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The Newsletter of Southwest Asian Neolithic Research

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Editorial

Within a few weeks, we editors of *ex oriente* paved the way for three important publications (D. Henry and J. Beaver, eds., on Ayn Abū Nukhayla; by guest editors M. Benz and J. Bauer the pioneering *Neo-Lithics* 2/13 special issue on *The Symbolic Construction of Community*; the book of M. Kinzel on the architecture of Shkārat Msaied and Ba'ja in our *SENEPSE* series). We are proud of these publications, as are our co-editors Reinder Neef and Dörte Rokitta-Krumnow.

But this would not be an editorial of Neo-Lithics, if we would not be thoughtful about this output: Who can read all these, process all the information, and who can afford to buy all these, in addition to the rapidly increasing enormous output of equally important publications on the Near Eastern Neolithic by other authors, editors and publishing houses? And even more problematic: Who can intellectually and fairly evaluate the constantly emerging new approaches and schools of thought? If one has to publish one's own material and thoughts without first consulting the eruption of new literature for one's own topic, doesn't this severely impact the academic quality, discourse and progress of one's own publications? More and more we see that colleagues apparently were unaware of recently published materials and ideas on their subjects and have forged ahead in order to cope with the publishing constraints.

Research has become governed by highly problematic tools and concepts since it is fueled by various uncontrollable acceleration mechanisms and developments, such as funding institutions that grant shorter and shorter research terms, the "authority" of rating systems in academic publishing, the ever-growing possibilities of the internet and computer software; the list goes on and on. Does what has been thought to facilitate research gradually become the grave digger of research? Can we continue to hope that things are not that dramatic or worse?

Hans Georg K. Gebel and Gary Rollefson

Preliminary Report on the Second Season of Excavations at Shubayqa 1

Tobias Richter, Amaia Arranz, Michael House, Adnan M. Rafaiah, and Lisa Yeomans

Introduction

In August 2013 a team from the Department of Cross-Cultural and Regional Studies at the University of Copenhagen returned to the *Harra* desert to carry out a second, three-week season of fieldwork in the *Qa'* Shubayqa (Fig. 1). Fieldwork involved excavations at the Natufian site Shubayqa 1, kite aerial survey of the historic village site Khirbet Shubayqa, fieldwalking survey along the edges of the *Qa'* Shubayqa, geoarchaeological sampling and salvage excavations at a looted tomb to the east of the Shubayqa mudflat (see also Richter this issue). This report focuses on the excavations at the Natufian site Shubayqa 1, while other elements of the fieldwork will be reported elsewhere.

The 2012 excavations at Shubayqa 1 had focused on three areas, labelled A, B and C (Richter *et al.* 2012). In this season we concentrated our efforts on further excavating the remains of a circular structure in Area A and clarifying the extent of a pavement in Area B. One key question was to resolve the stratigraphic relationship between the pavement in Area B and the building in Area A. In 2012 a 1 meter wide baulk had been retained between Area A and B to facilitate access and for taking micromorphological samples. Although it seemed highly likely that the pavement in Area B post-dates the structure in Area A, one of our aims was to resolve this ambiguity by removing the baulk.

Fig. 1 Location of the *Qa'* Shubayqa (© Shubayqa Archaeological Project).

Shubayqa 1

We already described the geographical context and current appearance of Shubayqa 1 in last year's report (Richter *et al.* 2012), but both shall be briefly reiterated here. The *Qa'* Shubayqa is situated in northeastern Jordan in the basaltic Harra desert, *ca*. 20 km north of Safawi. The *Qa'* itself is a 12 km^2 large basin that is dominated by an extensive alluvial fan, which interrupts the extensive, low rising basalt boulder fields characteristic of the *Harra*. The area is situated today in a semi-arid steppe zone that receives less than 200 mm of mean annual rainfall. However, the *Qa'* Shubayqa is fed seasonally by a series of wadis, the largest of which is the Wadi Rajil, that transport extensive amounts of water from the Jebel Druze to the mudflat. This causes at times extensive and rapid flooding in the area. This hydrological situation allows Bedouin to seasonally grow cereal grasses here, which are then used as grazing grounds for sheep and goat herds during the late spring and early summer. It is probable that this hydrological situation is of great antiquity and was intact until the recent construction of dams by Syrian authorities on the other side of the border. It would have provided the area with a seasonally reliable source of fresh water and could have thus enabled periodically recurrent and intensive settlement.

Shubayqa 1was originally reported by Alison Betts (1998: 27-28) as a Natufian site, and was briefly test excavated in 1996. The site occupies a low mound that rises 3 m above the surrounding area. It is situated 130 m north of a wadi channel that forms the edge of the *Qa'* Shubayqa. The mound consists of basalt boulders, windblown sediment, archaeological deposits, as well as a series of later constructions, including field walls, two rectangular buildings (probably early Islamic) and a recent Islamic tomb that crowns the top of the site (Figs. 2 & 3).

Further inspection of the area surrounding the mound during this season has shown that chipped stone artefacts extend over a wider area around the site, which

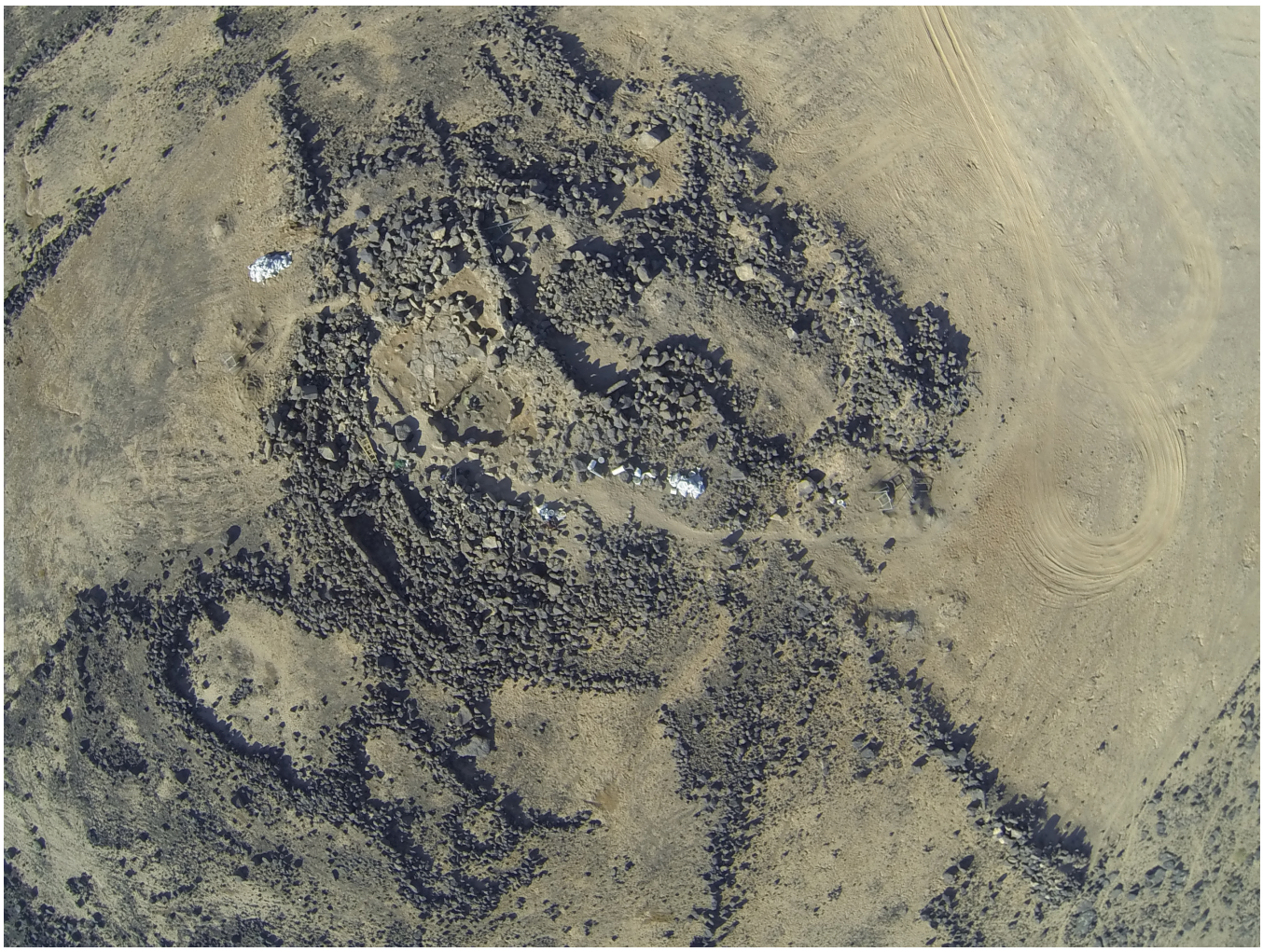

Fig. 2 Aerial view of Shubayqa 1 (© Shubayqa Archaeological Project).

suggests that the original Natufian settlement was considerably larger than previously assumed. Significant bulldozing to the northwest and southeast of the site appears to have truncated a large part of the original settlement and has removed archaeological deposits and architecture. A close inspection of the bulldozed fieldwalls and the walls constructed as part of the early Islamic and later occupation has produced multiple finds of ground stone artefacts that were reused as building material. Based on the dense concentration of lithic artefacts covering the surface of the mound we originally estimated the size of the site to be around 2000 m^2. We now believe the site to have originally been more than double that occupation area and estimate the original size to have been between 4000-6000 m^2.

Architecture

Area A

Excavations in 2012 finished as the top of a semi-circular wall became visible across this 5 x 4 m area (Richter *et al.* 2012: fig. 4). Part of this wall had already been exposed during the 1996 excavations in a trench that was reduced down to the level of a flagstone pavement that was apparently in the interior of what we have now labelled Structure 1. In this season our aim was to remove the remaining fill inside the semi-circular wall to expose the remainder of this flagstone paved floor.

In the first instance this required removal of the circular stone fireplace that had produced a large amount of plant remains last season. We initially thought that this feature might be directly related to Structure 1 below. However, excavation and removal of that feature showed that it bottomed out well above Structure 1's floor level. There was no clear occupation floor evident that this feature could relate to. It appears to be part of an intermediate occupation event that occurred after the abandonment of Structure 1 and the construction of Structure 2 (see below).

Further excavation of the *ca*. 40 cm of fill that remained inside Structure 1 produced several patches of dense concentrations of animal bone. These included multiple mandibles that appear to have been left on the floor somewhat randomly. They sat within a deposit of rock tumble mixed with fine windblown sediment. The tumble consisted of medium to large sized basalt boulders, which were however too few to represent substantial amounts of collapsed wall building material. Beneath this rock tumble we found a nearly sterile clayey silt sediment that appeared to slope downward from west to east, banking up against the western wall.

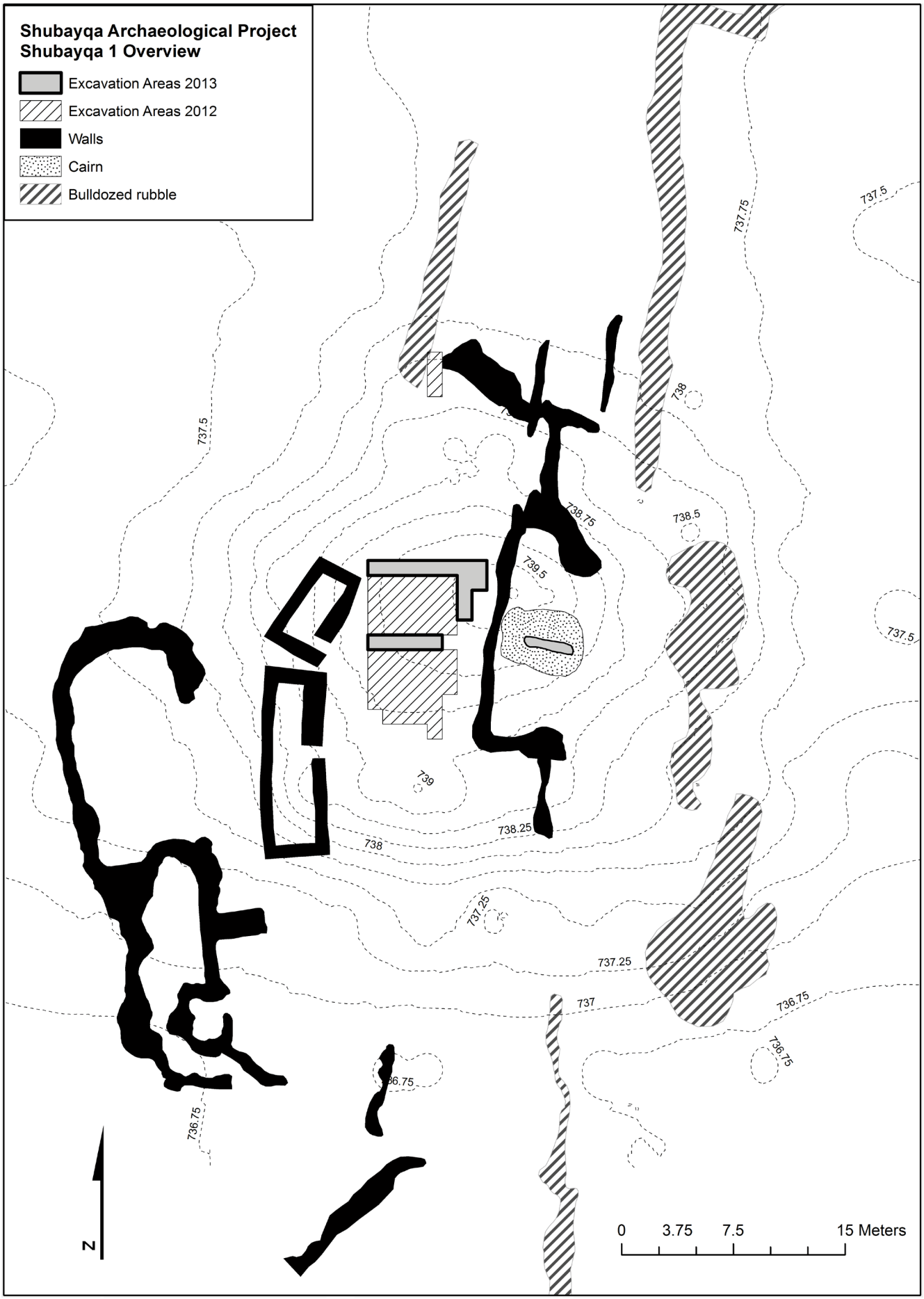

Fig. 3 Shubayqa 1 topographic plan (© Shubayqa Archaeological Project).

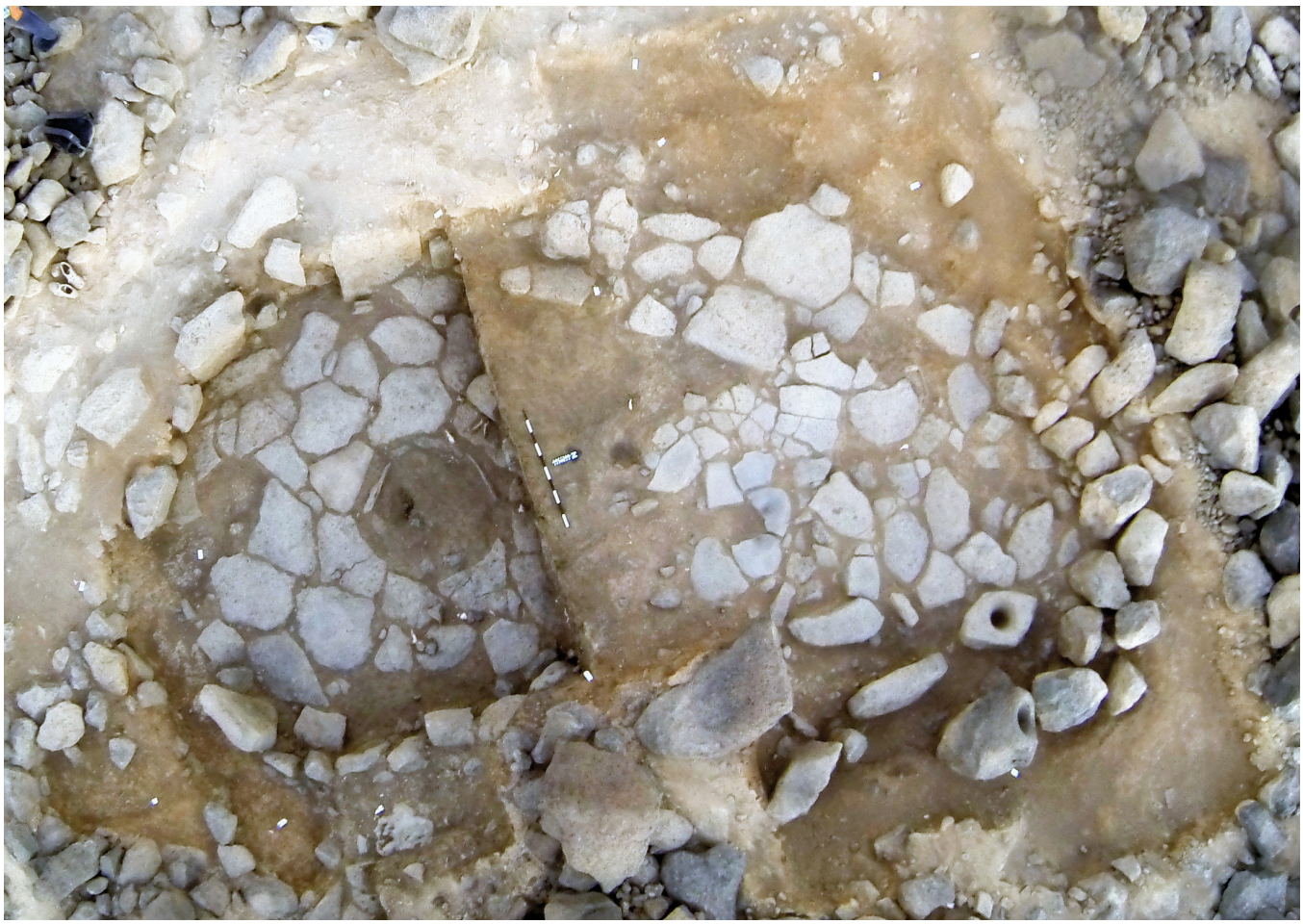

Fig. 4 Overview of the 2013 excavation area at Shubayqa 1. Structure 1 is to the left, Structure 2 on the right (© Shubayqa Archaeological Project).

This appears to have resulted from aeolian deposition following the building's abandonment. A very similar pattern can be observed in many abandoned buildings in Khirbet Shubayqa, where deposition of material along the western side is a common sight. This corresponds with the prevailing wind direction in the Shubayqa area, which is generally west to east. This windblown sediment directly overlay a flagstone paved floor that covers the interior of the structure (Fig. 4). Few artefacts or other finds were found sitting on the paved floor, which was somewhat surprising. One was the partial cranium of a gazelle with two horn cores still attached. Set into the centre of the floor was a circular, stone lined fireplace, as evidenced by scorch marks and discolouration on the lining stones, as well as an ash-rich basal fill that contained abundant charred plant remains (Fig. 5). The hearth was dug into natural sediment, suggesting that it represents the earliest occupational phase at Shubayqa 1.

