

A PRELIMINARY REPORT OF THE TULUL ADH-DHAHAB (WADI AZ-ZARQA) SURVEY AND EXCAVATION SEASONS 2005 - 2011

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The Tulul adh-Dhahab project¹ started in 2005 as an interdisciplinary project entitled 'Tulul adh-Dhahab: A Fortified Central Location of the Iron Age and Hellenistic Period in Lower Wadi az-Zarqa (Jordan)'. It is a joint project of the Faculty of Human Sciences and Theology at Dortmund University (TU), involving Prof. Dr Thomas Pola and his team of archaeologists, and the Department of Antiquities of Jordan, supported by Bale University archaeologists. There were six seasons (2005 - 2009 and 2011).

1. The site

a. Tulul adh-Dhahab

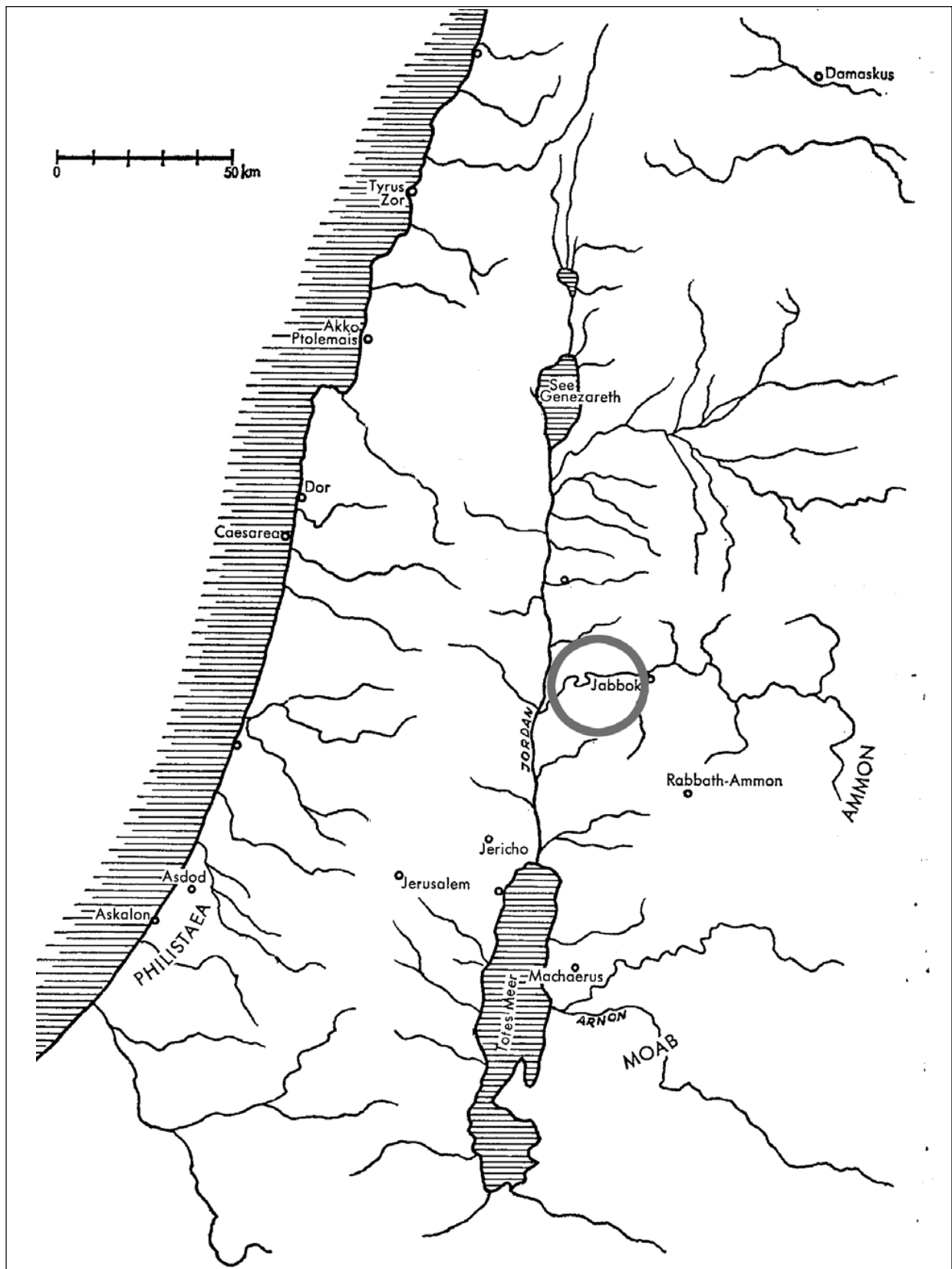
The hills of Tulul adh-Dhahab are located in the bottom of lower Wadi az-Zarqa, about 8 km east of the modern village of Dayr Alla in the Jordan valley (**Fig. 1**). The western hill (Tall adh-Dhahab al-Gharbya; PG 2149.1771) is shaped like a trapezium (**Fig. 2**) and measures 220 by 170 m (Zwickel 1990: 249), with a height of about 90 m (from -100 m to -10 m bsl). Its four terraces are best seen from the south (in contrast to Gordon's [1983] counting of the terraces, our project counts Terrace II separately; thus Gordon's Terrace II combines our Terraces II and III, while Gordon's Terrace III is our IV.). The top terrace (I) covers more than 100 by 60 m. At the top of the south slope, facing south, is the small Terrace II. The large Terrace III faces westward (150 by 75 m). Terrace IV is small in comparison. Access to Ter-

rases I - III was (and is) only possible via the west slope because of the almost vertical angle of the bedrock on the east and south slopes.

The eastern hill (Tall adh-Dhahab al-Sharqiya; PG 2149.1772) is longish. It is slightly smaller than the western hill (130 by 50 m; Zwickel 1990: 250), with a height of about 83 m (from -100 to -17 m bsl). Only its comparatively small top (60 by 30 m) would have been suitable for permanent settlement. The twin hills are separated by a ravine, at the bottom of which the Zarqa river snakes its way. However, the *tulul* are not '*talls*' in the traditional sense, i.e. consisting of accumulated layers of occupation (such as Tall Dayr Alla in the Jordan valley). Geologically they consist of shell limestone and yellowish - brown sandstone. The main difference between this sandstone and that of Petra is the thick iron oxide layers of the former. As the sandstone layers of the *tulul* and adjacent slopes of the Zarqa valley are almost horizontal, it is sometimes difficult to distinguish between geological formations and artefacts associated with the ancient city walls. There is no modern settlement on the *tulul*. Unfortunately, a direct route to the top of the western hill was bulldozed in about 1995, right across the ancient ruins. This operation also levelled two terraces near the bottom of the hill for agricultural purpose. In the meantime the site was acquired by the Department of Antiquities of Jordan, which prevented further destruction by bulldozers.

