted gypsum anhydrite around it that was proved to be at least in part a tumble of large wall ashlars. A provisional dating of the remains suggests an early Roman origin for the structure, which may have been a sanctuary. The findings indicate that it was already abandoned in the 4th–5th centuries when the neighboring "Lotus Temple", uncovered concurrently by the Polish–American team, was at its peak. Finds included an inscribed altar dedicated to Domitian(?), discovered among the tumble of a stone basin and unidentified installation, and some remains of bronze statuary, oil lamps, glass beads and other finds.

Keywords: Berenike, Red Sea, harbor bay, temenos, early Roman, gypsum anhydrite/coral heads architecture, inscription

A topographic feature that appears to have been an island or at least a small promontory in the mouth of the bay of the presumed harbor of early Roman (and possibly also Hellenistic) Berenike continued to be explored by a joint team from the Berenike Project, working under the auspices of the University of Delaware and the Polish Centre of Mediterranean Archaeology of the University of Warsaw. The discovery in 2010 of the so-called "Lotus Temple", a 4th–5th century building of ritual function (Rądkowska, Sidebotham, Zych 2013), established the religious nature of the late architecture located here at a time when the bay was already silted up and the harbor deserted. Further work was aimed at investigating a square feature that was observed next to the "Lotus Temple", directly to the northwest of it. Trench BE-70, which was excavated over the course of the 2010 and 2011 seasons, uncovered the inside of the structure as well as the surface around it. This report is a preliminary assessment of the results of exploration carried out in

this area, pending further work, which will undoubtedly lead to a better interpretation of this curious structure.

The feature was visible on the surface as a sandy patch, square in shape, surrounded by stretches of a white surface, which at first did not look like the tumble of gypsum anhydrite ashlars that it turned out to be. The first trench, BE10-70, aligned with the north wall of the "Lotus Temple" discovered in trench BE10-61, explored the first section of this ashlar tumble, measuring 4.85 m E–W by approximately 6 m N–S. In 2011, the trench was extended to cover 15 m E–W, the southern limit aligned with the south wall of the old trench and the south side of the square feature, and 8 m N–S. This encompassed all of the surface remains of the "Square Feature".

GEOPHYSICAL PROSPECTION OF THE HARBOR BAY

The primary objective of the reactivated Berenike Project has been an investigation of the crescent-shaped topographic feature in the southwestern part of the ancient site, which is presumed to have been the town's more or less natural harbor bay in the early Roman period and possibly also earlier, in the Hellenistic age (Sidebotham, Zych [eds] 2011: 9, 25, 175ff.; forthcoming). Investigations in the 2011 season, including a program of auger drilling, established the line of the beach inside this topographic feature (trench BE11-71) and determined that there had been no substantial change of sea levels in this part of the Red Sea region in historic times (ancient beach line at an altitude of 0.50–0.80 m a.s.l., A. Kotarba Morley, personal communication; see also discussion, Harrell 1995). This line corresponds very well with the interpretation of a magnetic map of this area produced by Tomasz Herbich (2011: 13–14, Figs 2-3, 2-4). The results of the magnetic prospection (completed in this part of the site in 2012), combined with a scrutiny of satellite images (Google Earth), confirmed the presence of a raised area about 50 m E–W by 40 m N–S, elevated some 2.80 m a.s.l. at the highest point. On the ground surface, this area was observed as a low rise in the sand silting up the harbor of Berenike, covering the remains of a rectangular structure evidently made of coral heads and two groups of decomposed gypsum anhydrite ashlars to the west and northwest, signifying the existence of at least two different structures made of this material (Sidebotham, Wendrich [eds] 1996: 5). The magnetic image confirmed the existence of a big rectangular structure (approximately 10 m x 5 m), which turned out upon excavation to be the "Lotus Temple", and revealed the presence of another smaller square structure next to it (patches of gypsum anhydrite), showing also certain features of this structure like the wide opening in the south wall and smaller opening in the west wall, as well as a kind of U-shaped feature in the central part. The second part of the magnetic survey encompassing the southern part of this "island" feature (carried out later, in the 2012 season) revealed other structures spread over an area of some 40 m E–W by 25–30 m N–S (1000–1200 m^2), none of them even faintly visible on the surface,

