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## Editorial

Doubtless, Middle Eastern Neolithic/ Early Holocene foreign field research witnesses these times a crises of perspectives and self-conception, especially since progress of research was based on a high momentum and dynamics of field results. Field work halted in many countries, and access to stored finds became impossible or restricted. Remaining working areas suffered from finding team members due to security fears. Only in a few countries has work continued essentially normally, even becoming potentially more promising (e.g. Iran). We can expect that fewer students will decide for Near Eastern archaeology/ anthropology, and those finishing their theses question their professional perspectives. Subjects may disappear at some institutions, and over time funding organisations will see other emphases if the discipline does not explain its future path.

In this situation, isn't there a somehow paralyzed reaction to be seen by those who are in the position to guide research perspectives? Hasn't our understanding – that field work promotes Neolithic research – adapted, acknowledging the various and hopefully interim political and security frameworks? Doesn't our research situation offer the chance to reconsider some colonial ingredients of field research, to re-define the subject and areas of research? Can't we, at least in the short term, move forward by explicitly returning to the hitherto ignored responsibilities concerning the many archived and stored Neolithic data and samples shipped abroad, excavating the shelves for the overlooked but necessary follow-through to work on final publications? Shouldn't the discipline in crises now be managed by concentrating on shelf research, thereby maintaining and satisfying our responsibilities to the Neolithic family's offspring and to the host countries in which we have worked?

We warmly welcome Maysoon al-Nahar and Bernd Müller-Neuhof, replacing Hans J. Nissen, on the board of this newsletter. From its beginning Hans J. Nissen was supportive and encouraging for this newsletter and ex oriente. We heartily wish him a relaxed while involved retirement.

Hans Georg K. Gebel, Marion Benz, Dörte Rokitta-Krumnow, and Gary Rollefson

# Shkārat Msaied, the 2014 and 2015 Seasons

Moritz Kinzel, Lena Bakkar, Konrad Nuka Godtfredsen, Anne Mette Harpelund, Jakob Kaasgaard Høllum, Khaled Hwawra, Marie Louise Schjellerup Jørvkov, Pia Wistoft Nielsen, Christoph Purschwitz, Ingolf Thuesen, Mette Bangsberg Thuesen, and Anna Hilton Soria

## Introduction

The Neolithic Site of Shkārat Msaied (30°26'38"N, 35°26'21"E) is situated approx. 16 km north of Petra/Wadi Musa in Southern Jordan; in the neighbourhood of several other Neolithic sites, *e.g.* Ba'ja and Beidha. The site was excavated from 1999 to 2001 as a field school project (under the Carsten Niebuhr Institute) and from 2002 to 2005 and later in 2010 as a research excavation project carried out by the Department of Cross-Cultural and Regional Studies-ToRS, University of Copenhagen and funded by the Carlsberg Foundation.

The site dates to the Middle Pre-Pottery Neolithic B and shows clusters of circular house structures (for the <sup>14</sup>C dates see *e.g.* Hermansen *et al.* 2006). The building structures are well preserved and the archaeological and architectural context shows complex modifications (Jensen *et al.* 2005; Kinzel 2013).

During a visit in 2013 severe illegal digging activities were observed in Unit B and R that called for ad hoc salvage activities to record the damages and the state of conservation as well as to undertake targeted stabilization works. In addition heavy winter rainfall had resulted in some collapse of wall segments.

## The 2014 and 2015 Field Work

The aim of the 2014 season was to document, clean and extend the trench illegally dug in Unit R, which was reported in 2013, and to get a better understanding of the stratigraphy underlying the visible architecture and to clarify the functional and spatial relations of the area south of Unit F (Kinzel *et al.* 2015).

The 2015 season had two main aims: 1) to proceed with the work from the 2014 season and to reach the earliest occupation layers in the sounding in Unit R, and this included taking <sup>14</sup>C samples; 2) to continue the excavation of Unit F, where all except one burial were found so far, to gain further clarification to the stratigraphic relations in Unit F and to uncover the burials inside the building (Fig. 1).

