

Report for the Society for Libyan Studies

The 2019 UCL – UoK – NCAM Expedition to the Southern Gezira (Sudan): Mobility, identity and interaction of pastoral peoples with the Nile Valley

This project is jointly directed by Dr. Michael Brass (UCL) and Prof. Ahmed Adam (U. Khartoum). The field season spanned from 12-26 October.

Fieldwork team members

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Charlie Le Moyne (Student, archaeobotanist)

Joss Wellings (Volunteer, BA in Archaeology, Queens University Belfast)

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El Nazir Babikir (archaeologist from the Ministry of Tourism, Sennar State Government)

And Fakhri Hassan (National Corporation for Antiquities and Museums inspector)

Jebel Moya was extensively excavated by the Wellcome expeditions of 1911-1914, but over half of the 10.4 hectare valley contains substantial unexcavated and viable archaeological deposits. A key aim of this project is the carrying out targeted sampling and recording using more modern methods, including archaeobotany, modern zooarchaeology and osteoarchaeology, including the continued potential for ancient DNA, isotopes and AMS radiocarbon dating, alongside artefactual analysis. A second equally important aim was to undertake community engagement archaeology.

In 2017, the first field season was undertaken and the results to date have been the subject of various journal publications: Azania (Brass *et al.* 2019), Antiquity's Project Gallery (Brass, Adam, Fuller, *et al.* 2018b), Libyan Studies (Brass, Adam, & Wellings 2018) and Sudan & Nubia (Brass, Adam, Fuller, *et al.* 2018a). The Azania paper forms part of a special issue on Sudanese archaeology outside of the Nile River valley, guest edited by Brass. The results are both rewriting the history of Jebel Moya, including an expanded and revised chronology due to revised OSL dates and new AMS dates, serving as a unique reference point for all future work in the central and southern Gezira, and the history of the domestication of sorghum. Finally, select pottery from the 2017 season was examined by Mantas Valancius for his MA thesis under the supervisorship of Patrick Quinn and Brass; the data and results will be the subject of a forthcoming paper.

The second season, as in the first, was jointly directed by Michael Brass and Ahmed Adam. The field notes were recorded by the trench supervisors, checked nightly by Brass who directed the daily excavation activities. The nightly examinations of the day's artefacts were undertaken by Brass and Vella Gregory, with input from all team members. Preliminary pottery descriptions were done by Brass

and Vella Gregory. Vella Gregory, with the invaluable assistance of Abdallah, also undertook important community outreach. Le Moyne did the flotation and took phytolith samples, and the samples will be examined by Dorian Fuller at the archaeobotany laboratory of the Institute of Archaeology (UCL). The faunal remains will be examined by Kevin MacDonald (UCL). Subsequent to the field season, Iwona Koziaradzka-Ogunmakin (bioarchaeologist) examined the four human skeletons back at NCAM in Khartoum. A summary of the results from the 2019 season are presented below, and a longer journal article is in preparation.

Five new trenches were excavated (trenches 6 – 10) and one continued from 2017 (Trench 2). The locations of these trenches are indicated on the image below (Fig. 1). The aim was to both continue carrying out systematic sampling where substantial archaeological deposits remain, build upon last season's work and to retrieve more human skeletons. Trench 2 was the richest area from the previous field season, penetrating down into viable, stratigraphically coherent Neolithic layers and yielding abundant pottery stretching from 2000 years ago (contemporary with the northerly Meroitic state) down to the mid-third millennium BC, animal remains yielding valuable environmental data and the second oldest domesticated sorghum yet found in the world (2575–2350 BC). As the neighbouring gully shows a sequence down to and including Late Mesolithic pottery sherds at the base of the gully floor, the decision was made to resume excavating Trench 2 in an effort to reach bedrock and thereby have the first complete occupational sequence in the central and southern Gezira Plain.

Trench 6 was opened to explore the stratigraphic integrity of the deposits north of where Wellcome stopped his excavations. The North-East sector of Wellcome's Expedition is where the highest concentration of and the richest human burials were located. The boundary line where Wellcome stopped is marked by a low-slung rock wall and the ground between it and the House of Boulders to the north was occupied by his expedition's camp. This trench is located about 30m north of the boundary line.

Trench 7 was north-west of Trench 2 and was a rescue excavation of numerous animal remains laying exposed on the modern ground surface after the summer rains had stripped off the protective top soil. No excavation was conducted after the remains were collected and securely bagged.

