

# Individual Households and Cities in Ancient Egypt and Nubia

A short summary of the state-of-the-art

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## Abstract

*This paper offers a summary of the state-of-the-art of research on settlement archaeology in ancient Egypt and especially Nubia with a focus on the Late Bronze Age (2<sup>nd</sup> millennium BC). Innovative advances are notable thanks to new methods and a stronger archaeometric focus and here northern Sudan plays a key role. These scientific analyses in particular enable investigations on the micro-scale and site-specific approaches. Furthermore, new theoretical approaches have stimulated a diverse discussion about the concept of "Egyptianisation" and moved away from colonial and postcolonial understandings of New Kingdom colonialism in Nubia. Their direct impact on archaeological fieldwork in Northern Sudan is discussed with the European Research Council AcrossBorders project as a case study.*

**Keywords:** *Settlement archaeology, urbanism, household, city, workshop, entanglement, Egypt, Nubia*

## Settlement archaeology in Egypt and Nubia

Settlement archaeology in Egypt and Nubia is still a comparatively young discipline within the long history of Egyptology and Egyptian archaeology and the more recent one of Sudan archaeology. Especially rural settlements and village life in ancient Egypt were traditionally neglected by Egyptology in favour of tombs, temples and statuary, resulting in a very restricted, elite-biased view of Pharaonic culture (see Trigger 1967; Bietak 1979). A first heyday in modern settlement archaeology started in the late 1960s and 1970s with the works by Manfred Bietak, Barry Kemp and Werner Kaiser at Tell el-Daba, Amarna and Elephantine (Bietak 1996a and b; Kemp 1977a; Kemp and Garfi 1993; Bard 2008, 13-14; for a historical overview of settlement archaeology in Egypt, see Moeller 2016, 31-38). Important studies were also published by David O'Connor, in particular on the demography and geography of Egyptian settlements (O'Connor 1972). In general, significant aspects of urbanism and urban society in ancient Egypt were discussed in the 1970s and 1980s by Kemp (1977a; 1977b; 1978) and O'Connor (1972; 1993; see also Moeller 2016, 36). For Sudan, one of the most prominent scholars engaged in settlement archaeology since the 1970s is Charles Bonnet working at Kerma

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(Bonnet 1996; 2017; see also his contribution in this volume). The UNESCO rescue and salvage campaign in the 1960s and 1970s represented a heyday in Nubian archaeology and also resulted in the documentation of a large number of settlement sites from a wide range of periods (Säve-Söderbergh 1987; Moeller 2016, 34-35).

Felix Arnold (1989) and Cornelius von Pilgrim (1996) have made, among others, substantial contributions to Egyptian domestic architecture, site formation processes and estate development in settlements. Moeller's new publication on urbanism (2016) provides an up-to-date overview of theories and methods in Egyptian settlement archaeology and urban phenomena in Egypt with a focus

on the period covering Predynastic times until the end of the Middle Kingdom (Moeller 2016, 6-41 and *passim*) and has already become a reference work.

In general, much progress has been made in recent years concerning urbanism and settlement patterns in Egypt (*e.g.* Shaw 1998; Bietak, Czerny and Forstner-Müller 2010; Snape 2014; Moeller 2016). Rural occupation and smaller villages remain particularly difficult to trace, both in Egypt (Lehner 2010; Snape 2014, 226; Moeller 2016, 25-26) and Nubia (Edwards 2012, 66-74). With Gism el-Arb'a (Gratien 1995; Gratien *et al.* 2003; 2008) and H25, a settlement close to Kawa (Ross 2014), important evidence for non-urban settlements of rural