## Southern Areas

In 2014 we continued the excavation in the southern area between the Units F, G, H, J, K, "g", and Y (Area VI). After the initial investigation of Area VI in 2010 (Kinzel *et al.* 2011) this area shows several compartments with plaster floors, and pavement, but

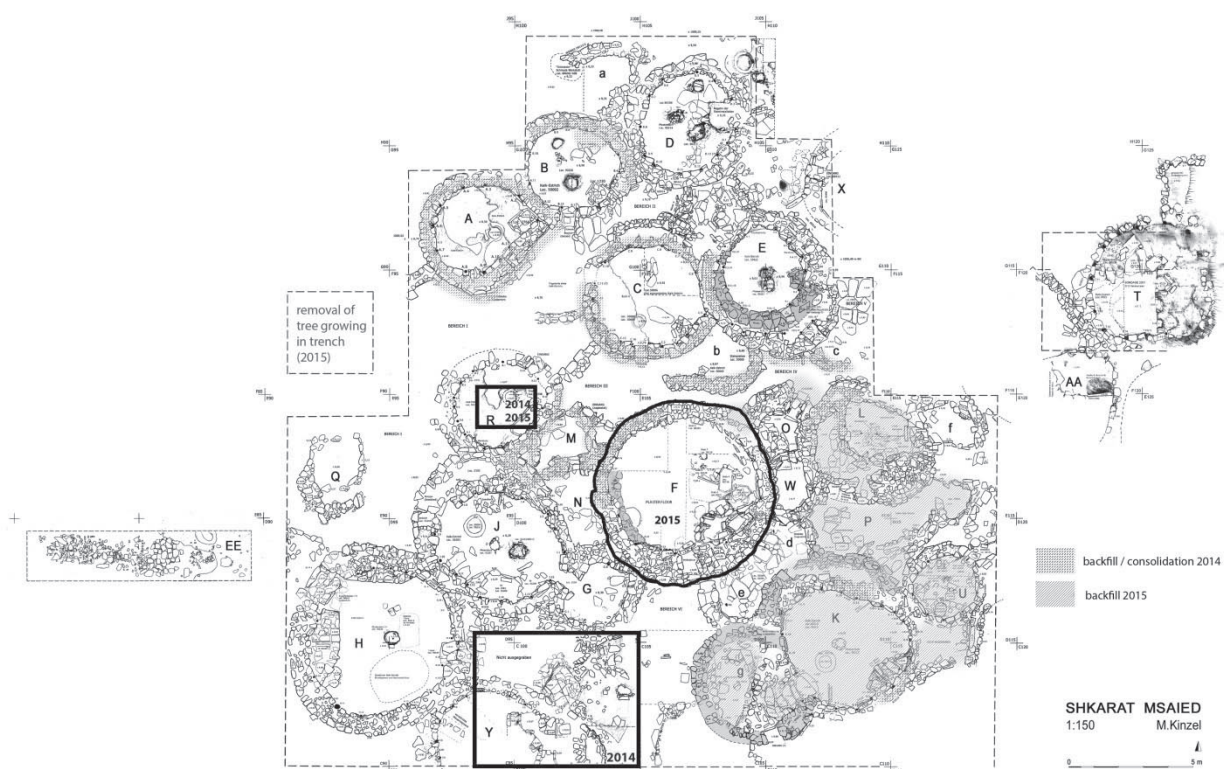


Fig. 1 Site plan Shkārat Msaied 2015 (Moritz Kinzel/Shkārat Msaied Neolithic project/ University of Copenhagen).



Fig. 2 Southern Area (2014) with central posthole and various surfaces (Moritz Kinzel/ Shkārat Msaied Neolithic project/ University of Copenhagen).

no clear structure. Additionally a pit (Loc. 90.307) filled with production waste from the reduction of 9 to 11 bidirectional blade cores was found (Purschwitz in prep.). However, our understanding of use, function, architectural configuration and internal stratigraphic relation as well as the fine-scaled stratigraphical connection to adjacent buildings were still limited. In 2014 a potential posthole (Loc. 100.203; approx. 45 cm in diameter) was discovered in the area (Loc. 100.208/212) between Unit Y and “g” (Fig. 2). The area – which was previously defined as an open space (Area VI) – could possibly have been roofed. Shape and dimensions suggest that the post was formed by more than one “trunk”, which indicates that the roof could have been quite substantial, following the construction we know from Unit K. Some upright placed stone slabs could be remains of a possibly earlier round house structure. The findings here clearly show a series of modifications and adjustments due to changed functions and needs.