1. The authors express their cordial thanks to the Department of Antiquities (DoA) of Jordan, especially its late Director General HE Dr Fawwaz al-Khraisah and its Director Generals HE Dr Ziad al-Saad and HE Feris Hmoud, for having given us the opportunity to carry out archaeological work in Jordan over many years. We were most kindly supported by Firyal Mohammad

Issa Bani Issa, Ibrahim Zubi, Khalil Hamdan, Mohammad al-Balawnah and Dr Mohammad Abu Abila as DoA representatives or co-directors, and by Hussein al-Jarrah (former local DoA inspector). Our friendship aims to preserve the cultural heritage of Jordan as relevant for all mankind.



1. The Tulul adh-Dhahab in the lower Wadi az-Zarqa.



2. View of the Western hill of the Tulul adh-Dhahab. (E. Rehfeld)

However, destructive looting (the site is unfortunately known as ‘The Hills of Gold’ in Arabic) is still a big problem at the site.

b. The site in relation to ancient routes and roads

In pre-Roman antiquity the twin hills blocked the Zarqa valley. The az-Zarqa river may have been much deeper before the King Talal dam was completed in 1977 east of the site, especially in antiquity as the climate may have been different. Clearly the two hills and Zarqa river would have prevented any person coming from the Jordan valley from ascending the *wadi*. Anybody coming from the west would have had no access to the Zarqa valley east of the *tulul*. Consequently, they must have had great strategic importance in antiquity. This can also be concluded from the location of Wadi Ḥajjaj, which ascends *ca* 800 m vertical height over 4 km from south of the western hill up to Tall Ḥajjaj (PG 2154.1732; it belongs to the modern village Subeihi). In antiquity, anybody who passed Tall Ḥajjaj in a southeasterly direction would have arrived at the plain of Ard el-Arde, which was situated west of the former Ammonite territory. This would explain why the western hill might have been a late Ammonite fortress in Seleucid times. Moreover, in pre-Roman time the strategic importance of the site was also linked to the fact that the Jordan valley road was only *ca* 8 km away. The presence of a ford across the Jordan river near Tall ad-Damiya (PG 2018.1679), where the Zarqa river joins the Jordan river, leads one to the conclusion that there was an ancient east - west route which met the Jordan valley road. Consequently, the easiest route from Ammonite territory to modern Palestine would have involved

descending Wadi Ḥajjaj to Tulul adh-Dhahab, following the aZarqa river (in so doing crossing the Jordan valley road) and crossing the Jordan river at Tall ad-Damiya. This was also the easiest means of turning north or south along the Jordan valley road.

Tulul adh-Dhahab lost their strategic importance when the Romans constructed a road starting at the Jordan valley road, passing by Tall Abu Zighan (PG 2108.1773) and then ascending the west slope of Jebel Mesara to the plain of Ard el-Arde (Mittmann 1963). The reducing quantity of Roman and Byzantine pottery on the western hill of Tulul adh-Dhahab (see below) mirrors the decline in the strategic importance of the *tulul* after the construction of the Roman road starting at Tall Abu Zighan.

2. History of Research and Possible Identification with Ancient Place Names

The history of research is dominated by the twin facts that the site has not been surveyed (or excavated), with the exception of R. L. Gordon's survey in 1980 - 82 (Gordon 1983, 1984) and that there have been no new arguments in the scholarly literature for many decades regarding the identification of the site with place names mentioned in ancient sources.

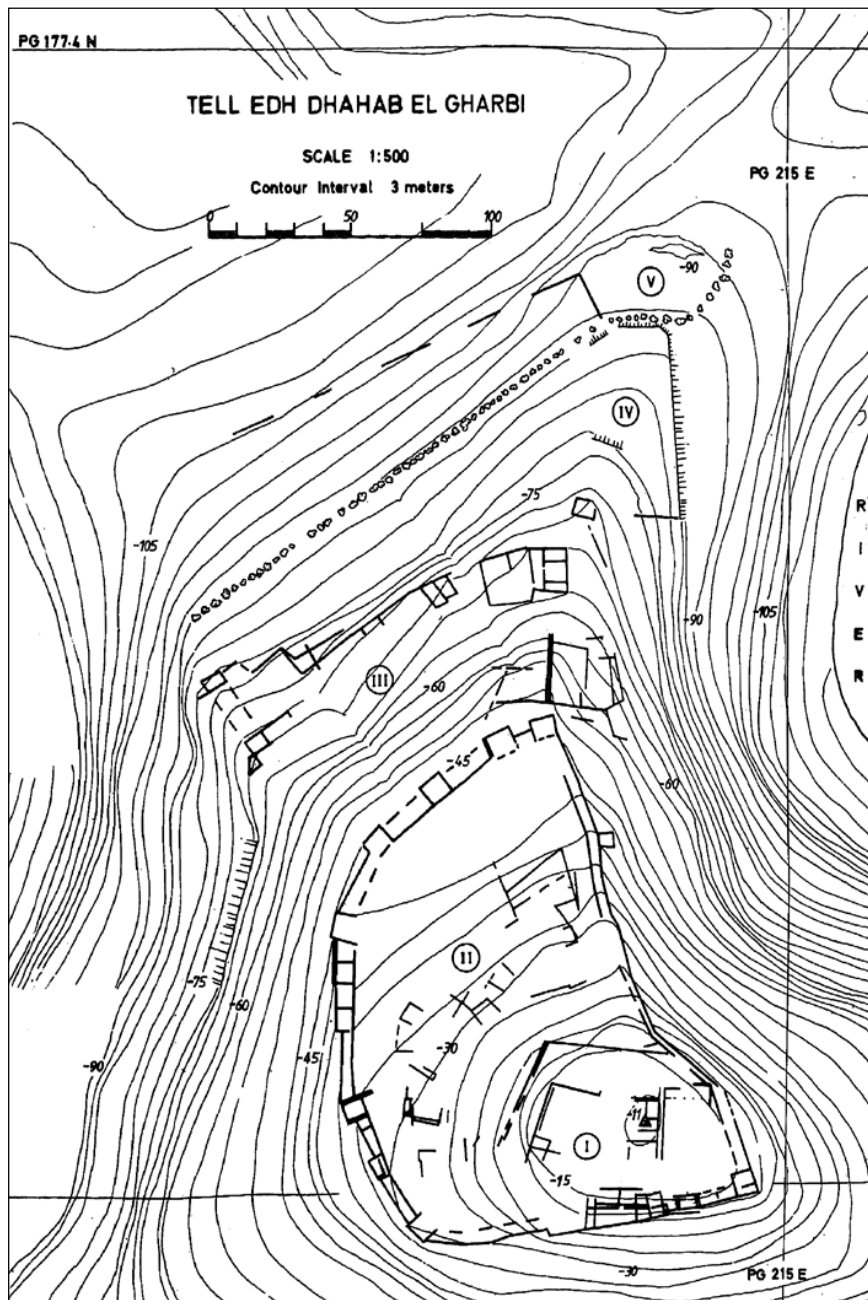
a. The Survey of Robert L. Gordon (1980 - 82)

Although Gordon's survey also included the environs of the site for about 5 km to the west and south, his interest was focused on the *tulul* as “the largest historic site in the survey area” (Gordon 1983: 275). His report is very valuable because it describes the state of the western hill before the above-mentioned bulldozing and 25 years of natural erosion. On the one hand, some of the ruins (especially sections of wall) described by Gordon are not visible any more, while on the other ruins visible today are missing from Gordon's description (especially the defensive construction between Terraces III and IV, the top of which was truncated by the bulldozing). Gordon also published valuable archaeological maps of lower Wadi az-Zarqa, the *tulul*, the western hill in more detail and of Tall al-Mughanni which is located about 3 km west of the *tulul* (PG 2120.1785; Gordon 1983: 276, 279-280, 1984: 132, 134).