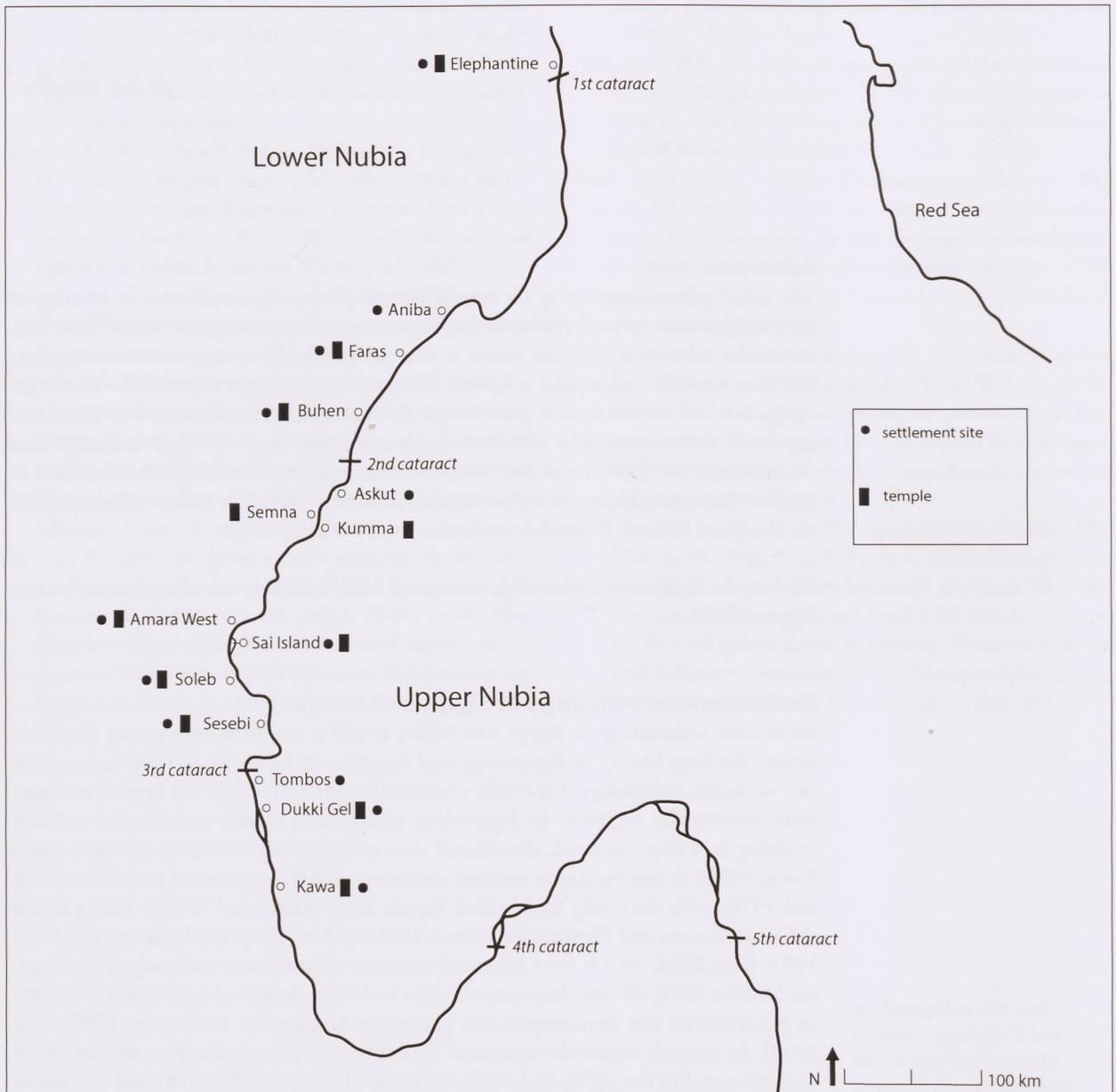


Figure 1. Map of the most important New Kingdom sites in Nubia (with reference to temple and settlement remains).