## Unit R

The findings in the area of Unit R turned out to be even more complex than what was indicated in the first observations in 2013. Due to the *ad hoc* backfill of most of the material by the Petra Park Authority, the dense occupation layers, and the high density of finds the bottom of the illegal “trench” was not reached in the 2014 season. The rich find density of the mixed

soil created by the illegal digging and “backfill” is also reflected in these occupation layers. Some of the finds can actually be linked to specific layers with similar in situ finds, e.g. a possible sandstone bead production workshop with finished and unfinished beads. After the removal of the backfill the excavation of the former illegal trench was continued. The mixed material from the trench was sieved throughout the season and offered a very find rich content; mainly flint fragments, bones – both worked and unworked (especially of birds); as well as a number of land snails, and marine mollusc shells. The analyses of these finds are currently on-going.

In 2015 we excavated the entire 2013-illegal trench and also a considerable amount of various occupation layers in the southern part of this small trench (Fig. 3). Several very significant layers with a clear sequence are visible in the section profile. The partly quite thin layers show a number of irregularities and disturbances by among others pits and refilling.

The work in Unit R has added considerably to the understanding of the site history. The layers below the latest plaster floor of Unit R have revealed very complex and dense occupation deposits as the density of finds was quite high. Some Jericho-points were found in the mixed soil from below the plaster floors, but they cannot be linked to a specific layer. On the bottom of the illegal trench a layer with a dense concentration of land snails and a few marine mollusc shells were found embedded in a greyish-white ashy layer. A series of light brownish-reddish hard packed surfaces could be



Fig. 3 Excavations in Unit R, southern section (2015) (Moritz Kinzel/Shkārat Msaied Neolithic project/ University of Copenhagen).



Fig. 4 Excavations in Unit F (2015) (Moritz Kinzel/ Shkārat Msaied Neolithic project/University of Copenhagen).

traced between the various layers of heterogenic roof (?) collapse material. The  $^{14}\text{C}$  dates from the series of samples extracted from the profile are still pending.

The trench was backfilled at the end of the season.

Further excavation of Unit R will take place in the upcoming seasons as we see a potential insight in the formation history of the settlement; this is also a chance to reach the bottom layers and thus the bedrock.