Although only about half of Structure 1 has so far been excavated, it is possible to say that this building was extremely well constructed with great attention having been paid to the assembly of the floor. The building is semi-subterranean, having been built in a hollow that was dug out of the underlying silt. Large basalt slabs were placed standing upright to form the exterior walls. The floor was constructed using large basalt flagstones that were fitted together very neatly with little space in between. Some were evidently worked around the edges and possibly pecked to smooth the surface to make them as even as possible. Heights taken across the pavement show that the floor is nearly perfectly level, which shows the great care taken and time invested in its construction. It is possible that an entrance was located in the southern wall where one flagstone appears to protrude slightly outside the wall line. However, when we cleared out the 1996 excavation trench during the previous year's season there was a lot of collapse and erosion in this area, which has blurred the original arrangement of exterior wall and pavement. Part of Structure 1 is still buried beneath deposit in Area B and further excavations are required to expose the entire building in plan.

Area B

Excavations during the 2012 season exposed a flagstone paved floor in Area B, which incorporated several ground stone tools, a mortar and a hearth. Disarticulated human remains were found in two locations on top of the pavement and the remains of a neonate were found buried beneath a later pavement repair (Richter *et al.* 2012). The 2012 excavations did not reveal the full extent of this pavement and since no

Fig. 5 Post-excavation view of the circular hearth set into the floor of Structure 1 (© Shubayqa Archaeological Project).

external wall was located that enclosed it, we hypothesized that this may have been an outdoor paved area. The aim of our further excavations in 2013 in Area B was to try to further trace the limits of the pavement, as well as to clarify its stratigraphic relationship with Structure 1 in Area A. To achieve this we extended Area B by 1 m to the north and 1-2 m top the east. We also removed the baulk separating Areas A and B to establish stratigraphic connections between the two.

Extending Area B revealed that the pavement was in fact not an outside area, but was originally an interior space. A semi-circular wall constructed of large basalt boulders, arching in a semi-circle for c. 4 meters, partially enclosed the structure to the north and east (Fig. 4). It appears that erosion and robbing had removed the remainder of the wall to the south and west, although there is no actual way of reconstructing its original shape and length. One basalt

Fig. 6 Truncated burial of a neonate beneath the pavement of Structure 2 (© Shubayqa Archaeological Project).

Fig. 7 Shell bead.

Fig. 8 Shell bead.

Fig. 9 Bone point.

mortar was reused in the wall construction. Further excavation outside this wall to the east showed that this building – Structure 2 – was built in a shallow depression that was dug out of the natural silt of the mound. This was evidenced by a construction cut in which the exterior wall was set. The construction methods evident in Structure 2 closely resemble those used to build Structure 1: first a hollow was dug into the mound, basalt slabs put upright to form a circular exterior wall, and finally a pavement was laid down on the inside.

Having clarified the full extent of the structure we began to remove the interior pavement. This showed very clearly that the dark brown sediment that filled the interior of Structure 1 was situated beneath Structure 2. The articulated burial of a neonate was recovered from beneath a repaired part of the pavement in 2012 (Richter *et al.* 2012). This burial was found to have been cut into a preceding neonatal burial. The removal of the remainder of the pavement in this season allowed us to fully excavate this earlier burial, of which only the left and right humeri, radia and ulna, as well as some metacarpals and phalanges remained (Fig. 6).

So far our excavations have not allowed us to convincingly reconstruct the original appearance of the Shubayqa buildings. The arrangement of the roofs is particularly unclear as there is too little tumble associated with the buildings to suggest that the exterior walls were much higher than at present. There is also so far no evidence for any postholes in the floors or niches that could have held posts in the walls. Either postholes have so far simply eluded us or they could be situated on the outside of walls. The latter seems unlikely in particular for Structure 2, as we have not found any extra-mural postholes here. It is possible that the structures simply were not roofed at all and were in fact open-air structures. However, this idea requires further excavation and study.

Finds

Finds were once more ubiquitous and included chipped stone and ground stone artefacts, worked bone, shell and stone beads, faunal remains, as well as charred plant remains. As previously noted (Richter *et al.* 2012) the chipped stone assemblage consists of rather small debitage (bladelets, flakes and shatter) and exhausted cores. There is a high degree of secondary reuse of debitage as cores as well, represented by a sizeable group of burinated and splintered pieces. It appears that the distance to flint raw material sources, as well as perhaps longer time spent in residence at the site, led to a high recycling rate of flint. Technological and typological analysis of the 'tool' component is ongoing. The preliminary analysis shows that non-geometric microliths, retouched flakes and blades, and notches/ denticulates are particularly common. Geometric microliths are also common, but are not as abundant as non-geometric microliths. Geometric microliths are almost entirely composed of lunates. These are generally narrow and short and dominated by abrupt or bipolar backed examples. However, short and narrow Helwan retouched lunates are also present in moderate numbers. Pieces with gloss, scrapers and perforators are rare, as are microburin products. Over 800 ground stone

tools and fragments thereof have so far been recovered. Most are broken pieces and include vessels, mortars and handstones, as well as rarer examples of grinding slabs and pestles. There are over 70 shells beads (Figs. 7-8), as well as a dozen or so stone and bone beads. The stone beads include examples of green stone beads, which become much more common in the early Neolithic (Wright and Garrard 2003). The worked bone assemblage includes several bone points (Fig. 9), a few pins and several fragments.

The faunal assemblage is highly fragmented, which suggests heavy exploitation for meat, marrow, skins, sinew and the bone tissue itself. The preliminary study of the material so far suggests that gazelle is the most dominant species, closely followed by wild sheep/goat. Equids and cattle are present, but are not well represented. Amongst the small mammals we found fox and hare. Tortoise are also present, while a significant number of bird bones have also been recovered. It was possible to identify a number of wild sheep bones in the sheep/goat group in the assemblage. The presence of *Ovis Orientalis* is highly intriguing, as sheep are not thought to have arrived in the Azraq Basin prior to the introduction of domestic animals during the LPPNB and early late Neolithic (Garrard *et al.* 1996; Martin 2000). A small number of wild sheep were reported in the very small faunal assemblage recovered from Khallat Anaza (Garrard 1998a), but the Shubayqa 1 material hints at a much larger and persistent wild sheep population. This issue, as well as the faunal assemblage as a whole, requires further study.

Extensive sampling and floatation work has led to the recovery of yet more charred plant remains from Shubayqa 1, adding to the considerable archaeobotanical assemblage from 2012. The material was particularly ubiquitous in the fills of the fireplaces, but significant amounts were found throughout the sedimentary sequence. The analysis of this material is ongoing, but initial assessment suggests the presence of tubers, wood charcoal, fruits and cereal grains (barley in particular). The assemblage suggests that the local environment provided a much richer and more stable supply of water than at present. The Shubayqa 1 archaeobotanical assemblage will in time provide a valuable insight into Late Epipalaeolithic plant use, plant food economies and local vegetation cover and palaeoenvironment.

The abundant charred plant remains recovered from Shubayqa 1 have enabled us to begin to construct a detailed radiocarbon chronology. While the results of this work will be published in detail elsewhere in due course, the dates obtained suggest three distinct occupational signals, one falling into the early Natufian, and two falling into the late Natufian. This suggests occupations during the early and late Natufian phases at Shubayqa 1. Further dates using materials from the 2013 seasons will be analysed in due course, to extend this sequence further.

Discussion

The discovery of an early Natufian occupation in the Harra is significant for a number of reasons. To date, the early Natufian of eastern Jordan has been difficult to define archaeologically, with many key features of this phase being absent, including substantial architecture, large Helwan lunates or large 'base-camp' type sites (Betts 1991, 1998: 34-35; Garrard 1991, 1998b). Given the lack of suitable samples many sites had to be dated on the basis of chipped stone tool typologies alone, despite the recognition that the applicability of these typologies outside the Mediterranean zone is circumspect (Olszewski 1986, 1988, 1991; Richter and Maher in press). Our work at Shubayqa 1 shows that this was a substantial early Natufian site, which shows many of the features that are commonly associated with sites in what has usually been described as the 'core zone' of the Natufian (Bar-Yosef and Belfer-Cohen 2000; Bar-Yosef 2004, 1998; Byrd 2005; Valla 1995). The site has substantial architectural remains, a large number of heavy-duty ground stone tools, thick occupational deposits, dense concentrations of faunal remains and other material culture, as well as human burials – in other words, many of the features usually thought to be characteristic of a typical early Natufian 'base camp'. Moreover, Shubayqa 1 shows continuity of settlement: the stratigraphic sequence is relatively unbroken with only slight evidence for the abandonment of Structure 1 (which could have been brief). This is confirmed by radiocarbon dates showing occupations during the early and late Natufian, which suggests that the site was reoccupied on several occasions.

The 2013 excavations at Shubayqa 1 have solidified and confirmed some of our initial findings from the 2012 season and highlight the site as a key locality to better understand the Late Epipalaeolithic occupation of the Harra. Further work at the site will provide us with a more detailed insight into the Late Pleistocene occupation in this eastern semi-arid zone and will allow us to gain a much better understanding of the economic, social and cultural practices and lifeways of these gatherer-hunters.

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Göbekli Tepe.
Preliminary Report on the 2012 and 2013 Excavation Seasons

Oliver Dietrich, Çiğdem Köksal-Schmidt, Cihat Kürkçüoğlu, Jens Notroff, and Klaus Schmidt

Most recent excavation seasons at the Pre-Pottery Neolithic hill sanctuary of Göbekli Tepe have been largely dedicated to essential provisions in advance of construction work on the permanent shelter for Enclosures A-D. In 2012 deep soundings down to the natural bedrock were made in the main excavation area in the south-eastern depression of the tell; these soundings will provide the foundations for the struts of the permanent shelter. In the meantime a preliminary wooden shelter has been installed (Fig. 1). The erection of this preliminary structure addresses the urgent need for the protection of the prehistoric remains in this area; furthermore, it will provide a platform for building work on the permanent membrane shelter which is expected to commence next year. A similar shelter structure will also be installed in the north-western depression of the mound where new excavation areas were opened in 2011. Preparations for this third structure were the focus of our 2013 excavation seasons.

Work in the Main Excavation Area

In the main excavation area in the south-eastern depression of the tell an older layer (III) dating to the PPNA is superimposed by a younger layer (II) that is assigned to the early and middle PPNB. While layer III is well known for its eminent monumental architecture with its towering T-shaped pillars, the younger layer II is characterised by smaller rectangular buildings, often with only two small central pillars or none at all. While a total of six deep soundings were excavated down to the bedrock in 2011, all remaining soundings in this excavation area were completed in the autumn season of 2012. A positive effect of the soundings – which in some cases exceeded depths of five metres – has been the unprecedented insights that these have provided with respect to the structure of the site. Three soundings situated immediately adjacent to Enclosures C and D also produced significant quantities of charred botanical remains, a first at Göbekli Tepe, these at last providing sufficient organic material for the generation of an extended series of radiocarbon ages (reported on in the last issue of Neo-Lithics: Dietrich *et al.* 2013).

Fig. 1 The preliminary shelter erected in 2013 at the main excavation area of Göbekli Tepe (Photo: K. Schmidt, DAI).

In addition, work in area L9-85 - at the southern edge of the main excavation area - has helped clarify the entrance situation of Enclosure C (Fig. 2). This stone circle, which comprises a number of concentric, interwoven walls with pillars, has an overall diameter of approximately 30m. The floor of the enclosure was created by cutting and smoothing the natural bedrock, which also included the carving of two pedestals, each about 30cm high, to hold the two central pillars. Notably, both central pillars were destroyed in antiquity; their shattered remains were found in the lower part of a (prehistoric) robber pit. A virtual reconstruction using modern laser scanning techniques shows that one of these central pillars (P35) was originally some 5 metres tall.

The pillars of this enclosure are adorned with numerous reliefs, first and foremost depictions of wild boars. Structure and layout were changed considerably during its operating life. An early, and later blocked, entrance situation consisted of a narrow passage way between two parallel, narrowly-set walls which branch off southwards from its centre; these walls are made of massive stone slabs that are worked on all sides. A further large stone slab protrudes into this passage way. Although not completely preserved, it is likely that this slab would have once been furnished with a central opening (or portal). At some point, this opening had been *walled up*, as testified by the two lowermost courses of a blocking wall which were found preserved *in-situ*. On the southern side of the porthole-stone, just below the opening and accosting visitors to the enclosure using this passage way, there is the low-relief of a boar lying on its back.But the porthole stone is just one element of a much more refined entry to the enclosure. To the south of the porthole-stone a large U-shaped monolith was discovered, the left-hand column of which is crowned by the carved sculpture of a predator; unfortunately, the top of the right-hand column of the monolith was not preserved, though it too may also have featured a similar *guardian* figure. Together with the porthole slab it marked the entrance to Enclosure C. A new element in this situation was discovered in 2012. A stairway

Fig. 2 Schematic plan of the excavation at Göbekli Tepe (main excavation area and summit of the south-western mound) (Plan: K. Schmidt and J. Notroff, DAI).

Fig. 3 Entrance situation to Enclosure C with stairway (Photo: N. Becker, DAI / Plan: K. Schmidt and J. Notroff, DAI).

with (so far) eight steps (Fig. 3) was constructed to bridge a dip in the bedrock leading up to the original entrance of Enclosure C; however, further excavations will be needed before we fully understand the implications of this particular feature.

Deep Soundings in the North-Western Depression

The aim of new excavation areas opened in the north-western depression of the mound in 2011 was to ascertain whether the situation here would be similar to the one already encountered in the main excavation area in the south-eastern depression. As archaeological work in this area was preceded by geophysical survey, it came as no surprise when evidence for monumental enclosures began to appear in these new trenches. Subsequently also PPNB (Layer II) structures (which had not been visible in the georadar imaging) were discovered.

One focus of our work in the north-western depression of the tell in 2013 was the excavation of seven deep soundings to test suitable locations for supporting struts of the planned shelter. Bedrock was reached in four of these soundings; intriguingly, in two of the soundings the bedrock appears to have been artificially worked. Partially utilising and expanding natural faults, channels had been dug into the bedrock which were then covered and protected by stone slabs (Fig. 4). Large-scale excavations will be required to reveal the extent of these modifications and to show if and how these structures were connected to the cisterns located on the plateaus (Herrmann and Schmidt 2012).

Fig. 4 Example of one of the channels dug into the bedrock and covered with stones. In situ situation in the sounding in area K10-35 (Photo: N. Becker, DAI).

Fig. 5 Overhead view of area K10-53 showing the complex architectural remains and large limestone vessel (Photo: N. Becker, DAI).

In two further deep soundings complex building structures were revealed. Subsequently, excavation trenches – measuring 9 x 9 metres – were opened in these areas. In one of these squares (K10-36) in the northern part of the excavation area, several east-west oriented wall sections were exposed, forming at least one room which also produced the shaft remains from a T-shaped pillar.

In area K10-53, the other newly opened trench, a more complex situation with an agglomeration of several oval shaped rooms appeared, some containing (multilayered) terrazzo floors (Fig. 5). Next to – or rather among – these building structures, a large stationary limestone vessel of the type previously associated with production and consumption of beer was discovered (Dietrich *et al.* 2012). It has a capacity of about 240l and is as such the largest of these vessels so far discovered at Göbekli Tepe.

Fig. 6 Overhead view of area K10-24 showing the fragment of one of the damaged central pillars (P 63) of Enclosure H in the north-western corner, pillars 55 and 57, and the remaining shaft fragment of P64 between them. Also visible is the surrounding wall of Enclosure H and part of another wall to its south (Photo: N. Becker, DAI).

Fig. 7 Pillar 57 carries the relief of two antithetic snakes with a round object between them (Photo: N. Becker, DAI).

In the two remaining soundings, located in areas K10-05 and K10-13, the most important discovery comprised considerable amounts of charred botanical material. A large number of samples could be taken; these will not only help expand our knowledge of the PPN environment at Göbekli Tepe (Neef 2003) but will also provide important organic samples for radiocarbon dating the features exposed in the new excavation areas, *i.e.* comparable to similar recent developments in the main excavation area (Dietrich *et al.* 2013).

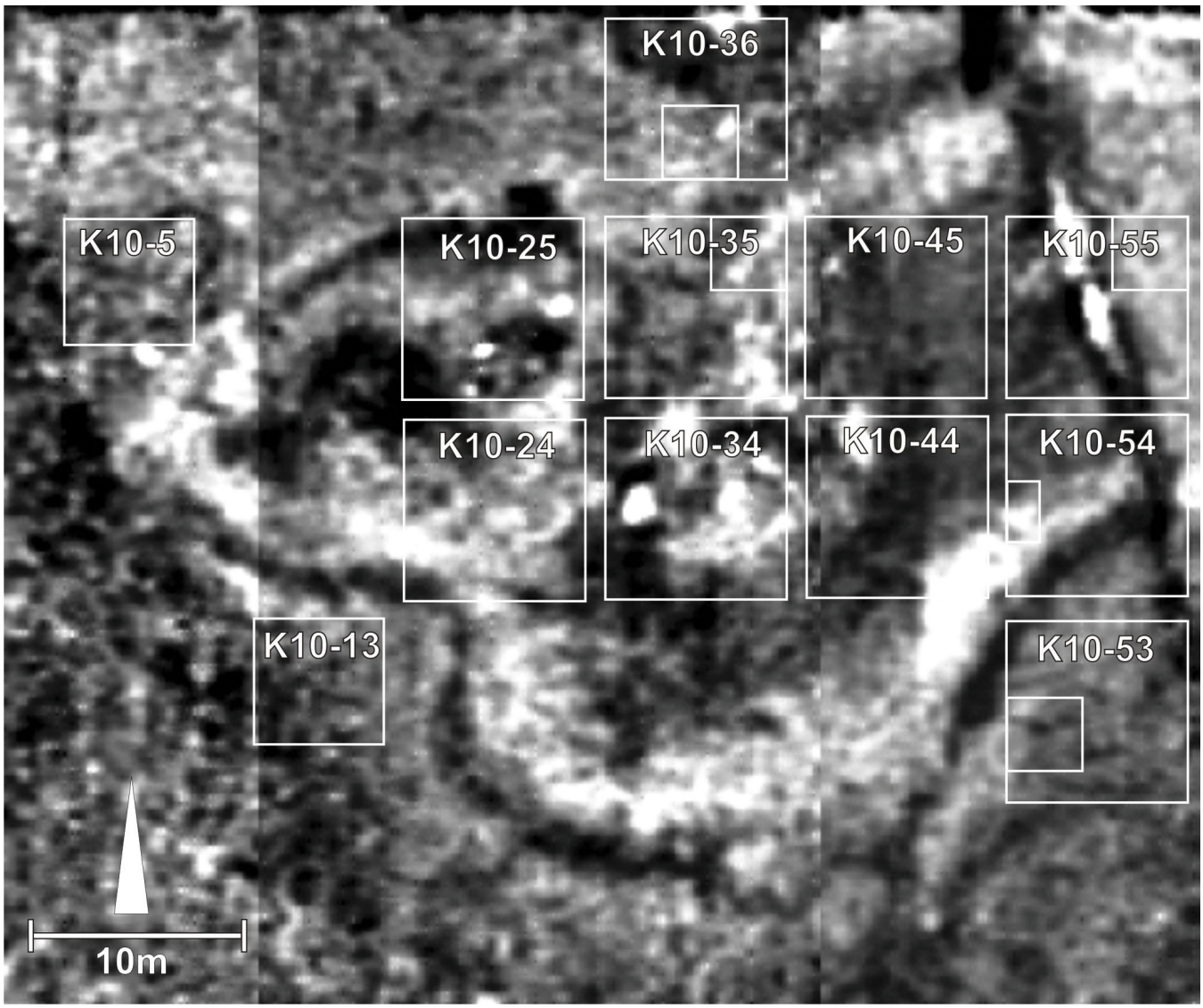

Fig. 8 Excavation areas at the north-western depression of Göbekli Tepe superimposed onto the GPR radargram (timeslice 50cm) (Radargram: GGH Solutions in Geosciences; Plan: J. Notroff, DAI).