character in Nubia were discovered, but are until now only partially explored. The better-understood New Kingdom settlements in Northern Sudan fall into the category of so-called Nubian temple towns (fig. 1, see also Vieth in this volume). Following Kemp, these are newly built fortified towns with an enclosure wall and a prominent temple within the settlement area (Kemp 1972, 651-656; Morris 2005, 5; Graves 2011, 63). A common feature for the specific urban layout of these temple towns is the limited domestic space, with much of the room instead occupied by storage facilities and magazines, putting these sites into direct connection with the Egyptian administration of Nubia. With a temple, a governor's residence, a town enclosure wall, an administrative area, an orthogonal layout, a repetition in house layouts/a hierarchy of houses and a location next to the floodplain these temple towns clearly fall into Moeller's category of 'state foundations with urban character' (Moeller 2016, 22).

The last few years have seen an increase in archaeological fieldwork at these New Kingdom sites in Nubia (see, most recently, Spencer *et al.* 2017). Excavations at Amara West (see, *e.g.*, Spencer 2010; 2014; 2017), Sesebi (Spence and Rose 2009; Spence *et al.* 2011; Spence 2017) and on Sai Island (Doyen 2009; 2014, 367-375; Budka 2014; 2015; 2017a; SAV1 in this volume) were resumed after long periods of neglect. Because of the urban character of the temple towns, these new investigations can also serve as a trigger for new ideas about urbanism in Northeast Africa.

The understanding of settlement patterns in Upper Nubia (Kush) prior to the new boom in urban archaeology concentrated on the general organisation and administration which are quite well understood (see Müller 2013) since most studies have concentrated on economic and strategic aspects of the sites (cf. Morkot 2013; Budka 2014, 57-58). As it is for example well illustrated by the site of Soleb, there was a tendency to focus on stone temples respectively the cemeteries, neglecting the domestic remains and settlement features. There is no doubt that temples were the key elements of the Egyptian towns in Nubia (Kemp 1972; see also Spencer *et al.* 2017, 22-25). Furthermore, the positioning of the main sites in the Abri-Delgo-reach (Sesebi, Soleb, Tombos, Sai) considered the character of the area as a rich gold ore region (Budka 2014, 57-58) and also followed strategic needs (Spencer *et al.* 2017, 20).

### *Archaeologies of ethnicity and social aspects of settlement archaeology*

Archaeological studies dealing with ethnicity, groups and identity have markedly increased in recent decades (*e.g.* Graves-Brown *et al.* 1996; Jones 1997; Brather 2004; Gramsch 2009), but were not yet fully incorporated in Egyptian and Nubian archaeology (see now, *e.g.*, Bader 2013 for a case study in Egypt; for the current state in

Nubia, see Spencer *et al.* 2017). With the Egyptian "re-conquest" of Nubia in the 18<sup>th</sup> Dynasty, the indigenous occupants of the Nubian towns and villages clearly faced Egyptian culture during the New Kingdom, both at the level of materiality and the level of ideology and religion (cf. Doyen and Gabolde 2017). Consequently, the question arises: who were the occupants of the newly founded towns as far as their cultural identity is concerned – Egyptians, Egyptianised Nubians or a mix of both? Recent work has begun to highlight that impenetrable boundaries and prominent ethnic categorisation in New Kingdom Nubia are likeliest to be a modern conception and thus no longer supportable (cf. Smith 2003; Smith and Buzon 2014; 2017). Since 2013, the concept of "cultural entanglement" is also discussed for New Kingdom Nubia (van Pelt 2013; see also below).

In general, Egyptology introduced the study of social relationships and anthropological approaches for settlement archaeology relatively late, only in the 1970s (*e.g.* Kemp 1977a; Trigger 1979). More recent Egyptological studies have begun to stress social aspects of domestic architecture (Koltsida 2007), social and cultural identities of the occupants (*e.g.* Shaw 2004; Spence 2010; Müller 2015b; Bietak 2016) as well as environmental conditions affecting daily life (Kemp and Stevens 2010). As was already mentioned above, dealing with cultural identities became especially relevant in the study of the inhabitants of Upper Nubia during the New Kingdom (cf. Smith 2003; Török 2009, 280-283). Recent studies have furthermore investigated the impact of individuals for the developments of planned towns (Spencer 2015; see also below with further references).

