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Small Enclosure, Big Meals: Meroitic cooking in regional perspective

1. Introduction

The Great Enclosure at Musawwarat (Fig. 1) is rightly famous among the archaeological history of the Sudan, comprising a complex architecture including temples, terraces, ramps and courtyards, and a rich pictorial repertoire and emphasis upon African animal symbolism (Wolf 1999; Wolf 2001; Wenig 2001; Eigner 2010; Kleinitz 2013). Many aspects of the Great Enclosure are singular in the Meroitic kingdom, especially its unusual architectural layout and its hinterland location in the savannah landscape of the western Butana, wherein it differs from settlements located along the river Nile (Baud 2008; Wolf 2019). Despite these unique aspects, Musawwarat occupies an important place in Meroitic archaeology in general, and in particular regarding inter-regional interaction in the Middle Nile region – not only with the north but across Sub-Saharan Africa as well (Wolf 2014).

Less famous, though no less interesting, is the Small Enclosure at Musawwarat, located ca. 70 m south of the Great Enclosure (Fig. 2). Excavated in 1961 by Karl-Heinz Otto and his team under the direction of Fritz Hintze, the Small Enclosure is a monumental domestic building (ca. 44 x 39 m) with internal structures variously constructed of stone and mudbrick. Its thirty-four rooms and large open courtyard were surrounded by a perimeter wall, accessible through doorways on each corner (Hintze 1962a: 460-461; Hintze 1962b: 200-201). First constructed in the Early phase of the Meroitic period, ca. 3rd century BC, its erection was perhaps associated with the building program of king Arnekhamani. After a period of neglect, the Small Enclosure was renovated and remodelled during the 1st century BC / 1st century AD (Otto 1967: 6; Fitzenreiter 1999: 45-48).

The Small Enclosure appears to have functioned as a high-status residential building. However, despite being an elite residence, it does not conform

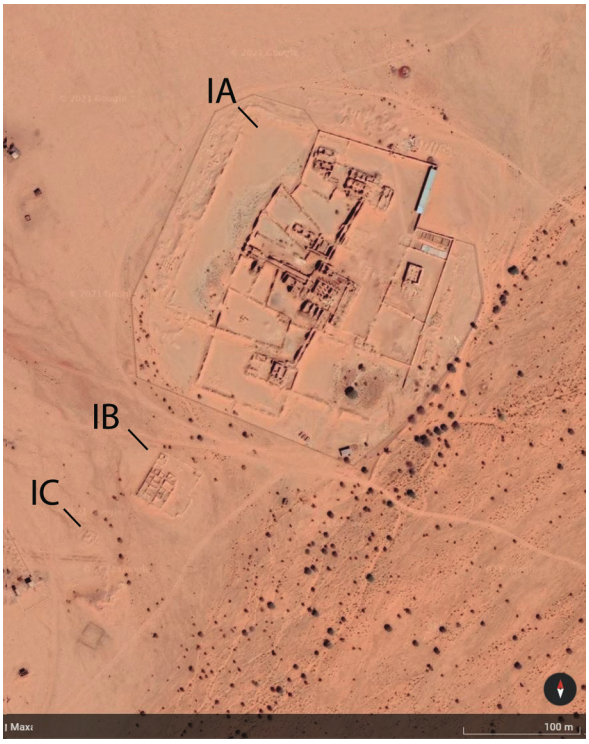

Fig. 1: Part of the Meroitic complex at Musawwarat, showing the Great Enclosure (IA), the Small Enclosure (IB) and the Smallest Enclosure (IC); (adapted from Google Earth).

to typical Meroitic palaces, such as those at Wad ban Naqa, Muweis or Jebel Barkal (Maillot 2016), and much like the Great Enclosure itself, it is unique in design. From the present evidence it appears that the Small Enclosure was less a permanent elite household but rather a residential structure used for periodic gatherings (Hintze 1962b: 202).

Whilst less famous and less resplendent in the symbolic arts of the elite, the Small Enclosure is nonetheless rich in other kinds of archaeological evidence, especially those that concern daily life in the Meroitic period. As a domestic building – albeit a high-status one – comprising living rooms, baths, dedicated kitchen areas and a large courtyard, the Small Enclosure has great potential to inform on the structure and activities of everyday life in Meroitic times, none more so than in the central pursuit of the preparation and consumption of food and drink.

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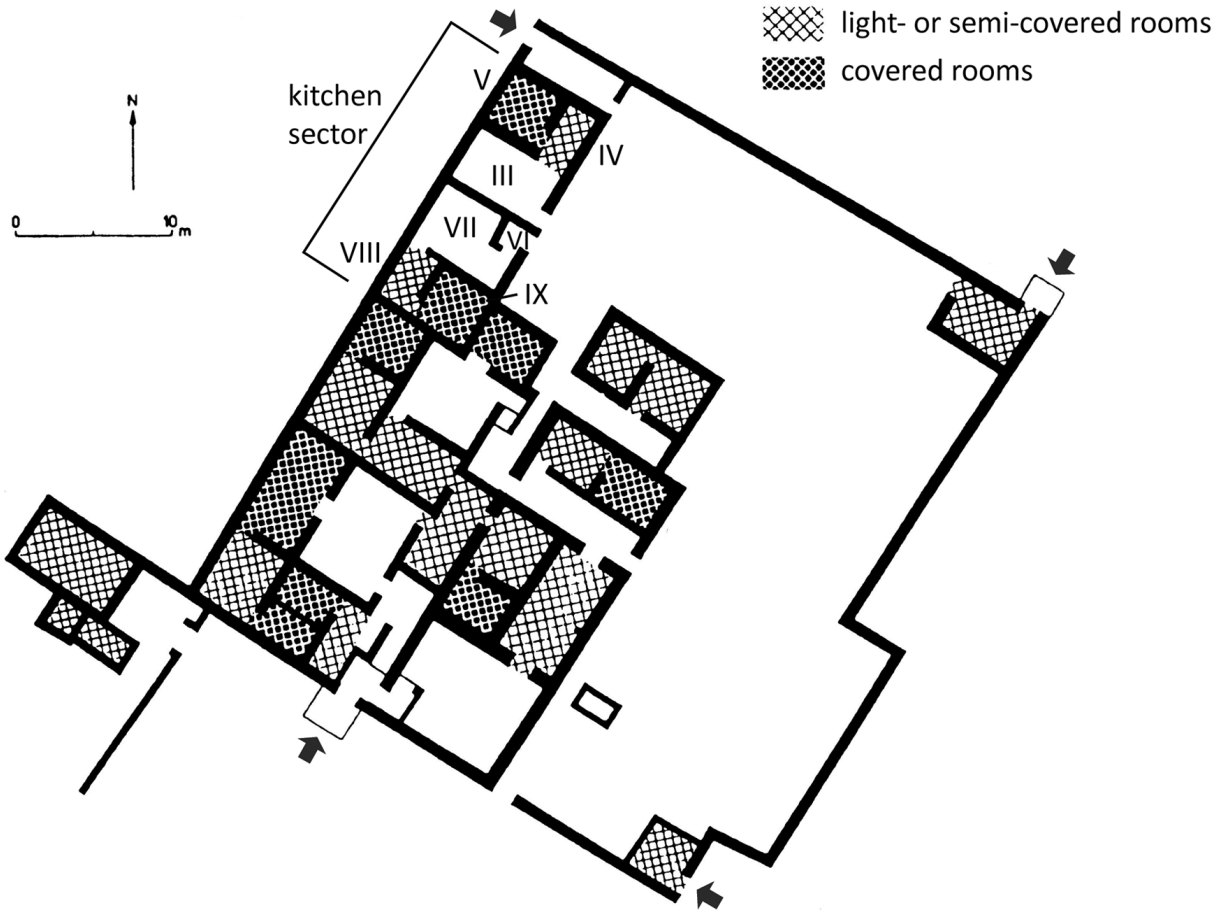

Fig. 2: Plan of the Small Enclosure during its second building phase, ca. 1st centuries BC/AD (from Fitzenreiter et al. 1999: fig. 18; with additions).