Enclosure H

In 2011, one of the central pillars and four pillars of the surrounding ring of a new enclosure (Enclosure H) were discovered. The central pillar had been toppled and broken in antiquity, thus mirroring the situation already attested in Enclosure C (Schmidt 2008, 63-66). In the autumn season of 2013, the ringwall of this enclosure was excavated in area K10-24, the northern section of this trench clearly shows the remains of a large pit that had been dug to locate and damage the central pillars. A newly discovered large pillar fragment found in this context probably belongs to the second of the pillars that stood at the centre of this enclosure (Fig. 6).

Excavations of Pillars 55 and 57 belonging to the circle surrounding the central pillars of this enclosure were continued. On the front of P57 a new relief was discovered (Fig. 7). This relief comprises two antithetic snakes shown flanking a round object. P55 remains void of reliefs so far. Post-use destruction of Enclosure H is further indicated by the remaining shaft fragment of a pillar located between P55 and P 57 that was also smashed in antiquity. Further, the wall of the enclosure – with a niche and bank structure similar to those observed in other enclosures in the main excavation area – shows considerable signs of (post-use) disturbance. During geo-radar survey (Fig. 8), a somewhat diffuse picture was recorded for the southern part of Enclosure H, perhaps indicating a possible overlap of this with another, much larger enclosure. Excavation revealed the small part of a wall that appears to run parallel to the circle-wall of Enclosure H, confirming the existence of a much more complicated architectural situation than indicated by geo-radar results. Between these walls a staircase-like structure was discovered. Further work in this and adjacent areas will be needed to clarify this situation.

Fig. 9 Fragment of a sculpture from Göbekli Tepe: a large bird holding a human head (Photo: N. Becker, DAI).

Fig. 10 Fragment of a pillar from Göbekli Tepe with the image of a vulture with outstretched wings (Photo: N. Becker, DAI).

New Iconographical Finds

The iconographical repertoire from Göbekli Tepe can be supplemented by several recent finds from the site. In 2012 the fragment of a sculpture depicting a large bird with a more than life-size human head in its talons (an image already well known from Nevalı Çori) was found in a deep sounding in trench L9-84 in the main excavation area (Fig. 9). As in Nevalı Çori (*cf.* Hauptmann 1999: 76, fig. 13-14) incised lines seem to depict a headdress or a hair net that resembles the net-like coverings also known from plastered human skulls in the Southern Levant (*cf. e.g.* Yakar and Hershkovitz 1988). As such, this may suggest a relation between the special treatment of skulls in PPN burial ritual and the almost life-size sculptures of heads from Göbekli Tepe (*cf.* Becker *et al.* 2012: 34-36; Notroff *et al.* in prep.). In the case of the sculpture from Göbekli, the nose is clearly visible, while the mouth is not depicted. As in Nevalı Çori, the upper part of the body and the head of the bird had been struck off. However, in the newly discovered sculpture the tail, wings, and belly of the bird are preserved. Another depiction of a bird, this time the low-relief of a vulture, was found on a pillar fragment discovered in trench L9-65 (Fig. 10). The bird, its wings outstretched, is shown in surprising detail.

In the eastern baulk of trench L9-56 another fragment of a sculpture was discovered (Fig. 11). Dorsal line and scapulae are clearly visible on this smaller than life-size human torso. The accentuation of the ribcage may place this sculpture within a group of images that depict partially skeletonized humans and animals, one which is well represented at Göbekli Tepe (Schmidt in preparation; Notroff *et al.* in preparation). An incised V-shape in the chest area resembles the collar-like element from the so called Urfa man, a life-size human sculpture discovered in the area of the largely destroyed PPN site of Urfa-Yeniyol (Bucak-Schmidt 2003; Hauptmann 2003).

Another group of sculptures well represented at Göbekli Tepe are human heads (Becker *et al.* 2012). In 2012 a head with a protruding chin (perhaps the depiction of a beard?) was found on the surface of the site. The mouth is not depicted, a typical attribute of all sculptures of heads found so far.

A new piece was also added to the group of stone plaquettes. A small fragment of a plaquette (Fig. 12) discovered in 2013 in the deep sounding in trench K10-13 shows two snake heads and below them a net-like depiction of interwoven snake bodies, very similar to the imagery on Pillar 1 from Enclosure A (Schmidt

Fig. 11 Fragment of a human sculpture from Göbekli Tepe with clear emphasis on ribs and scapulae; the V-shaped incisions on the chest resemble the collar of the 'Urfa man' (Photo: N. Becker, DAI).

Fig. 12 Fragment of a plaquette from Göbekli Tepe featuring two snake heads and a net-like design of interwoven snake bodies similar to the imagery on Pillar 1 (Photo: N. Becker, DAI).

Fig. 13 Fragment of a shaft straightener from Göbekli Tepe. The small depiction of a fox corresponds to similar reliefs on the large pillars (Photo: N. Becker, DAI).

2012: 113-114, Fig. 45). Another interesting depiction was discovered on a shaft straightener (Fig. 13). It shows a fox of the exact same type that features in the much larger reliefs on the T-shaped pillars, thus repeating this motif *en miniature*. The fox is accompanied by a series of abstract symbols. This combination of motifs testifies to the deeply rooted common background to the iconography adorning manifold objects from Göbekli Tepe and at sites from the greater PPNA interaction sphere of Upper Mesopotamia.

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Rescue Excavations at a Late Neolithic Burial Cairn in the East Jordanian Badya

Tobias Richter

Introduction

In August 2013 archaeological survey as part of the Shubayqa Archaeological Project located a recently looted burial cairn on the eastern side of the *Qa*' Shubayqa. Human remains were found strewn across a wide area around the cairn and in the spoil from the illicit excavations. Initial inspection showed that part of the cairn's fill remained inside and *in situ* human remains were noticed in the section of the robber pit. Although the burials had clearly been severely impacted by the looting, the presence of *in situ* human remains provided an opportunity to at least learn something about the dating of this structure and the burial practices. With permission from the Department of Antiquities we initiated a three day rescue excavation to salvage at least some useful archaeological information from this site.

Site Location and Description

The cairn, labeled Shubayqa Survey Site 100 (SHUBS 100), was found during the last days of our survey of the *Qa*' Shubayqa area in August 2013. It is situated to the immediate east of the *Qa*' Shubayqa, sitting atop a ridgeline where the basalt bedrock rises up from the mudflat (Fig. 1). The site affords extensive views across the *Qa*' Shubayqa to the west.

The cairn is situated at the approximate centre of a semi-circular enclosure constructed of unworked basalt blocks that form a low, single-course wall (Fig. 2). Three further walls sub-divide the interior of the enclosure. The looted cairn sits within one of these subdividing walls. At least two other, very deflated, cairns were noted sitting in the spaces created by these subdivisions or adjacent to walls. Similar enclosures with cairns are dotted along the same ridgeline and further to the east, some of which are connected by extensive field walls (see below).

Looters dug a *ca*. 0.6 m deep pit at the centre of SHUBS 100 throwing spoil onto the northeastern and northwestern side of the cairn (Figs. 3 and 4). Human skeletal remains, many of which were broken and extremely fragmented, were found strewn around the cairn. The bones were very brittle and bleached, suggesting that they must have been exposed on the surface for

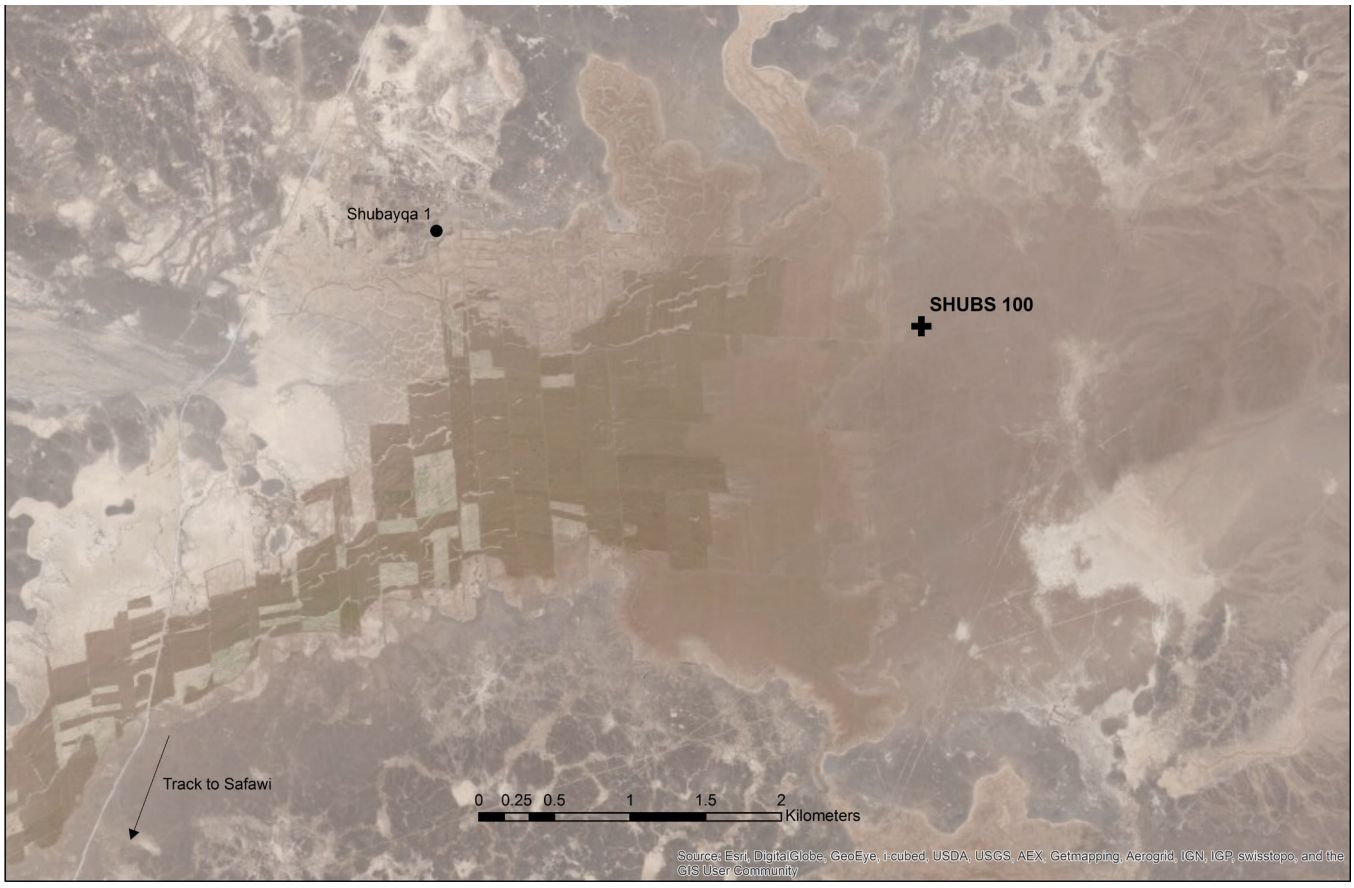

Fig. 1 General map of the Qa' Shubayqa area showing the location of SHUBS 100 (© Shubayqa Archaeological Project).

some time. *In situ* sediment remained on the northern and south-eastern side of the cairn. This remaining fill contained human bone that was seen protruding from the sections created by the looter's pit. The human remains on the surface were collected and the remaining spoil from the illicit excavation sieved. While this produced some more bone fragments no material culture was found.

The Excavation

The work first focused on cleaning the inside of the robber trench and the surface of the cairn to expose its structure, before exposing and documenting the remaining human skeletal remains. We then lifted the human bone before exposing the interior construction. Two sets of human remains were found inside the cairn.

The cairn was constructed using unworked, medium sized basalt boulders, which were simply piled up to a circular mound measuring *ca*. 2 m in diameter. This mound is unlikely to have been very high, as there was little other stone around the cairn. The chamber measured 1.2 m in diameter. Robbing of stone building material is a possibility. There is a much higher and larger cairn situated *ca*. 75 m east of the cairn we excavated, which likely dates to a later time period. Building stone from the late Neolithic cairn may have been taken and used for the construction of this later tomb (which has also been looted). Both burials found on the inside were laid down on carefully constructed stone pavements built of flat, small basalt stones. There is clear stratigraphic evidence that these two individuals were interred as part of two separate events. The stone pavement on which the upper body (009) was laid was constructed on top of the other pavement on which the better preserved of the two bodies (004) was found.

Only parts of the lower limb bones remained of (009) making any reconstruction of the original burial position (as well as aging or sexing) impossible

Fig. 2 Kite photo of the enclosure in which the looted cairn is situated (© Shubayqa Archaeological Project).

Fig. 3 View of the cairn during excavation showing the two exposed individuals and the looter's pit at the centre of the cairn. Note the broken ground stone vessel at the top right of the cairn (© Shubayqa Archaeological Project).

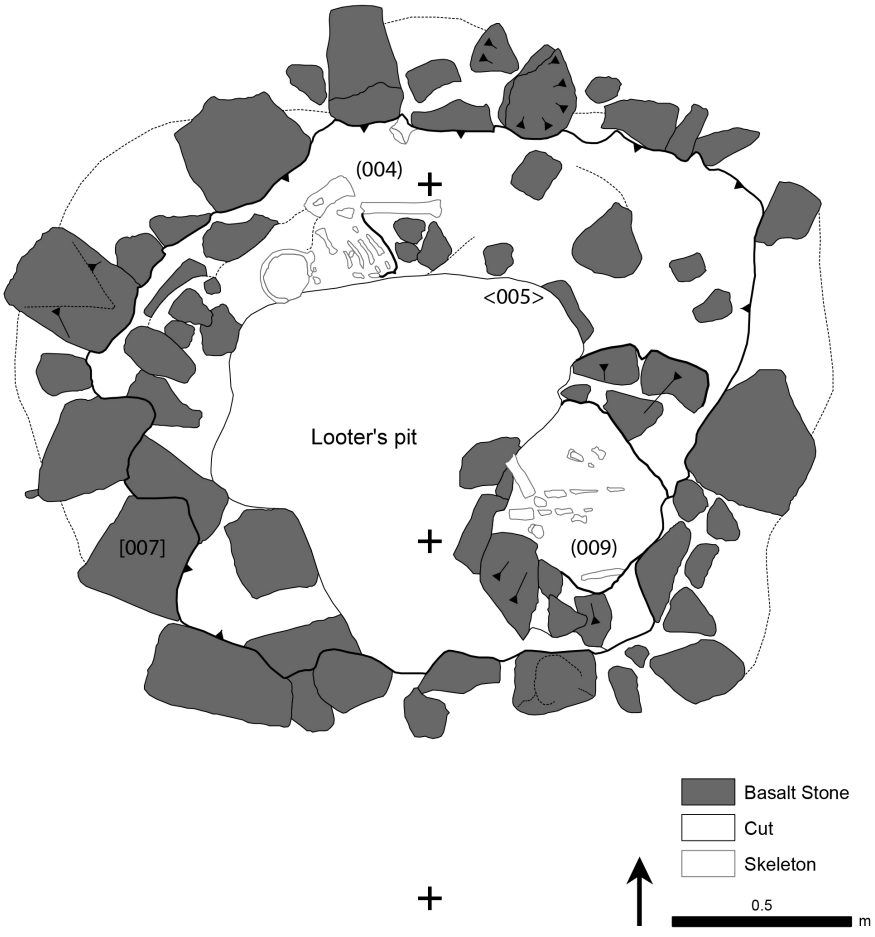

Fig. 4 SHUBS 100 excavation plan (© Shubayqa Archaeological Project).

(Fig. 5). The lower burial (004) was better preserved, but only the torso, cranium and part of the left arm were found *in situ* (Fig. 6). This individual was laid on its side facing southwards and was possibly buried in a flexed position. Given the size of the cairn's interior and the position of both the upper and the lower body there would have been ample room for additional burials. Further osteoarchaeological study of the human bone recovered from inside and outside the cairn will hopefully allow us to determine a minimum number of individuals. The looter's pit at the centre of the cairn was dug through the pavement into the natural below the cairn. All in all, the cairn was rather shallow with only about 50 cm of depth between the lowermost pavement and the highest capstones still preserved.

The fragment of a ground stone vessel was incorporated into the wall of the cairn. Intensive sieving of

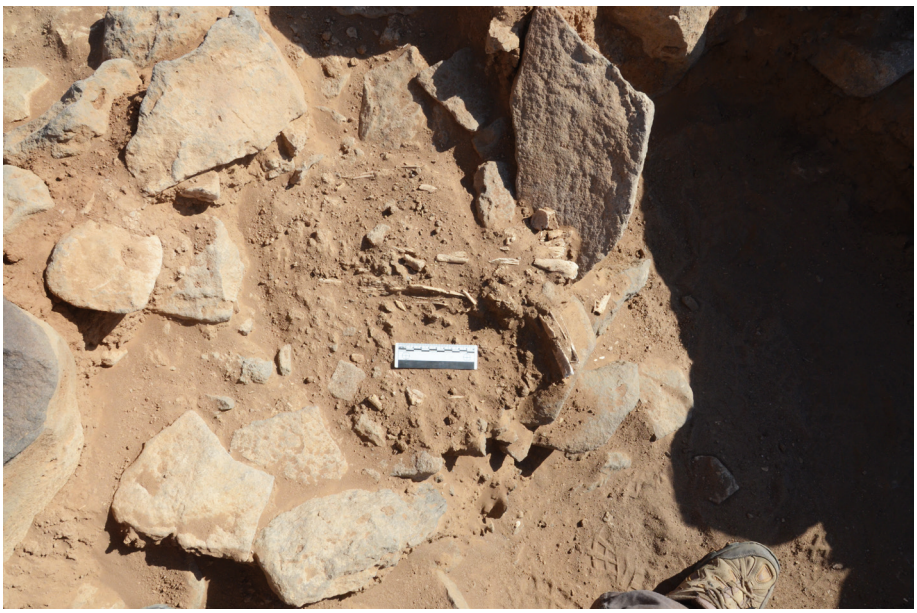

Fig. 5 Detailed view of (009), the later individual buried in the cairn of which only parts of the lower limb bones remain (© Shubayqa Archaeological Project).

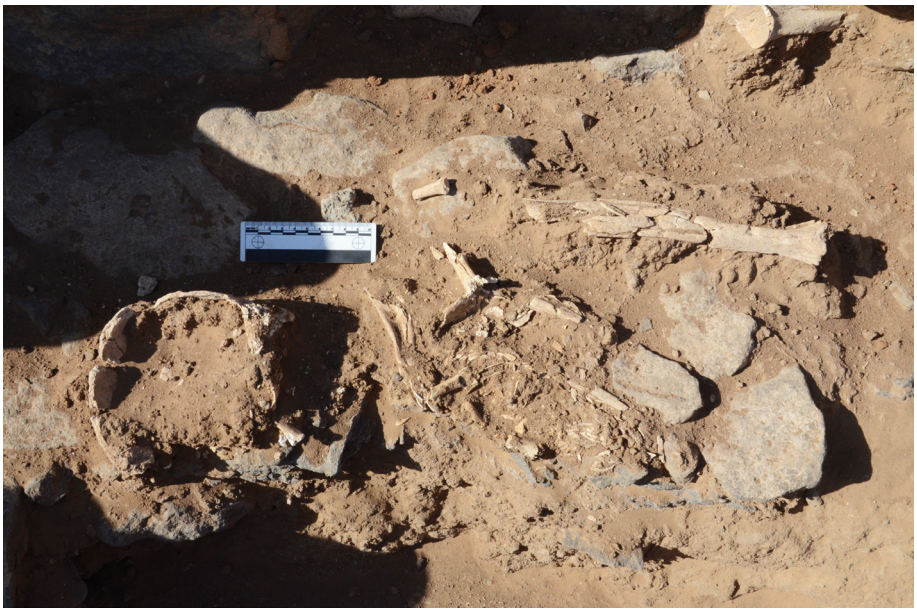

Fig. 6 Detailed view of (004), the earlier individual buried in the cairn (© Shubayqa Archaeological Project).