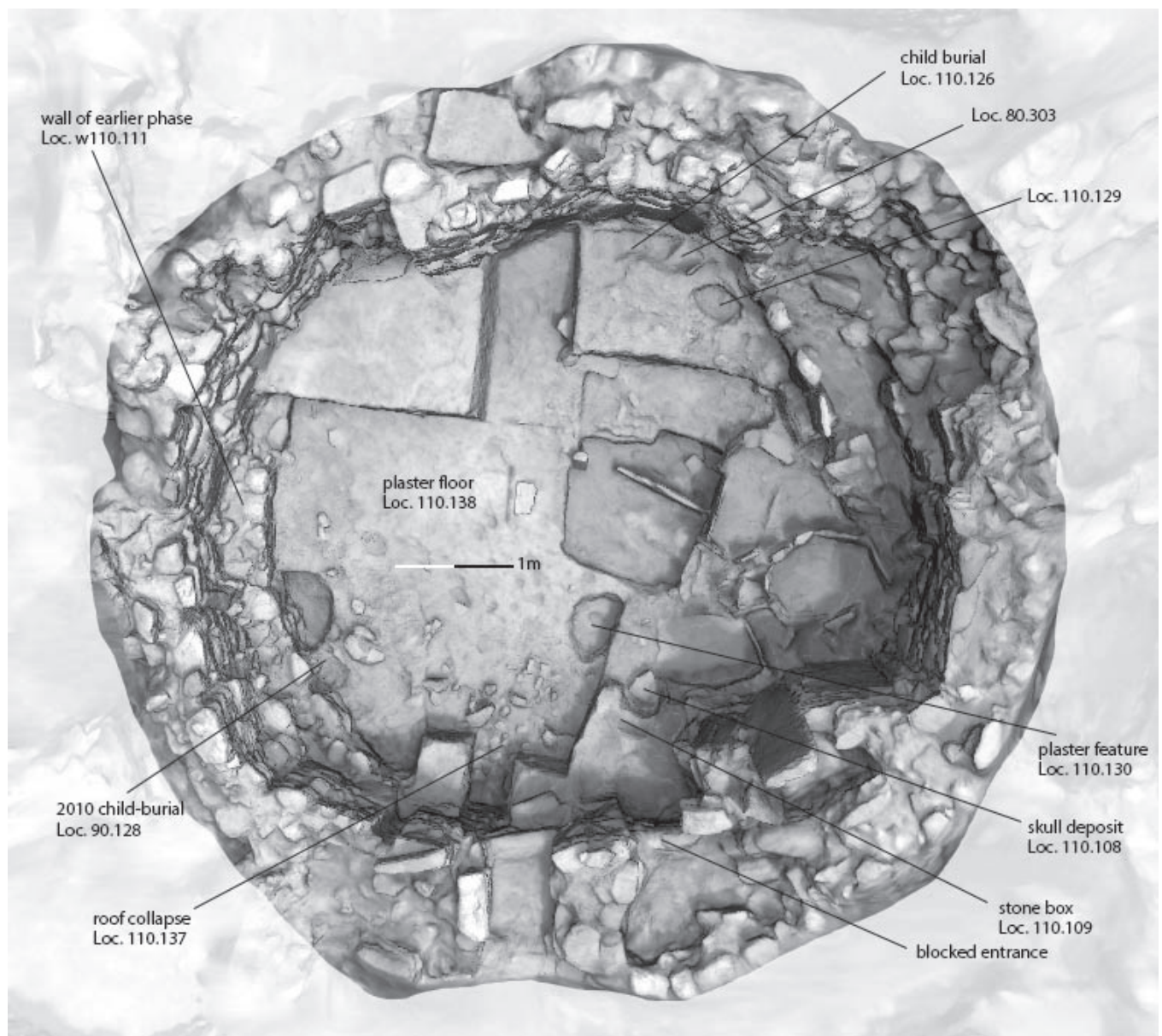


Fig. 5 3D-model of Unit F with Loci mentioned in text (2015) (Moritz Kinzel/ Shkārat Msaied Neolithic project/ University of Copenhagen).

## Unit F

After five years we returned to Unit F for further investigations (Figs. 4 and 5). This year's work focused on the identification of potential additional burials. Another aim was to clarify the stratigraphic relationships and modifications of the building. Therefore it was decided to remove later floors, walls and fill-material to expose the rest of the burials.

The investigations revealed a number of burials of primary, secondary and tertiary nature. A preliminary report on the human remains follows below. Of interest is that there is a very close relationship between human and animal remains. In Unit F several animal bones were found – partly articulated, partly heavily processed – in very close association with human remains, and the rest was discarded in different areas of the buildings. The wall of an earlier building (W Loc. 110.111) could be traced further along the later walls

northwards, but no foundation of the wall has been reached so far. Therefore any phasing has preliminary character.

Just east of the entrance to Unit F at the bottom of wall Loc. 70.209 a stone cist (Loc. 110.108) containing three skulls was recovered. For the construction of the stone cists one of the later plaster floors was cut in order to place this stone cist in and below it. South of the skull deposit another stone box (Loc. 110.109) was discovered, containing remains of more than one fox (*Vulpes sp*) (Fig. 6). By removing the wall (W 70209/110.107) not only the stone box feature (Loc. 110.109) became visible; also an entrance (approx. 65 cm wide) to an earlier phase of Unit F could be identified. This entrance was blocked later and became part of a niche feature (Loc. 110.107).

It seems that the lime plaster floor (Loc. 110.138), which was exposed throughout the unit – belonging to an earlier building phase – is related to this en-

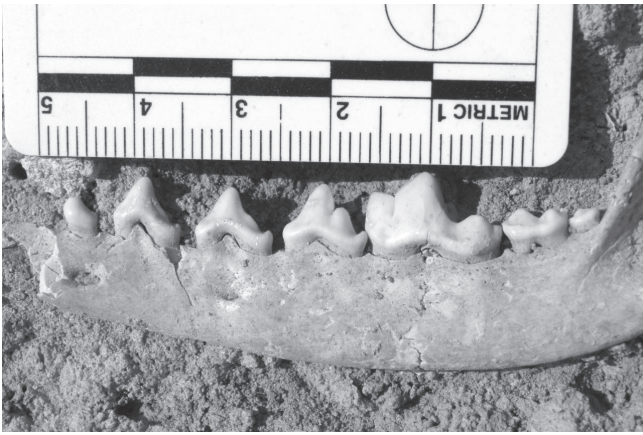


Fig. 6 Jaw of a small fox (*Vulpes* sp) found on the floor surface (Loc. 110.138) (Moritz Kinzel/ Shkārat Msaied Neolithic project/ University of Copenhagen).