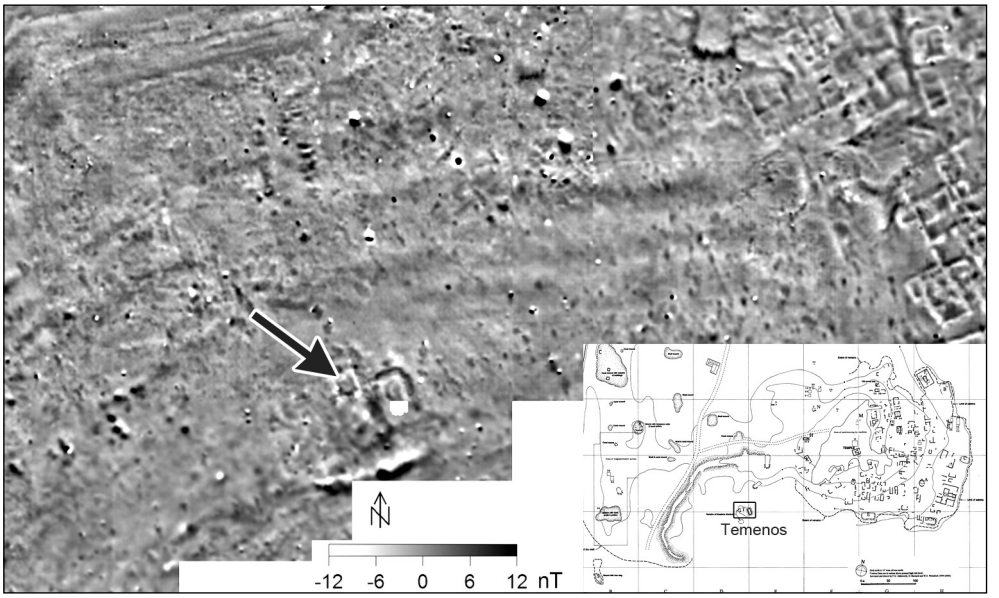

Fig. 1. Magnetic image of a large section of the southwestern bay of Berenike showing anomalies sited on the "island" temenos; map completed in the 2012 season (close-up from the general site map). Fluxgate gradiometer FM 256. Sampling rate 0.50 x 0.50 m. Dynamics -10/+10nT (white/black); inset, plan of the site with the location of the temenos. Arrow indicates viewing direction in the photo in Fig. 2 (Map processing T. Herbich; plan Berenike Project archives)

Fig. 2. General view of the "Square Feature" and the patches of melted gypsum anhydrite surface around it (note tentative window slots), as well as the ashlar tumble on the eastern side ("Lotus Temple" is at top), view from the northwest at the end of the 2010 season (Photo S.E. Sidebotham)

extending southward and southwestward from the two buildings mentioned above. At this stage of the investigations, it is impossible to determine their purpose or dating, but their layout in the magnetic image, interpreted by Joanna Rądkowska, suggests an organized and complex "island" temenos [*Fig. 1*].

"SQUARE FEATURE"

The square patch of sand in a hard white surface of melted gypsum anhydrite (see below) was one of the main objectives of explorations carried out by the Berenike Project team in the 2010–2011 seasons. The trench was supervised by Katya Schorle in both seasons, assisted by Ignacio Crespo Liñeiro in the 2011 season. The present report is based on the original trench documentation and the excavators' field reports, supplemented with further analysis and interpretation by the present authors.

Needless to say, the description and phasing of the "Square Feature" presented in this report is provisional, pending further excavations inside the structure and around it. Even so, there can be no doubt that it was part of a larger structure or a complex of structures that occupied the higher ground in this area. If not, then it was surely at least built into earlier architectural remains of some substance.

Central to the excavation was the square patch of sand, roughly 6 m to the side, enclosed by walls constructed of gypsum anhydrite ashlars and slabs of various size. The fill from the inside of this structure was excavated and a section of ashlar tumble to the east of the feature was explored, revealing the exterior of the east wall and the northeastern corner. A substantial area around the "Square Feature" was also swept at the end of the season in an effort to establish the extent of the melted gypsum anhydrite surface [*Fig. 2*].

WALLS AND FOUNDATIONS

The ground on which the bottommost course of blocks forming the "square feature" stood was leveled at 1.10–1.17 m above sea level, but it was not ascertained in the course of the work done so far whether this surface was the original ground surface either inside or outside the structure. Further exploration, especially outside the structure, is needed to establish the stratigraphy at deeper levels under the building, especially as certain features of the south wall could suggest that it had deeper foundations. The south wall could indeed be a primary wall remaining from a larger (or earlier?) structure, to which the other three walls were added as part of some rebuilding event (see below).

The walls were preserved at least three courses high [*Fig. 3*], but of these the blocks of the topmost one were either intentionally half the thickness or substantially eroded when the melted surface of gypsum anhydrite formed on the latest identified occupational ground surface. The overall impression is of a structure built of recycled ashlars that were roughly dressed, some bearing characteristic traces suggestive of quarry marks. The average height of the blocks in the two lower courses was 0.36–0.40 m,

the third and currently topmost course was, on the other hand, a constant 0.10–0.12 cm. The length of individual blocks ranged from a minimum of 0.29 m to a maximum of 2.01 m, the average being between 0.50 m and 0.70 m. The thickness of the walls, one-block thick, was approximately 0.50 m. A dry bond building technique was employed. Evidence of plaster coating is not conclusive; some blocks preserve evidence of plaster, although this could also be from their initial use elsewhere prior to recycling in the present feature. The walls stand about 1 m high, more or less flush with the present ground surface, which may or may not be, as suggested above, an intentional surface used when the neighboring temple in trench BE10-61 was in operation.