2. Cooking in the Small Enclosure: The Connecting Foodways Project

The analysis of the kitchens and cooking pots of the Small Enclosure reported upon here was undertaken as part of the project 'Connecting Foodways: Cultural Entanglement and Technological Transmission between the Middle Nile Valley and Central and Eastern Africa during the Early Iron Age', which is based at the German Archaeological Institute (DAI) and funded by the Deutsche Forschungsgemeinschaft (DFG) within the frame of the Priority Programme 2143 'Entangled Africa'. The project uses similarities and evolution in culinary traditions to provide a broader, less exclusive means of studying intra- and inter-regional interaction, which typically relies upon the study of prestige or state media (e.g. temples, monumental graves, luxury goods, religious art and iconography) as evidence for transmission. The nature and spread of foodstuffs and food technologies, especially pottery vessels used in the preparation, cooking and serving of foods, as well as cooking installations, provide an important basis for studying day to day culinary practices, the comparison of which offers a wholly different perspective on cultural connections across Sub-Saharan Africa.

This approach focusses on kitchen contexts and handmade cooking pots, materials typically overlooked in the archaeology of complex societies and their interaction, which emphasise the rarefied and more sensational aspects of the archaeological record (Matthews and Nowotnick 2019: 469-472). As a consequence, their study requires not only new data but also the need to revisit old archives to collect the kinds of data that may not have been recorded as part of earlier studies and publications.

The abundance of archaeological evidence concerning cooking at the Small Enclosure reveals that the site has enormous potential to contribute new insights into daily life and food-related activities, despite having been excavated over 60 years ago.

3. Research history of the Small Enclosure

Two preliminary reports in German and English were initially the only published accounts of the archaeological findings of the Small Enclosure (Hintze 1962a: 460-463; Hintze 1962b: 199-202), until a final publication appeared almost 40 years after the original excavations had begun (Fitzenreiter, Seiler and Gerullat 1999). The latter provided a detailed and insightful analysis of the building history and domestic organisation of the site, its pottery assemblage and its small finds.

The large collection of pottery from the Small Enclosure, which underwent detailed post-excavation analysis by Anne Seiler (Seiler 1999), provides an important corpus of ceramics from a domestic structure of the Meroitic period (Fig. 3). Emphasis in this analysis was inevitably placed upon the wheel-made pottery, as it largely dominates the assemblage, as well as decorated wares. However, it included an important collection of coarse ware cooking pots as well, especially from the kitchens.

The 1961 excavations were concerned primarily with understanding the architecture and building history of the Small Enclosure. The recovery and analysis of living floors and specific activity areas were inevitably less of a priority (Fig. 4). Thus, trenches were organised by artificial sections instead of historically-relevant spatial units, such as rooms. Floor levels and plana were only recorded in sketches, and the spatial organisation of finds was sparsely recorded in detail.

As a consequence, the pottery is not easy to evaluate in its spatial distribution, and room assemblages are difficult to reconstruct from the final publication (e.g. Seiler 1999: 56). Only a selection of vessels were illustrated and detailed information on find spots, fabrics, use wear or measurements of individual vessels are absent. While the final publication ably fulfils the aims of the excavation and the detailed reporting on those aims, it typifies the then-contemporary concerns of archaeology in the region.

Questions with regards to food-related practices across the site therefore remained: for example 1) which cooking pots and other pottery vessels as well as tools and food remains had been found together, 2) how many cooking installations were recovered in the kitchens, and 3) how does the cook ware differ from the pottery recovered in other parts of the site?

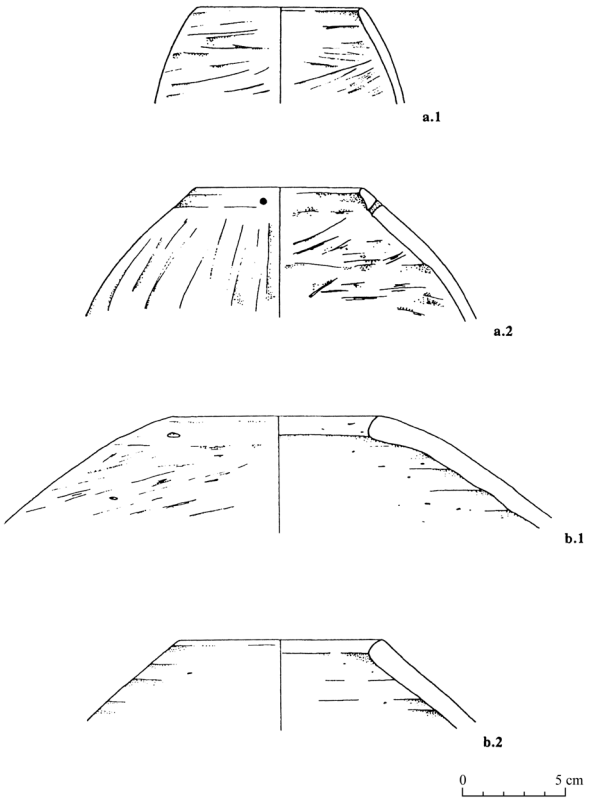

Fig. 3: Examples of cooking pots and storage jars from the Small Enclosure (from Seiler 1999: fig. 56).

Given that these concerns differ significantly from those of the original analysis, it was necessary to revisit the excavation archive of the Small Enclosure, in the hope of being able to assign specific pottery forms to their find location and to assess their role in food preparation activities at the site.

4. The Small Enclosure in the archive

The excavation archive from the Small Enclosure is kept at the Department of Northeast African Archaeology and Cultural Studies (AKNOA), Humboldt-Universität zu Berlin, as part of the

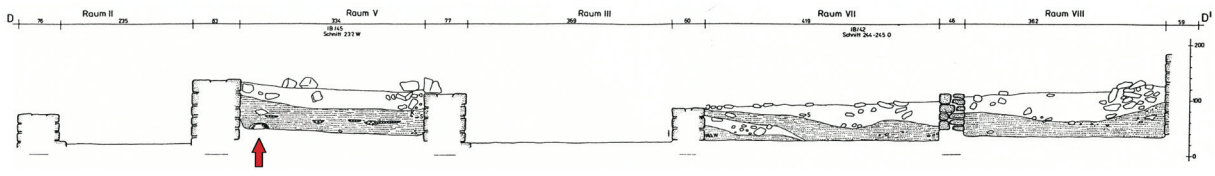

Fig. 4: North-South cross-section through the kitchen sector of the Small Enclosure, showing the stratigraphic sequence across three of the rooms, and an oven pot on the floor of room V (from Fitzenreiter 1999: Nachsatz Schnitt D).

Document	Description	Author(s), date	Contents	Archive no.
Raumbuch	1 A5-book	field sketches 1961	excavation sketches and measurements	Doku.-Vz. 108
Feldtagebücher	2 A5-books	field notes 1961 presum. by Otto	excavation notes and sketches	Doku.-Vz. 95, 96
Grabungstagebücher	2 A4-books	season diary 1961 by F. Hintze	general notes on the excavation season	Doku.-Vz. 2, 6
Fundkataloge II and IV	2 A5-books	finds catalogue 1961 presum. by Buschendorff-Otto	register of objects by provenance	Doku.-Vz. 21, 23
Lochkarten	836	punched data cards	with descriptions and black-and-white photographs (by U. Hintze)	stored in chest Q, drawer 3
Architectural and section plans (large scale)	304	Hinkel, Priese and others	original pencil drawings, inked plans and copies, different sizes	stored in unit W, chest PS 8, drawer 45
Reports of materials analyses (translated)	4 A4-books	1975 by Prof. Duma, Hungary	chemical and petrographic analysis of pottery, mortar and stone samples	Doku.-Vz. 100, 101, 102, 105
Catalogues of rim and bottom shapes	2 folders	1990's by Seiler		-
Pottery cards	429 A5-cards	1990's by Seiler		-
Small finds drawings	34 A4-sheets	1997 by Gerullat	original pencil drawings	-

Tab. 1: Archival materials for the Small Enclosure in the Sudan Archaeological Collection & Archive at Humboldt-Universität zu Berlin (excluding the extensive photographic archive).