According to Gordon, the main periods of set-

tlement on the *tulul* were 'presence' in the Middle Palaeolithic, 'less presence' in the Neolithic and 'presence and occupation' in the Early Bronze Age, with the 'main period of occupation' overall being the Iron Age and also (as the main period on the western hill) the Hellenistic period. There was also 'occupation' on the *tulul* in Roman times and 'presence' (on the western hill) in the Byzantine era. Gaps in settlement appear to exist in the Early Palaeolithic, Late Bronze Age and Persian periods. There is no evidence at all for any

Islamic presence (Gordon 1983: 287). Gordon believed that the casemate wall fragments and building ruins visible above the ground surface were constructed in the Hellenistic and Roman periods. According to Gordon, the Hellenistic city was situated on Terrace III (Fig. 3). Unfortunately, he did not manage to locate the ancient cemetery. A map of Hellenistic and Roman place names (and Roman roads) in lower Wadi az-Zarqa and the surrounding area has been published by Siegfried Mittmann (1987: 64).



3. Top map of the western hill of the Tulul adh-Dhahab. (Gordon 1983, 280).

b. Possible identification with place names mentioned in ancient sources

Scholars agree with the identification of the Biblical River Jabbok as the Zarqa river. Unfortunately, there is no agreement regarding the location of the cities of Pnuël and Maḥanaim, mentioned in the Old Testament and in a late 10th century BC inscription of Pharaoh Shishak from Karnak (Moers 2005; Weippert 2010). Until around 1970 Biblical scholars identified Pnuël with Tulul adh-Dhahab (or with one or other of the twin peaks) and presumed that there must have been a sanctuary from Iron Age I or earlier. After 1970 the majority took the dual form of the ancient Semitic name 'Maḥanaim' literally and associated this dual with the twin peaks. Moreover, these scholars no longer believed in the existence of an Iron Age I temple. This compelled these scholars to look for another location for Pnuël. According to Genesis 32, a ford across the lower River Jabbok was located close to Pnuël. Consequently, the site had to be located next to *the Zarqa river* and was therefore identified as Tall al-Hamma East (PG 2112.1778; Zwickel 1996). It should be added that, according to the Deuteronomistic History, Pnuël was fortified (or built) by Jerobeam I and became the temporary capital of the northern kingdom (perhaps owing to Shishak's military activities in the west). However, the interpretation of 'Maḥanaim' as a quantitative dual form is not compelling (Knauf 1995).

A second topographic problem concerns the location of Seleucid-era places mentioned in the works of Flavius Josephus, i.e. Am(m)athous (a late Ammonite fortress) and Essa. According to Josephus, Amathous was the biggest fortress east of Jordan (Jos. Ant. 13, 356). Siegfried Mittmann identified Essa with Tulul adh-Dhahab and Amathous with Tall al-Mughanni (as the Semitic *hmm* ["to be hot"] in 'Ammathous' could refer to the hot spring visible from the top of this *tall* [Mittmann 1987]). This was rejected by Wolfgang Thiel, who argued that Amathous was located at Tulul adh-Dhahab (Thiel 2005: 203-206), and also by Detlev Dormeyer (forthcoming). According to Dormeyer, 'Essa' is simply a mistake in the Greek text: it never existed.

3. Aims of the Tulul adh-Dhahab Project

Although the project is an interdisciplinary

one, its archaeological component is generally separated from the component relating to interpretation of the ancient sources. Consequently, the aim of the project is to shed light on the history of settlement on Tulul adh-Dhahab. For greater clarity, the history of settlement needs to be investigated separately for each of the twin hills (although they clearly need to be related to each other) and for each terrace of the western hill. Moreover, the area surrounding the *tulul* needs to be surveyed in the search for the ancient cemetery (or cemeteries) and an ancient settlement at the base of the western peak.

4. Methodology

Owing to a restricted financial budget for the project, the archaeological work focused on the western hill, *viz.* Terraces I and II, and also on the defensive construction between Terraces III and IV. The methodology was based on survey and soundings undertaken in short seasons of two to four weeks.

Geomagnetic survey was carried out with a 2 nT Fluxgate gradiometer FM256 (Geoscan Research UK) in 10 x 10 m squares, with points at 0.5 m intervals north - south and 0.25 m intervals east - west, in a north - south direction on Terraces I and II (Terrace III had been destroyed and there was no sign of the defensive construction).

With the aid of a Leica TCRA 1103 tacheometer, all artefacts visible on the ground surface were surveyed in order to produce a map of the western hill. To support photographic documentation and surveying, low altitude aerial photographs were taken using a kite and compact digital camera (see Reinhard 2012). The resulting imagery was used to create 3D photogrammetric models of the excavated areas. These models were merged with the survey data to produce more detailed excavation plans, which will be published separately. Using the same approach, a digital surface model (DSM) of Tulul adh-Dhahab area was created from images derived from the 1953 Hunting aerial survey, which showed the site and its setting in an unbulldozed state.

a. Terrace I

A grid was established (see below). As tumbled pillars with heart-shaped columns were visible on the surface in the south-east corner of

Terrace I, two peristyle courts could be identified. Excavation therefore focused on this area in order to reconstruct the architecture and recover information relating to the history of settlement.

b. Terrace II

A large robber trench excavated in a tower-like construction inside the city wall was cleared and documented.