The bottommost course of ashlars formed a footing broader than the wall standing on it, the excess surface projecting unevenly inside the structure, but only on the eastern, northern and western sides [see ***Fig. 3***]. Exploration outside the northwestern corner indicated that the walls actually turned a corner [see ***Fig. 8***], but the other three corners have yet to be explored. The blocks were dressed, but the surfaces occasionally retained arching furrows which should be interpreted as quarry marks. On the eastern side, the two northernmost blocks had traced guidelines in their top surface; these seem to have been intended for another purpose than the construction of the east wall, assuming they were not secondary in this context to start with. The blocks in this foundation were all of different size and were coarsely dressed; they bore traces of being cut down. They were roughly 0.35–0.40 m high, of a length ranging from around 0.50 m to 1.28 m. Neither end was bonded into the respective north and south walls. On the western side, a gap in the floor surface (excavations did not go below this level) revealed the presence of a fourth course of ashlars, only partly visible (assuming a height of this course corresponding to the others, there could be at least 0.20 m of the height of the blocks still hidden in the ground). The blocks in the footing course included a monolithic ashlar, 2.01 m long and from 0.26 m to 0.33 m high, evidently eroded on the bottom surface (more proof of recycling). A rectangular notch, 14 cm wide and 9 cm deep, was cut in the upper edge at about one third of its length from the southern end, but it could not be determined whether it was earlier or contemporary with the present structure. The next and southernmost block in this course, attached to the south wall face but not interbonded, was 1.10 m long and 0.33 m high. Its flat top surface, which was leveled at 1.69 m a.s.l., was used as a threshold of a doorway, 0.85 m wide, leading out to an area as yet unexplored, located to the west of the feature. The jambs of this doorway were stepped out on the inside of the "Square Feature". Two pivot holes, one square (10 cm by 10 cm) and the other oblong in shape (approximately 6 cm by 12 cm), the latter apparently used with this doorway, were cut on its left side [***Fig. 5***, bottom left]. Curiously enough, the northernmost end of this "footing" appears to have been recessed to fit in with a construction that appeared in the northwestern corner, apparently built in against the north wall (see below) [***Fig. 5***, center right].

The walls standing on this footing course consisted of one row of complete ashlars and another row, the topmost

Fig. 3. "Square Feature" after excavation: top, view of north face of south wall (top of photo); bottom, view of south face of north wall (top of photo). Scale = 0.50 m (Photos S.E. Sidebotham)

Fig. 4. "Square Feature" with the tumble still in place: top, view from the south side toward the north; bottom, view from the west, note western doorway at bottom right. Arrows point to the inscribed stone (on left) and huge slab in the center (on right). Scale = 0.50 m (Photos S.E. Sidebotham)

one that is partly eroded (or intended as a ourse of slabs), its top melted in with the gypsum-anhydrite patches surrounding the structure. The second course in the east wall was made up of monolithic blocks of practically the same height (about 0.36 m), three of them huge (1.28 m, 1.65 m and 1.07 m), two smaller ones by the south wall and again not interbonded in any way with the perpendicular walls that they adjoined [see ***Fig. 4***, bottom]. The ashlars on the opposite side were of a similar height but shorter (0.42 m, 0.62 m, 1.02 m) and they were obviously exposed long enough for their top edges to be heavily eroded and melted in with the topmost, half-sized course.

The north wall, only partly visible from behind the structure standing against it, consisted of smaller stones, 0.80 m and 0.60 m in length, while the third and topmost was eroded to (or intended as) half the presumed thickness of regular blocks [***Figs 3, 4***]. The structure in front of the wall was a podium of sorts more or less in the center of the north wall, 1.08 m wide and projecting approximately 1.50 m from the face of the wall. It was constructed of poorly dressed ashlars and appears to have had a stepped front. The space in back of it, where it reached the face of the wall, was packed in a somewhat haphazard way with smaller stones [***Fig. 5***, center left]. The "podium" may have been connected with a niche or window, which can be traced in the fallen wall lying to the north [see ***Fig. 2***]. In the northwestern corner of the feature, in line with the front of this "podium", there were two huge ashlars blocking the corner. They were of overall larger size and cubic volume (approximately 0.50 m high) compared to those used in the walls. The footing course of the west wall appears to have been cut back in order to fit these blocks into the available space. There is some evidence that some sort of similar construction (two smaller cubic blocks and disturbed slabs), in line with the front of the "podium", screened off also the northeastern corner.

SOUTH WALL WITH DOORWAY

The south wall of the structure at first glance appears to be quite similar to the above described walls, but upon consideration could well be from an earlier phase and/or different structure. Most importantly, it does not have the projecting footing that characterizes the other three walls and appears to be aligned — indeed, could well be a continuation of a wall of ashlar blocks that was reused as backing for the north wall of the "Lotus Temple". It certainly was not interbonded with the cross walls and even appears to have undergone some cutting back of the stone surface where the southern end of the east wall reached it, in order to fit in the ashlars of that wall. Most importantly, the south wall contains a feature that bears a strong resemblance to a doorway, which could not have functioned as such, when the floor found inside the "Square Feature" (see below) was in place. This feature, which consisted of two L-shaped blocks forming illusory "jambs" in vertical section, was inserted into the course of ashlars that corresponded to the "footing" course in the other three walls [***Fig. 5***, top]. Thinner slabs formed the "threshold" between these jambs, creating an opening approximately 2.00 m wide. This space was filled with slabs to even out the level of this course. In the inside corners of the L-shaped slabs, round holes measuring 0.10 m (eastern)