Fig. 5: Locating the excavation records of the Small Enclosure in the Sudan Archaeological Collection & Archive (photograph: Ulrike Nowotnick).

wider Sudan Archaeological Collection & Archive (Fig. 5).[2] Archival materials are distributed across two depot and study rooms in the main building of the Humboldt University and have recently been re-inventoried, reorganised and partly digitised (Kleinitz 2019: 49). The archive includes field notebooks, photographs and archaeological drawings relating to the Small Enclosure (Tab. 1 and Fig. 6).[3]

Whilst it is normal for international archaeological missions to archive archaeological finds in on-site magazines and in regional and national museums in Sudan, a division of finds from Musawwarat between 1960 and 1970 granted permission to export some of the artefacts to Berlin for long-term study and exhibition (Kleinitz 2019: 37). As a consequence, the archive also consists of a considerable sample of pottery and small finds from the Small Enclosure.

2 The archive was visited between 28th November and 5th December 2019.

3 Some of the objects and documents were found to be missing. This concerns most of the ceramic documentation conducted by Anne Seiler in the 1990s (e.g. spreadsheets, photos and pottery drawings) and also some of the actual cooking pots illustrated in her figures could not be found. Also the finds catalogue III was not available. We would like to express our thanks to Petra Andrássy, Martin Fitzenreiter, Angelika Lohwasser, Anne Seiler and Steffen Wenig for their prompt and friendly replies to our enquiries in search for these materials.

Fig. 6: Original excavation records from the 1961 excavations of the Small Enclosure as stored in the Sudan Archaeological Collection & Archive, including punch cards with photographs and descriptions, finds catalogues, excavation notes and sketches (photograph: Steven Matthews).

The majority of this pottery is stored in 30 cardboard boxes, which are sorted by provenance and labelled with room numbers (Fig. 7). The sherds drawn by Seiler are kept in separate boxes sorted by 'Zeichennummer' or drawing number (i.e. ZN 1-99, 100-199, etc.), while a few further boxes contain miscellaneous finds (Fig. 8). Some well-preserved objects have been transferred to the study collection in the neighbouring room. Each sherd has been labelled with a find number (e.g. KA 110,7) and can thus be assigned to an excavation trench with the help of the finds catalogue (Fig. 9).[4] However, the allocation of individual objects to chronological phases, occupation periods or contexts requires more extensive consultation of all excavation records.

5. Kitchens and cooking pots: First results

The analysis of material from the Small Enclosure is still ongoing.[5] Here we offer some initial discussion

Fig. 7: Boxes with pottery from the Small Enclosure stored in the Sudan Archaeological Collection & Archive at the Humboldt University (photograph: Ulrike Nowotnick).

and observations on the kitchens and cooking pots studied, as they pertain to the study of inter-regional interaction in food traditions (Fig. 10).

5.1. Kitchens in the Small Enclosure

In the archaeology of foodways, specialised food preparation areas or 'kitchens' form an important analytical unit. When faced with large, socially and functionally differentiated structures, kitchens and associated working areas provide an essential spatial context for focussing analysis in both the selection of materials and the forming of research questions (Klarich 2010).

Different kinds of kitchens have been identified across the Meroitic kingdom, and their form often has a direct relationship to the wider function of a building or site (Matthews and Nowotnick 2019: 475-477). Those of the Small Enclosure appear to take the form of a 'Wirtschaftstrakt' or service block within official structures. This food processing sector is comprised of two separate but fully functional kitchen units (Fig. 11).

4 The provenance of a sherd from the Small Enclosure can only be revealed by consulting a 'Fundkatalog', alongside an unpublished partial trench plan. Although not all trenches are marked on the plan, their labelling follows a systematic (outlined in Fitzenreiter 1999: 6-7) which enables one to approximately reconstruct the location of most trenches. As Fundkatalog III unfortunately is missing, the find spots of several sherds remain unknown (i.e. find numbers KA 241 to KA 347).

5 The manuscript of this paper has been submitted for publication in 2020. A more detailed study on the foodstuffs and food technologies of the Small Enclosure is in preparation but the global Covid-19 crisis has resulted in a delay in the processing of laboratory samples central to this analysis.

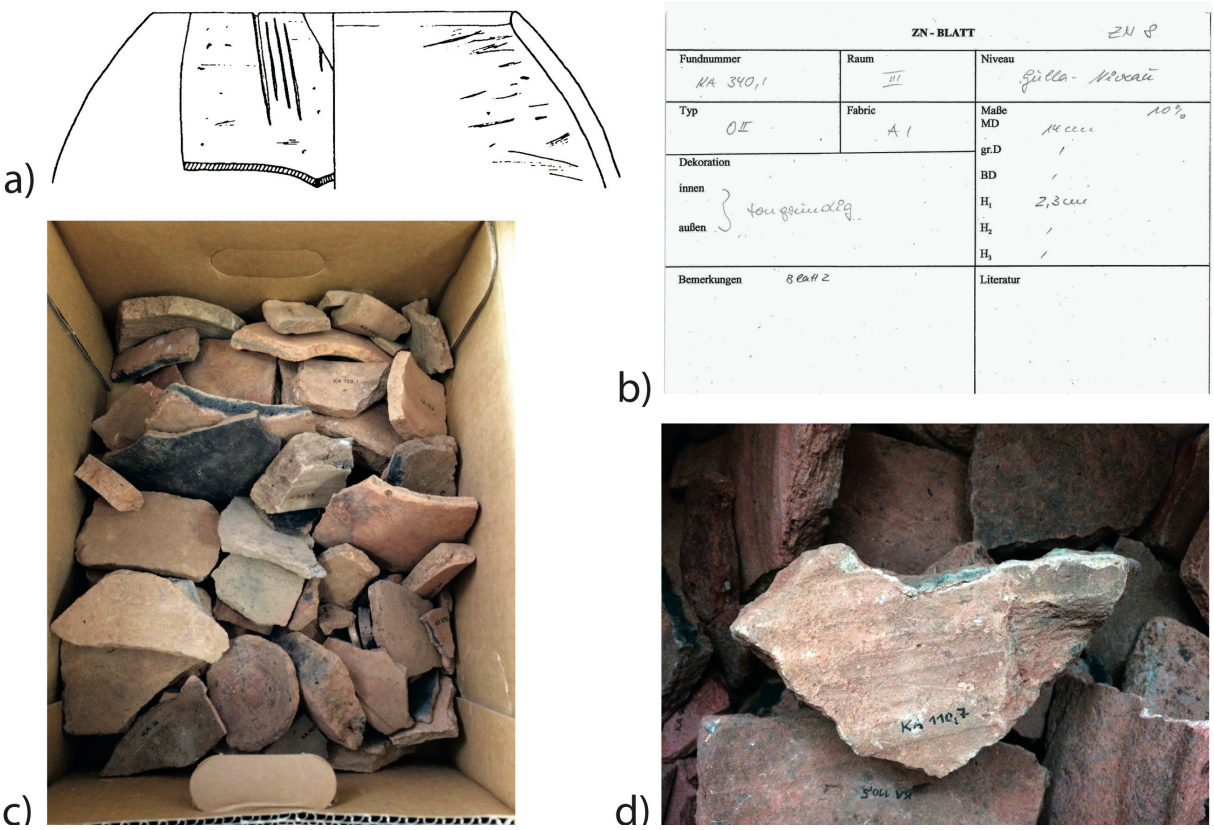

Fig. 8: (a-b) Pottery drawing and register card as documented by Seiler (1999); c-d) view into pottery box showing individual sherds from the Small Enclosure with their find numbers (photographs: Ulrike Nowotnick).