Trench 8 was situated 10 m to the north of last season's Trench 3, the rescue excavation of an eroding human skeleton which has since yielded valuable information on age, diet and health (Brass *et al.* 2019). A pair of tibiae were seen eroding out of the base of the gully bank, but with the deposit immediately to the west not showing signs of an active slope towards the gully. During the course of the trench's excavation, the remains of three individuals were uncovered. The cranium of the juvenile was in the north wall and therefore Trench 10 was opened immediately adjacent to the north.

Shortly after Trench 8 had been opened, a promising cranium with complete mandible and maxilla was observed during a concentrated field survey immediately to the south-west of Trench 2. Trench 8 was temporarily closed and Trench 9 opened as a rescue excavation in case forecasted rains returned: viable AMS dates and isotopic data had been obtained from the previous season's animal and human teeth rather than post-cranial or any other cranial remains. For Trench 9, excavation did not continue subsequent to the extraction of the cranial and post-cranial remains, although the

immediate vicinity shows enormous promise for both the retrieval of additional human skeletal remains and for a deep, continuous stratigraphic sequence similar to that exposed in Trench 2.

Trenches 2 and 6 were standard units excavated in 10 cm spits and each was sampled for flotation for archaeobotanical remain. In Trench 8, four standard 10 cm spits were excavated until the first human skeleton was reached. Neither Trench 2 nor 6 reached natural bedrock or archaeologically sterile horizons, so stratigraphy was drawn. In Trench 2, plastic woven sacks were laid on the lowest level reaches and the trench was backfilled, to help protect unexcavated deposits and to facilitate further investigation in future. Excavation of the lowest levels of Trench 2 will resume in Season 3.



Figure 1. Photographic image of the Jebel Moya valley taken by Brass facing south from the House of Boulders. The location of all the 2019 trenches are marked.

Trench 2.

Trench 2 is 2 x 2.5 m. It is situated on a highpoint in the preserved site sediment near an eroded gully section that indicated a considerable depth of stratigraphy, including Mesolithic material at the base of the gully exposure. In 2017, it was excavated to a depth of 150 cm. In 2019, it was further excavated

to a depth of 240 cm (Fig. 2). There are a total of 27 spits. A feature, whose base is in Spit 19, is the remains of a low-laying sun-dried mud wall with small stone inclusions (Fig. 3); similar were seen on the outskirts of the modern village at the base of the jebel for demarcating an area outside of the mudbrick home. The trench continues to be the richest in finds of all kinds recovered during excavation and in the potential of macro-remains recovered through flotation. Sediment samples for phytoliths and flotation were taken from each spit. It remains the deepest trench excavated and it has not yet reached sterile deposits. Of the four geological strata in evidence, the excavation is in the lower-most Stratum D and the pottery is that of the Late Mesolithic (late 6th millennium BC) at Al Khiday (northern-most Gezira Plain) and in the Central Sudan.