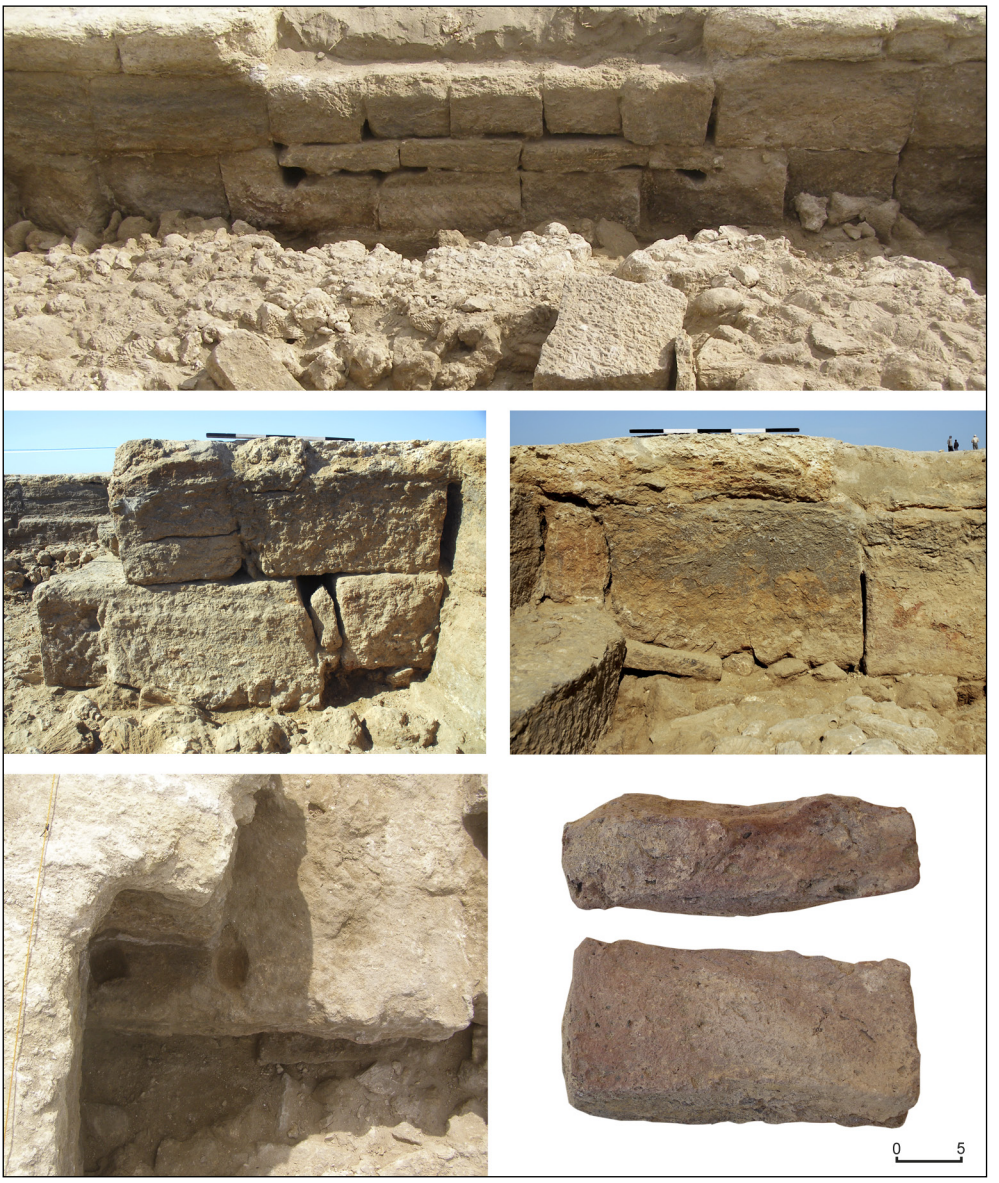

Fig. 5. Detailed views of the "Square Feature" (scale = 0.50 m): top, doorway(?) installation in the south wall, view from the north; center left, side view of the "podium" against the north wall, seen from the east; center right, front view of the blocked northwestern corner, note the way in which the ashlar is fitted to the uneven surface of the coral-head floor; bottom left, top view of threshold in the western doorway with the double pivot holes; bottom right, red brick, top and side view, from the fill of the structure (Photos S.E. Sidebotham, I. Zych)

and about 0.12 m (western) in diameter, apparently extended back into the wall; they may have been joined by a kind of channel running behind the filling slabs (the southern side of this feature has yet to be explored). On this level, corresponding to the second course of ashlars, there was a series of small cubic blocks (0.32 m to 0.40 m long and about 0.30 m high), blocking the space. These blocks formed an apparent threshold with two small holes worked into their top surface (leveled at 1.98 m a.s.l.) on the center axis, as if for blocking a two-leaf door. There may have been a pivot for mounting a door on the western side. Assuming that this was indeed a threshold, it would mean that the walls of the building had been razed practically to the ground, leaving only the half-sized topmost course of blocks rising above the level of this threshold surface.