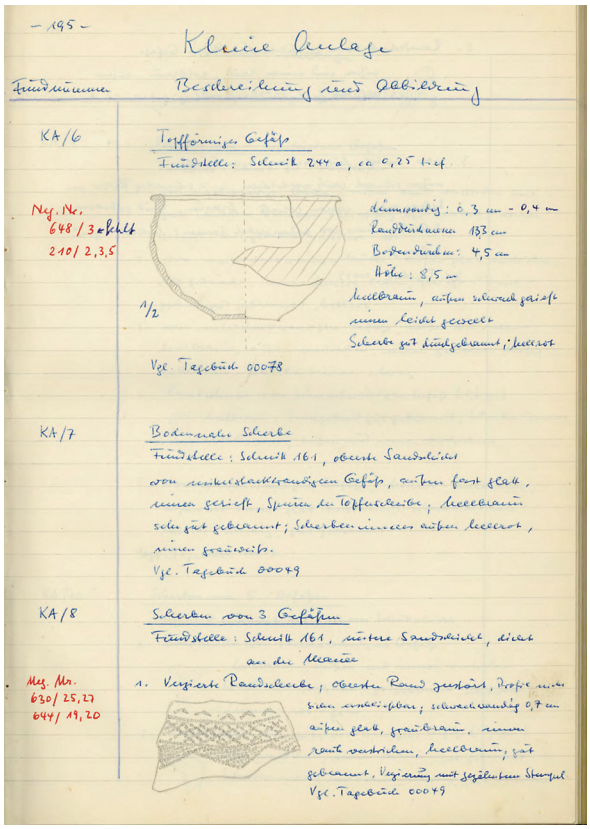

Fig. 9: Page 195 of the original finds catalogue (Fundkatalog) II of 1961 (Dok. Vz. 21).

Fig. 10: The exhibition room at Humboldt University repurposed for the work by the Connecting Foodways team (photograph: Steven Matthews).

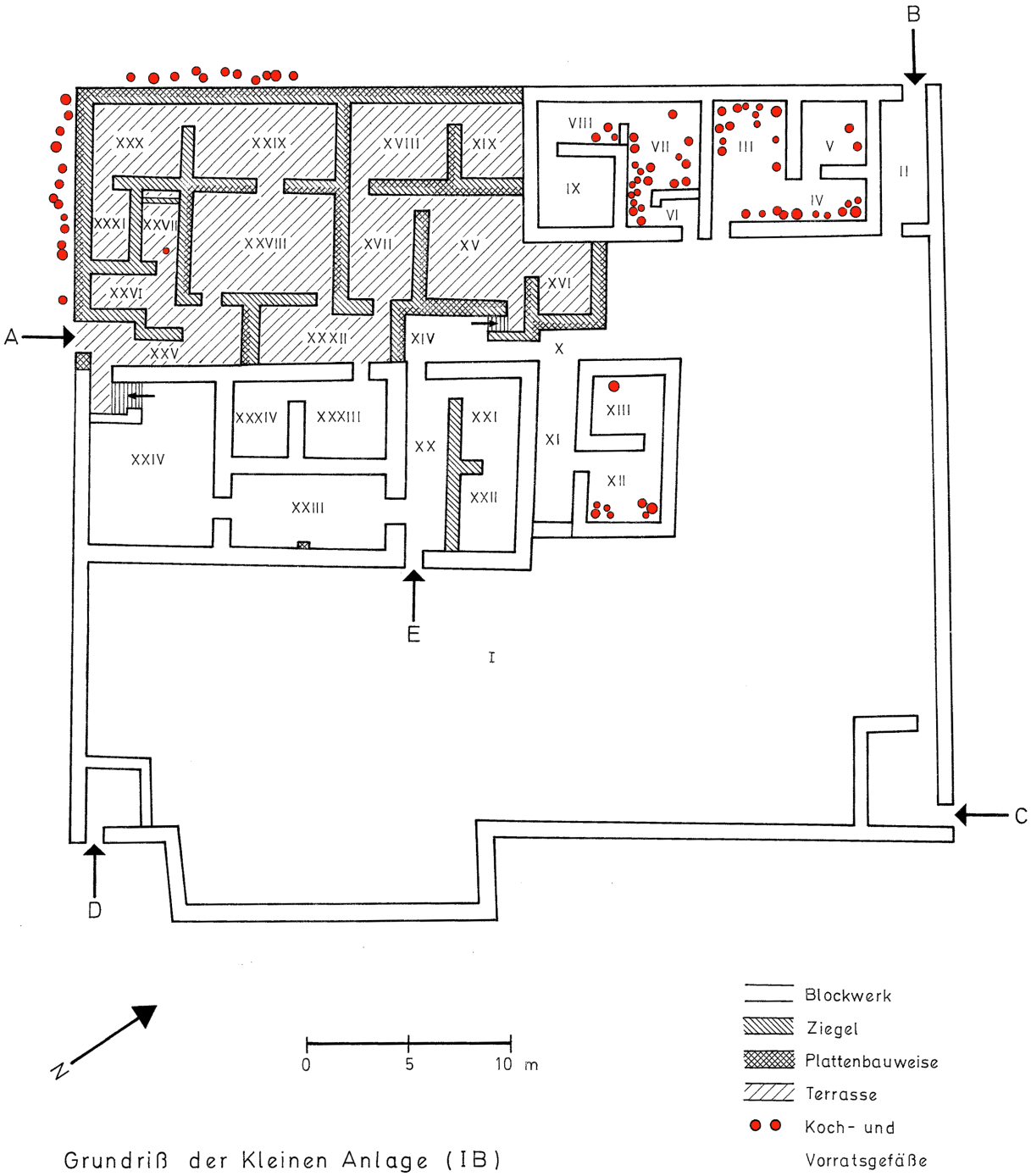

Fig. 11: Unpublished plan of the Small Enclosure illustrating position of in situ oven pots and storage vessels (Sudan Archaeological Collection & Archive at Humboldt-Universität zu Berlin, compare with Seiler 1999: fig. 58).

Each unit had three to four interconnected rooms that seem to have included an open courtyard, a covered kitchen room (or *matbakh*) and a semi-open area, which has been associated with the traditional Sudanese rural kitchen, called *tukul* (Fitzenreiter 1999: 14, 52).

There is no doubt that the kitchens in the Small Enclosure were used for the preparation of meals (Hintze 1962b: 201; Fitzenreiter 1999: 52). They yielded large quantities of fragmented cooking vessels, ash deposits and in situ oven pots. Also animal bones, grinding stones and food remains were associated with these hearths and testifying to the repeated processing of foodstuffs (Gerullat 1999: 87-101).

At the time of excavation, more than fifty large ash-filled oven pots are known to have survived within the kitchen rooms III to VIII (Fig. 12) and a further twenty-four 'outdoor' cooking devices were

Fig. 12: In situ jars and oven pots as found in the Small Enclosure, southwest corner of room III, (photograph Ursula Hintze, Sudan Archaeological Collection & Archive at Humboldt-Universität zu Berlin, photo no. 233/13).

Fig. 13: Outdoor oven pots and ash deposits along the south wall of the Small Enclosure (photograph: Ursula Hintze, Sudan Archaeological Collection & Archive at Humboldt-Universität zu Berlin, photo no. 259/24).

aligned in the lee behind the western and southern walls of the building (Fig. 13; cf. Hintze 1962b: 201).[6] Whilst only few fragments of these large oven pots were found among the sherds in the Humboldt University collection, these generally corresponded to other Meroitic cooking installations found throughout the kingdom (Näser 2016; Matthews and Nowotnick 2019: 475-477, fig. 3). Their structure commonly consisted of the upper part of a reused storage vessel, placed upside down in the ground and filled with ashes and charcoal, to serve as a cooking stove.