c. Defensive construction between Terraces III and IV

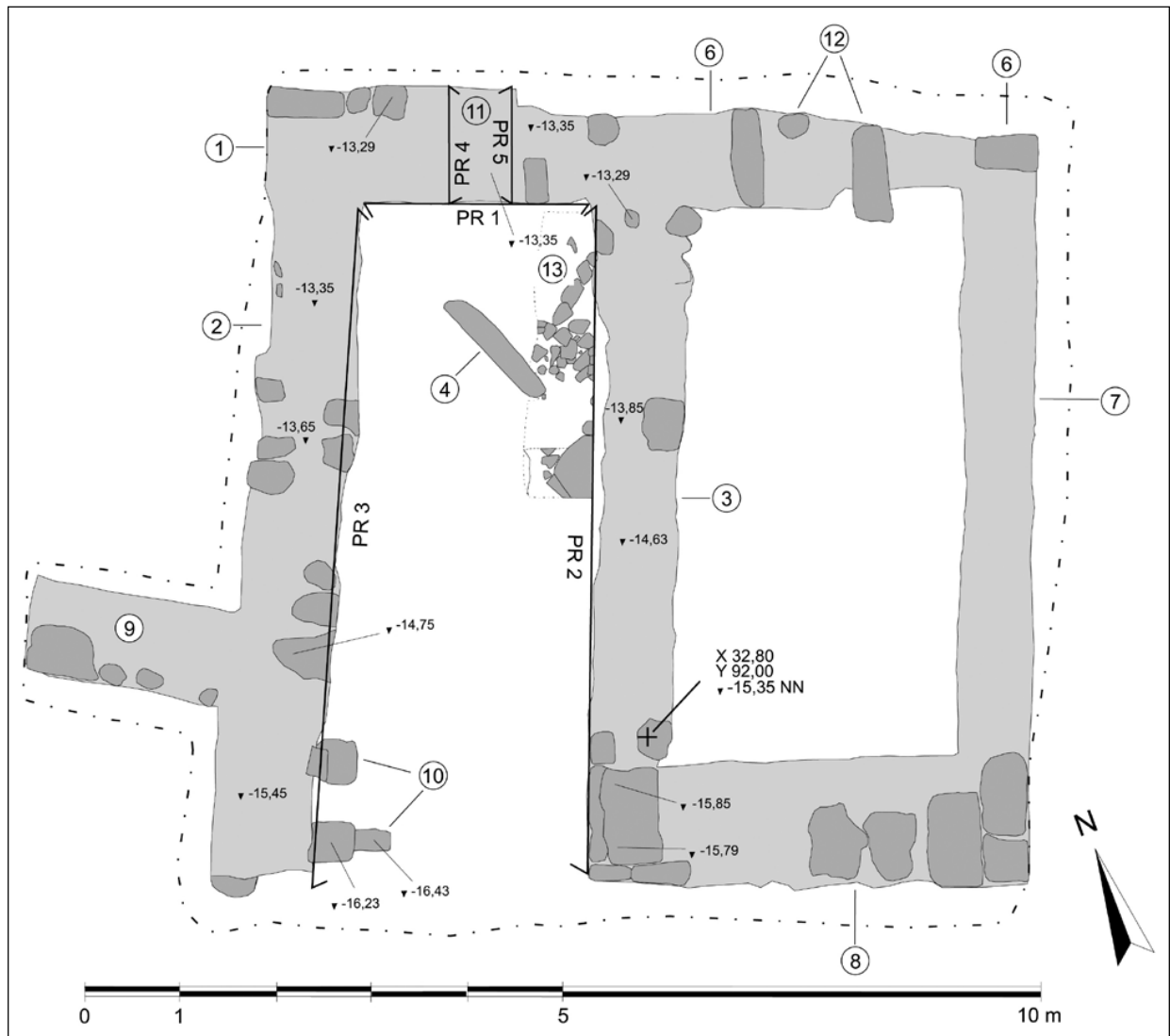
Several soundings were excavated in order to gather information about the purpose and dimensions of the architecture

5. Preliminary Results

a. A city wall tower at the southern edge of Terrace II

When we started the 2006 season, we found a large robber trench at the southern edge of Terrace II and two-metre high walls forming part of a tower within the city wall. Its purpose was to defend the buildings on Terrace II.

The four-sided tower measured 8 m east - west, parallel with the edge of the terrace, by 8 m north-west - south-east (**Fig. 4**). The west wall was not exactly perpendicular to the back wall; the width of these two walls was about 1 m. The two walls forming the eastern end of the construction were about 80 cm wide. The wid-



4. Map of the tower: 1-3, 6-8, 10 main walls; 4 lintel; 9 defending wall of terrace II, 11-12 entrances; 13 grounding stones of the older wall. (Drawing B. Rasink/J. Reitsema).

est wall was to the south, on the edge of the terrace facing the slope, but it was badly eroded. The tower is connected to the city wall in order to protect the edge of Terrace II (9); a wall (3) across the centre divides it into two areas, each with its own entrance (11; 12). In the western area the walls were recorded. It was easy to identify the entrance level from the three high walls, each of which displayed had a projection at the same level which might have been for a wooden floor (**Fig. 5**). The entrance was constructed of larger stones than the other walls. All walls were carefully built using the same technique, with no mortar. Some remnants of plaster suggest that upper parts of the walls may have been rendered.

A rectangular stone (1.5 x 0.4 x 0.6 m) was found in the western part of the tower (4). It might once have been the lintel from the entrance (11). It had no inscription and no engraving.

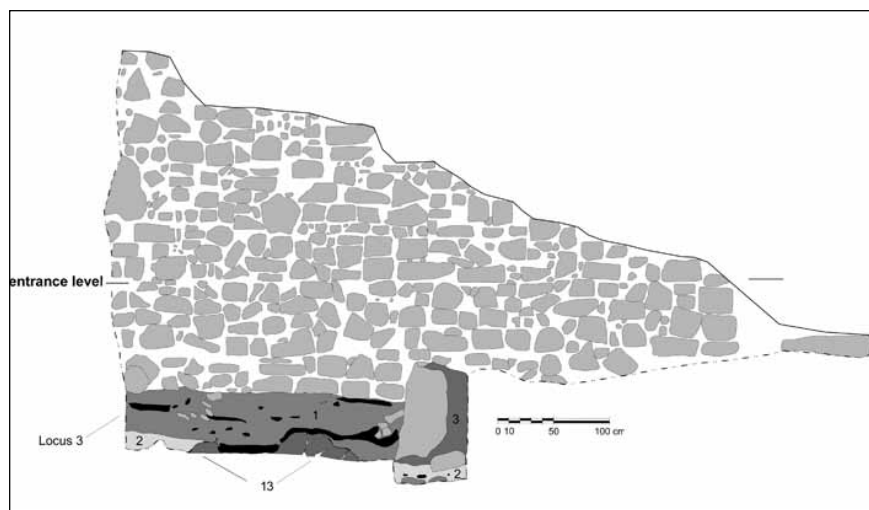
Four layers were identified in the entrance. Immediately over the bedrock, there was a layer of fine soil (1) that might date back to the use of the structure. Above this was a layer of coarser soil, 70 cm thick, which contained a few small stones. The layer above this was coarser still and contained larger stones; it was up to 80 cm thick. Finally, there was a layer of topsoil derived from modern erosion processes. There were no finds in any of the layers and as a result they cannot be dated.