Fig. 7 Arrowheads and a green stone bead from the fill of the cairn (© Shubayqa Archaeological Project).

the cairn's fill yielded the remains of five late Neolithic projectile points, including two Herzliya points and three transverse arrowheads (Fig. 7). The fragment of a greenstone bead was the only other item of material culture recovered from the cairn's interior. Minimal as this evidence may be it suggests that the cairn was constructed during the late Neolithic, sometime between the late 7th millennium BC and the middle of the 5th millennium BC.

Discussion

To date we have had little evidence concerning burial practices and customs of the late Neolithic inhabitants of eastern Jordan. Rollefson *et al.* (2013) recently reported the excavation of a suspected late Neolithic tomb at the Wisad pools, but found that the burial had been heavily disturbed in antiquity. Together with this work the rescue excavation reported here provide

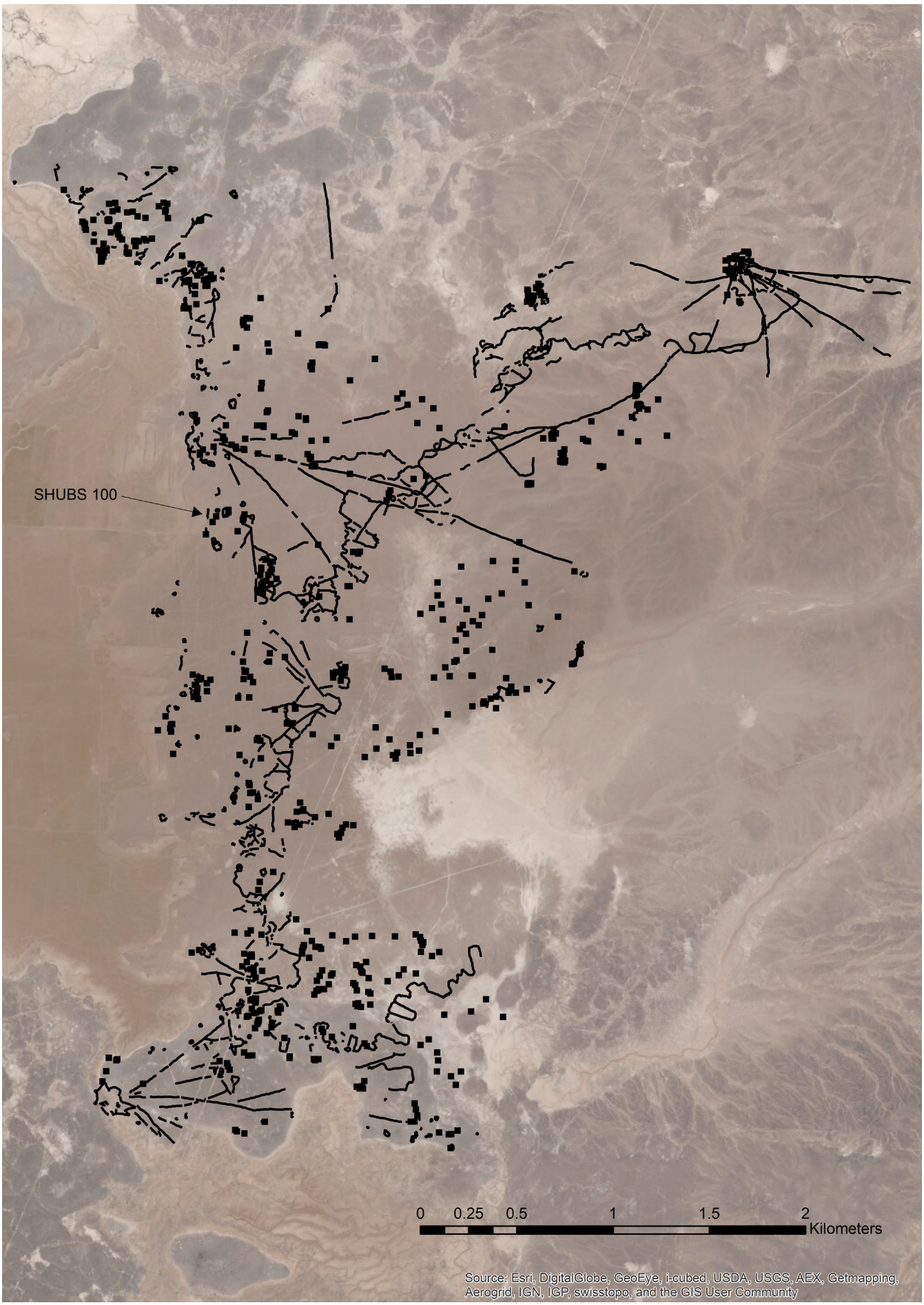

Fig. 8 Map of the network of walls, enclosures and cairns along the ridge east of the *Qa'* Shubayqa (© Shubayqa Archaeological Project).

the to date only evidence for late Neolithic funerary practices in the *Harra*.

While the cairn was very disturbed by the looters some inferences can nevertheless be made. The cairn was not reserved for a single individual and was used for more than one separate burial ceremony. Its likely that the lowermost burials (004) was not a single inhumation. This is suggested by the location and position of (994), which was squished up against the northern side of the cairn and likely buried in a flexed position. There would have been space for at least one or more additional bodies inside the cairn. Furthermore, people returned to the cairn and interred a further body on top of this original burial event. It is unclear whether (009) was a single burial or whether more than one individual was interred as part of the later re-opening of the cairn. This also begs the question whether the individual (or individuals) that was interred later was in any way related or otherwise socially connected to the individuals buried here first. It would seem likely that this was the case although, given the evidence at hand, it is impossible to reconstruct these relationships in any way.

Fig. 9 One of the fieldwalls that connects some of the enclosures in the network. One of the enclosures can be seen in the background occupying a low rising hill. the ridge east of the *Qa'* Shubayqa (© Shubayqa Archaeological Project).

The enclosure in which SHUBS 100 is located is not an isolated structure on this ridge along the eastern edge of the *Qa*'. Our survey preliminarily recorded multiple other enclosures of similar size and appearance in an area measuring *ca*. 5 km north-south and 3 km west-east (Fig. 8). Some of these enclosures are connected by field walls that run for hundreds of meters – even kilometers – across the landscape (Fig. 9). Although SHUBS 100 is not connected by such a wall to any other enclosure, the overall similarity in shape and size with these other enclosures strongly suggests that they may date to the same general time period, i.e. the late Neolithic. Preliminary mapping of this area using satellite imagery indicates something of the extent of this network of walls, enclosures and cairns, which appears to cover an area of approximately 9 km^2 (Figure 8). Studying the satellite images also shows that at least three desert kites became incorporated into this network. If the late Neolithic date of SHUBS 100 can be taken as a proxy for the entire complex, which at this point is a hypothesis that requires further examination, it would suggest that these kites went out of use by the late Neolithic. This would confirm similar evidence from other parts of the Harra that has shown that many kites were reconfigured or went out of use during the after the end of the 7th millennium (Betts 1998: 37, 41; Akkermans, personal comment). It seems that this could have marked an important shift away from hunting towards herding of domestic livestock (Garrard *et al.* 1996).

If our observation that each cairn may contain the burials of more than one individual from SHUBS 100 holds true for many or most of the cairns in this area, we could be dealing with hundreds of burials strewn across this landscape. Given the size of the network and the potential size of the population interred it would be appropriate to speak of a funerary landscape. All of the enclosures and cairns are situated on low rising hills and overlook boulder-free areas to the west and east. It is possible that they were positioned adjacent to or overlooking suitable grazing areas, or perhaps areas that provided fresh water. The construction of the field walls and the numerous enclosures, as well as the potential number of people interred in the tombs, suggests that a sizeable number of people was present in this part of the *Harra* during this time frame. The size of this system of walls and enclosures, in combination with the funerary practices associated with the cairns, is suggestive of a kind of monumentality that has to date only rarely been documented in the context of the late Neolithic. In case of the *Harra* the discovery of this substantial funerary landscape is remarkable, as it shifts our attention towards thinking about this region as much more densely populated and much more central to social experience at the time than previously thought.

Much of what we have touched on here briefly requires further examination of the archaeological remains on the ground. Further work is required to fully map and securely date this network of walls, enclosures and cairns and to fully determine the character and history of this suspected funerary landscape. In the next phase of this project we will aim to map and characterize this landscape in greater detail. Future fieldwork will then aim to better date and interpret this monument and contextualize it against archaeological evidence elsewhere in the *Harra* and the Levant as a whole.

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The 2012 Excavations in the Area A Early Epipaleolithic at Tor at-Tareeq, Wadi al-Hasa

Deborah I. Olszewski and Maysoon al-Nahar

Tor at-Tareeq (WHS 1065) was located during survey of the south bank region of the Wadi al-Hasa (MacDonald *et al.* 1983) and was previously excavated during seasons in 1984 and 1992 (Clark *et al.* 1988; 1992) and in 2000 (Olszewski *et al.* 2000; 2001). The site consists of several Epipaleolithic occupations, the earliest of which date to the Nebekian and possibly the Qalkhan Early Epipaleolithic, and the latter of which is likely to be Middle Epipaleolithic. Our project, the Western Highlands Early Epipaleolithic Project (WHEEP) is focused on gaining a better understanding of Early Epipaleolithic hunter-gatherer behaviors, and we chose Area A (the uphill portion of the 1984 step trench; Fig. 1) for several reasons. Primary among these was the possible presence of a structure, the fact that Area A was excavated only in 1984 and thus it is the least known part of the site, the potential for recovery of charcoal for radiocarbon dating, and the deposits here contain only the Early Epipaleolithic.

Previous Excavations at the Site

The first excavations occurred in 1984, when a 44 m x 1 m trench was placed north-south from near the top of the hillside through a small wadi at the base of the hill and into the next ridge to the south (Clark *et al.* 1988). The trench was divided into step increments of 5 m each, with the northernmost section called Step A, then Step B, then Step C, and so forth to the south (Fig. 2). Site deposits occur in Steps A, B, and C. In the A and B portions of the trench, the cultural materials are Early Epipaleolithic, while the C area of the trench yielded Nebekian Early Epipaleolithic in the lower deposits, overlain by a later occupation that is likely Middle Epipaleolithic, as it is similar in microlith typology to Kharaneh IV Phase D (Muheisen 1988; Richter *et al.* 2013). In Step A, a portion of a possible structure was found and a series of charcoal samples were recovered from several hearth features in Steps A, B, and C. These yielded dates ranging from about 20,200 to 18,800 calibrated BP (Clark *et al.* 1988: 265; calibrated using CalPal_2007_HULU). Faunal materials included gazelle, equids, and tortoise; marine shell also was recovered.

In 1992, two 2 m x 2 m excavation blocks were dug (Clark *et al.* 1992). Unit B was situated in the B area of the site, while Unit C was in the C area (see Fig. 2). In addition to lithic and faunal assemblages, these excavations yielded ground stone fragments, marine shell

Fig. 1 Looking south at the 2012 excavations at Tor at-Tareeq (WHS 1065). The 1984 step trench is clearly visible going downhill to the south (Photo: D. Olszewski).

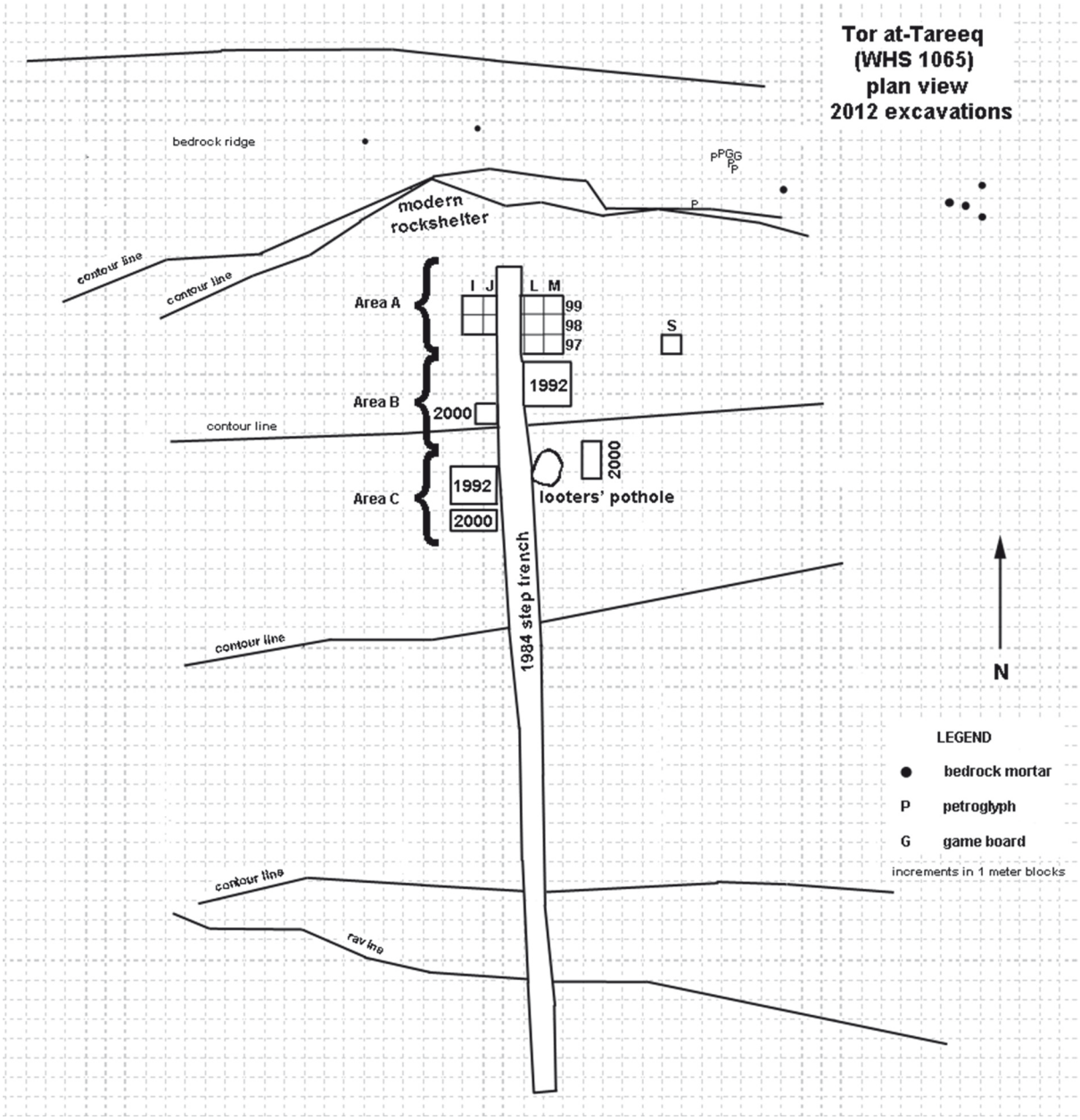

Fig. 2 Plan view of the 1984, 1992, 2000, and 2012 excavations at Tor at-Tareeq (WHS 1065). The K units are the small sliver just east of the 1984 trench. The boundaries of the 1984 trench are somewhat approximate due to slumping of the walls over the years (Plan: D. Olszewski).

(*Mitra*, *Strombus*, *Conus*, *Arcularia*, *Nerita*, *Columbella*, and *Dentalium*), pollen, and more radiocarbon dates (Neeley *et al.* 1997, 1998, 2000); the charcoal date is from a hearth in the Early Epipaleolithic deposits and is about 19,900 calibrated BP (Neeley *et al.* 2000: 247; calibrated using CalPal_2007_HULU). Bedrock mortars were recorded in the ridge above the site (Peterson 2000). Lithic analysis, as well as pollen, suggested that the Early Epipaleolithic at Tor at-Tareeq consisted of two occupations. Initially, Nebekian groups visited Tor at-Tareeq on a limited, short-term basis during a period of cool and dry climate. Somewhat later, warmer conditions are indicated by a rise in *Noaea*-type pollen, and the lithic assemblage from this later occupation contains substantially greater numbers of cores that are only lightly reduced, perhaps indicating somewhat lengthier visits to the site (Neeley *et al.* 2000). Additionally, there were more endscrapers and burins in the upper Early Epipaleolithic context, possibly suggesting a greater range of activities which also would indicate longer-term occupations.

The goal of the 2000 excavations at Tor at-Tareeq was to recover more data concerning the Middle Epipaleolithic occupation in Area C (Olszewski *et al.* 2001). A total of five 1 x 1 m squares were excavated (see Fig. 2), yielding data for the Early and Middle Epipaleolithic occupations. Given the emphasis placed on Area C, only the earliest of the Early Epipaleolithic occupations was sampled (because the later Early Epipaleolithic deposits identified by Neeley *et al.* [2000] were not present in Area C). The faunal assemblage yielded gazelle, equids, and tortoise. Marine shell was recovered, as were some ground stone fragments.

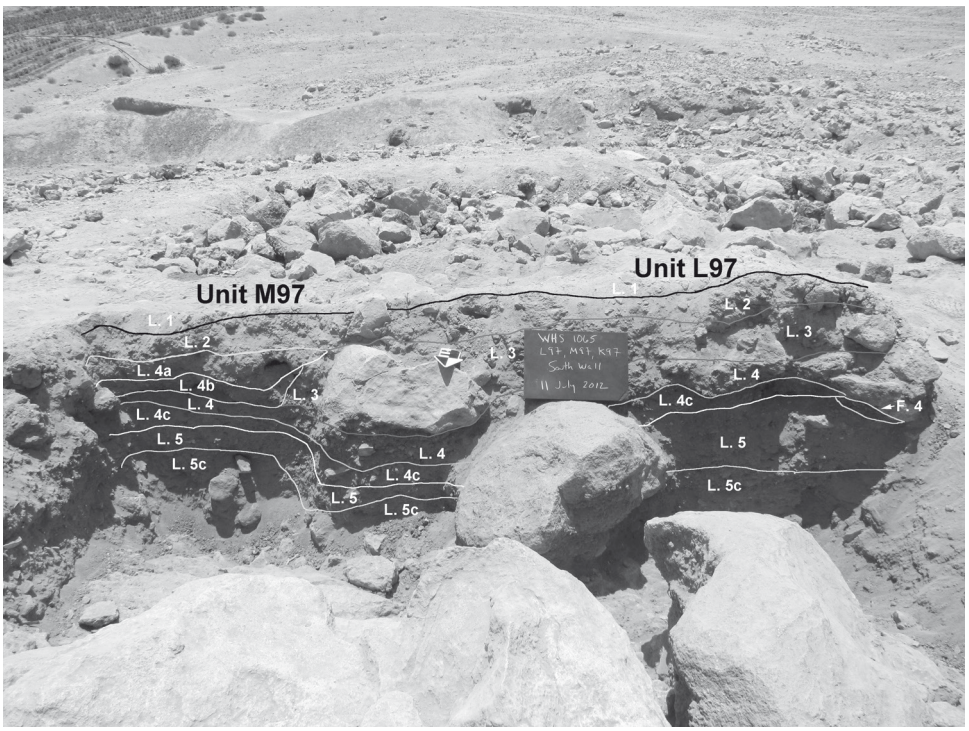

Fig. 3 The 2012 stratigraphy of the south wall of M97 and L97 at Tor at-Tareeq (Photo: D. Olszewski).