5.2. Cook wares in the Small Enclosure

Our discussion here is specifically concerned with the material culture of cooking traditions. In the Meroitic realm, the actual cooking pots for preparing meals typically consist of handmade pottery. This is important as handmade coarse wares represent a section of ceramic analysis that has been tradition-

6 It should be stressed here that another residential structure lies to the south of the Small Enclosure: the 'Kleinste Anlage' (building IC), dated to the 1st century AD (Otto 1967: 6). Between the two buildings, further open air ovens, traces of round huts and rubbish pits were found (Mucha 2005), testifying to a wider extent of domestic activities in this area.

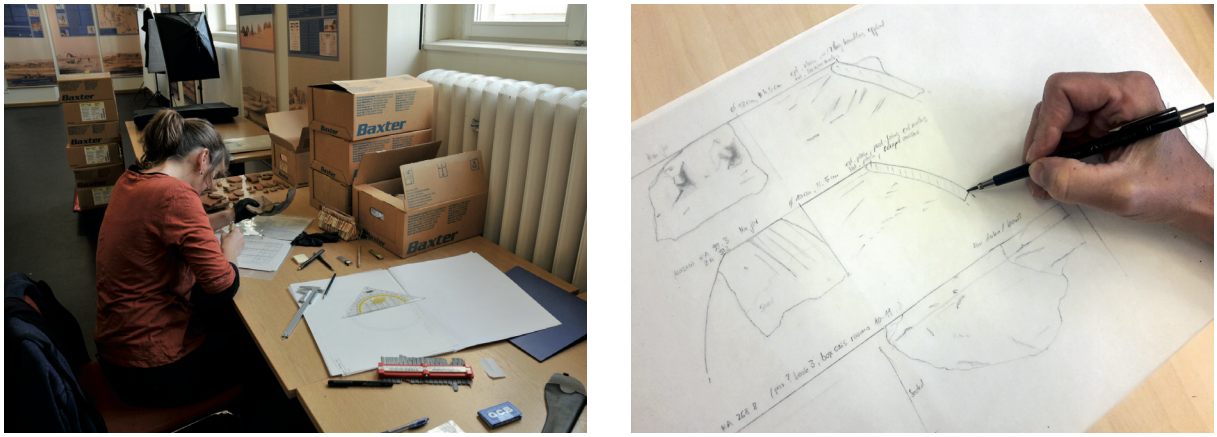

Fig. 14: Recording cooking pots from the Small Enclosure by the Connecting Foodways project (photographs: Steven Matthews).

ally overlooked in favour of fine decorated vessels or standardised wheelmade wares.

For our research on food-related activities and cooking techniques, we re-evaluated the ceramics from the kitchen sector, namely rooms III to IX. The focus was on coarse cook wares, recording their form, size, surface treatment, fabric and use-wear traces by means of drawings, photographs and descriptions (Fig. 14). On this basis, 212 ceramic finds from the kitchen rooms were reviewed, and 29 cooking vessels were recorded in detail.

The nature of the overall ceramic assemblage basically corresponds to the picture described by Seiler (1999: 77-78). The pottery from the Small Enclosure has a typical Early to Classic Meroitic character and includes all basic functional categories, such as storage containers, fine table wares, cooking pots, and utilitarian vessels, as well as special items (Fig. 15).

Not surprisingly, the ceramic inventory is dominated by wheelmade coarse wares. Most of these wheelmade vessels are routinely shaped to standardised forms using local wadi clays. They reveal a limited morphological spectrum with rather few form types, including a variety of wide-mouthed basins with stout walls (so-called 'Bottiche'), numerous necked jars (cf. Seiler 1999: figs. 44-45, 53-55) as well as a quantity of small lids or jar cappings.[7] Some elaborate table wares, including a few kaolinitic fine wares, were also present, pointing to the consumption of food and drink (cf. Seiler 1999: figs. 46-49).

7 According to Hintze (1962b: 201) as many as 200 small lids have been recovered from the Small Enclosure. As only few of the lids are stored in the Sudan Archaeological Collection & Archive and most oven vessels were also missing, it appears that only a fraction of the excavated pottery had been transferred to Berlin. It thus remains unknown as to which part of the corpus had been selected for export in the 1960s and 1970s. However, the assemblage composition is quite varied and may thus reflect an adequate cross-section of the total corpus.

The number of handmade vessels, which includes cooking pots, instead represents only 7% of the overall site assemblage (Seiler 1999: 62). Despite their modest presence, they have enormous potential to inform on culinary practices and ancient food traditions.

Cooking pots, as part of the handmade coarse wares, comprise a specific set of morphological types, distinct from those of the wheelmade repertoire. Most common are gourd-shaped pots and neckless jars, which are plain ware vessels with brown untreated surfaces and occasional lug handles (cf. Fig. 3; cf. Seiler 1999: fig. 56). These are often low fired and thin walled, showing internal scrape marks. Their fire-blackened outer surface testifies to their use on the kitchen fire.

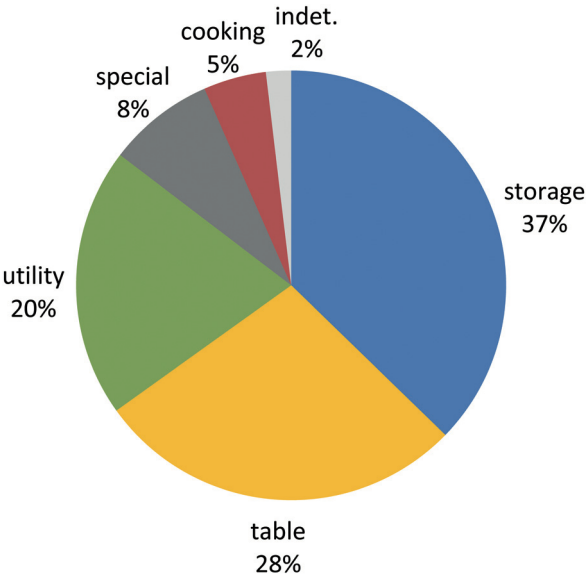

Fig. 15: Composition of the reviewed kitchen assemblage from the Small Enclosure by functional categories (n=212). According to this grouping, storage vessels make up the largest part (37%) while cooking vessels account for ca. 5% of the kitchen vessels (image: Ulrike Nowotnick).

Importantly, the cook wares from the Small Enclosure display multiple traits identified on cooking vessels also found in other parts of the Meroitic kingdom. These similarities imply functional convergence but as a consequence of regional interaction in cooking traditions. This is an aspect of the study of domestic pottery that has long been neglected.

For example, a typical feature of cooking vessels in the Middle Nile region is a surface corrugation at the base, which is used since the 3rd millennium BC (cf. Nowotnick 2022: 141). Several handmade sherds with such a trait have also been noted in the assemblage from the Small Enclosure (Fig. 16). The base was reinforced with an additional clay layer and textured with fingerprints or other impressions to better contain the heat and to prolong the use-life of the pot.