Fig. 7 Plaster feature (Loc. 110.130) with flint cache under excavation (2015) (Moritz Kinzel/ Shkārat Msaied Neolithic project/ University of Copenhagen).



Fig. 8 Flint artefacts from the cache (Loc. 110.133) with scale (Photo: Anna Hilton/ Shkārat Msaied Neolithic project/ University of Copenhagen).

trance. In this floor (Loc. 110.138) a plaster feature (Loc. 110.130) was uncovered placed in the axis of the newly recovered entrance. The plaster feature contained a white-greyish powdery material which was



Fig. 9 Excavation of Skull #2 by Marie Louise Jørkov (2015) (Shkārat Msaied Neolithic project/ University of Copenhagen).

rather chalky (Loc. 110.132). No traces of charcoal or charred material could be identified. At the northern tip of the plaster feature (Loc. 110.130) a flint cache (Loc. 110.133) was excavated (Fig. 7). It is the first blade cache found at Shkārat Msaied. The cache consists of seven bidirectional blades; three out of them have been tooled into Jericho-points (Fig. 8). All blades and points belong to the same Raw Material Group (FRMG 6), which is not attested within the geological environment of the Greater Petra Region (Purschwitz 2013), but which is commonly used for core reduction at Shkārat Msaied and contemporary Beidha (Purschwitz in prep.). Caching and hiding is a common practice among the PPNB groups all over the southern Levant (*cf.* Gebel 2002; Barzilai and Goring-Morris 2007) and also attested at contemporary Beidha (Mortensen 1988; *cf.* Barzilai 2010). The plaster feature (Loc. 110.130) was sealed with clayish mortar material (Loc. 110.131) at a later point.

At the moment it seems that all burial cists were cut into this plaster floor (Loc. 110.138) at one point in time. In the southern part of the room the collapse of a roof was resting on the very same floor. Two pestles and a hammerstone were found *in situ* on the floor surface.

### Preliminary Results from the Unit F: Human Remains

Three areas containing human remains were excavated in Unit F. In total a minimum number of 12 individuals (10 sub-adults and 2 adults) were recovered. Up against the northern wall west of stone cist (Loc. 80.303) which was excavated in 2005, infant remains were recovered in the fill. A small stone cist could be identified. The stone cist contained the remains of minimum 3 sub-adults of which two were secondary burials (one was represented by a mandible [6-7 year old child, B 115.102], one was the disarticulated remains of a 38-40 week old foetus/new-born [B 115.104]). The last individual was of a *c.* 4 year old child buried resting on its left side with flexed arms and legs with the back towards the north wall (B 115.103). The head and first cervical vertebra were miss-

ing. No pathology could be observed on the remains.

To the south east of Locus 80.303, a deposit of inter-mixed remains was uncovered lying in a very hard soil. The deposit contained completely mixed up sub-adult remains of minimum 6 individuals: 1 juvenile 8 years (represented by a mandible), 1 child 5 years, 1 child 3-4 years, 1 child 2-3 years, 1 child 2-2,5 years, and 1 child 1,5-2 years. They have been placed at the same time and are likely a tertiary deposit. No pathology could be observed on these remains.