Description of the 2012 Excavation Units

The 1984 step trench established that the occupations at Tor at-Tareeq were situated near the top of the hill slope, while excavations in 1992 and 2000 indicated that the site extended at least 3 m to the west and 4 m to the east of the 1984 trench. Our project sought to take advantage of the stratigraphy established in 1984 by placing new units immediately adjacent (west and east) to the trench, allowing for greater horizontal exposure (see Fig. 2). We also sought to explore the spatial dimensions of the site by excavating a unit 8 m to the east of the trench.

We used a total station to point provenience all artifacts, fauna, and other cultural materials larger than 2.5 cm. All sediment was excavated in 3 cm arbitrary levels within natural/cultural layers within 50 cm quads within each 1 x 1 m unit. Features and rodent burrows were excavated separately. The sediment from each of these contexts (quad, feature, burrow) was collected in a "bucket shot;" that is, it was recorded using the total station. All sediment was screened using 2 mm mesh. We also used the total station to record natural rocks greater than 10 cm in size. For each 1 x 1 m unit, we took flotation, pollen, and phytolith samples from each natural/cultural layer, as well as for each feature.

Units West of the Step Trench (Main Area)

Four units (I98, I99, J98, and J99) in Area A were placed west of the 1984 step trench and all were excavated to bedrock. They were chosen in part because they contained the area of the site where the other half of the possible structure found in 1984 might exist. However, no trace of this possible structure was found. The abundant cobble and small boulder content of both Layers 3 and 4 likely means that the rocks identified as the possible structure in 1984 were simply part of a larger context of slope rubble resulting from decay of the bedrock ridge above the site. There were, however, two features found (see below).

The western units contained natural/cultural Layers 1, 2, 2a, 3, 4, 4c, and 5 (Table 1). Layer 1 represents the loose top 1-2 cm of sediment at the site; this is the same sediment as Layer 2, which contains lithics and rare fauna. Lithic density increases in Layer 3, although faunal remains continue to be rare. Layer 4 is a mainly brecciated sediment containing calcium carbonate which may have percolated through this deposit as a result of spring activity at the site; this layer yielded abundant lithics and more fauna compared to upper layers. Layer 4c appears to be an interface between the brecciated Layer 4 and the underlying, looser sediment of Layer 5. Layer 5 contains abundant lithics. The bedrock slopes from north to south and was reached at about 33 cm below modern ground surface in the north (I99) and 47 cm below modern ground surface in the south (I98).

Units East of the Step Trench (Main Area)

Six 1 x 1 m units (L97, L98, L99, M97, M98, and M99) and the remaining portions of K97, K98, and K99 were dug to the east of the 1984 step trench. All of these reached bedrock. The stratigraphy in these units was slightly more complex, particularly in L97 and M97. Features 3 and 4 were found (see below). Additionally, Layers 4a and 4b found in M97 may represent another feature or set of features.

The eastern units variably contained natural/cultural Layers 1, 2, 3, 4, 4a, 4b, 4c, 4d, 5, 5a, and 5c (see Tab. 1). Layers 4a and 4b were found only in the SE

K97	L97	M97	I98	J98	K98	L98	M98	I99	J99	K99	L99	M99
1	1	1	1	1	1	1	1	1	1	1	1	1
-	2	2	2	2	2	2	2	2	2	2	2	2
-	-	-	-	-	-	-	-	2a	-	-	-	-
-	-	4a	-	-	-	-	-	-	-	-	-	-
-	-	4b	-	-	-	-	-	-	-	-	-	-
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
4c	4c	4c	4c	4c	-	4c	-	-	4c	-	-	-
5	5	5	5	5	5	5	5	5	5	5	5	5
-	4d	-	-	-	-	4d	-	-	-	-	-	-
-	5a	-	-	-	-	-	-	-	-	-	-	-
5c	5c	5c	-	-	-	-	-	-	-	-	-	-

Table 1 Layers across the main excavation area at Tor at-Tareeq (the K units are only partial, as most of the K deposits were excavated by the 1984 step trench).

quad of M97; Layer 4d was a discontinuous breccia, similar to Layer 4, found beneath Layer 5. Layer 5a was an ashy deposit found only in L97, while Layer 5c was the deposit directly on top of bedrock in K97, L97, and M97. As in the western units, the bedrock in the eastern units sloped from north to south. Bedrock was reached in the northern units at about 20 cm below modern ground surface and at approximately 65 cm below modern ground surface in the southern units.

Unit S97

The 1 x 1 m unit, S97, was excavated 8 m east of the trench, and 4 m east of the eastern boundary of Squares C1 and C2 from the 2000 excavations (see Fig. 2). Cultural materials were present. However, the stratigraphy is not complex, perhaps suggesting that these materials are near the eastern limits of the site.

As with the units adjacent to the step trench, S97 contains a Layer 1 (loose top sediment) and Layer 2, from which Layer 1 is derived. The description of these two layers is similar to those of the trench area, although Layer 2 is much thicker here. Faunal preservation was particularly good, compared to the units near the trench. Level 5b was found only in a portion of the southern quads (the southern quads could not be excavated deeper due to boulder-sized rocks protruding from the southern wall). Bedrock occurs at about 13 cm below modern ground surface in the northern quads, and at an unknown depth more than 45 cm below modern ground surface in the southern quads.

Discussion

Excavations at Tor at-Tareeq in 2012 opened about 11 m^2 in Area A. All of the levels in all of the units yielded cultural materials. Lithics were the most abundant, with faunal remains variable due in part to generally poor preservation conditions in most of the layers. Special finds included marine shell, several small magnetite geodes, some possible ochre, and charcoal. Four features were recorded.

Correlation of 2012 and 1984 Levels

The stratigraphy of the eastern wall of the 1984 step trench and its description (Clark *et al.* 1988: 259) served as an initial guide to the 2012 excavations. We recorded a similar set of layers, although there were some nuances and additional layers that were not identified in 1984 (Tab. 2; Fig. 3). Based on previous assessments of cultural occupations at Tor at-Tareeq (*e.g.*, Neeley *et al.* 2000; Olszewski *et al.* 2001), the 2012 stratigraphy

2012 Western and Eastern Units	1984 Step A Trench*	Comment
1	undifferentiated 1 & 2	the 1984 Level 1 was described as light brown surface deposits, which appears to correspond with the 2012 Layer 1
2	undifferentiated 1 & 2	the 1984 Level 2 was described as a light grey silt; the 2012 Layer 2 is a very pale brown; it is probably the same sediment as the 1984 Level 2
3	3a	described as a brown to grey silt in 1984; probably corresponds to the 2012 Layer 3 brown clayey silt
4	3	brecciated, calcareous sediment
4c	-	likely excavated in 1984 as part of the 1984 Level 3
5	5	same description for both excavations
5c	-	the 1984 step trench did not distinguish between Layers 5 and 5c identified in 2012, although the 1984 Level 5 is described as brown to yellowish brown, which is the color difference between the 2012 Layers 5 and 5c

Table 2 Correlation of the 2012 main excavation layers with the 1984 Step A trench stratigraphy. *Data from Clark *et al.* (1988: 259) and Neeley *et al.* (2000: 252-253).

likely can be interpreted as follows. Layers 1 and 2 are a mixed context, especially as several instances of later period cultural materials (*e.g.*, arrowheads, pottery, glass) were recovered along with Early Epipaleolithic lithics. Layer 3 represents the later set of Early Epipaleolithic occupations, which correspond to warmer and wetter climate as suggested by Neeley *et al.* (2000). Finally, Layers 4, 4c, 5, and 5c document the earlier Nebekian Early Epipaleolithic use of the site during the period of cooler and drier climatic conditions.

Description of the Lithics

Lithic density at Tor at-Tareeq was expected to be high, given the results of previous excavations (Clark *et al.* 1988; Neeley *et al.* 1998; Olszewski *et al.* 2000). In fact, we recovered 40,009 artifacts, including small pieces (but not including materials from rodent burrows or wall cleaning). Due to its likely mixed context, further discussion of Layer 2 is omitted, as are the materials from Layers 4a and 4b which include a Helwan point. The lithics from Unit S97 are treated separately from the Main Area units adjacent to the trench.

Tools

There are 1,538 tools from the Main Area and 86 tools from S97. Nongeometric microliths typify most contexts (Tabs. 3 and 4). Several distinctions exist between the natural/cultural layers. Layer 3 contains more burins, perforators, notch/denticulates, and retouched pieces, but fewer nongeometric microliths than the lower layers. Layer 3 is also different in yielding nearly half of the rare Qalkhan points, as well as more than half of the La Mouillah points. However, it also contains extremely narrow, attenuated curved (double-arched) backed bladelets, which are a marker for the Nebekian in the eastern Levant (Byrd and Garrard 2013: 374-380). The geometric microliths in Layer 3 are a small number of narrow rectangles, trapezes, and isosceles and scalene triangles, as well as seven wide lunates and wide trapezes that are intrusive elements from the Middle Epipaleolithic occupation.

Layers 4, 4c, 5, and 5c are characterized by high frequencies of nongeometric microliths and variable quantities of endscrapers and burins. Differences include fewer attenuated curved backed bladelets in Layers 4/4c. There also are fewer geometric microliths in Layers 4/4c; these include rare examples of narrow trapezes, rectangles, and scalene triangles, as well as one wide trapeze that is intrusive. In Layers 5/5c, the geometric microliths are mainly narrow trapezes, rectangles, and isosceles and scalene triangles; there are also four intrusive wide lunates and one wide trapeze. The microlith differences between Layers 4/4c and 5/5c might suggest that Layers 4/4c represent a later set of Nebekian occupations, or perhaps an emphasis on different activities.

The nongeometric microliths in Layer 2 of S97 are mainly attenuated and curved backed bladelets, as well as truncated bladelets. There are seven examples of wide trapezes and wide lunates.

Cores

There are 206 cores and core fragments from the Main Area and 16 from S97 (Table 5). The greater frequency of cores from Layer 3 (46%) compared to the lower layers (28% for Layers 4/4c and 26% for Layers 5/5c) also supports an attribution of Layer 3 to the later set of Early Epipaleolithic occupations that coincide with a warmer and wetter climatic interval, as suggested by Neeley *et al.* (2000). With the exception of Layer 5c, cores are mainly single platform with smaller frequencies of opposed platforms. About 80% of the single and opposed platforms cores in Layer 3 are for the manufacture of blade/bladelets, while about 71% of those from Layers 4/4c and 61% from Layers 5/5c are blade/bladelet.

Unit S97, Layer 2, mainly contains single platform and opposed platforms cores (Table 6). Nearly half of these core types were used for the manufacture of blade/bladelets.

	1	2	3	4	4a	4b	4c	5	5c
endscraper	-	6.1	3.8	4.3	33.3	-	5.1	2.5	3.9
burin	-	1.5	2.6	2.0	-	-	1.3	1.7	0.7
backed piece	6.7	3.0	1.7	0.7	-	-	5.1	-	0.7
perforator	-	-	0.7	0.3	-	-	-	-	-
truncation	-	1.5	1.9	2.6	-	14.3	-	2.8	0.7
geometric microlith	20.0	14.6	9.8	5.3	33.3	14.3	3.8	8.3	8.5
nongeometric microlith	26.7	31.8	42.3	51.3	-	-	46.8	52.3	53.6
microlith fragment	33.3	14.6	20.1	21.2	-	57.1	24.1	22.3	19.0
special tool	-	1.0	0.2	-	-	-	-	-	-
notch/denticulate	13.3	9.1	5.7	3.3	-	14.3	3.8	3.3	3.9
retouched piece	-	14.1	10.3	8.3	-	-	8.9	6.3	9.2
multiple tool	-	1.0	0.2	-	-	-	1.3	0.3	-
varia	-	1.5	0.5	0.7	33.3	-	-	-	-
hammerstone	-	-	-	-	-	-	-	0.3	-
Total	**(15)**	**(198)**	**(418)**	**(302)**	**(3)**	**(7)**	**(79)**	**(363)**	**(153)**

Table 3 Tool frequencies by layer within the main excavation units (west and east of the 1984 step trench).

endscraper	5.8
burin	5.8
backed piece	1.2
perforator	2.3
truncation	4.7
geometric microlith	8.1
nongeometric microlith	31.4
microlith fragment	8.1
special tool	1.2
notch/denticulate	5.8
retouched piece	23.3
multiple tool	1.2
varia	1.2
Total	**(86)**

Table 4 Tool frequencies for Layer 2 in Unit S97.

	2	3	4	4c	5	5c
single	13.9	24.0	27.8	20.0	26.7	8.3
subprismatic	-	-	-	-	-	8.3
subpyramidal	-	1.3	-	10.0	3.3	-
pyramidal	-	1.3	-	-	-	-
opposed	2.3	2.7	13.9	-	16.7	33.3
90-degree	-	2.7	2.8	10.0	6.7	16.7
discoidal	2.3	-	2.8	-	-	-
multiple	4.7	1.3	8.3	-	3.3	25.0
core-on-flake	4.7	5.3	5.5	-	3.3	-
tested	2.3	5.3	2.8	-	3.3	-
core fragment	69.7	56.0	36.1	60.0	36.7	8.3
Total	**(43)**	**(75)**	**(36)**	**(10)**	**(30)**	**(12)**

Table 5 Core frequencies by layer within the main excavation units (west and east of the 1984 step trench).

single	25.0
subpyramidal	-
pyramidal	-
opposed	18.8
90-degree	6.2
discoidal	-
multiple	-
core-on-flake	-
tested	-
core fragment	50.0
Total	**(16)**

Table 6 Core frequencies for Layer 2 in Unit S97.

	1	2	2a	3	4	4a	4b	4c	5	5a	5c
flake	3.3	5.0	25.0	5.3	5.1	7.0	5.0	8.1	7.6	-	6.8
blade	2.0	2.4	-	3.4	4.0	1.2	5.0	5.3	5.7	2.9	6.3
bladelet	6.2	2.6	-	4.4	5.3	3.5	4.2	5.8	7.1	2.9	11.1
microburin	0.7	0.5	-	0.8	1.5	-	0.8	1.2	2.2	2.9	2.4
burin spall	0.2	0.3	-	0.3	0.4	-	0.8	0.4	0.8	-	0.6
small bladelet (<10mm)	5.1	5.4	25.0	8.5	8.4	16.3	10.0	10.4	11.9	8.6	14.3
small flake (<25mm)	20.0	35.5	25.0	36.2	44.1	34.8	32.5	34.7	39.9	42.9	39.7
shatter	62.4	48.2	25.0	41.0	31.2	37.2	41.7	34.0	24.8	40.0	18.7
hammerstone	-	-	-	-	-	-	-	-	<0.1	-	-
manuport	-	<0.1	-	<0.1	-	-	-	-	-	-	-
Total	**(449)**	**(7798)**	**(4)**	**(11,265)**	**(6584)**	**(86)**	**(120)**	**(1292)**	**(5694)**	**(35)**	**(2066)**

Table 7 Debitage frequencies by layer within the main excavation units (west and east of the 1984 step trench).

Debitage

There are 35,292 debitage items (including three manuports) from the Main Area and 2,871 (no manuports) from S97. The debitage is dominated by very small pieces in most layers (Tabs. 7 and 8). It reflects in part the high incidence of pieces broken due to heat exposure (shatter), either from burning events in hearths or more generally from exposure to the sun while these pieces were on the site surface during the periods after site occupations. There are somewhat greater frequencies of microburins in layers below Layer 3. In particular, Layers 4 and 4c seem to group together, as do Layers 5 and 5c. Calculation (excluding microlith fragments) of the restricted microburin index (Imbtr; see Goring-Morris 1987: 50), however, results in the following: Layer 3 has an Imbtr of 27.8, Layers 4/4c of 35.1, and Layers 5/5c of 36.1. Thus, there are similar levels of use of the microburin technique in both Layers 4/4c and 5/5c. The distinction in microburin frequency and use between Layer 3 vs. Layers 4/4c and 5/5c appears to offer support for either different chronological periods or sets of activities, as noted above for tools and cores.

Debitage in S97 (see Tab. 8) also yielded large quantities of small pieces (small bladelets and small flakes, as well as shatter). Four microburins were recovered from Layer 2 in this unit.

Features

Excavations in the units adjacent to the 1984 step trench revealed several features, as well as one potential feature. Feature 1 is in Layer 2 in Unit I99; it is a small semi-circular rock ring, although given the abundance of rock in the layers, it is not clear if Feature 1 is cultural. Features 2, 3, and 4 are more definitive. Each appears to be either a hearth or possibly hearth dump. The fill of each of these features contains darker silty sediment, often mixed with ash and fire-cracked rock; similar combinations of attributes were identified in 1984 as hearths (Clark *et al.* 1988). Feature 2 was dug into Layers 4 and 5 in Units I98/J98. Features 3 and 4 were in Layer 5 in Units L97/M97 and L97, respectively. Additionally, the layers identified as 4a and 4b in Unit M97 are darker in color than surrounding sediment and contain ash. They may be part of one additional feature, if the more ashy sediment of Layer 4b is the lower portion of a hearth represented by the darker sediment of Layer 4a.

	2	5b
flake	7.8	11.8
blade	4.9	-
bladelet	6.o	23.5
microburin	0.1	-
burin spall	0.4	-
small bladelet (<25mm)	7.4	-
small flake (<25mm)	46.2	41.2
shatter	27.2	23.5
manuport	-	-
Total	**(2854)**	**(17)**

Table 8 Debitage frequencies by layer in Unit S97.in Unit S97.

Other Cultural Materials

As in previous excavationns at Tor at-Tareeq, several other cultural materials were recovered. These include fauna, shell, charcoal, and miscellaneous items. We also re-recorded several bedrock mortars using the total station to point plot their locations (see Fig. 2), and recorded several possible petroglyphs and possible game boards.

Faunal remains were recovered from nearly all contexts. However, these tend most often to be highly fragmented due to poor preservation conditions. Unit S97 yielded the best preserved fauna. The faunal analyses are on-going, but observations during excavation indicate that species represented include gazelle, probable equids, land tortoise, and possibly bird.

Due to the use of small mesh screens, the 2012 excavations were successful in recovering a number of marine shells, most of which are beads. All of the marine shell, except one piece found on the surface next to Unit S97, was recovered from the Main Area units adjacent to the step trench. They were found in Layers 2, 3, 4, and 5, with the majority coming from Layer 3, which may offer additional support for later Early Epipaleolithic occupations at the site being somewhat longer-term. Although the analysis of these has not yet been undertaken, the majority of the marine shell is *Dentalium*, with other shells likely cone shells and possibly *Strombus*.

Seventeen charcoal samples were recovered from the Main Area. Two are from Feature 2 and one from Feature 3, with the remainder from Layers 4, 5, and 5c. Once some of these are dated, it will be possible to assess if Layers 4 and 5/5c represent different temporal occupations. Unfortunately, we will not be able to determine the chronological placement of Layer 3.

As noted previously, Layers 1 and 2 included several later period materials. There was one undecorated pottery sherd, a piece of glass with a turquoise line that may be Byzantine/Islamic in age, several Neolithic arrowheads, and five small, round magnetite nodules about the size of marbles. The arrowheads include Pre-Pottery and Yarmoukian types. A fossil shark tooth also was recovered, as were a couple of very small pieces of probable hematite.

Several bedrock mortars in the ridge above the site were noted in 1984 and studied in 1992 (Peterson 2000); additionally, several fragments of ground stone were recovered from excavations in 1984, 1992, and 2000. The 2012 excavations did not yield any ground stone, except for one probable pestle of quartzite in Layer 2 of S97. We recorded seven bedrock mortars/cupmarks (one more than Peterson 2000) (see Fig. 2). Four are clustered to the northeast of the site, two are directly north of the site, and the other is near the possible petroglyphs and game boards (see below). It is not possible to definitively link the bedrock features to the Epipaleolithic occupations at Tor at-Tareeq.