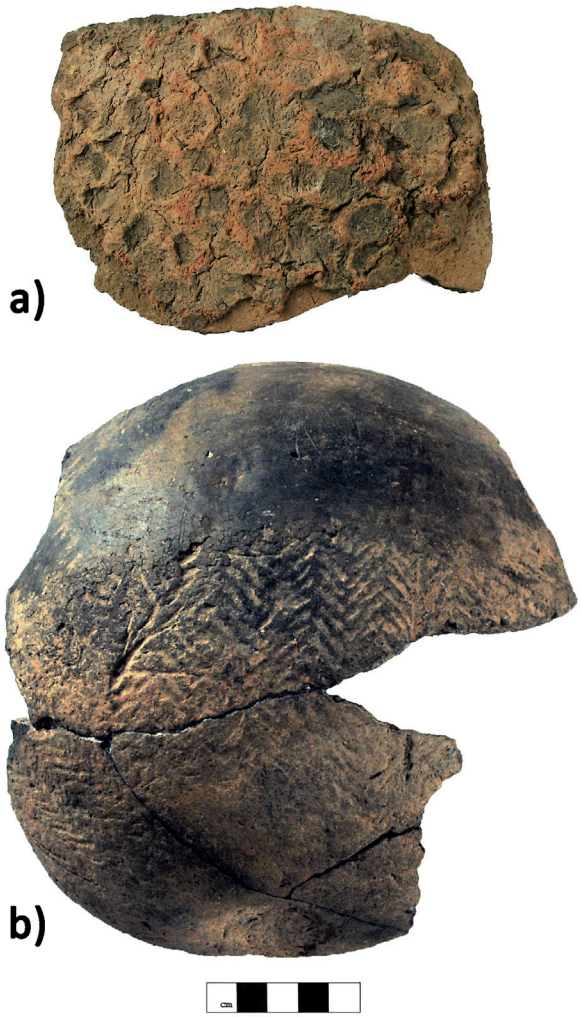

Fig. 16: Typical cook ware traits on sherds found in the Small Enclosure; a) reinforced base with finger imprints on sherd KA 125,4 from the outdoor cooking area along the south wall, b) mat-impressed surface texturing on the base of globular pot KA 53 from kitchen room III (photographs: Steven Matthews).

Another distinct feature of cooking vessels in the wider region are mat-impressed surfaces, again a long tradition since millennia (cf. Nowotnick 2022: 142). This was likely both a by-product of manufacturing techniques and a specific technological choice, as textured surfaces would have helped to lower the thermal stress to the vessel walls by reducing temperature differences between the pot's inner and outer faces (Gibson and Woods 1990: 275). These mat-impressions have been noted on a range of pottery from the Small Enclosure, including the base of a globular jar (Fig. 16b), as well as on further non-diagnostic wall sherds.

Previously unattested amongst the pottery assemblage of the Small Enclosure was the presence of *doka* or griddle plates, which have a distribution both northwards along the Nile Valley and extending eastwards across eastern Sudan and Ethiopia as far as Eritrea on the coast of the Red Sea. These wide shallow plates or bowls of ca. 50 cm diameter typically have a smooth upper face and coarse underside. Such vessels were used as griddles for baking flatbreads and roasting or frying, up to the recent past when they had been replaced by metal griddles (Lyons and D'Andrea 2003; Matthews and Nowotnick 2019: fig. 5). At least two *doka* specimens were found in the Small Enclosure collection, a deeper bowl-like variant and a wide plate with heavy fire-blackening up to the rim (Fig. 17).

Preliminary observation of the cook ware fabrics suggests that several of these handmade vessels were made of alluvial Nile clay. The paste of the cooking pots was clearly different from the wheelmade coarse wares, which are primarily made of local wadi clays.[8] Also Seiler noted that the cooking pots were characterised by a distinct clay type as well as by manufacturing techniques that differed from that of the wheelmade wares but offered no discussion on the high proportion of Nile clay vessels, representing about a third of the studied assemblage (Seiler 1999: 62, fig. 1).

The presence of Nile clay vessels at Musawwarat, some c. 25 km from the alluvial plain of the river Nile, attests to either long distance exchange of 'domestic'

8 The fabrics of the Small Enclosure pottery have been determined macroscopically, in relation to general clay types rather than a site fabric collection. Without a proper reference collection, however, our observations require confirmation by laboratory analyses. We are grateful to Manja Wetendorf generously providing a register on the analysed fabric groups present in the pottery workshop assemblage of the Great Enclosure. Here, wheelmade coarse wares were primarily identified as local wadi clay products while handmade coarse wares fall into different fabric categories, including imports (Näser and Wetendorf 2015: 50-52).

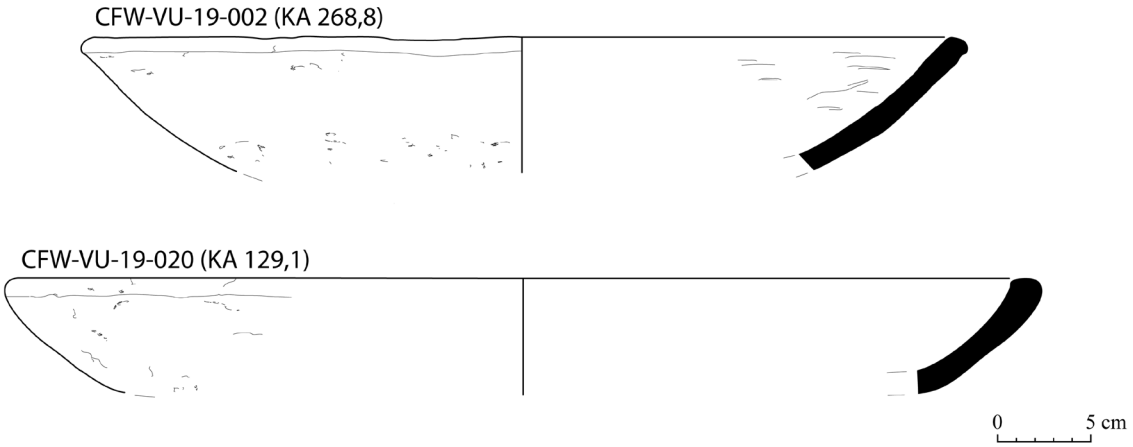

Fig. 17: Griddle plates, so-called *doka*, from the Small Enclosure with smooth inner surfaces and coarse undersides; partially sooted; a) KA 268,8 unprovenanced and b) KA 129,1 from kitchen room V (drawings: Ulrike Nowotnick).

items, such as handmade cooking pots, or the organised large-scale transportation of raw Nile clay for use in the local production of such vessels. Materials analysis, including refiring tests (MGR) and chemical characterisation (WD-XRF), has confirmed the presence of Nile clay vessels at the Great Enclosure of Musawwarat, most of which were handmade forms (Daszkiewicz and Wetendorf 2014: 100-102, tabs. 1-2; Daszkiewicz et al. 2016: 183, 206).[9] The seven hitherto published Nile clay sherds are assumed to be actual imported items because they consisted of very different clay mixtures, even though they were found among the production refuse of the local pottery workshop within the Great Enclosure (Daszkiewicz and Wetendorf 2014: 102).

The small but consistent occurrence of Nile clay vessels implies that cook wares were likely systematically imported from riverine regions to hinterland sites in the western Butana. If this happened on a larger and more regular scale, it means in effect that the residents of this high-status building obtained specific vessels from the Nile to be utilised in their kitchens. It remains unclear whether this is connected with traditional preferences (presumably on the part of those preparing the food) or had specific practical or functional reasons.

In fact, Nile clay vessels do not have ideal qualities for repeated heating and cooling typically involved in cooking. Functional properties analysis on Nile clay cooking pots from Hamadab has revealed that they were rather unsuitable for cooking as they were partly water permeable and less resistant to temperature changes.[10] Nonetheless, Meroitic potters still preferred Nile clay over other resources for making cooking pots and improved their properties, for example by adding grog temper to make them more heat resistant. Thus, supplying the residents of the Small Enclosure with Nile clay cooking vessels may be connected to factors other than purely functional characteristics.

The fact that handmade cook wares had a wide distribution, especially as a possible trade item, is not unprecedented (cf. Lis 2015; Müller *et al.* 2015). The paradox may largely lie in our perception of cooking vessels as low value, highly disposable coarse wares and exclusively tied to domestic contexts. In fact, these items require great skill in production in order to withstand repeated heating and cooling during their use life and thus represent highly specialised products within the potter's craft.