### *From households and cities*

Another fresh approach to Egyptian and Nubian settlement archaeology is the question of individual households. Important case studies were published as conference proceedings, edited by Miriam Müller and combining the archaeological and the textual record (Müller (ed.) 2015). Müller argues that, especially because of the partially very limited state of preservation in settlements, 'an integration of archaeology, micro-archaeology, and texts is in that respect essential in coming to a better understanding of households in ancient societies' (Müller 2015a, xxx). Egyptian archaeology seems in this respect in a favoured position because of its wealth of data, including texts, depictions and wooden models illustrating household activities. However, because early research mainly focused on the architecture of the houses, detailed accounts of all the house contents and finds in their specific find spot were rare (Müller 2015a, xiv; this also holds true for the early investigation of the New Kingdom town of Sai when the architect Michel Azim rarely noted finds, but only focused on the mudbrick architecture, see Azim 1975). Thus, despite of an extraordinary

set of data, household archaeology was quite neglected in Egyptology and the 2013 conference edited by Müller represents an important measure into a promising sub-discipline of settlement archaeology. The publication comprises among others case studies from sites in Egypt and Sudan which are also key sites in the present volume and of Egyptian and Nubian settlement archaeology in general: Tell el-Daba, Amarna, Elephantine and Amara West. Since the publication by von Pilgrim on the Middle Kingdom and Second Intermediate Period settlement of Elephantine (1996) already considered the themes of household archaeology, the island is of particular importance. Artefact distribution was also considered at the Amarna workmen's village (Kemp 1987) and the so-called stone village (Stevens 2012; see also Müller 2015a, xix). A recent analysis by Kate Spence has illustrated how essential for the Egyptian case studies the combination of the evidence for activities with the house architecture is (Spence 2015). Nadine Moeller has also argued for a study of households within the framework of the specific cultural setting in ancient Egypt (Moeller 2015); similar to Spence, she touches upon the much-debated topic of "multifunctionality" of rooms within Egyptian domestic architecture.

All in all, the detailed investigation of houses and settlements on a micro-level and including 'as many lines of evidence as possible' (Müller 2015a, xxix) has much potential for a better understanding of household composition, stages of household lifecycles as well as other social processes and the use of space. For the case of Nubia, I follow Neal Spencer in his approach: 'A re-assessment of the role of individual/household agency in creating and shaping a new town in Pharaonic Nubia is necessary' (Spencer 2017, 352; see also Spencer 2015).

Although the field of household archaeology emerged from a predominance of macro-scale investigations of house architecture (Tringham 1995; Spence 2015, 83), the study of Egyptian cities in Egypt and Nubia is still a field which requires more research. As was noted above, Egyptian towns in Nubia were mostly addressed from a macro perspective, sometimes including the meso-level as well (cf. Vieth in this volume). As Moeller pointed out, the classification of sites in "urban" and "nonurban" still opens up several questions (Moeller 2016, 22) and can profit from further fieldwork, both in Egypt and Nubia.

### **The state-of-the-art of settlement archaeology in Nubia**

Key aspects of current settlement archaeology in Upper Nubia, tackled by various missions working on relevant sites, can be characterised as follows (Budka 2015, 58-59; see also Spencer *et al.* 2017, 13-15): 1) Dating: There are changing views regarding the earliest and latest occupation on various sites, especially as fieldwork is continuing. At