The petroglyphs include several figures comprised of connected lines, often with at least one circle. Additionally, an animal figure pecked into the side of the ridge northeast of the site was noted. As this is a relatively visible location, we believe that the animal is a recent addition because otherwise it would have been seen during at least one of the previous excavation seasons in 1984, 1992, and 2000. What is interesting is that the style of this animal figure replicates those known from ancient sites in Jordan.

Finally, we recorded two to three probable game boards in the bedrock ridge above the site. They contain two more or less parallel rows of small depressions (10 to a row) and appear similar to the African game of mancala. One layout seems to be a double board.

Summary

The 2012 excavations at Tor at-Tareeq expanded upon previous work at the site in 1984, 1992, and 2000, documenting that the site extends at least 8 m east of the 1984 step trench. The 2012 lithic assemblage contains just over 40,000 artifacts; Layers 1 and 2 represent a mixed context that includes Neolithic arrowheads, and later period materials, along with Epipaleolithic lithics. The data for Layers 3 and below suggest at least two main divisions within the Early Epipaleolithic at the site. Layer 3 appears to correspond to what Neeley *et al.* (2000) identified as a longer term occupation that coincides with climatically warmer and wetter conditions, based on the greater frequency of cores and some distinctions within the microlith component (it has more of the La Mouillah points and rare Qalkhan points). Possibly Layer 3 could be called Qalkhan Early Epipaleolithic based on comparisons with materials from the Azraq Basin (Byrd and Garrard 2013: 372). Layers 4/4c and 5/5c appear to represent earlier Nebekian occupations, with Layers 4/4c distinguished by fewer attenuated curved backed bladelets and fewer geometric microliths compared to Layers 5/5c.

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From Natural Environment to Human Landscape: New Archaeobotanical Data from the Neolithic Site of Nahal Zippori 3, Lower Galilee

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Introduction

A rescue excavation, carried out in 2011 at the site of Nahal Zippori 3 (Tell Mitzpe Zevullun North), led to the retrieval of several charred plant remains, including both wood charcoals and charred seeds (Barzilai *et al.* 2013). This new archaeobotanical assemblage provides first insights on the plant cover around the site during the Pre-Pottery Neolithic B (PPNB) and the Early Pottery Neolithic (PN) periods.

The discovery of such remains opens new perspectives on the evolution of the Mediterranean ecosystem and the impact of the early farmers on the natural environment in Lower Galilee during the Holocene. The data on the natural environment came out from the analysis of the wood charcoals found in the Neolithic layers.

The results of the charcoal analyses were then compared to data from the PPNB sites of Nahal Bezet I, Yiftahel, Atlit Yam, and the PN sites of Newe Yaraq, Nahal Kanah and Kabri. The comparative study was aimed to define the distribution of the maquis-forest in southern Levant between the 10th and 7th millennium calBP.

The study of charred seeds found in Nahal Zippori 3 provided information on the impact of local human communities on the natural environment. Legumes were largely attested in the site, although they were almost exclusively found in PPNB levels. A similar assemblage, dated to the very same period, was discovered in the nearby site of Yiftahel already thirty years ago (Garfinkel *et al.* 2012).

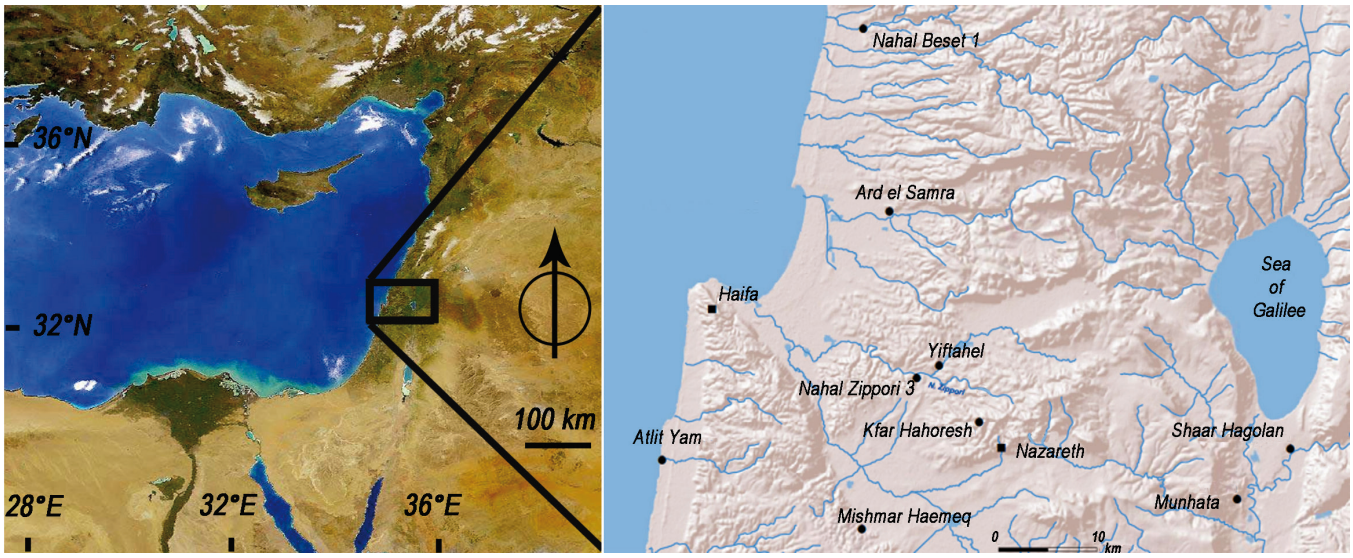

Fig. 1 The study area in the context of the eastern Mediterranean (redrawn after Google Map 2014). On the right the location of Nahal Zippori 3 and other sites of the region (prepared by Leticia Barda, Israel Antiquities Authority).

Fig. 2 On the left, topographical map of the study area, in green areas above 200 m (redrawn after Google Map 2014). On the right, examples of ecosystems that can be found nearby the site of Nahal Zippori: a) the *Quercus calliprinos-Pistacia palaestina* association that survive on the hills (above 200 mt); b) a ploughed field (Photo by Sky View LTD).

Fig. 3 The outlined rectangles represent the location of PN contexts. In red, the contexts where PPNB layers were found (Photo by Sky View LTD).

The Geographical Setting

The site of Nahal Zippori 3 is located in the Lower Galilee, in the north part of Israel (Fig. 1). It is situated within a fertile alluvial plain which bounds the Zippori Stream (Fig. 2). The morphology of the area is characterized by a sequence of hills and plains, at ca. 200 m above the sea level. The current average annual rainfall is around 650 mm, enough to support an extensive farming of legumes that is currently widely practiced in the area.

Fig. 4 A detail of a PPNB context. In red the pit (L271) where a concentration of charred faba beans were found in the plastered building (L268) (Photo by Assaf Peretz).

Part of the natural vegetation is still preserved on the riverbank of the Zippori Stream, mainly including reeds and fig trees, and in the hills, where residues of maquis-forest still survive (Fig. 2).

The Archaeological Context

The 2011 excavation at Nahal Zippori 3 revealed settlement remains dated to the Pre-Pottery Neolithic B, Pottery Neolithic, Chalcolithic and Early Bronze IB (Barzilai *et al.* 2013). Since the current report focuses on the archaebotanical remains the archaeological description below refer only to the PPNB and PN layers where the archaeobotanical remains were found.

The Pre-Pottery Neolithic B

The PPNB remains were recorded in limited parts at the center of the excavation area (Fig. 3). These consisted of domestic building remains (at least two) and several installations. The structures were constructed of mud-brick walls and lime-plastered floors and have parallels in neighboring PPNB sites such as Yiftahel and Kfar HaHoresh (Goring-Morris *et al.* 1995; Khalaily *et al.* 2008).

The archaeological finds consist of typical lithic assemblage, bone tools, polished pebbles and fauna. Preliminary observations suggest the lithic assemblage should be attributed to the Middle PPNB as attested by the presence of Jericho and Byblos points, inversely retouched sickle blades and polished axes. Of great importance is the recovery of charred seeds, all legumes, inside one of the buildings (Fig. 4). Most of the seeds were found in a pit which seems to function as a silo (L271), and scattered seeds were found on top of the plaster floor (L273).[1]

The Pottery Neolithic Period

The Pottery Neolithic remains were recorded throughout the center of the excavation area and in the eastern part

Fig. 5 The north-eastern corner of a Yarmukian building complex (Photo by Sky View LTD).

(Fig. 3). The architectural remains seem to represent two building complexes: one at the center composed of a rectangular room which faced a courtyard with installations, and a corner with a rounded cell which seem to represent another complex found at the north-eastern end of the complex (Fig. 5).

Although these elements are few and fragmentary, their plan suggests they could represent Yarmukian courtyard buildings similar to those of Shaar Hagolan (Garfinkel 2004). The Yarmukian component also includes numerous fragments of decorated pottery vessels, flint tools and fragments of approximately two dozen clay figurines that are characteristic of the Yarmukian culture (Fig. 6).

The archaeobotanical remains from the Yarmukian layer consist of charred wood, and three seeds that probably derive from the PPNB context. Although no distinct concentration was identified the charcoal remains were recovered mainly from the open space (the courtyard), probably representing outdoor pyro-activities.

Fig. 6 Medial body fragment of a Yarmukian clay figurine (Photo by Wallid Atrash).

Material and Methods

Wood charcoals and seeds were handpicked during the excavation; therefore the estimation of relative density for volume of sediment is not possible.

Clusters of charcoals were collected from forty-one baskets, while seeds were found in only eleven of those baskets.

The identification of charcoals was performed at the Kimmel Centre for Archaeological Science of the Weizmann Institute using a metallographic microscope (Nikon Eclipse LV150N). The atlas of wood anatomy (Fahn *et al.* 1986) and the modern reference collection were used for comparison.

Some of the wood charcoals were coated with gold and imaged in a LEO Supra 55VP scanning electron microscope (SEM) using a secondary electron detector to get pictures of the anatomical features.

Laboratory work for seed identification was carried out in the archaeobotanical laboratory in Bar-Ilan University, Israel. The plant remains were picked out and identified with the aid of Olympus SZX61 stereomicroscope using magnifications up to 50x. Our extensive reference collection was used to identify the plant remains, which are named after Zohary *et al.* (2012). Biometric measurements of faba bean and lentils were taken on 30 seeds for each species using a Leica M80 stereomicroscope connected to an image analysis program (LAS V 3.8). Pictures of the seeds were taken using a Leica DFC295 camera connected to the stereomicroscope.

Results

On the whole, 187 charred seeds and 645 fragments of charred wood were identified (Tables 1-2).

Most derive from PPNB and PN layers, except for a few samples from undetermined contexts.

Charcoals

Charcoals consist of very few branches, while the majority were fragments of general wood tissue (see Table 1 for more details). The Kermes oak (*Quercus* cf. *calliprinos*) was the most abundant species recovered (456 fr.). The anatomy of this tree is very specific; the transverse section is characterized by fairly distinct growth rings, with diffuse, almost solitary, vessels,

LOCUS	BASKET	CONTEXT	CHRONOLOGY	*Quercus* cf. *calliprinos*	*Quercus* sp.	*Ficus* sp.	*Pistacia* cf. *palaestina*	Undetermined	
156	1219	Pit - situated above an ashy lens (hearth,L174)	PPN	0	0	0	0	3	
	1224	Pit - situated above an ashy lens (hearth,L174)	PPN	0	4	0	0	0	
	1243	Pit - situated above an ashy lens (hearth,L174)	PPN	0	6	0	0	3	
161	1250	PPN layer, close no related feature (above a hearth l.216)	PPN	0	5	0	0	0	
	1786	PPN layer, close no related feature (above a hearth l.216)	PPN	0	4	0	0	0	
163	1338	Not clear identification	PPN	0	0	0	0	0	
165	1245	Fill above plaster floor	PPN	0	5	0	0	0	
	1326	Fill above plaster floor	PPN	1	0	0	0	0	
	1372	Fill above plaster floor	PPN	11	0	0	0	0	
174	1324	Hearth above and plaster floor	PPN	0	0	0	0	1	
	1908	Hearth above and plaster floor	PPN	10	0	0	0	0	
216	2030	Hollow installation (on top of sterile soil) probably PPN	PPN	5	0	0	0	0	
	2042	Hollow installation (on top of sterile soil) probably PPN	PPN	1	18	0	0	0	
217	1934	Midden layer	PPN	0	2	0	0	4	
237	1737	Fill - above L.268 (plaster floor- mostly PPN material)	PPN	0	0	0	0	1	
	1773	Fill - above L.268 (plaster floor- mostly PPN material)	PPN	11	0	0	0	0	
	1795	Fill - above L.268 (plaster floor- mostly PPN material)	PPN	0	3	0	0	0	
	1800	Fill - above L.268 (plaster floor- mostly PPN material)	PPN	0	5	13	0	3	
244	1799	Pit\depression (bottom of l.174 - another PPN pit)	PPN	35	1	0	0	0	
250	1906	Fill - above plaster floor L265	PPN	6	13	0	0	0	
	1963	Fill - above plaster floor L265	PPN	0	0	4	0	0	
	1988	Fill - above plaster floor L265	PPN	29	2	0	0	0	
259	1936	Fill - not entirely excavated	PPN	1	0	0	0	0	
260	1954	Grave	PPN	0	0	0	0	4	
268	1966	Plaster floor	PPN	11	0	0	0	0	
271	1999	Pit, cuts L268 (plaster floor)	PPN	40	0	0	0	0	
273	2027	Plaster floor	PPN	19	0	0	0	6	
276	2035	Fill between 2 plaster floors L273 and L266	PPN	19	1	0	0	0	
206	1801	Rocky fill, Yarmukian	PN	0	0	6	0	0	
262	1944	Rounded depression (pit?) in the Yarmukian courtyard	PN	0	0	0	0	1	
	1978	Rounded depression (pit?) in the Yarmukian courtyard	PN	5	0	0	0	0	
239	1962	Installation in the Yarmukian courtyard	PN	0	34	0	0	0	
241	1991	Floor of the Yarmukian courtyard. Between w215 and l.239	PN	199	0	0	0	0	
218	1877	Yarmukian pit, could contain PPN material	PN	10	0	0	0	0	
	1848	Yarmukian pit, could contain PPN material	PN	7	0	0	0	0	
	2034	Yarmukian pit, could contain PPN material	PN	0	11	0	0	4	
110	1183	Trench	?	0	1	0	0	0	
139	1275	Oval structure (in proximity to the floor)	EB?	8	0	0	0	0	
205	1546	Muddy layer under a huge depression filled with stones (EB, PN, PPN and a lot of burnt rocks)	EB\PN\PPN	5	0	0	0	0	
242	1795	Pit	EB\PN\PPN	0	0	0	20	0	
211	1688	Patch of floor Yarmukian (next to horn core and flints)	PN?	23	1	0	0	0	
	1188	Patch of floor Yarmukian (next to horn core and flints)	PN?	0	0	0	0	0	
Total				**456**	**116**	**23**	**20**	**30**	**645**

Table 1 List of identified charcoals for context

very scattered parenchyma, and uni-multiseriate rays (Fig. 7.1).

The transverse section of the Terebinth tree (*Pistacia* cf. *palaestina*) (20 fr.) has distinct growth rings and vessels in radial clusters on the paratracheal vessel parenchyma. On the tangential section, the rays consisted of 1-4 seriates (1-11 cell high), each of which was heterocellular, with weakly procumbent or upright marginal cells and resin ducts. Also on the tangential section were vessels and vascular tracheids with prominent spiral thickenings (Fig. 7.2).

The fig tree (*Ficus* sp.) (23 fr.) showed distinct growth rings, diffuse vessels, solitary and in radial clusters of 2-4, and parenchyma in tangential bands on the transverse section.

On the tangential section, the charcoals contained

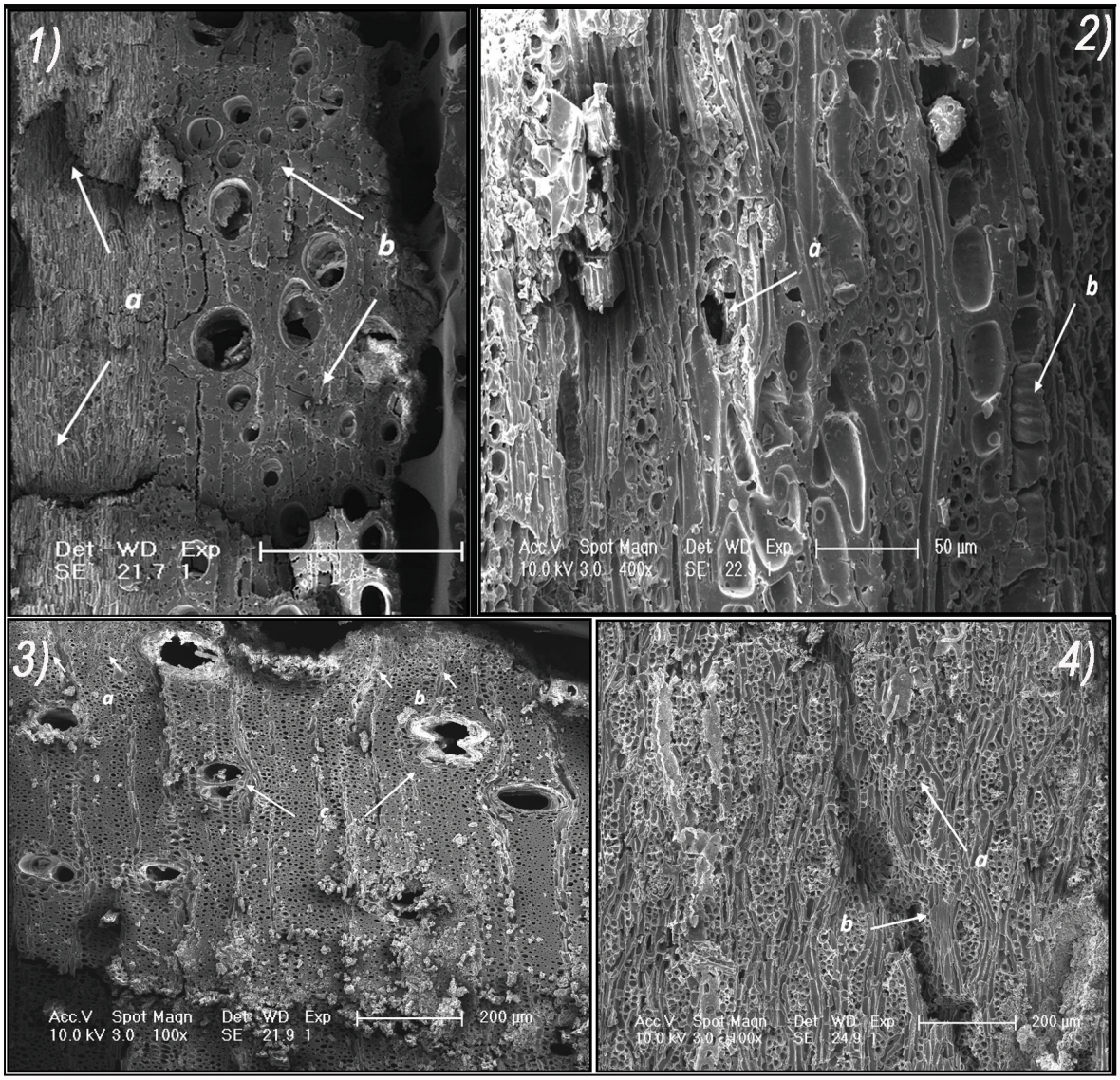

Fig. 7 7.1) *Quercus* cf. *calliprinos*: transversal section (a: multi-seriate rays; b) diffuse porosity; 7.2) *Pistacia* cf. *palaestina*: tangential section (a: resin canal in the ray; b) spiral thickenings in the vessel; 7.3) *Ficus* sp.: transversal section a-b) tangential parenchyma, c) vessels in clusters; 7.4) *Ficus* sp.: tangential section a) 4seriate ray, heterocellular composed of procumbent central cells and upright marginal cells; b) fibers.