In a small sounding by the eastern wall, another layer was visible (**Fig. 6**). Under the level reached by the robbers in the base of the tower,



5. View into the Western part of the tower.

we identified a different deposit containing a large quantity of charcoal (3/; 5). A lot of the charcoal was found above the foundation stones of a small wall running north-east - south-west (13). This wall is definitely older than the city wall tower. Its position at the edge of the slope



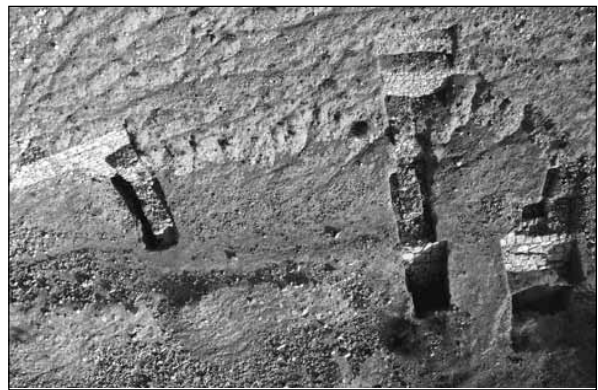
6. The Eastern wall of the Western part of the tower. 1/3 soil containing a lot of charcoal; 2 possible walking level, 13 older wall. (Drawing B. Rasink/J. Reitsema).

indicates that this wall belonged to a fortification that protected an earlier phase of the settlement. It had been dismantled down to its foundations. The large quantity of charcoal indicates that it may have been destroyed by fire². Greyish soil north of this wall (2/6) might represent a surface associated with its construction (13).

The excavation of the city wall tower demonstrates the importance of the western hill of Tulul adh-Dhahab. The stratigraphy in the entrance suggests that there could be *ca* 1.5 m depth of undisturbed occupation deposits on this part of Terrace II. Earlier architectural remains that predate the tower should be explored in future.

b. Defensive construction between Terraces III and IV

There was no mention of this construction below Terrace III in R. L. Gordon's report because at that time it was completely covered by erosion soil. When a route was bulldozed from the bottom of the hill to Terrace III (in 1995 or thereabouts), it truncated the tops of the walls associated with relating this construction. Soundings excavated between 2005 and 2009 demonstrate that glacis walls (at an angle of exactly 45°) and casemate walls extend along the west slope (**Fig. 7**) for a distance of *ca* 60 m and are founded on bedrock. The middle part is supported by four walls, with a width of *ca* 1.5 m, which run perpendicular to the slope *ca* 8 m from each other. The trenches showed that these belong to a massive casemate-like construction associated with the city wall, but which is not linked to the wall on the slope. Presumably, the purpose of this construction was to prevent the wall on the slope from collapsing on to the connecting walls as a result of attack or earthquake. Their height above bedrock is *ca* 8 m. The foundations of one of these walls were exposed in a sounding. Although pottery sherds from the foundation level (with the exception of one Attic sherd) belong to Iron Age II, we do not believe that this defensive system was constructed in the Iron Age, because it is much more likely



7. Sondage trench, showing details of the massive defense structure at the northwestern hill slope. The trench of 1 to 1.5 m exposes the wall base with its corresponding glacis. (Kite Aerial Photograph taken in 2011 by Jochen Reinhard. Note the 1 m scale between the glacis and a caper bush).

to have been constructed during the Hellenistic period. In order to reinforce this Hellenistic construction, the spaces between the supporting walls are likely to have been filled with soil taken from elsewhere which contained Iron Age sherds. The 2009 season demonstrated that there was a second construction phase. The top of the wall on the slope was destroyed in antiquity for an architectural purpose that remains unclear. This more recent architecture was clearly associated with a tower-like construction below the excavation area that is still visible above the ground surface. Excavation of the walls associated with this phase should also shed light on the question of where the ancient route to Terrace III was located. Clearly, the bulldozer is unlikely to have followed the ancient route in its entirety. Another task is to elaborate how the defensive construction was linked to the Terrace III city wall (there must have been some kind of staircase between the city wall and casemates). The lower part of this construction also needs to be identified towards the bottom of the hill, and its likely height and extent assessed. Assuming that Amathous was in fact located on the western hill, was the fact that the defensive construction covered almost the entire western slope the reason why Josephus called Amathous “the biggest fortress east of Jordan” (Jos. Ant. 13, 356)?

2. Additional comment by Thomas Pola: According to a radiometric date from the abovementioned charcoal, it dates to between 1,305 and 978 BC (Erl-11091). Consequently, it cannot be ruled out that the stones under

the walls of the abovementioned tower date to the Late Bronze Age or Iron Age I. Unfortunately it will be difficult to confirm this by excavation in the centre of Terrace II owing to severe security problems.

c. Archaeological features on Terrace I

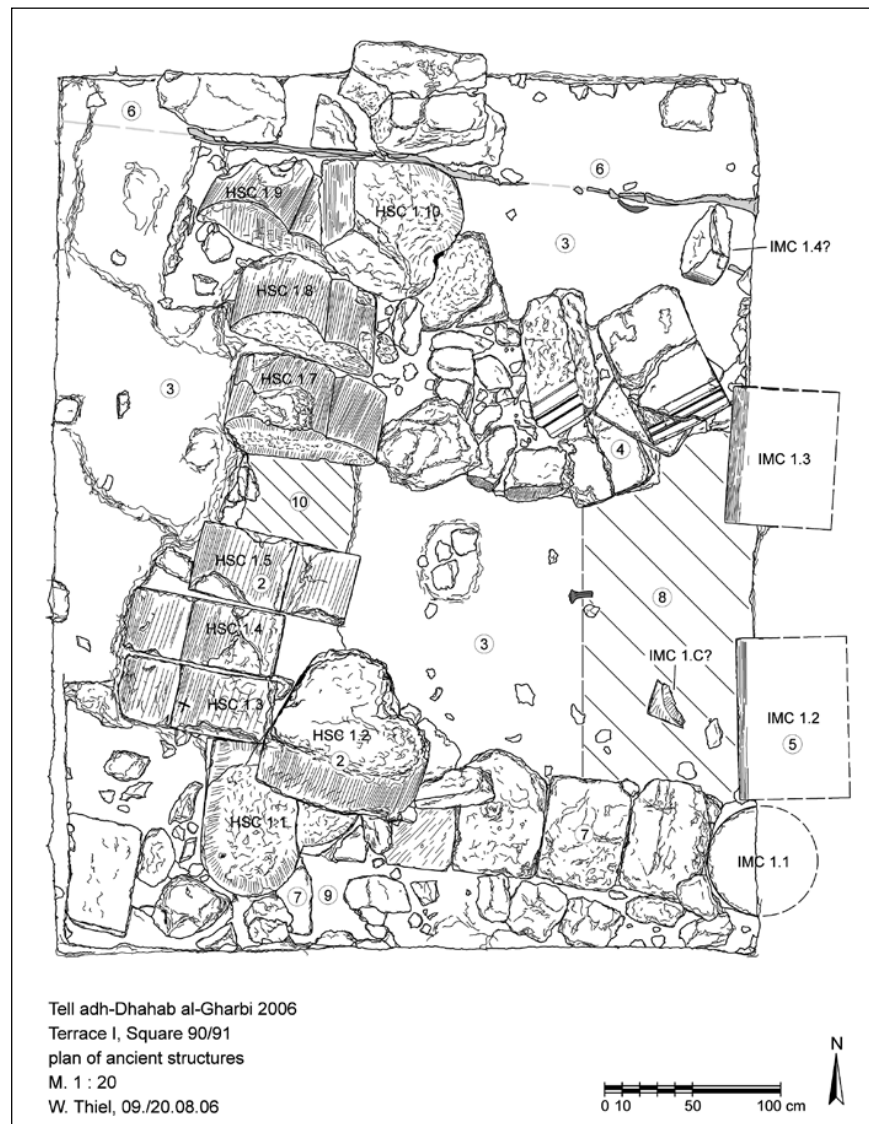
One of the investigation's foci was the hilltop, a plateau of 7,500 m² designated Terrace I. In 2006, the plateau was gridded out with squares measuring 4 x 4 m, separated by 1 m-wide baulks. A total of 12 squares have been fully or partially excavated so far, which corresponds to 4% of the possible 300 squares on Terrace I.