The third excavated area was a stone cist (Loc. 110.108) in the southern part of the house, immediately north of stone cist Locus 110.109 and next to Locus 110.128. The stone cist contained three skulls all facing west. Skull #1 had been placed while soft tissue was still partly present. This was evident from the first neck vertebrae (cervical 1 and 2) still articulating to the base of the skull. Furthermore, the mandible was articulating with teeth in occlusion. The skull belonged to a male aged ca. 30-45. He had suffered periodontal disease and had calculus on molar teeth. He had lost the second and third molar ante mortem. In their place a large abscess (healed) was seen, hence the little wear observed on the occluding mandibular molars. Skull #2 and #3 had their left side of the head up against and partly underneath the southern stone slab separating Locus 110.108 from Locus 110.109. The stone slab had been pushed down after burial and after the construction of the stone cist (Loc. 110.109) as well as the erection of wall locus W70.209/110.107. This had resulted in crushing of the left parietal bones of both crania. Skull #2 was located south west of Skull #1 (Fig. 9). There was no mandible, but it had all its maxillary teeth present. It belonged to a 3 year old child. No pathology could be observed on this individual. The third skull (Skull #3) belonged to a 6-7 year old child. Enamel hypoplasia could be identified on the permanent maxillary incisors, indicating a disturbance in the enamel production as a consequence of malnutrition or other stress related instances around the age of 3-3,5 years.

A complete animal humerus (*Vulpes* sp) was found east of Skull #3. An epiphysis of an animal tibia which may have been from a smaller cat was found as a secondary deposit in Skull #1. In the fill of locus 110.108 a foot bone (a metatarsal) was found from a juvenile c. 6-11 years old. In the fill of locus 110.128 an adult knee cap (a patella) was recovered. It showed initial stages of arthritis.

As the human remains of the 2015 season are mainly coming from the very same contexts excavated back in 2005 we will re-assess all the human remains to clarify the minimum number of individuals; especially in the case of Loc. 80.303.

### Conservation and Protection Activities

In addition to the above presented archaeological investigations the state of conservation of each building unit was assessed and documented. To improve the appear-

ance of the site and also to protect the architectural remains plants and litter was removed from all buildings. A comprehensive state of conservation report was handed over to the Department of Antiquities in 2014. In general the site was (in 2014) in relatively good condition. The fence around the site is also in a good condition. Most damage seems to be related to the intense rainfall in winter 2013/2014, but also due to vandalism. However, the exposure of the archaeological remains to weathering, including intense sun and wind, has resulted in the loss of bonding of the historic Neolithic wall mortars as well as the disintegration of the (sand-) stone material itself; especially the sand stone slabs show flaking and detachment of layers.

The backfill executed in 2010 and 2014 seems to fulfil its purpose to stabilize the structures. The surface run-off water in relation to the heavy winter rainfall has created some drainage gullies in the backfill material. In Unit J, K, P, single wall segments between the post channels (sockets) have collapsed due to the loss of bonding and rainwater penetrating the wall core. To reduce the risk of wall collapse some stabilization and consolidation works were executed in 2014 and 2015 (Fig. 1). In Unit A, C, E, F, K, L, and M joints were re-pointed and voids filled using a (simple) soil mortar. This mortar is made out of the sieved spoil heap soil and water. Due to the high content of calcite (lime) in the soil the mortar is relatively stable but softer than the stone material and the Neolithic mortars containing partly burned lime. The same mortar was used to complete some wall capping to prevent water penetrating the wall core. The repair mortar has to be seen as a so-called sacrificial layer that will need to be renewed on a regular basis. Regular monitoring will help to define maintenance cycles necessary to maintain the current state. In case of Unit L, P and K substantial backfilling was carried out to prevent collapse and minimize water penetration. In Unit F and R only limited areas were backfilled to allow an easy continuation of our work again in 2016.

Compared to the number of damages reported in 2013/2014 only little additional damages could be observed in 2015. The soil mortar used for the consolidation of some walls in 2014 seems to be efficient, but will need some maintenance works in the coming year.

We plan to rise additional funding for conservation and site presentation measures. The self-guiding track around the excavation area has proven to be a very good way of keeping visitors out of the actual trenches. Additional info panels could add considerably to the understanding of the site, but also more innovative techniques as mobile apps could help explain the various features with AR-3D-reconstructions of the buildings (Kinzel and Tanaka 2015).

### Future Plans

In preparation of a final publication, covering the works from 1999 to 2016, additional field work is planned to be carried out in 2016/17, to fully excavate Unit F, and



to complete the investigation into the deep sounding in Unit R. During the 2015 season we were joined in the field by the Greenlandic artist Nuka Godtfredsen who will produce visualisation of interpretational (graphic novel) scenarios in the future to discuss findings and contexts. In addition to the presentation of scientific results it is planned to undertake further preservation measures and to prepare the site for visitors and to promote the concept of the Neolithic Heritage Trail.

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