2-5 seriate, heterogeneous rays, composed of procumbent cells and square and upright marginal cells (Figs. 7.3-7.4).

Two of the three species, the *Quercus* cf. *calliprinos* and the *Pistacia* cf. *palaestina*, belong to the local evergreen thermo-Mediterranean forest, while the fig tree (*Ficus sp.*) cannot be related to a specific type of vegetation, since the presence of this species depend on the availability of ground water. Notably, the remains of fig tree were found only in the PPNB layer.

Seeds

All the seeds were charred legumes: 89 whole faba beans (*Vicia faba*) were found together with 58 lentils (*Lens culinaris*) in the PPNB building (Fig. 8). A single *Lathyrus* sp. was found in layer dated to the Pottery Neolithic. The faba bean have an average size 5.2 x 4.5 x 3.9 mm, while the lentils measure 2.5 x 1.6 mm (pictures taken at the SEM unit of the Weizmann Institute of Science by Dr, E. Kartvelishvily).

Discussion

Although the charcoals found in Nahal Zippori 3 were scattered and difficult to relate to specific activities, they can provide information on the local environment. Assuming that wood was gathered within a small area around the village (Chabal 1992; Caracuta and Fiorentino 2013; Fiorentino and Caracuta 2013), the wood must have grown in the proximity of the site, and should be considered representative of the local woodland between the 10th and 7th millennium calBP.

The discovery of several remains of charcoal of *Quercus* cf. *calliprinos* suggests the presence of a maquis-forest on the hills that surround the PPNB and PN villages. These trees are at the present widespread

LOCUS	BASKET	CONTEXT	CHRONOLOGY	*Vicia faba* (whole seed)	*Vicia faba* (fragments)	*Lens* culinaris (whole seed)	*Lathyrus sp.*	
163	1338	Not clear identification	PPN	4	0	0	0	
165	1326	Fill above plaster floor	PPN	3	0	1	0	
174	1314	Hearth above and plaster floor	PPN	3	0	0	0	
174	1324	Hearth above and plaster floor	PPN	1	0	1	0	
250	1963	Fill - above plaster floor L265	PPN	1	0	0	0	
259	1936	Fill - not entirely excavated	PPN	2	0	1	0	
268	1966	Plaster floor	PPN	3	0	0	0	
271	1999	Pit, cuts L268 (plaster floor)	PPN	23	0	51	0	
273	2027	Plaster floor	PPN	38	43	0	0	
276	2058	Fill between 2 plaster floors L273 and L266	PPN	9	0	0	0	
211	1688	Patch of floor Yarmukian (next to horn core and flints)	PN	2	0	0	1	
Total				**89**	**43**	**54**	**1**	**187**

Table 2 List of identified seed for context.

in the area and represent the most important element of the *maquis*-forest that stretches from the Golan Heights to the Judean Hills (Zohary 1962, 1973). Remains of *Quercus* cf. *calliprinos* were also found in the sites of Yiftahel (PPNB), Atlit Yam (PPNB/PPNC), Newe Yaraq (PN), Nahal Zehora (PN) and Nahal Qanah (PN) (Liphschitz 2007).

One of the major components of the *maquis*-forest, together with the *Quercus calliprinos*, is the *Pistacia palaestina* (Terebinth tree). This species was found in Nahal Zippori 3 in a chronologically undetermined pit. Nonetheless, evidence of this tree was found in the nearby site of Yiftahel, as well in other PPNB sites such as Nahal Bezet I and Atlit Yam (Liphschitz 2007). The presence of *Pistacia palaestina* is attested also in the PN sites of Newe Yaraq, and Tel Kabri (Fig. 9).

Fig tree (*Ficus carica*) wood remains are very rare in archaeological sites in the Southern Levant. Beside the PPNB layer of Nahal Zippori 3, only five other sites produced such find: Jericho (PPNA, PPNB, PNA, Early Bronze Age and Middle Bronze Age), Late Bronze Age Hazor, Byzantine Ein Gedi, and Early Islamic Qasrin (Liphschitz 2007). Nonetheless, the fig has been growing in the region for quite a long time, and the oldest known fig pips came from *ca*. 800,000 BP Gesher Benot Ya'akov, Israel (Melamed 2003; Goren-Inbar 2002). Charred fig pips were retrieved from numerous Early Neolithic sites in Southwest Asia (Miller 1991, table 2). The earliest Neolithic finds came from *ca*. 11,700-10,550 calBP PPNA Netiv Hagdud (Kislev 1997) and *ca*. 11,400-11,200 Gilgal (Kislev *et al.* 2006), Israel (where several fruits were found as well).

The modern distribution of fig tree is limited to river banks and other areas where water is available, and some trees still survive along the shore of the Zippori stream.

Legumes accompany the cereals in most regions of grain agriculture ever since the beginning of agriculture. Legumes are unique among other grain crops in their ability to fix atmospheric nitrogen and adding nitrogen to the field's soil which increases soil fertility. In addition, pulses are exceptionally rich in proteins, and

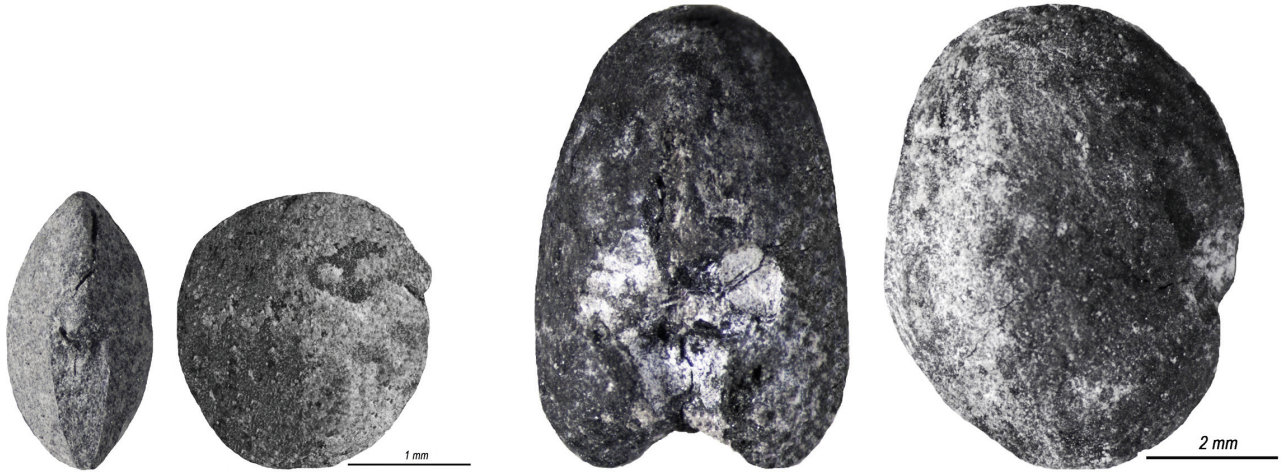

Fig. 8 On the left, ventral and lateral view of *Lens culinaris* (lentil). On the right, ventral and lateral view of the *Vicia faba* (faba bean). Please note the different scale (Pictures taken by V. Caracuta).

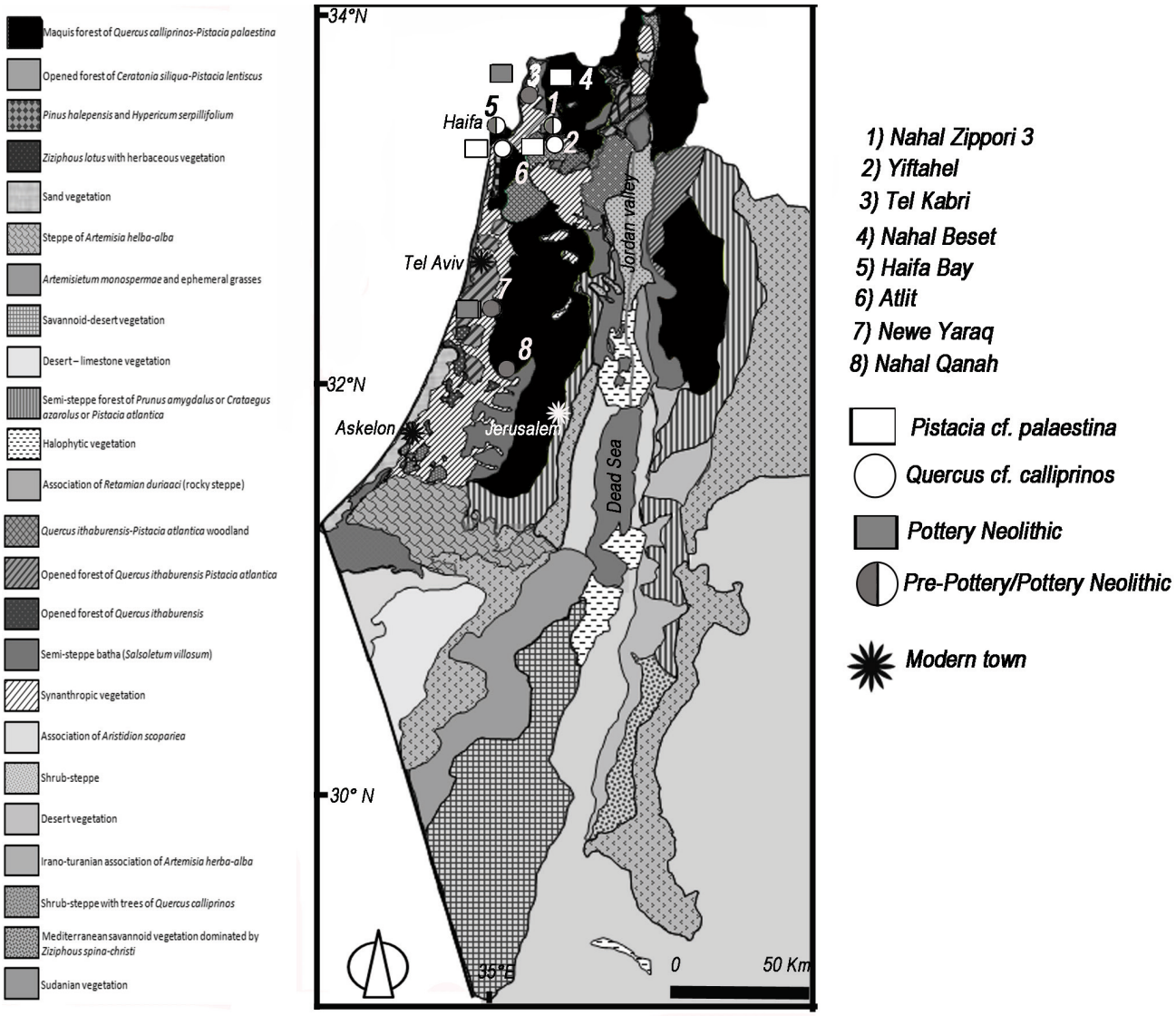

Fig. 9 Map of the eco-zones redrawn after Zohary (1947). The sites used as comparison are located on the map (numbers 1 to 8). The squares indicate the findings of *Pistacia* cf. *palaestina*, while the circles are used to identify those of *Quercus* cf. *calliprinos*. In white the evidences dated to the Pre-Pottery Neolithic and in grey those dated to the Pottery Neolithic.

their consumption together with cereals (which are rich in starch) contributes to a balanced human diet. Probably because of this reason, pulses were introduced into cultivation more or less together with the principal cereals (Zohary *et al.* 2012).

Lentil, pea, chickpea, and faba bean, belong to the principal pulses of Old World agriculture. Among them faba bean is unique. Despite intensive research in the last 50 years, its wild ancestor has not yet been discovered. Moreover, despite morphological similarities between the domestic faba bean and a group of wild vetches, *V. faba* has 12 chromosomes, while all other wild vetches in its taxonomic group have 14 chromosomes (Zohary *et al.* 2012).

The alluvial plain that bounded the Zippori stream must have been used by the prehistoric farmers for the cultivation of lentils and faba bean. In addition to the findings of Nahal Zippori 3, 7.5 kg of lentils and thousands of faba bean were found in the site of Yiftahel, which is only at 3 km away (Kislev 1985). The location of these two sites on an alluvial plain, characterized by fertile-humic soil and high water availability, might have favored the cultivation of the legumes in the area (Weiss and Kislev 2007). It is therefore reasonable to conceive that the Lower Galilee PPNB communities were extensively engaged in growing legumes which in turn fulfilled a major part of their subsistence.

Conclusion

The analysis of plant remains found in the Neolithic (PPNB and PN) site of Nahal Zippori 3 opens a new perspective on the study of the natural environment and the possible impact of humans on the alluvial plain as a result of farming legumes.

The remains of *Quercus calliprinos* oak and the *Pistacia palaestina*, suggest the presence of a *maquis* forest on the hills above the alluvial plain. Comparing the data of Nahal Zippori 3 with those of contem-

porary sites, we can assume that between the 10th and the 7th millennium calBP, the association of *Quercus calliprinos* with the *Pistacia palaestina* was more pronounced toward the coast than it is today. The *maquis*-forest coverage has been substantially reduced by expansion of agriculture into the formerly forested areas. This process was likely initiated earlier than expected, since the intensive cultivation of legumes in the vicinity of Nahal Zippori 3 suggests that agriculture was practiced already in the 10th millennium BP.

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Finally, we thank the Israel Antiquities Authority for the permission to publish the archaeobotanical data of Nahal Zippori 3.

Endnotes

[1] The three seeds from the PN context probably derive from the PPNB building located immediately below it (Table 1).

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Digitizing Archaeological Archives: The Case of the Diana Kirkbride-Helbæk Archive

Moritz Kinzel, Charlott Hoffmann Jensen, and Asger Væring Larsen

Fig. 1 Storage shelves with divers analog material from the Kirkbride collection.

The amount of data produced during an archaeological excavation project, of which a large part is in non-digitized form, calls for a solution to store all data digitally in order to share data among colleagues around the world, secure data back-up in the long term and meet the demands from research funders for making data management plans, as well as public interest in research in general (MacDonald 2006).

The ToRS (Department of Cross-Cultural and Regional Studies – ToRS, Faculty of Humanities, University of Copenhagen) Dataverse Network started as a pilot project aimed at addressing some of these issues, which are relevant not only archaeologists but also for researchers in the humanities and social sciences in general. The project was a cooperative effort between a research group at the Department of Cross-Cultural and Regional Studies at the University of Copenhagen and The Royal Library in Copenhagen. It resulted in a service that handles three main needs of the research group. These include popular dissemination of a project, in this case materials gathered during the archaeological fieldwork at Shkārat Msaied (Hermansen *et al.* 2006; Kinzel *et al.* 2011) in the Petra-Area in Southern Jordan, dissemination of the research articles resulting from the excavation, and, finally, the technical infrastructure allowing for upload and back-up of digitized and born digital data, as well as annotation of this data and dissemination to colleagues around the world (http://shkaratmsaied.tors.ku.dk/).

The Dataverse Network Project is a repository service for digital data. The software was developed by the Institute for Quantitative Social Science at Harvard University (Anon 2012a, 2012b), where it is also possible to host digital data projects. However, it was decided to develop a local installation on an in-house server at The Royal Library where the material is stored. Access to the Dataverse Network is through the project, which can be found on the department web page, which also supports the dissemination of research articles as well as addressing the interested public. Access is controlled through passwords (available on request) which can give full or limited access to the files.

Following the pilot project phase, in Spring 2013 the Carsten Niebuhr Centre for Multicultural Heritage (CNC) at the Department of Cross-Cultural and Regional Studies – ToRS, University of Copenhagen launched a program to incorporate more archaeological archive materials stored at the department. The program's aim was to create an inventory of all the material stored in the archaeological archive – including the Diana Kirkbride-Helbæk Collection – and to enter the digital record into the Dataverse system maintained by the Royal Library.

The ToRS Dataverse Network has now been extended to include material from several archaeological field projects, of which the material from the excavation of Beidha is the most prominent. The Kirkbride Collection includes a wide variety of material, including images (slides, b/w, negatives), maps, drawings,

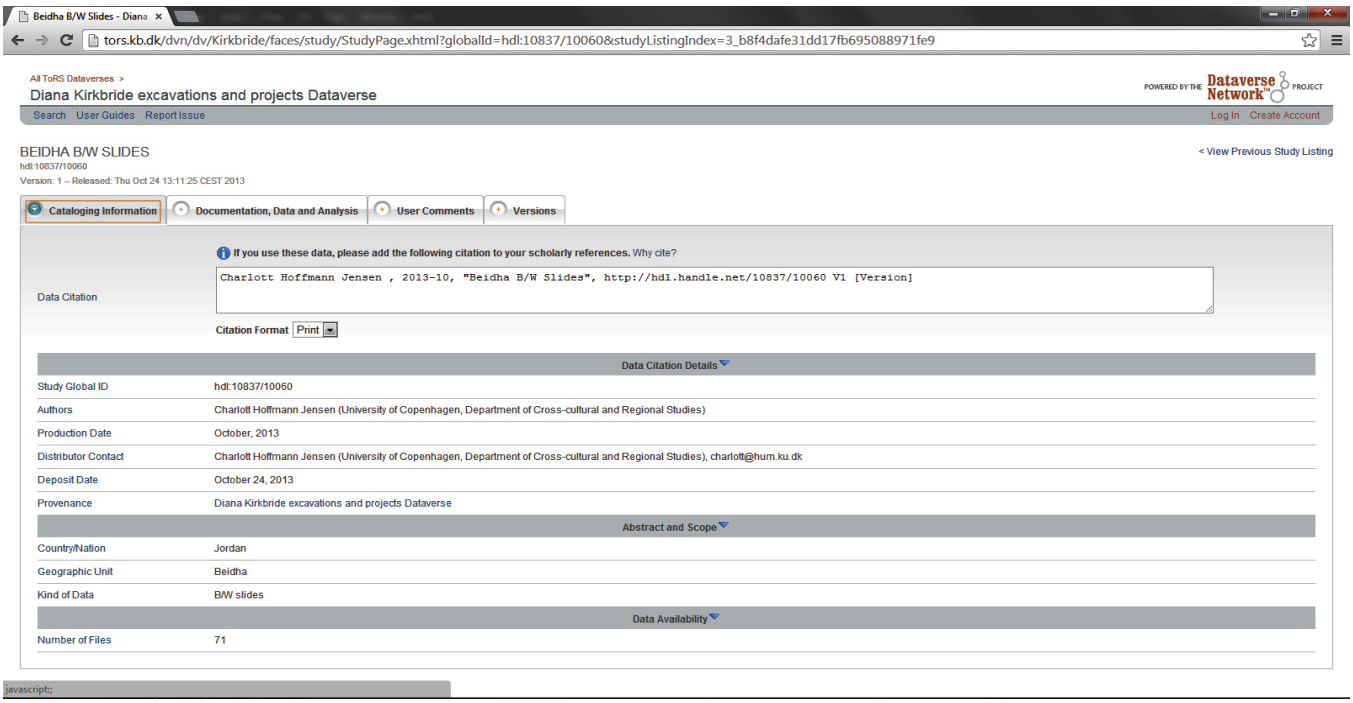

Fig. 2 Screenshot of one study in the Dataverse system with scanned Images of the Beidha excavations.

field notes, samples, off-prints *etc*. from her travels, works, and visits to other (now famous) sites in the Near East. In addition to other projects, material from the following Kirkbride-projects are part of the archive: South Jordan Survey, Wadi Rumm, Risqeh, Madamagh Survey, Jerash Survey, Umm Qais, Petra, Wadi Araba Survey, Beidha, Umm Dabaghiyah, and documentation of various travels in the Near East, including Jordan, Iraq, Turkey and Lebanon.