The first test excavations undertaken in 2006 uncovered the north-western corner of a colonnade of a peristyle court in the Doric order in Square 90/91 (Fig. 8). The distinctive heart-shaped corner columns are marked on the plan (Fig. 9). The dating of this feature to the Hellenistic period was confirmed by ceramic finds; only a small quantity of Iron Age pottery was recovered.

Chronological periods identified on Terrace I

Based on the results of the 2011 season, the architectural remains were divided into an earlier and a later phase, which were separated by a burnt layer. This burnt layer was found in all squares and was particularly pronounced in Squares 77 West and 109.

Square 77 contained a wall which ran north - south into Square 93. The wall bore clear traces of fire (Fig. 10) and the burnt layer extended right up to it, demonstrating that the wall was actually affected by the conflagration. Another wall, this time running east - west, was discovered below the burnt layer and displayed no traces of fire. It was clearly covered over when the north - south wall was built and therefore



8. Terrace I, Square 90/91. Map of ancient structures, peristyle court I. (Drawing Wolfgang Thiel).



9. Terrace I, General map of the excavation areas. A, B columns of peristyle court I; C the S-E column of peristyle court II; D Hellenistic house structure; E, F Iron Age house structures. (M. Thede, C. Hildebrand).



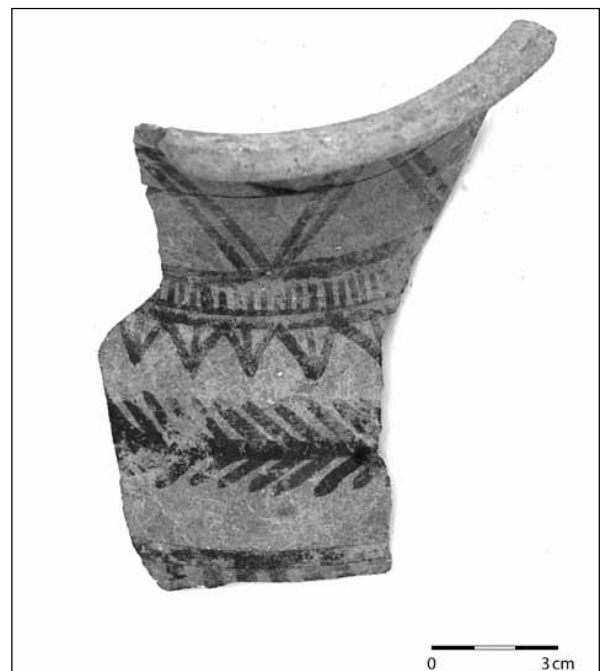
10. Terrace I, Square 77. From N-S the wall of the Hellenistic period with scorch marks and the charcoal layer (Fig. 9 D). From E - W the wall of an Iron Age house structure -

dates to an earlier period.

In Square 109, the burnt layer abutted the stylobate of the corner column of a second peristyle court further to the north. An east - west wall displaying no traces of burning ran beneath it.

Earlier phase

The dating of the earlier phase was based on an analysis of pottery recovered from Squares 90/91, 93, 108 and 109 (Fig. 11). It was found on a rammed-earth surface, approximately 1.2 m beneath the burnt layer. These finds attest



11. Terrace I, Square 108. Colored sherd, Iron Age. (A. Post).

to the use of the site during the Iron Age. This date was confirmed by a radiocarbon date from Square 93, which covered the range 1,212 - 988 BC (Erl-14616).

The discovery of carved stones and blocks of stone with engraved scenes and geometric pat-

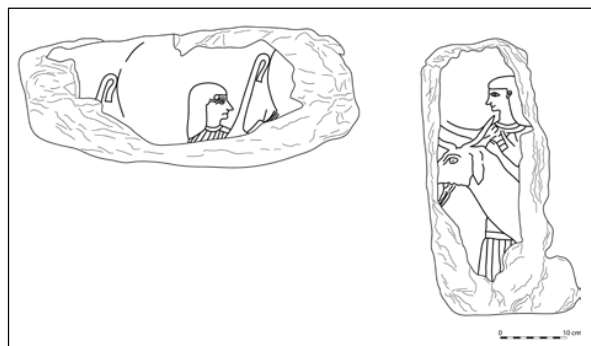
terns, which were reused in later constructions (Pola 2010), are of particular importance as evidence for the Iron Age use of the site.

Two fragments of the same stone, showing a lion's head facing left, were found on the western edge of the plateau. Another fragment bore the profile of a left-facing beardless figure (perhaps a woman or a child) behind a domestic animal with horns (perhaps a goat) which also faced left. Comparing the size of the animal with that of the human figure suggests that the drawing depicts a child. For the purpose of this report, this fragment will be described the 'cultic scene' (**Fig. 12**).

Various engraved stone fragments were recovered from Terrace I. Some bore geometric patterns that could not be interpreted more precisely. One fragment depicted a lion's mane and yet another depicted the profile of a beardless figure (head and torso) holding up a curved object (perhaps a harp) which extended above the figure's head. Parts of the same object also appear to the left of the figure. This fragment will henceforth be termed the 'orchestra scene'.

Pola suggests that the engraved stones, some of which weigh up to 200 kg, were quarried from the bedrock of the plateau and were primarily used on-site. In dating the stones, Pola refers to Othmar Keel, who has (pers. comm. 16th May 2007) suggested a probable 9th or 8th century BC date.

Petra Watermann (pers. comm. 4th November 2006) asserts that the 'cultic scene' contains only clues to its date for now, based on its depiction of the face and clothing. According to her, the depiction of an eye on the figure's temple is characteristic of Egyptian art, but also occurred in Assyria. She cites parallels in the depiction of non-Assyrians from Bit Adini (Wäfler 1975,



12. Carved Stones from Iron Age. (C. Hildebrand).

206 (text) and plan 3 (plates) [Nimrud, Central Palace, Room F]). Based on the clothing in the 'cultic scene', which has sewn-on inverted pleats, Watermann proposes the ancient Syrian region in terms of geography and the 9th or 8th centuries BC in terms of chronology (based on Reimpell 1921, 28, 64, 66, and 67; Watson 1987, 41). Thus, the engravings constitute iconographic evidence pointing to Iron Age II.