several sites, *e.g.* at Sesebi, Egyptian presence started earlier than previously thought (Rose 2017; Spence 2017). Amara West has produced interesting evidence that the Egyptian presence might have lasted beyond the New Kingdom (Binder 2011, 39-53; Spencer *et al.* 2014); and new finds at Sai illustrate the importance of the site also during the Ramesside period (Budka 2017a). All in all, this dating issue illustrates a still limited understanding of the diachronic evolution of Egyptian occupation in Kush which was considerably enlarged in the last years. 2) Social stratification: There is no common understanding regarding the social interconnections and power hierarchies of Egyptians and Nubians in the Egyptian towns established in Upper Nubia during the New Kingdom. Cultural and material entanglement and processes of adaptation and acculturation with the important impact by indigenous elements are the most important phenomena which are currently being discussed (see below). 3) Background and landscape: Modern technical advances have become highly relevant for settlement archaeology in both Egypt and Nubia. At most Sudanese sites, but also at Egyptian ones, the environmental settings are being explored (Spence and Rose 2009, 43-45; Spencer *et al.* 2012, 37-47; Woodward *et al.* 2015; 2017; Bunbury *et al.* 2017; cf. also Edwards 2012, 67). Various aspects of archaeometry are conducted by the missions working in the field. Especially geoarchaeological and interdisciplinary applications like soil sampling, micromorphology and isotope analysis are common and the analysis of the material culture is undertaken from a multi-perspective level, including various scientific analyses (*e.g.* iNAA, see D'Ercole and Sterba in this volume) and different approaches (Spencer 2014; Budka 2015; Spataro *et al.* 2015; Spencer *et al.* 2017, 13-15).

Based on these key aspects of its research, the ongoing archaeological fieldwork in Upper Nubia has much potential for a better understanding of settlement patterns in the region. Recent advances in assessing the diachronic and regional development of the settlements in the area as well as the local properties of the individual sites at a synchronic level can be noted (Budka 2015, 58-59; Spencer *et al.* 2017; see also below).

Modern settlement archaeology incorporates also in Egypt and Nubia a wide range of various analyses, archaeological sciences and interdisciplinary methods. Large teams of experts and specialists for fieldwork have become standard: geologists, biologists, zooarchaeologists, physical anthropologists and experts for digital documentation, image-based modelling, for GIS applications and diverse sampling methods. Although settlement archaeology in Northeast Africa is still developing in this respect, big footsteps forward have been made in the last years (see Spencer *et al.* 2017). In Egypt, there are currently some structural problems for applying sampling strategies. Because of laws designed to protect Egyptian antiquities, ar-

archaeological missions do not have permission for exporting samples and the relevant infrastructure to conduct the analyses in Egypt is still developing. The situation in Sudan is markedly different: archaeologists can apply all sorts of modern methods and archaeometry because there are little restrictions for the export of samples (see Spence 2015, 84; Budka 2017a, 41; Spencer *et al.* 2017, 13-15).

Therefore, much potential lies in results of research beyond traditional barriers of disciplines like the current studies at Egyptian sites in Nubia. The work at Sai, Amara West, Tombos and Sesebi can influence a new era of settlement archaeology also in Egypt proper. Because of excellent working conditions with permission for scientific analyses and export of samples and thanks to a very good state of preservation of the monuments, settlement archaeology in Northern Sudan can generate a modern interdisciplinary archaeology with a strong focus on archaeological sciences. This modern archaeology will allow a more realistic understanding of past worlds in Northeast Africa. Much progress has already been made in recent years, but further research addressing general aspects of living conditions and the specific coexistence of various cultural groups is required. In Northeast Africa, the architecture and structure of the Egyptian towns established in Upper Nubia during the New Kingdom, their social stratification, the local relations of Nubians and Egyptians and the specific material culture are of chief interest. These well-preserved but still not completely explored sites in modern Sudan hold much potential for direct comparisons with already excavated sites located in Egypt. There is the need to strengthen future collaborative research between missions working at settlement sites throughout Egypt and Sudan with a strong focus on interdisciplinary methods.