In the case of the Beidha excavations, only a limited amount of the original record material was in digitized form, as the excavations took place in the 1950s and 60s. Therefore, the main objective has been to digitize field notes, photos and other data presently stored at the Department of Cross-Cultural and Regional studies. A web page entry for Beidha is still underway, but will later provide easier access to the digitized material.

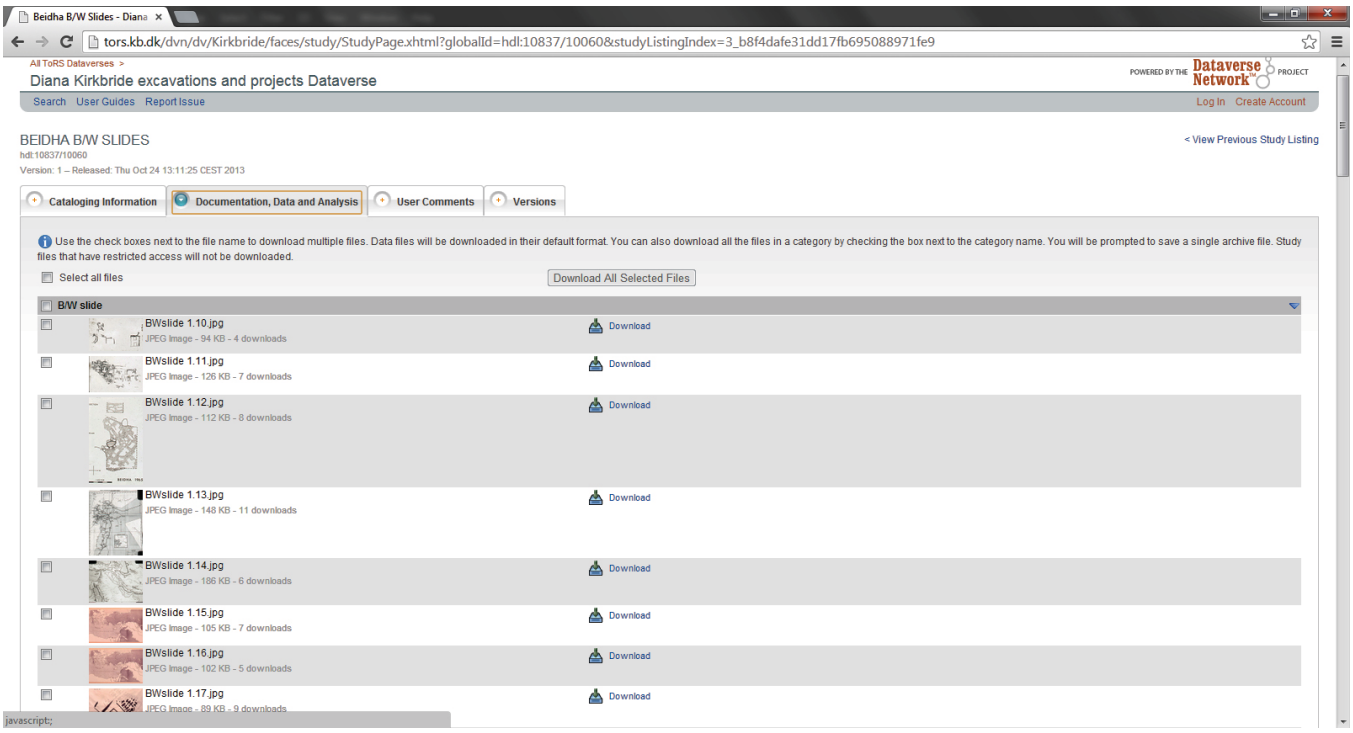

Fig. 3 Screenshot of one study in the Dataverse system with scanned Images of the Beidha excavations.

The digitizing project for Beidha has shown the need for an overall plan to structure the material as the system itself does not provide a very user-friendly interface. For example, it was decided to structure the material according to the folders in which the copies/ prints are stored and also to keep each so-called study at a manageable size. Additionally, in order to minimize the time spend on the digitization project it was decided that black & white negatives and slides are to be scanned at low resolution, which enables everyone to download a photo in a short time. If photos are going to be used for publication purposes *etc*. a new scan in high resolution can be ordered and produced accordingly.

The digitization of these materials can be seen as a part of our role as caretakers of these inherited archaeological materials and records, which tell a complex story about human and research history. Kirkbride's files are a great source to dig into the history of archaeological research in the Near East and, in particular, research in Jordan. We hope that the digitization of Kirkbride's files will help to promote Near Eastern Archaeology, the sharing of archaeological and other research data and that it will highlight research history and methods.

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Prix Archéologique Pierre Mercier 2013

Trevor Watkins

La Fondation archéologique Pierre Mercier was established in 2011, and made its first awards at a ceremony in the Palais des Papes in Avignon on June 3rd, 2013. The foundation had decided that first award of the major prize, le Prix international Pierre Mercier, should be for achievement in the field of Neolithic research in the Mediterranean and Near East. And Danielle Stordeur, on behalf of the team Néolithique du Proche-Orient in the UMR Archéorient based in Lyon and Jalès, was presented with the award at a ceremony in the Palais des Papes, Avignon, on June 3rd, 2013.

La Fondation archéologique Pierre Mercier was set up by Madame Raymonde Mercier in memory of her son, who had discovered and investigated the Neolithic site of Baratin on the family's own land at Courthézon in the Vaucluse. In addition to preserving and presenting the site of Baratin, the objectives of the Foundation are to support research, the dissemination of scientific information, and the popularization of the archaeology of the Mediterranean region.

The acceptance speech was shared between Danielle Stordeur, who succeeded Jacques Cauvin as head of the group, and her successor, Frédéric Abbès. Danielle began by paying tribute to Jacques Cauvin, who in 1971 began to form the multi-disciplinary team that became the Institut de Préhistoire orientale at Jalès. The team was bound together by great mutual respect for each other's expertise, and was sustained by a warm and lively friendliness. The team continues as part of the Archéorient group based at the Maison de l'Orient et de la Méditerranée (Université-Lyon 2 and CNRS). The objective of Jacques Cauvin's team has been to understand the meaning of the neolithisation process in the Levant. Danielle recalled that it was in the excavation of the site of Tell Mureybet between 1971 and 1974 that Jacques Cauvin began his investigation of neolithisation.

Danielle went on to illustrate for the large audience some of the work of the team. She spoke of the changes that were instituted around 10,000 BC with the establishment of Khiamian communities, such as the Wadi Tumbaq sites in the mountainous steppe region of Bal'as in Syria, investigated by Frédéric Abbès. George Willcox has shown that, in the Euphrates and Jordan valleys, centuries of cultivation had begun to produce domesticated crops by at least 9500 BC. Her own excavations at Jerf el Ahmar illustrated the intensified use of cereals was and their communal storage, followed by food processing in a communal kitchen equipped with several querns and large dishes and basins.

The archaeozoologists D. Helmer and L. Gourichon detected the beginnings of animal domestication around 8,700 BC, and have made the point that sheep and goat, as well as cattle, were domesticated for the

Fig. 1 Madame Raymonde Mercier is at the centre of the group, flanked by Danielle Stordeur and Frédéric Abbès. Young scholars holding their bursary awards in aid of research are Julie Patrier (left) and Benjamin Girard-Millereau (right). Daniel Istria (second from right) was awarded the bursary for the popularization of archaeology for a project that is producing a series of popular guides to important archaeological sites in Corsica (Photo: Noëlle Gamand, Huitièm'art).

milk and wool products that they offered, rather than their meat. At this early stage in the Neolithic, most meat came from hunted animals. And it was Marie-Claire Cauvin who established a typological series of the projectile points that were of such importance for hunting.

Danielle emphasized that these communities, such as Jerf el Ahmar, imply a sophisticated social organization, capable of conceiving and executing major communal projects. As Jacques Cauvin insisted, neolithisation was a sociological and technical transformation whose motive lay in a profound cognitive development in the human mind. And she showed the monumental evidence of this in the massive subterranean circular structure at Dja'de el Mughara, excavated by Eric Coqueugniot.

Five hundred years later, around 8,200 BC, all the villages throughout the Levant were based on farming. They were substantial and well organized communities. Analysis of the human remains has provided important information on the populations of these communities, as in Françoise le Mort's work at Khirokitia in Cyprus (from the excavations of Alain Le Brun.

Only when a fully agricultural socio-economic pattern was established, was there a significant change in symbolic representations, as evidenced in the numerous clay figurines of domesticated animals found in her own excavations at Tell Aswad; the wild world has been left behind. The human form, too, was at the centre of symbolic representation, whether in the form of small, human figurines or in the burial of human bodies. We see this cult extended through the retrieval and curation of recovered human skulls. From Tell Aswad we have rare examples of the practice of modelling, and even painting the facial features on the skull.

The work of Marie-Claire Cauvin and Christine Chataignier on obsidian showed the Neolithic as an open world that thrived on the circulation of goods, materials, technical knowledge and ideas. As the work at Bal'as shows, mobility has always been an important component of life in the Near East. Around 8,200 BC, the economy of the different human groups became specialised, with agricultural villages in the more moist regions, and pastoral nomadic groups in the more arid zones. Both sedentary groups and nomads inhabited the steppe. Agricultural villages were established in oases such as El Kowm, while Qdeir, investigated by Olivier Aurenche than Frédéric Abbès, was a semi-nomad site.

Danielle paid tribute to the research and practical experimentation carried out by G. Deraprahamian, D. Helmer, F. Abbès, Claudine Maréchal, Marie Le Mière and many others at the Institut de Préhistoire Orientale at Jalès. She concluded by confirming that the Prix Pierre Mercier will be used to support an international, multi-disciplinary colloquium at the Maison de l'Orient in Lyon.

Fig. 2 Danielle receives the award from Michel Zink, permanent secretary of the Académie des Inscriptions et Belles-Lettres, and member of the Académie française (Photo: Noëlle Gamand, Huitièm'art).

The Construction of Neolithic Corporate Identities

Invitation to a Workshop organized by **Trevor Watkins** (University of Edinburgh), **Marion Benz** (University of Freiburg i. Br.) and **Hans Georg K. Gebel** (Free University Berlin)

9th International Congress on the Archaeology of the Ancient Near East, Basel, June 9-13, 2014.

http://9icaane.unibas.ch (early bird registration until March 31st, 2014)

One of the most momentous thresholds in the longer-term evolution of human sociality was neolithisation - the transition from more flexible mobile foraging communities to sedentary and complex corporate societies. For too long Neolithic research has concentrated on the economic side of this transition, while the formation and maintenance of these early large-scale communities could not have developed without unprecedented cognitive and social capacities. More than ever before, in these sedentary milieus the human ability to perceive selectively, to memorize associatively, and to act in a collaborative way, evolved by steadily valorizing, symbolically charging and communicating practices, discourses, spaces and things, including building "traditions". Corporate identities in the Near Eastern Late Epipalaeolithic and Neolithic were not only formed and sustained by commonly accepted tangible things (images, paraphernalia, practices etc.), they were also promoted and transformed by intangible modes, codes and ideological concepts.

The workshop aims to identify and translate the empirical evidence of the different intangibles that helped to form Epipalaeolithic and Neolithic group identities. One of the approaches might be the concept of (inter-)mediality by which cognitive competences behind corporate strategies can be identified. In addition to prehistoric archaeologists, the workshop invites contributions from specialists in evolutionary and cognitive sciences.

Participants with contributions

Prof. Dr. Kurt W. Alt, Institute of Anthropology, Johannes-Gutenberg University Mainz, Germany.
Dr. Eleni Asouti, School of Classics, Archaeology and Egyptology, University of Liverpool, UK.
Dr. Marion Benz, Science Associate, Department of Near Eastern Archaeology, Albert- Ludwigs-University Freiburg i.Br., Germany.
Dr. Amy Bogaard, Lecturer in Neolithic and Bronze Age Archaeology, School of Archaeology, University of Oxford, UK.
Dr. Lisbeth B. Christensen, Department of the Study of Religion, University of Aarhus, Denmark.
Dr. Hans Georg K. Gebel, Institute of Near Eastern Archaeology, Free University Berlin, Germany.
Profs. Drs. A. Nigel Goring-Morris / Anna Belfer-Cohen, Institute of Archaeology, The Hebrew University of Jerusalem, Jerusalem, Israel.
Dr. Theya Molleson, Science Associate, Department of Earth Sciences, The Natural History Museum, London, UK.
Dr. Tobias Richter, Department for Cross-Cultural and Regional Studies, University of Copenhagen, Copenhagen, Denmark.
Prof. Dr. Gary O. Rollefson, Department of Anthropology, Whitman College, Walla Walla, USA.
Dr. Christa Sütterlin, Film Archive of Human Ethology of the Max-Planck-Society, Andechs/Munich, Germany.
Prof. Dr. Trevor Watkins, Emeritus, School of History, Classics and Archaeology, University of Edinburgh, UK.

Domestication of Plants and Animals in the Near East

Invitation to a Session organized by **Maria Saña Seguí**, maria.sana@uab.cat (Departament de Prehistòria, Universitat Autònoma de Barcelona, Barcelona - Spain) – **Jean-Denis Vigne**, vigne@mnhn.fr (UMR 7209: Archéozoologie, Archéobotanique: Sociétés, Pratiques et Environnements, Muséum National d'Histoire Naturelle – CNRS, Paris - France) – **Sue Colledge**, smcolledge@gmail.com (University College London, Institute of Archaeology, London - UK) – **Miquel Molist**, mimolist@gmail.com (Departament de Prehistòria, Universitat Autònoma de Barcelona, Barcelona - Spain)

XVII World Congress of the International Scientific Association UISPP,
Burgos-Atapuerca (Spain), between the 1-7 September, 2014.

The aim of this session is to provide a platform to discuss and exchange ideas, opinions and new theoretical-methodological perspectives on the study of plant and animal domestication. ... One of the main points raised in the debate on the phenomenon of Neolithisation is the need for integration of studies of animal and plant domestication within the context of economic and social change that took place in the early Holocene. Our session is to present and discuss from different sights the processes of domestication, for example, their causes and consequences, based on the wealth of accumulated data from recent research and, most important, with a particular emphasis on drawing together evidence from archaeozoological, archaeobotanical and archaeological studies. Special attention will be paid to new conceptions about early domestication (*i.e.* "predomestic" agriculture or control of wild animals), to new methodological, technical and high resolution approaches to the study of the processes, to different temporal and spatial scales and to the exploration of the variables that interact during the domestication of animals and plants.

With these aims in mind, the session will be interdisciplinary, including presentations and discussions on the following aspects:

- concepts used in the study of domestication in the Near East;
- new methodological and technical approaches to the study of plant and animal domestication, for example, criteria involved in the definition and classification of the first domestic animals and plants;
- the empirical record and new archaeological evidence for domestication – micro- and macro-spatial approaches;
- economic strategies and the integration of animals and plants: the origins of agricultural and pastoral practices;
- explanatory models for animal and plant domestication;
- the role of the Near East in the study of the domestication and Neolithisation processes: its distinctiveness and heuristic power.

Communication proposals have to be submitted by the 30th of April 2014 to the congress organization. Registrants must indicate which Congress sessions they will attend, before May 31, 2014 (www.burgos2014uispp.es). Please also send a copy of the abstract to us (contact: maria.sana@uab.cat). On the congress webpage you should also find information on the guidelines for the abstracts and the posters, congress inscription and financial assistance for participants:
- registration and proposal forms at www.burgos2014uispp.es
- technical information: uispp2014@viajeseci.es
- scientific information: uispp2014@fundacionatapuerca.es

2014 ToRS International Food Workshop

Food, Identity and Social Change

25-26 September 2014

Department of Cross-cultural and Regional Studies (ToRS),
University of Copenhagen, Denmark

Call for Proposals

Food draws people into the web of life and touches upon everything that matters: it expresses personhood, marks membership (or non-membership) in practically any kind of social grouping and draws lines of where morality begins and ends. Yet, food can also signify very different things from place to place, from kitchen to kitchen and from one time period to another. Social changes – such as peoples on the move (nomads, migrants, tourists), changes in intergroup relations within societies, new technologies (in mass media, biotechnology), mass production of foods, increasing globalization of food and changes caused by war – have been relatively neglected in food studies.

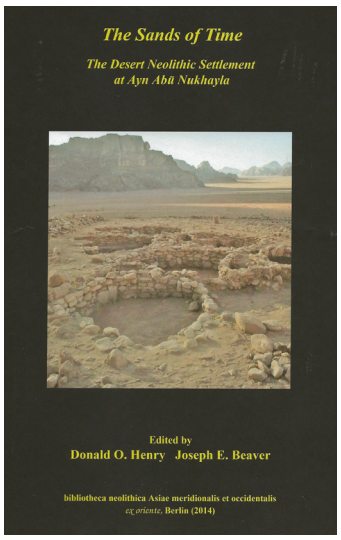
Food is a powerful lens for analyzing identity. This is clearly illustrated in the works of food studies that include Bourdieu's inquiry into the taste and preferences of the French bourgeoisie and Mintz's pioneering historical study of how high status sugar produced in the Caribbean became a working class staple to the exciting growth of more recent works by Appadurai on how to create a national cuisine and Wilk's scrutiny of the complex culinary reactions of Belizeans to colonialism, class differentiation and modernity.

Keynote Speakers
Professor Tamara L. Bray, Wayne State University
Professor Mandy Thomas, Queensland University of Technology
Professor Richard R. Wilk, Indiana University

We welcome contributions on food, identity and social change: Why do we eat what we eat and why have different cultures and societies at different times eaten other things? What fosters social change to affect dietary patterns and changing identities? How can food offer the lens to understand the cultural and social affinities in moments of change and transformation? The topic offers an opportunity to excavate the past, to examine the present and to project into the future.

Anyone interested in presenting a paper at the ToRS 2014 International Food Workshop should submit a proposal of 300 words and relevant contact information by 1 April 2014 to Katrine Meldgaard Kjær (katrinemkjaer@gmail.com)

Organizers: Cynthia Chou (cynchou@hum.ku.dk) and Susanne Kerner (kerner@hum.ku.dk)
Organizing Assistant: Katrine Meldgaard Kjær (katrinemkjaer@gmail.com)



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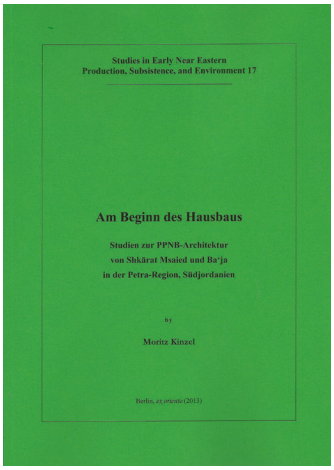

Am Beginn des Hausbaus
Studien zur PPNB-Architektur von Shkārat Msaied und Ba‘ja in der Petra-Region, Südjordanien

by

Moritz Kinzel

Studies in Early Near Eastern Production, Subsistence, and Environment 17, 2013.

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