In terms of interpreting the engravings, the depiction of the lion is believed to have been an apotropaic symbol. With regard to the 'cultic scene', it should be noted that during Iron Age II children were only depicted accompanied by their extended families, if at all. Therefore, the piece only contains a fragment of a scene, which most likely originally depicted an entire family. The person shown is accompanying a domestic animal to a public sacrifice at a sanctuary. The stone fragments and their depictions thus suggest that Terrace I was the site of an Iron Age II sanctuary. This theory is supported by the interpretation of the 'orchestra scene'. In terms of style and execution, the depiction of the orchestra is similar to that of the 'religious scene', so we may assume that it was all part of the same composition.

The 'religious scene' faces left, while the orchestra faces right. Provided that both scenes belong to the same composition, they would be moving towards a centre as yet unknown to us. We may undoubtedly interpret the stones as fragments of religious imagery from a temple or some other official building. A parallel case appears to have existed in the sacred architecture of pre-Babylonian Palestine, as recorded in 6th century BC written sources (Pola 2010). According to these records, the engravings would have been on orthostats which would have formed the facing of the building. Owing to the limited size of the exploratory trenches, it has not yet been possible to find the actual building or temple.

We may conclude that a settlement perhaps existed on Tall adh-Dhahab West at the time of the city of Pnuël, mentioned in the Shishak inscription from Karnak of the late 10th century BC (Weippert 2010).. During the 9th or 8th centuries BC the settlement probably had a special palace with a sacred building, which gave the site an air of heightened importance. The

archaeological and scientific results from the test excavations demand further investigation aimed at studying the site more closely, with a view discovering evidence that would confirm or deny the identification of the site as the Biblical and historical city of Pnuël.

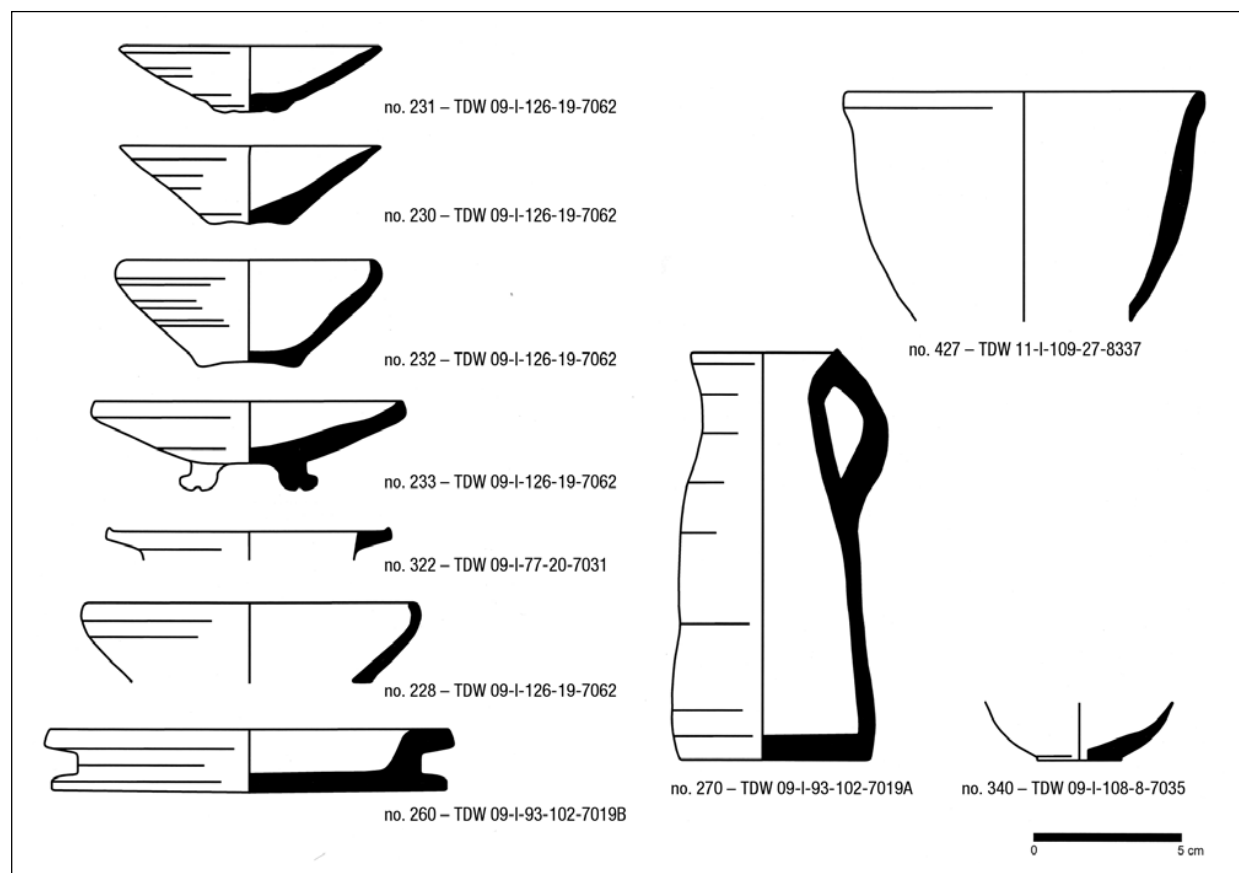
Later phase

Based on the aforementioned historical sources, Amathous was an important fortified centre in Late Hellenistic and Early Roman times.

Thanks to an abundance of ceramic finds (**Fig. 13**) and architectural features in Square 90/91, the occupation of Terrace I on the western hill of Tulul adh-Dhahab during the Hellenistic period had already been demonstrated by the 2006 season. However, it was not until the discovery of the previously unknown heart-shaped column in Square 92 in 2011 that it became possible to ascertain the location and orientation of the southern peristyle court more precisely (Fig. 9 A and B). Two heart-shaped column drums, 40 and 46 cm in height, were

found in their original position on top of a 33 cm-high stylobate. The entire feature was confirmed as being *in situ*. The column rests on a masonry foundation whose depth has not yet been determined. The orientation of the column with the tip of the heart-shape pointing north-east suggests that this was the north-eastern corner of the colonnade. This new corner column accords with the feature discovered in Square 90/91 in 2006. It has the same characteristics, being a fragment of heart-shaped column 43 cm high standing on top of a 21 cm-high stylobate; it also rested on a masonry foundation. The right-angled tip of the heart-shape pointed north-west. These two features combine to form the northern row of columns of a south-facing peristyle court with a width of 9.7 m.

To the north of this peristyle, the colonnade of another - most likely contemporary - peristyle was found in Square 109. However, it will require the discovery of additional *in situ* columns to ascertain the exact location and dimensions of this building.



13. Terrace I, Hellenistic Fine Ware pottery, plates, small bowls, cups, small jug. (A. Post).

The burnt layer

The small-scale investigations in the areas of the columns not only helped to determine the orientation of the peristyles, but also provided important evidence concerning the large-scale conflagration that occurred on Terrace I, evidence of which had already been discovered in the 2009 season in Square 77 West. Arrowheads found in the burnt layer suggested that some kind of battle had taken place.