CORAL-HEAD FLOOR

From this level there would have been a step down of more than 0.30 m at least to the surface of the floor inside the "Square Feature", assuming it corresponded to the level of the threshold in the western doorway, or even more, if the coral-head surface found inside the structure is accepted as the original floor in the latest architectural phase of this building. The substructure of coral-heads rises to about mid-height of the lowest course of ashlars (1.43 m a.s.l.) and was itself bedded on a layer of pebble-sized angular stones which was not explored further down in the reported seasons, making it impossible to say whether there had been earlier occupation on the spot. It was well preserved on the eastern side of the structure, extending from the north to the south walls. It also ran along the southern wall and the western one, presumably extending under the huge ashlars in the southwestern corner. Indeed, the eastern of the two ashlars appears to have been cut(!) to fit the uneven coral-head surface and a piece of slab inserted by the wall under the other slab in an effort to somehow balance this structure [*Fig. 5*, center right]. The coral heads were fist-sized and larger (approximately 0.15–0.20 m across). Silty soil packed onto the coral-heads appears to have formed a surface, either the intended floor or a bedding under a slab floor, although the latter idea finds no hard evidence in the archaeological record. During exploration, some of the coral-heads were loose enough to be removed with the fill. This occurred alongside the faces of the south and west walls and also in front of the "podium" in the center of the north wall, but it is equally clear that a space 2.40 m NE–SW by 2.60 m NW–SE (roughly 6 m^2) was left free of the coral-head bedding in the middle of the feature. The floor level, which was the same as for the foundation course and the podium feature (1.10–1.17 m a.s.l.) was formed of small pebbles in a sand layer. The difference in levels between the foundation and the top of the coral-head bedding (1.43–1.47 m a.s.l.) was about 0.30 m.

It is possible that there had been a stone-slab paving over the coral-head bedding. A number of stone slabs, 0.10–0.15 m thick, were discovered in the fill. None of these were in place, however, and if the threshold of the western doorway is any indication, these slabs would have formed a surface at least 0.10–0.15 m below the level of the projecting ledges of the "footing" course of ashlars in the west and east walls. Moreover, all of the

pavers would have had to be dismantled before the event that resulted in the blocks tumbling on the coral-head floor.

TUMBLE INSIDE THE "SQUARE FEATURE"

Architectural blocks as well as the inscribed altar stone lay tumbled inside the "Square Feature" [*Fig. 4*]. The tumble demonstrated evidence of having been toppled violently and some of the blocks appeared to be in an architectural order. Especially a group of large stones in the center, which look as if they had fallen from the south. The smaller, thinner and more fragile pieces of stone are found at the bottom of the tumble, basically inside the empty space between the coral heads and fanning out to the side walls in more or less one line. The big blocks appear on top. A huge flat slab (1.13 m by 0.65 m, 0.24 m thick) was found standing on the long side, as if it had slid off a bench or platform and ended up resting on its side. Upon closer analysis the blocks in the tumble can be separated into groups. For example, three blocks of smaller size are lined up against the coral heads in the southwestern corner of the empty center space in the floor of coral heads [see *Fig. 3*]. Two slabs were found resting against the "footing" in the southeastern corner. A group of blocks just next to the western doorway appear to have fallen from that direction; they could have been part of some kind of door-framing structure. The large blocks in the middle may have crushed some structure underneath and in the center space free of coral heads — perhaps a pool-like structure with slabs lining the sides. A considerable assemblage of about 30 red brick fragments found in the fill [*Fig. 5*, bottom right], mostly in the center and toward the northeastern corner, may have been part of this crushed structure in the center.

The inscribed stone lay clear of the main tumble, sideways, inscribed face down, base toward the west (for the inscription, see below) [see *Fig. 4*]. Its top, facing the east and center of the "Square Feature", was crushed. It may have been toppled from a central position inside the room, perhaps by the large blocks falling from the south, or it may have fallen from the podium or the apparent platform in the northwestern corner, but it is difficult to imagine how the forces working on the stone would have caused it to fall in this particular way.

Curiously, there was no tumble to be found in the space next to the south wall for a distance of from 0.50 m near the west wall to 1.50 m by the east wall. The only stones to be located here were the two slabs apparently leaned against the "footing", as if on purpose [see *Fig. 4*, bottom]. Coupled with discoloration and erosion evident on the inside faces of the two walls, southern and eastern, it could suggest salvage of building material from the tumble (but not from the walls themselves?) carried out in a fairly organized way, leaving a pit to be slowly filled by sand, the inside faces of walls suffering from long exposure to the elements. Arguing in favor of such a scenario was a loose corner fragment of a stone basin, found on top of the south wall in 2010; another fragment of a large stone basin was found in the tumble inside the "Square Feature" in 2011. While one cannot ascertain how many stones and of what kind were removed in this manner, one should note the secondary use of quite a number of stone architectural elements in the nearby late Roman "Lotus Temple", especially flat slabs used as steps, altars,

base under a baetyl of basalt, column shaft as altar, inscribed stone (dated to AD 98, see Rądkowska, Sidebotham, Zych 2013: Fig. 13 and also, e.g., Figs 4, 7; see Ast, Bagnall forthcoming).