5.3. Summary

Kitchens

In general, the kitchens and cooking installations at the Small Enclosure are largely similar to other food-preparation facilities in the wider Meroitic realm, particularly those found in other high status residences such as Awlib, Meroe or Jebel Barkal (Hinkel and Sievertsen 2002: 136-137 pl. IX.13; el-Tayeb and Kołosowska 2005: 149-150; Ciampini 2018: 403). They differ from domestic kitchens associated with non-elite houses such as at Hamadab (Wolf et al. 2015: fig. 9; Nowotnick 2022: fig. 89). However, the

9 This needs to be confirmed with sherds from the Small Enclosure as well. Samples have been selected for provenance and functional properties analysis as well as for organic residues.

10 The analyses were conducted by Daszkiewicz and Schneider; for results see Nowotnick 2022.

dual and mirrored layout of the kitchen units at the Small Enclosure raises the difficult question as to why they were organised in this manner. It has been suggested that this duplication, which is replicated in other areas of the Small Enclosure as well, was attributed to their use by two separate social groups (Fitzenreiter 1999: 42, 52). Additionally, the size and intensive use of these kitchen rooms indicate that they served an important function in suppling groups larger than a typical domestic unit or family. Large scale meals were perhaps cooked for the residents and guests of the Small Enclosure or in service of the participants of ceremonies carried out at the Great Enclosure (Eigner 1999: 46; Fitzenreiter 1999: 42). Besides the preparation of day to day sustenance, the organisation and extent of these food-processing installations had the potential for preparing 'big meals' for corporate consumption in larger services.

Cooking pots

The cook wares of the Small Enclosure show many similarities to those known from Hamadab (Nowotnick 2022: pls. 51-54) and other Meroitic settlement sites.[11] They bear the same forms, predominantly globular shapes with round bases, the same hand-shaping techniques and surfaces treatments. They also include the same kind of implements: globular cooking pots, griddle plates and oven pots, indicating a similar role in food preparation processes. We can thus safely incorporate Musawwarat in a widespread culinary tradition across the Meroitic kingdom, including elite as well as non-elite sites, riverine as well as hinterland locations, urban communities as well as special-purpose buildings. The domestic cook ware of Musawwarat can therefore be paralleled with similar finds throughout the region and integrates well with the wider foodways of the Meroitic heartland. Indeed, the presence of standardised types of cooking pots made of Nile clay testifies to a deliberate importation of either raw materials or actual kitchen utensils for cooking and preparing meals at Musawwarat.

6. Conclusion

In addition to a specific food-centred re-evaluation of the pottery from the Small Enclosure, it is clear that there remains enormous potential for further research in light of new approaches and concerns on the 'legacy' data stored in the Sudan Archaeological Collection & Archive of the Humboldt University.

In the archaeology of the Middle Nile valley, everyday life remains a particularly understudied dimension of Meroitic culture, which has largely been explored on the basis of elite material culture and monumental sites. Whilst previous studies have shown that the region played an important role in the exchange of prestige goods and elite knowledge, it is also clear that similar interaction processes should be extended to include food traditions, both elite and non-elite (Edwards 1996; Haaland 2007).

Preliminary evaluation of the domestic ceramics from the Small Enclosure implies that cooking in this high-status residential building was generally comparable to that of Meroitic non-elite houses, such as those used in the urban centres of the kingdom. From the presence of analogous implements and cooking devices in the Small Enclosure, we can assume that the cooks used the same food-preparation techniques, ceramic vessels and perhaps also the same foodstuffs to cook similar meals as those eaten near the river Nile. Storage containers and table wares also find close parallels in other settlements, such as cylindrical storage jars, wide simple bowls with exterior groove and small ledge-rimmed bowls. Thus, the special status of this residence appears not to have extended to the cooking of different foods or using different culinary technologies. If there was a difference it may have been the volume or quality of foodstuffs, in preparing these 'big meals'. From the overall ceramic inventory, it seems that parts of the Small Enclosure have been used for provisioning a larger number of people at a time. The abundance of necked jars and small lids points to intense storage capacities for cereals and liquids, perhaps to service communal consumption or feasting.

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11 Shinnie and Bradley 1980: fig. 35 P. 85; Grzymski 2003: fig. 21 P. 90, fig. 26 P. 67, fig. 28 P. 78; Orzechowska 2003: pl. 12; Rose 1996: fig. 4.4 and 4.7; el-Tayeb and Kołosowska 2005: fig. 21c-e; Thomas 2008: fig. 3; Evina and David 2011: fig. 3.16, 3.17, 3.22, 3.23.

unpublished materials and conducting analyses. All new data produced in this analysis were transferred as electronic documents to the Musawwarat archive.

LITERATURE

Baud, M. (2008), The Meroitic royal city of Muweis: first steps into an urban settlement of riverine Upper Nubia, *Sudan & Nubia* 12: 52-63.

Ciampini, E.M. (2018), Italian excavations in the palace of Natakamani at Napata (B 1500). Notes from the seasons 2011-2013, in: Honegger, M. (ed.), *Nubian archaeology in the XXIst century. Proceedings of the Thirteenth International Conference for Nubian Studies, Neuchâtel, 1st-6th September 2014*, Bristol: 397-406.

Daszkiewicz, M. & Wetendorf, M. (2014), A new series of laboratory analyses of coarse wares from "Pottery Courtyard" 224 of the Great Enclosure in Musawwarat es-Sufra (Sudan), *Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V. (MittSAG)* 25: 99-104.

Daszkiewicz, M., Wetendorf, M., Bobryk, E., & Schneider, G. (2016), Musawwarat es-Sufra - in search of ceramic raw materials, *Novensia* 27: 181-220.

Edwards, D.N. (1996), Sorghum, beer and Kushite society, Norwegian Archaeological Review 29 (1): 65-77.

Eigner, D. (1999), Bemerkungen zu den „nicht-sakralen" Teilen der Großen Anlage, in: Dornisch, K. (ed.), Nürnberger Blätter zur Archäologie, Sonderheft Sudan 1999. Festschrift Steffen Wenig, Nüremberg: 45-46.

Eigner, D. (2010), Where kings met gods. The Great Enclosure at Musawwarat es Sufra, Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V. (MittSAG) 21: 7-22.

el-Tayeb, M. & Kołosowska, E. (2005), The Awlib temple complex. Kom B and its pottery assemblage, Gdansk Archaeological Museum African Reports (GAMAR) 3: 145-158.

Evina, M. & David, R. (2011), Patrice Lenoble à el-Hassa. Étude de la céramique du temple à Amon 2000-2003, in: Rondot, V., Alpi, F. & Villeneuve, F. (eds.), La pioche et la plume. Autour du Soudan, du Liban et de la Jordanie. Hommages archéologiques à Patrice Lenoble, Paris: 303-315.

Fitzenreiter, M. (1999), Die Architektur, in: Fitzenreiter, M., Seiler, A. & Gerullat, I., Musawwarat es-Sufra II: Die kleine Anlage, Meroitica 17/1, Wiesbaden: x-52.

Fitzenreiter, M., Seiler, A. and Gerullat, I. (1999), Musawwarat es-Sufra II: Die kleine Anlage, Meroitica 17/1, Wiesbaden.

Gerullat, I. (1999), Die Kleinfunde, in: Fitzenreiter, M., Seiler, A. & Gerullat, I., Musawwarat es-Sufra II: Die kleine Anlage, Meroitica 17/1, Wiesbaden: 79-103.

Gibson, A. & Woods, A. (1990), Prehistoric pottery for the archaeologist, Leicester.

Grzymski, K. (2003), Meroe Reports 1, Society for the Study of Egyptian Antiquities Publication 17, Mississauga.

Haaland, R. (2007), Porridge and pot, bread and oven. Food ways and symbolism in Africa and the Near East from the Neolithic to the present, Cambridge Archaeological Journal 17 (2): 165-182.

Hinkel, F.W. & Sievertsen, U. (2002), Die Royal City von Meroe und die repräsentative Profanarchitektur in Kusch, The Archaeological Map of Sudan, Supplement IV, Berlin.