### **The AcrossBorders project and its approach**

The international age of the New Kingdom in Pharaonic Egypt resulted in the foundation of several Egyptian towns and settlements in the area known today as Upper Nubia in Sudan. Some of these are well preserved and offer the unique chance to explore domestic life in an ancient Egyptian settlement outside of Egypt proper. One of the most promising examples of such “colonial sites” is the town on Sai Island because of its long occupation period and its attested history as important site of the African Kingdom of Kerma. Prior to the New Kingdom, Sai was the northernmost stronghold of the Kerma Kingdom with a significant strategic role, well attested by archaeological remains.

As is the case with other Egyptian colonial sites, the archaeological evidence of Sai strongly hints at it originally being an Egyptian foundation. However, similar to other sites, indigenous Nubian elements are also present

(cf. Smith 2003, 188-206) and from the beginning of the project it was clear that they have to be carefully assessed for the period of the New Kingdom. In order to achieve a better understanding of the situation on Sai, a bottom-up approach to the investigation of the society in the New Kingdom temple town was introduced.

Back in 2012, little was known about the setting of New Kingdom Sai within the landscape, of its evolution and history, its internal structure and occupants. Considering the current status of Nubian settlement archaeology as described above, AcrossBorders followed the classical approach for the investigation of settlements developed by Herbert Jankuhn (1977, 75-76, fig. 24; see also Budka 2015, 41). The topographical, environmental and cultural situation of Sai and its occupants during the New Kingdom were the key questions.

1. The environmental conditions/the setting on Sai Island. The first task was to investigate the landscape of the island in New Kingdom times in order to understand the location of the Pharaonic town. Of prime interest were the course of the Nile and the ancient shape of the sandstone cliff towards the east of the site (fig. 2).
2. The internal structure of the town. Following on from the above, the focus lay on the size and shape of the Pharaonic town. Aspects of its social organisation were addressed as were the micro-histories of individual building units (see Doyen 2017). In order to do so, stratigraphic investigations and new excavations within the town were necessary (see Budka SAV1 in this volume).
3. The outer settlement structure. To understand Sai in the macrocosm of New Kingdom Egypt and Kush, the integration of the site in regional settlement patterns, its rural hinterland and its facilities plus cemeteries were explored. Of special interest is the development over time and potential differences between the 18<sup>th</sup> Dynasty and the Ramesside era (see Budka 2017b, 57-58; 2017d, 18-19).

These research questions were tackled not only by fieldwork on Sai, but also by a close comparison with the contemporaneous town of Elephantine in Egypt. In cooperation with the Swiss Institute for Architectural and Archaeological Research on Ancient Egypt, Cairo, directed by Cornelius von Pilgrim, AcrossBorders has studied the material culture from 18<sup>th</sup> Dynasty buildings on this important site at the southern border of Egypt. In the last years the focus lay on House 55, a very special mudbrick structure of significant size and a remarkable state of preservation (von Pilgrim 2015; in press). Of particular interest was the common appearance of both Nubian and Egyptian cooking wares, providing very close parallels for the situation on Sai Island.



Figure 2. Digital Elevation Model of the New Kingdom town of Sai with the location of Across Borders excavation areas.



Figure 3 (left). Section within the New Kingdom town of Sai where block samples were taken for soil micromorphology. © AcrossBorders.

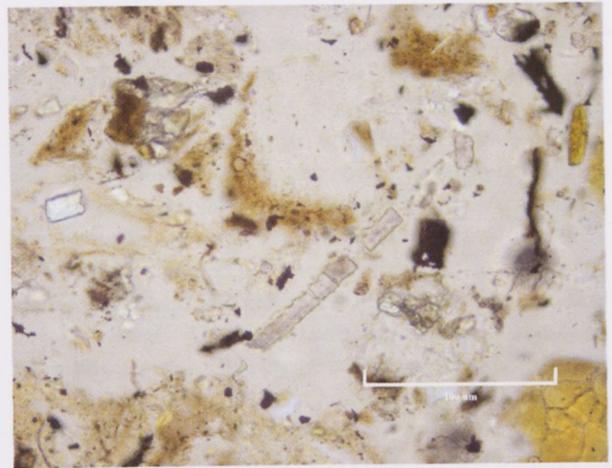


Figure 4 (above). Microphoto of a thin section of a block sample from the New Kingdom town of Sai. © AcrossBorders.