The tumble evidently did not reach the north wall and the "podium", which looks more or less undisturbed by the fateful events that caused the destruction. As said above, the two small blocks attached to the east wall may have been part of some kind of screen in this corner, as could also the two slabs, one possibly even still in place, as the sole attestation of a stone pavement that was removed.

INSCRIBED STONE OF DOMITIAN

The inscribed stone is square-sectioned on a projecting square base [*Fig. 6*]. The top is broken off, apparently right above the second line of the inscription. The sides are smoothed, but retain evidence of chisel marks on the sides and bottom. The bottom especially was hollowed out a little in the center leaving a flat margin around the edges, apparently for the purpose of mortaring the stone in place. Deep guidelines were carved into the front of the stone and the letters carved between them somewhat inexpertly, especially in the lower lines, which the stone mason had to compress in order to fit the text within the available space.

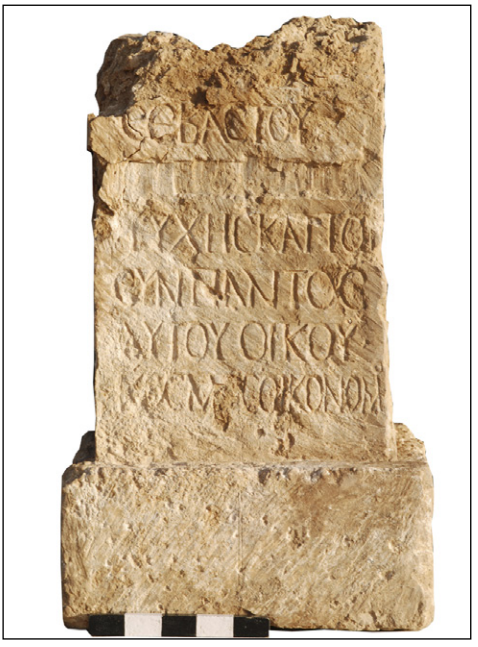

Fig. 6. Stone altar with inscribed dedication to Domitian. Scale = 0.20 m (Photo B. Wójcik)

The inscription is a dedication, written in Greek in seven lines, by an οἰκονόμος named Kosmos on behalf of Domitian (reigned AD 81–96) (Ast, Bagnall forthcoming). The name of the emperor and part of his titulature were meticulously removed in an act of *damnatio memoriae.*

OTHER FINDS

The fill inside the sunken structure contained at least 20 medium-sized iron nails, which may indicate a wooden structure, perhaps a substantial roof. Otherwise, the metal finds from the fill around the tumble and on top of the coral-head surface under the tumble comprised a small vessel, tool fragments, copper-alloy box mountings and edge protectors pointing to a more domestic context. Terracotta oil lamps, including a complete example with vine-leaf decoration and a Dionysiac scene of a maenad facing left and holding a thyrsus in her left hand, her hair in a bun [*Fig. 7*], were discovered in concentration in the northeastern corner of the chamber. This corner was somehow free of tumble and the fill here yielded, apart from the intact lamp and most other lamp fragments from this context, also

Fig. 7. Artifacts from the fill of the "Square Feature": top, toe of a bronze statue of almost double lifesize proportions; eye inlays; glass pendant; banded agate cameo blank; gold-in-glass segmented bead; center left, bone needle; bottom left, lamp with Maenad bust on the discus; bottom right, ostrich eggshell fragment with red-painted decoration (Photos S.E. Sidebotham, B. Wójcik, I. Zych)

a quantity of red brick fragments (which were also spread throughout the trench and beyond the door in the west wall), some ostrich eggshell fragments, a few bearing red-painted geometrical decoration and more importantly, a fragment of the toe of an almost double lifesize copper-alloy statue [*Fig. 7*]. Moreover, the fill here contained large quantities of goat bones and a few horns. Elsewhere in the sand fill two different eye inlays, both made of white stone, were recorded [*Fig. 7*]. The bigger one came surely from a bronze statue, the smaller one is typical of the kind of eye inlays used in animal mummies of the Pharaonic and Graeco-Roman periods. Otherwise, the fill contained a few glass beads, including a gold-in-glass example, a number of glass pendants, some burnt through, a banded agate cameo blank [*Fig. 7*], an array of decorative stones, including beryl and carnelian, fragments of iron and copper-alloy artifacts, two illegible coins, some unremarkable glasses, a large cowry shell of the kind recovered from the nearby shrine in trench BE10-61, as well as the usual set of shells, ostrich eggshell and nacre fragments. A small corner of a heavy lead slab was found in the fill beyond the doorway in the west wall.

Except for the decorated ostrich eggshells and cowry (which are typical of late Roman assemblages), this set would point to a 1st to 3rd century AD dating horizon for the fill. The pottery, however, (as well as the unremarkable glass) provides unshakeable evidence of the fill being formed much later, in the late Roman period in fact, when the "Lotus Temple" was already standing, possibly even in its later phase, that is, in the 5th going on 6th century AD (R. Tomber, personal communication; see also Rądkowska, Sidebotham, Zych 2013). The stratigraphy thus seems to be heavily disturbed, possibly by casual digging in search of building material. This kind of digging, avoiding layers of precipitated salt and obstacles of the kind created by the huge upended slab, seems to be attested especially in the southern part of the structure, alongside the south wall.