Hintze, F. (1962a), Vorbericht über die Ausgrabungen des Instituts für Ägyptologie der Humboldt-Universität zu Berlin in Musawwarat es Sufra, 1960-1962, Wissenschaftliche Zeitschrift der Humboldt-Universität zu Berlin 11 (3): 441-488.

Hintze, F. (1962b), Preliminary report on the excavations at Musawwarat es Sufra, 1960-61 by the Institute of Egyptology, Humboldt University Berlin, Kush 10: 170-202.

Klarich, E. (ed.) (2010), Inside ancient kitchens. New directions in the study of daily meals and feasts, Boulder.

Kleinitz, C. (2013), Die Sekundärbilder und -inschriften der Großen Anlage von Musawwarat es Sufra und das Musawwarat Graffiti Project, in: Wenig, S. & Zibelius-Chen, K. (eds.), Die Kulturen Nubiens – ein afrikanisches Vermächtnis, Dettelbach: 399-413.

Kleinitz, C. (2019), The Sudan Archaeological Collection & Archive at Humboldt-Universität zu Berlin. History, components and perspectives, Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V. (MittSAG) 30: 35-60.

Lis, B. (2015), From cooking pots to cuisine. Limitations and perspectives of a ceramic-based approach, in: Spataro, M. & Villing, A. (eds.), Ceramics, cuisine and culture. The archaeology and science of kitchen pottery in the ancient Mediterranean world, Oxford: 104-114.

Lyons, D. & D'Andrea, A.C. (2003), Griddles, ovens, and agricultural origins: An ethnoarchaeological study of bread baking in Highland Ethiopia, American Anthropologist 105 (3): 515-530.

Maillot, M. (2016), Palais et grandes demeures du royaume de Méroé. Paris.

Matthews, S. & Nowotnick, U. (2019), Culinary interactions. Connecting foodways in Early Iron Age Africa, Azania: Archaeological Research in Africa 54 (4): 468–486.

Mucha, R. (2005), Untersuchungen in der Umgebung der Kleinen Anlage (IB), Der Antike Sudan. Mitteilungen

der Sudanarchäologischen Gesellschaft zu Berlin e.V. (MittSAG) 16: 7-13.

Müller, N.S., Kilikoglou, V. & Day, P.M. (2015), Home-made recipes: Tradition and innovation in Bronze Age cooking pots from Akrotiri, Thera, in: Spataro, M. & Villing, A. (eds.), Ceramics, cuisine and culture. The archaeology and science of kitchen pottery in the ancient Mediterranean world, Oxford: 37-48.

Näser, C. (2016), Hugging the wall. New insights into the building history and the uselife of the Great Enclosure at Musawwarat, Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V. (MittSAG) 27: 7-18.

Näser, C. & Wetendorf, M. (2015), The Musawwarat pottery project 2014/15, Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V. (MittSAG) 26: 35-74.

Nowotnick, U. (2022), Ceramic technology, production and use in an urban settlement on the Middle Nile. The pottery assemblage from Late Meroitic Hamadab, Sudan (2nd to 4th century A.D.). Archäologische Forschungen in Afrika, Bd. 1.

Orzechowska, M. (2003), Preliminary report on the pottery from the Soniyat temple, in: Żurawski, B.T. (ed.), Survey and excavations between Old Dongola and Ez-Zuma. Southern Dongola Reach of the Nile from prehistory to 1820 AD based on the fieldwork conducted in 1997-2003 by the Polish Archaeological Joint Expedition to the Middle Nile, Southern Dongola Reach Survey 1, Warsaw: 442-457.

Otto, K.-H. (1967), Zur Klassifikation der meroitischen Keramik von Musawwarat es Sufra (Republik Sudan), Zeitschrift für Archäologie 1: 1-32.

Rose, P.J. (1996), Qasr Ibrim. The hinterland survey, Egypt Exploration Society Excavation memoir 62, London.

Seiler, A. (1999), Die Keramik - Form und Funktion, in: Fitzenreiter, M., Seiler, A. & Gerullat, I., Musawwarat es-Sufra II: Die kleine Anlage, Meroitica 17/1, Wiesbaden: 53-78.

Shinnie, P.L. and Bradley, R.J. (1980), The Capital of Kush 1. Meroe excavations 1965-1972, Meroitica 4, Berlin.

Thomas, R.I. (2008), The origin and use of ceramics on the islands of Mis and Umm Muri, in the Late Meroitic to Christian periods, Sudan & Nubia 12: 64-73.

Wenig, S. (2001). Musawwarat es-Sufra. Interpreting the Great Enclosure, Sudan & Nubia 5: 71-86.

Wolf, P. (1999), Götter und Graffiti – Zur Interpretation der Großen Anlage von Musawwarat es-Sufra, in: Dornisch, K. (ed.), Nürnberger Blätter zur Archäologie, Sonderheft Sudan 1999. Festschrift Steffen Wenig, Nüremberg: 47-52.

Wolf, P. (2001), Die Höhle des Löwen. Zur Deutung der Großen Anlage von Musawwarat es-Sufra, in: Arnst, C.-B., Hafemann, I. & Lohwasser, A. (eds.), Begegnungen. Antike Kulturen im Niltal (Festgabe für E. Endesfelder, K.-H. Priese, W. F. Reineke, S. Wenig), Leipzig: 473-508.

Wolf, P. (2014), Essay über den meroitischen Eklektizismus in Musawwarat es Sufra, oder: woher stammt der meroitische Einraumtempel?, in: Lohwasser, A. & Wolf, P. (eds.), Ein Forscherleben zwischen den Welten. Zum 80. Geburtstag von Steffen Wenig, Der Antike Sudan, Sonderheft 2014: 351-394.

Wolf, P. (2019), Settlement in the Meroitic kingdom, in: Raue, D. (ed.), Handbook of ancient Nubia. Berlin, Boston: 713-782.

Wolf, P., Nowotnick, U. & Hof, C. (2015), Hamadab - Insights into development and lifestyle of a Meroitic urban settlement, in: Zach, M. (ed.), The Kushite world. Proceedings of the 11th International Conference for Meroitic Studies, Vienna, 1-4 September 2008. International Conference for Meroitic Studies, Beiträge zur Sudanforschung 9, Vienna: 123-139.

Zusammenfassung

Die Kleine Anlage von Musawwarat ist ein repräsentatives Residenzgebäude mit ausgewiesenen Wohn- und Wirtschaftsbereichen, das der Unterbringung und Versorgung hochrangiger Gäste diente. Seine bereits 1961 ausgegrabenen Fundobjekte sind heute Teil der Sudanarchäologischen Sammlung an der Humboldt-Universität zu Berlin. Diese wurden 2019 vom Connecting Foodways Projekt speziell unter dem Gesichtspunkt antiker Kochtraditionen begutachtet. Besonders die Funde und Befunde aus dem Küchentrakt der Kleinen Anlage lassen erkennen, wie sich die Zubereitung von Speisen an diesem besonderen Ort von den urbanen Siedlungen im Niltal unterscheidet.

Weder Kochinstallationen noch Keramikgefäße weichen von den üblichen Formen meroitischer Nahrungszubereitung ab. Die Köche der Kleinen Anlagen nutzten dieselben Geräte, Lebensmittel und Methoden, wie sie auch am Nil verwendet wurden. Die vielen Vorratsgefäße, Bottiche und Kochtöpfe deuten aber auf einen weitaus größeren Umfang der Kochaktivitäten hin. Zahlreiche Krüge und kleine Krugdeckel verweisen auf enorme Speicherkapazitäten von Getreide und Flüssigkeiten. Die kulinarischen Aktivitäten in der Kleinen Anlage dienten demnach der Versorgung größerer Gruppen, die Musawwarat für bestimmte Festlichkeiten aufsuchten. Der besondere Status des Gebäudes spiegelt sich also hauptsächlich in der Menge der Speisen wider, mit der eine größeren Anzahl von Menschen verpflegt wurden.