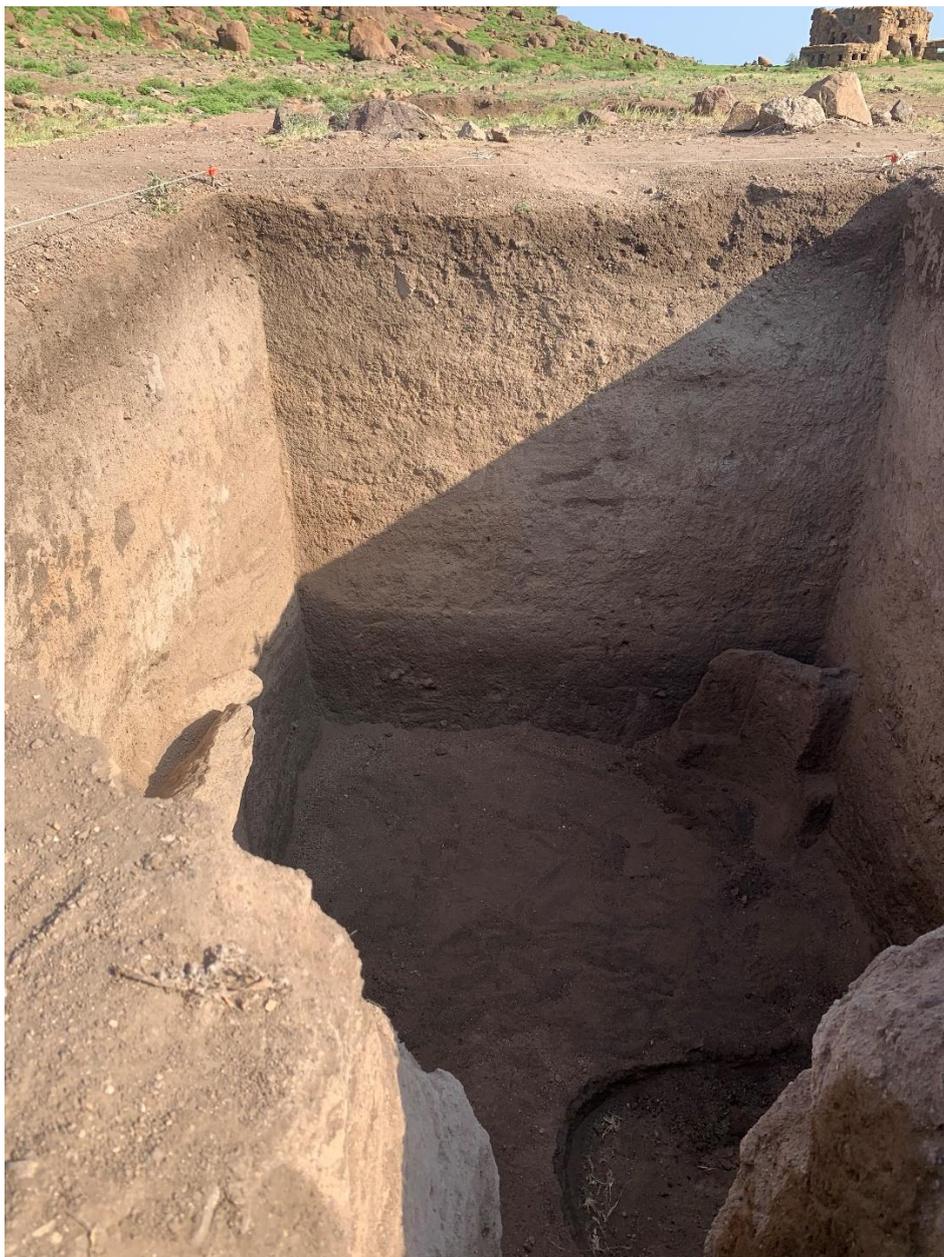


Figure 2. Trench 2 excavated to a depth of 240 cm. The House of Boulders at the north of the valley is in the top foreground. There are two former ground surface stones on the left and a hardened mud feature on the right.



Fig. 3. Trench 2. Sun-dried mud wall whose base is at the bottom of spit 19. The arrow points to cardinal north.

Trench 6

This unit was 2m by 2m and excavated to a depth of 80 cm (Fig. 4). It is located just over halfway southwards between the House of Boulders, which is located at the north of the valley, and where Wellcome stopped his North-East sector excavations (Figs. 5-6). Wellcome's camp was located in the northern stretch of the valley. Initially, two spits were dug for the removal of the top soil. There is no stratum A and the excavation was immediately into Stratum B. Pottery sherds were found from a depth of 9 cm onwards. However, modern artefacts like glass were found in the first two spits, indicating mixing with remains from Wellcome's camp. Stratum C began with the onset of Spit 3 at 20 cm below the modern ground surface. While lithics and some animal bones were present, it is the pottery sherds which are the most interesting. The sherds are classified as Neolithic and significantly expand the range of variability beyond that seen in the British Museum and Petrie Museum's collections and from the 2017 season's collection. While more detailed post-excavation analysis is required, there are (superficial?) resemblances between Neolithic sherds from this trench and Trench 8 with sherds from El Geili and Kadero Neolithic assemblages in the Central Sudan. Lip plugs were present in different spits contemporary with the Neolithic pottery. Flotation samples were taken.



Figure 4. Trench 6. Spits 1-8. Photo taken facing eastwards. The large stones visible are part of an ancient ground surface also seen in the north-west and south-west corners.



Figure 5. Trench 6. Looking north to the House of Boulders.



Figure 6. Trench 6. Looking south. Beyond the spoil heap from Trench 6 is the low-laying rock wall which formed the boundary between the northern-most extent of Wellcome's North-East sector excavations and his camp between the wall and the House of Boulders.

Trench 7

Animal remains were observed on the modern ground surface to the north-west of Trench 2. They had been exposed by either rains in 2018 or 2019, or a combination thereof. A 1.9 x 1.2 m square was opened, oriented northwards, to encompass the exposed bones. Excavations were not undertaken after the bones had been removed and bagged. Inclusive in the remains were a shoulder joint and two sets of teeth. The animal remains from this trench as well as the other trenches will be examined by Professor Kevin MacDonald (Institute of Archaeology, University College London). No flotation samples were taken.

Trenches 8 and 10

A pair of tibiae were observed protruding 60cm from the wall out into the neighbouring gully at an estimated 80 cm depth from the modern ground surface which was flat at this point. A 1 x 1m square was opened. The top of a human adult cranium was found at the base of spit 4, at which point we stopped excavating in spits and started the process of uncovering the human remains. In the spits, we found faunal remains including animal teeth, disintegrated faunal remains, Neolithic and one Late Mesolithic sherd.