SURFACE AROUND THE "SQUARE FEATURE"

The surface around the "Square Feature" extending more or less 5 m in all directions, appeared to form a continuous white pavement, which was leveled at an average of 2.09 m a.s.l. It fell away to the north, while rising to the east, toward the highest preserved back (north) wall of the "Lotus Temple" (2.79 m a.s.l.).

Explorations in 2010 proved that the continuity of the surface around the "Square Feature" was due to the natural melting of gypsum anhydrite. In certain conditions, such as a more humid climate with regular rainfall, especially when surfaces of this stone are exposed over a large area, the properties of the stone cause it to disintegrate — "melt" — into a spreading patch of gypsum that forms in effect a continuous surface. This property of the local stone appears to have been taken advantage of by the late Roman occupants of the island temenos. It also means that the ashlars were exposed on the surface for a longer period of time, practically until today.

Exploration of the area, approximately 5 m by 5 m, between the "Lotus Temple" and the "Square Feature" revealed

an underlying tumbled wall of ashlars of different size. This section of wall was uncovered over the course of the two seasons [*Fig. 8*]. The ashlars lay on a sloping bedding of sand falling from the back wall of the neighboring temple toward the "Square Feature", in a semblance of order, perhaps even preserving a window or door slot, and definitely demonstrating the use of wooden clamps of the same, 'swallow-tail' kind as the ones attested in the walls of the early Roman Great Temple (of Serapis?) on site. The wall counted approximately nine courses of blocks, giving a total height of just under 5 m and extending just over 5 m in length. It remains to be ascertained from which side this wall fell and in which phase of the occupancy of the island temenos, but one thing is clear: the thickness of the ashlars in the tumble, reaching 0.50 m, excludes the possibility of this collapsed wall being part of the "Square Feature" as it stands preserved today.

The continuous hard white surface extends to the north and west of the "Square Feature", level with the preserved tops of its walls (giving it a characteristic "sunken" appearance that was responsible for the "Sunken Temple" designation appearing in early reports). Gaps of various shapes and sizes in this surface suggested that more tumbled walls of stone blocks will be found underneath (which was indeed the case in the following seasons). The impression is that the walls of the "Square Feature" were at some point methodically dropped to the ground, avoiding their scattering. After the gaps between the stones were filled with sand

Fig. 8. Tumble of blocks to the east of the "Square Feature", seen from the east. Scale = 0.50 m (Photo S.E. Sidebotham)

and the gypsum anhydrite had "melted", as it is apt to do in humid conditions, this hard white surface may have been used by the congregation of the "Lotus Temple" for whatever outside activities were involved in their cult ceremonies in the "island" enclosure. Evidence of 4th–6th century presence in the form of remains of crushed ostrich egg shells, beads, glass and pottery was recovered from all over this surface.

DISCUSSION

The discovery and clearing of the "Square Feature" has extended back the timespan, for which there is evidence of cult activities taking place on the site of the "island" temenos in the southwestern harbor bay of Berenike. It is possible that some form of shrine existed in the entrance to the bay of Berenike already in the heyday of the port, that is, in the second half of the 1st and the 2nd century AD. The artifactual material from the fill of the "Square Feature" spans a period from the early 1st century AD through the 5th century AD with a fixed date in the reign of Domitian (AD 81–96) supplied by the inscription and the *damnatio memoriae* observed on it. This suggests a functioning and well informed imperial cult at the turn of the 1st century AD and in the 2nd century (further attested by the inscribed altar dedicated in the first regnal year of Trajan by someone from the emperor's establishment, reused in the neighboring "Lotus Temple", (Ast, Bagnall forthcoming). The latter inscribed stone may have been removed from the tumble that filled the "Square Feature", along with other architectural elements, perhaps (although this will never be more than a flight of imagination, as there is no way to prove it) from the empty space in the southeastern corner of the structure, when the "Lotus" shrine was being constructed sometime after the middle of the 4th century.

It is still too early to determine with any measure of certainty when the "Square Feature" was raised. However, the use of ashlars, including ones of monolithic size, and the wooden clamps joining individual stones are suggestive of the same building tradition that is represented by the Great Temple of Berenike from the early Imperial phase. To some extent, the building material could have been in secondary use, having been tentatively dismantled or adapted from an earlier Ptolemaic structure, one that could have dated back to the founding years of the port. Regarding building materials, the presence of red bricks both inside the "Square Feature", outside the western doorway, as well as with increasing frequency in trenches outside the feature and in the lowest levels of the "Lotus Temple" (as recent explorations in the 2012–2014 seasons have shown), indicates marked use of this material in the early Roman structures. A parallel for the use of red brick comes from a shrine in the Roman army camp at Dios, located in the Eastern Desert on the Berenike–Koptos road. There, bricks were used in three features standing in front of a podium, one believed to be an altar and two others considered as bases for the supports of some sort of canopy above the altar, all of which were plastered. Bricks were also used for repairs and rebuilding of the podium as well as floor paving (Cuvigny 2010:

249–250). Large iron nails from the fill of the "Square Feature", some preserving evidence of the wood they had been driven through, are suggestive of a wooden roof above the Berenike structure (M. Hense, personal communication).