During the excavations in the areas of the two corner columns in Squares 90/91 and 92, high concentrations of charcoal were found, starting at the top of the stylobate and continuing downwards into the ground. These concentrations were situated at the same height as the burnt layer in Squares 77 and 108. An inspection of all sections showed that the burnt layer was present at the same height over the entire area excavated so far. Charcoal samples were taken for radiometric dating from the burnt layer around the corner column in Square 92 (**Figs. 14 and 15**) and from the same layer in Squares 108 and 109. The dates that came back from the AMS laboratory in Erlangen (Erl-17117 - 17121 and Erl-17124) all covered an near-identical

range, from the late 3rd to the middle of the 1st centuries BC.

The laboratory in Erlangen initially viewed the six dates as independent of each other and calibrated them individually. Because the samples were closely associated, both archaeologically and stratigraphically, and because they were derived from a single event, joint calibration seemed justified (software = CalPal; curve = InCat04). This secures the date still further, giving a range of between 210 and 70 BC (68% probability).

Based on the assumption that the dated samples had been taken from the burnt remains of construction timbers, this date relates to the construction of the buildings and not their destruction. Provided that this elaborate building did not incorporate reused timbers, we may assume that the southern peristyle court was erected sometime between the 2nd and the early 1st centuries BC.

Lead sling bullets adorned with symbols and Greek inscriptions, a small repository of which was found in the burnt layer on the stylobate of the corner column in Square 92, warrant particular attention. Analyses of the lead (see Dreyer, this volume) provided more information on the



14, 15. Terrace I, Square 92. Left: Dr. Mohammad Abu Abilah, DOA, taking a sample of charcoal for radiocarbon dating (H. Kröger); Right: Heart shaped column of the N-E corner of peristyle court I. (M. Ximénez-Carillo).

conflagration - which probably occurred during a battle - and the historical context of the event (Fig. 16).

Other important clues relating to the period of use of the areas excavated on Terrace I came from coins, twelve of which were recovered. The earliest coin dates from 169 / 168 BC (issuing authority unknown), while the most recent coins were minted by the Hasmonean ruler Alexander Yannaeus in 77 / 78 and 80 / 76 BC respectively. No later coins were found. Given the current state of research, this means that the destruction of the building by fire occurred before the middle of the 1st century BC.

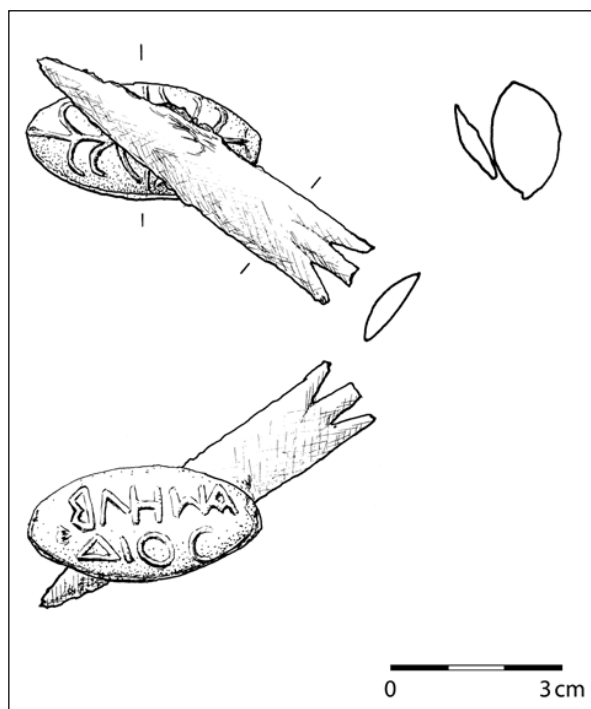
No evidence has been uncovered in the squares excavated to date that would point to the rebuilding of the structures or a continued use of the site after the conflagration, and no distinct finds from the later period of the Roman conquest were unearthed. Moreover, the archaeological features clearly show that the ruins were no longer used.

An example from Square 109 serves to illustrate this (Fig. 17). The burnt layer was clearly visible at the foot of the corner column of the northern peristyle building. The overlying deposit was approximately 0.8 m thick and contained almost no finds, except deposits of organ-

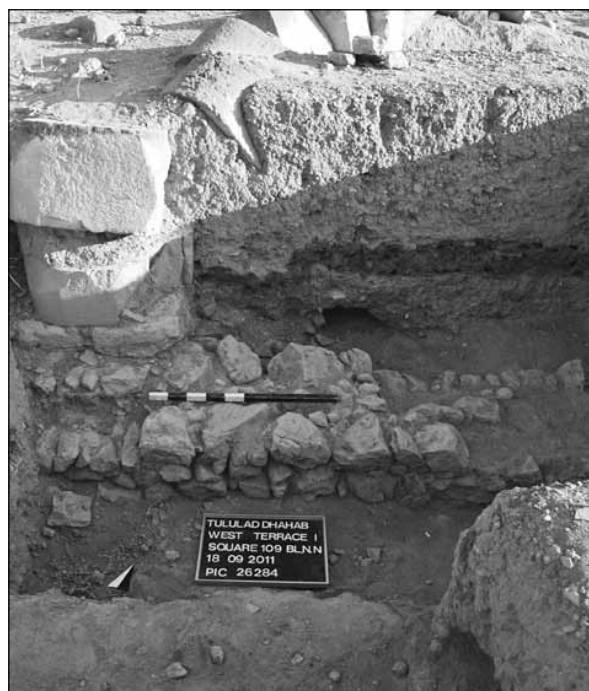
ic fragments. This layer consisted of 'dissolved' clay tiles which had been used in the upstanding masonry of the building. The clay tiles naturally 'dissolved' over time and enveloped the lower portions of the columns. An earthquake, which probably occurred in 365 AD (Kallner-Amiran 1950), caused the remains of the freestanding column to collapse into and onto the 'dissolved' building materials.

6. Conclusions

Returning to the question of identifying the location of Amathous, we can make the following comments. According to the archaeological results so far, the hypothesis that Roman Amathous was located on the western hill is not very likely owing to chronological discrepancies. As the archaeological features show, there was no phase of reconstruction after the conflagration occurred. This is despite the fact that the location of Terrace I would have been ideal for the construction of an official Roman building. Moreover, there is a lack of significant Roman finds which would allow us to identify the hill as the location of a provincial capital. At this stage of research, it seems unlikely that the western hill will be associated with the Roman district capi-



16. Terrace I, Square 92, sling bullet I. (C. Hildebrand).



17. Terrace I, Square 109. The S-E column of peristyle court II, the charcoal layer and the Iron Age wall E-W (Fig. 9 F). (Photo: M. Ximénez-Carillo).

tal referred to by Flavius Josephus as Amathous.

According to our current state of knowledge, the Hellenistic site on the western hill of Tulul adh-Dhahab was constructed sometime between the 2nd and early 1st centuries BC, and was destroyed in battle before the mid-1st century BC. It is therefore possible that the site was the Seleucid - Hasmonean Amathous mentioned by Josephus. The Hellenistic inhabitants clearly reused remaining Iron Age walls for the foundations of their building..

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