There is a bed of almost continuous rock along the western portion of the trenches and continuing to the east along the southern side of Trench 8. The adult cranium was deliberately placed on this stretch of rock, with the rest of the body lain on sandy soil.

In short, three bodies were excavated over the two trenches:

Skeleton 1 (Fig. 7): With the adult cranium. Buried prone with head to the west (east->west orientation) and face to the south. The lower limbs and feet were not present. The teeth are in excellent condition, and should provide good radiocarbon and isotope dates and perhaps even give a chance at DNA extraction. Overall, the individual was likely a young male: ?M – 25-35 years. There was a broken, backed large projectile point inside the left elbow over the back. Other lithics, animal bone and ostrich eggshell were also present around the burial. Animal vertebrae were found above and to the left of the individual's left elbow.

Skeleton 2. These were the tibiae protruding into the gully. Only a fragment of the occipital bone and mandible were present, and the post-cranial skeleton consisted of the fragmentarily preserved left scapula, humeral shafts, radial shaft, the left proximal femur, proximal tibiae and fragments of the fibular shafts. The orientation of the body was north-west and there are signs in Trench 10 of erosion having occurred. The femurs overlay the tibiae of Skeleton 1. The bones appear to be gracile rather than robust like Skeleton 1's. Overall, the individual was likely a Middle Adult Female: ?F – 35+ years. It would appear to have been a later burial unrelated to the contemporary burials of skeletons 1 and 2.

Skeleton 3: There are cranial pieces and knees, a few fragments of ribs, a potential right fibia and what appears to be a sacrum. The frontal sinuses were not formed yet, so the sub-adult was most likely around 6+ years at the time of death. Ostrich eggshell, lithics and Neolithic pottery are in association, while a microlithic arrowhead was found nearby.

The bodies were in Stratum C, with Stratum C beginning at a depth of 26 cm below the modern ground surface. Lithics, animal bone (including vertebrae), Neolithic pottery and shell were found in association with the burials.



Figure 7. Trench 8. Skeleton 1 during excavation.

Trench 9

The summer rains in 2018 and/or 2019 has exposed part of the mandible and maxilla. A good set of teeth was visible and the decision was made to excavation to determine how much of the human skeleton remained, on the basis of the decent set of dating and isotope results returned from the teeth of the human skeleton from the 2017 season (Figs. 8-9). The remains are 30-35 m south-west from Trench in Stratum C.



Figure 8. Trench 9. Mike Brass is preparing to excavate the post-cranial remains having cleared around the cranium



Figure 8. Trench 9. As the post-cranial remains are cleared.

The head was turned to the body's right, facing south. The body was oriented north-west-west. The teeth are in excellent condition. The mandible was robust but also fragile. Thick brow ridges. The individual was likely male although this is said with the usual caveats as the pelvis does not survive. The post-cranial skeleton included fragmentarily preserved right scapula and clavicle, shaft of the right humerus, fragmented cervical vertebrae and ribs, one cuneiform and proximal hand phalanx. Overall, the individual was a male: ?M – 30-45 years.

Two small size depression were noted on the frontal bone and above the orbits. Koziarzka-Ogunmakin proposes that the depression observed on the left frontal bone could be a healed trauma from a projectile (round and well healed). Brass, who excavated the skeleton, unearthed a microlithic blade present by the right eye socket and another lithic on top of the chest.

Ostrich eggshell was found directly under the chin, not washed in, and also ca. 20 cm from the base of the mandible on top of the chest. A faunal bone was also found with the human cranium. The pottery sherds in association were Neolithic. There was also charcoal on top of the chest and where the left hand would have been. No flotation or phytolith samples were taken.

Outreach programme

The outreach programme is under the auspices of Dr Vella Gregory and conducted in partnership with Rayan Mahjoub Jarelnabi Abdallah. We have adopted a broad approach to the outreach work. While the community at modern Jebel Moya remains at the heart of what we do, we are also committed to sharing our work to a very broad audience. To this end, Vella Gregory has established a blog (<https://thejebelmoyaproject.wordpress.com/>) and a Facebook page (<https://www.facebook.com/JebelMoya>). Both have attracted considerable interest and we continue to share resources freely. Throughout the excavation, Vella Gregory kept the Facebook page updated with latest developments, including news and photographs; one of the followers, apart from scholars, is a former resident of Jebel Moya who now lives in Saudi Arabia.