After two seasons of exploration, the "Square Feature" has been cleared from the inside and the white surface around it identified as the tumbled walls of the structure. These walls need now to be articulated and documented before they can be moved and investigations of the stratigraphy outside the structure completed.[1] For the present, the "Square Feature" remains the only observable architectural evidence, beside the back wall of the "Lotus Temple", of the complex of structures making up the temenos tentatively already in the early Roman period. It also appears to record careless workmanship as well as multiple phases of building and rebuilding over apparently a rather short period of time. Such changeover need not be seen as something unusual; for instance, in the shrine at Dios the excavators noted multiple phases of renovation and rebuilding carried out in a fairly makeshift way (at least three on the podium) in the course of just one or two generations (Cuvigny 2010: 238 and 276).

A thorough analysis of the feature gives rise to a number of questions. Firstly, the building seems to be composed of three walls attached to a standing wall, the south wall, which appears to have been in place already at this time. The entrance to it was in the west wall, the threshold being high enough for those entering to have to step down into the feature. It is not clear, however, what the original floor of the structure looked like or even what level it was on exactly. Neither is it clear what the original walking level was outside the feature. The curious installation in the south wall, which looks like an entrance at first glance, indicates that originally the island surface was somewhere at about 1.35 m a.s.l. The coral-head floor inside the feature was leveled at 1.43 m a.s.l. and the threshold in the western doorway at 1.69 m a.s.l., but the surface on which the "Square Feature" was raised, the one at the bottom of the empty space in the center, was at an altitude of 1.10–1.17 m a.s.l., already necessitating some form of stepping down. The question is why had the western entrance remained at this level, even as the southern doorway, assuming it was a doorway, was raised at least twice, presumably following a rise in outside ground levels. Was it perhaps that the western doorway was inside a larger complex protected by walls from encroaching sand? Another possibility is the climatic optimum starting in the 4th century AD (for which there is a growing body of evidence from the site as well as from research in other areas of the Eastern Mediterranean, see, e.g., Waliszewski 2014: Chapter 2, among others, with further references), which could have resulted in a much more humid environment, possibly creating a marshy area around the island in the now silted up and deserted harbor bay. The curious installation in the south wall may have

[1] Three seasons later, it can be added that a number of trenches dug around the structure have contributed much new data, but still without resolving many of the issues explored in this article. An orthophotomap of the tumbled walls was made in the 2014 season, opening the way finally to a planned transfer of the blocks, which will clear the area around the feature for further excavations.

somehow been connected with an idea for draining excess water from the temenos complex (it is at about the same level as the original floor inside the neighboring "Lotus" shrine).

Another issue is the walking level inside the "Square Feature". It does not seem to have been raised and the tumble found inside it, regardless of when after the turn of the 1st century it had collapsed, fell to a floor surface that would have required anyone entering through the southern doorway in its latest stage, at an altitude of almost 2 m a.s.l., to "jump" down into the chamber. Were there then steps leading down into the structure? Steps that would have been easily dismantled when building material was needed in the late 4th century, leaving the space along the south side of the structure empty?

Next one has to consider where the tumble, including the inscribed stone, had originated from. The fragments of a large stone basin in the tumble, among the large blocks of stone that apparently fell from the south, put into question the passage function of the southern "door", at least in the later phases. Perhaps it was somehow restructured, blocked and combined with a water installation of some kind involving the stone basin? On another note, the blocks could have hardly fallen from the south, if there was still a door installed in the south wall. Moreover, the double doors of this apparent late doorway would have opened to the inside. On the other hand, if the blocks were thrown into the hole in the ground on purpose, then the direction through the southern doorway seems the only logical one.

Last but not least, of the many debatable issues connected with this feature at the present stage of the research, one finds no reasonable explanation for why would anyone push down the walls of a structure, as appears to have been the case here. The present evidence indicates that this occurred sometime after the mid 3rd century, at least in the case of the wall on the east side of the "Square Feature". Until excavations are carried out of strata underlying the collapsed wall, the dating of this event will have to remain hypothetical. The walls were lying and the gypsum anhydrite surface was already "melted" into a hard crust at the time that the congregation of the "Lotus" shrine attended its festivities on the island in the second phase of the existence of that structure. The half-sized topmost course of the walls of the "Square Feature", obviously reflecting the late Roman walking level inside the "island" temenos, could be an indication that the new "builders" of the sacred enclosure cut all the standing ruins even with the ground in order to create a large open space next to the "Lotus Temple". If so, then it would be further evidence that should be analyzed in order to understand the nature of the cult in the late temple on the site.

These and other issues need to be further investigated and perhaps with the contribution of further evidence from future excavations around the "Square Feature" more can be said of the nature of the cult, or cults, practiced in the "island" temenos of Berenike in early and late Roman times.

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