We are very keen to have more blog posts in Arabic. Thus far, we have had one contribution from Prof. Ahmed Adam and it remains one of the most read posts on our blog. Our Sudanese colleagues have been asked to send more contributions. It is also our policy to publish our conference presentations and concise, informative summaries of published papers on the blog. The paper delivered by Vella Gregory at the European Association of Archaeologists conference (September 2019) has drawn widespread attention, as has Brass and Vella Gregory's joint presentation at the African Archaeology Research Day (November 2019).

At Jebel Moya, Vella Gregory's first task was to establish good relations with the community. The response has been extremely positive. The people of Jebel Moya have shown great interest in our work. People of all ages constantly visited our room and asked questions about the materials we excavated, the site and its history. They were encouraged to handle material and offer their own observations. Furthermore, a number of men and younger boys frequently visited us on the Jebel, observed excavation and asked many questions. Special thanks go to Ammar Abdalla and Osman Karrar, who patiently translated for us and answered many questions. There was great interest in the past environment (Moya is Arabic for water).

Many women in the village were kind enough to open their doors to Vella Gregory and invite her for coffee. With the excellent help of Abdallah, she went around various homes and showed objects and answered questions. Mahjoub also conducted interviews with some villagers and these are currently being analysed. Anfal Albadwi also provided valuable assistance. In the process, Vella Gregory was also asked to offer English lessons. She was happy to oblige, and this enabled me to meet more people. She also organized two drawing sessions for the children. They were very interested in our work and they drew beautiful pictures of the Jebel and the pottery finds. These pictures are now part of the Jebel Moya archive.

Finally, Vella Gregory's work in the village inspired her to write a series of stories in English. Called "The Adventures of Ameera" these take place in ancient Jebel Moya. They are written in simple but effective English and are intended to communicate our work and provide help in terms of education. She is currently working on more stories and wishes to gift these to the Ministries of Antiquities and Education. It is hoped that a Sudanese illustrator can enhance these stories with pictures.

Outreach work will continue throughout the year with the assistance of Abdallah.

Flotation and wet-sieving program

A total of 19 bulk sediment samples were taken from trenches 2 and 8 for phytolith (microbotanical) analysis. A total of 20 sediment samples – 786 litres, with approximately 40 litres of sediment sampled per spit – were systematically processed from trenches 2, 6, 8 and 8 using a washover bucket method. A 250µm mesh was used for flotation bags and a 3mm mesh for heavy fraction. The latter returned charcoal and hopefully small seed/fruit remains. Analysis of the samples will be conducted by Professor Dorian Fuller at the archaeobotany laboratory of the Institute of Archaeology, University College London.

Summary

The 2019 season therefore focused – by virtue of the unexpectedly thin Stratum B in the North-East of the valley – on the Neolithic and Mesolithic occupations, and on interactive community engagement initiatives. The human skeleton from Trench 9 is from Stratum C and the expectation is that it will AMS date to the third millennium BC. The human remains from trenches 8 and 10 are also from Stratum C, the same stratum in which the nearby human skeleton from Trench 3 was excavated in 2017 (3880 ± 40 bp, 2470–2210 BC. GdA-5760), and the expectation is for a broadly similar date on the molar dental enamel from Trench 8's Skeleton 1.

Iwona Koziarzka-Ogunmakin undertook the examination of the human skeletons in the middle of November 2019, with the remains stored at NCAM (Khartoum). Samples were taken for isotope analyses (carbon, oxygen and strontium) and radiocarbon dating. Should the radiocarbon results return the middle-late third millennium BC dates expected, or even a second millennium BC date, they will confirm an emerging hypothesis that burial activity started much earlier than the first century BC – mid-first millennium AD BC model proposed by Brass in his 2016 Ph.D thesis and confirm that we are looking at multi-phase burials. The challenge will be to reconstruct the distribution and nature of these multi-phase burials. Furthermore, as the pottery analyses progresses, questions can be posed about the relationships between Jebel Moya and the central Sudan (immediately to the south and immediately to the north of Khartoum) during the millennia prior to the late first millennium BC.

In this light, a new site survey in light of two season's worth of information was conducted at the end of the season. Two locations in the west have been identified for their visual potential to yield both human and animal bones, and pottery amongst other material remains, in strata B and C. This would return the initial focus back to first millennium BC occupation phase before mirroring Trench 2 in proceeding down into the Neolithic and Mesolithic strata over the next two field seasons. Additional fieldworkers have been identified to assist with the excavation work. At the same time, the mobile unit excavating human skeletal remains will continue and two promising localities with visual human remains (and associated grave goods) have been identified in the centre of the valley around 40 metres north of trenches 3, 8 and 10.