Such a comparative approach has already been applied for other sites within Egypt (see Shaw 1998; cf. also Moeller and Marouard in this volume) and promises in our case new data for assessing aspects of the function and social fabric of an exemplary Nubian temple town. In respect to AcrossBorders' major aim to reconstruct "standards of living" on Sai to allow the comparison with Abydos and Elephantine, a special focus was placed on the material culture and here on the question of the lifestyle. Whether objects refer to the cultural identities of their users or reflect more complicated processes was investigated and will be tackled below and in other papers of this volume (see also Budka Ceramics in this volume).

Archaeological excavations by the AcrossBorders project in the New Kingdom town and cemetery of Sai were complemented with kite aerial photography, structure from motion approaches and terrestrial 3D laser scans. To investigate Sai as Egyptian microcosm,<sup>1</sup> various aspects of archaeometry were conducted. Geoarchaeological and interdisciplinary applications like soil sampling, Instrumental Neutron Activation Analysis of soil and ceramics and Strontium isotope analysis of animal bones, human remains, soil and water were important additions to the archaeological fieldwork (Budka 2015; 2017a).

<sup>1</sup> Note the seminal work by Kemp on Amarna, here especially chapter "Egypt in microcosm: the city of El-Amarna" in Kemp 2002, 261-317; see also Kemp 1977a.

A micromorphological sampling programme was implemented to explore aspects of social practice within the community on Sai from a multifaceted perspective (Budka 2017c, 173-174). The application of soil micromorphology is a technique that takes intact block samples of sediment and analyses them in thin section under a petrological microscope (figs. 3-4). A detailed understanding of site formation processes and a contextualised knowledge of the material culture can be achieved through careful and systematic observation of the changing facies (see Dalton 2017).

The major findings by applying micromorphology at Sai are that soil and sedimentary information can provide valuable insights to the use of space and also of the abandonment phases of the town. Formation processes of various cultural depositional sequences in all areas of AcrossBorders' excavation were examined, providing new information on how daily life activities contributed to the creation and use of space in the town, e.g. the disposal of garbage and the stabling of animals (Budka 2017c, 174 with references).

### The 2017 AcrossBorders conference

This edited volume comprises the proceedings of a conference also entitled "From Microcosm to Macrocosm: Individual households and cities in Ancient Egypt and Nubia". This conference represented the closing event of

the European Research Council funded project Across-Borders and was held from 1-3 September, 2017, hosted in Munich by the Ludwig-Maximilians-University. Archaeologists from Germany, Austria, Switzerland, the UK, the US and Italy presented their current work associated with settlement archaeology, households, cities and urban patterns in Egypt and Sudan. Because of the aims of the AcrossBorders project, the focus was on recent fieldwork in Northern Sudan, highlighting latest results from the New Kingdom sites of Amara West, Sai, Tombos, Kerma (Dokki Gel) and Sesebi.

The conference focused on 1) individual households of selected sites in Egypt and Nubia (for example Tell el-Daba, Amarna, Elephantine, Amara West, Sesebi, Tombos, Kerma). Here, architectural studies as well as analyses of material culture, in particular of ceramics, were presented, featuring up-to-date applications of archaeometry (cf. D'Ercole and Sterba in this volume).

In addition to this micro-approach, introducing microhistories of individual sites according to recent archaeological fieldwork incorporating interdisciplinary methods, the event also discussed 2) general patterns and regional developments – thus, the macrocosm of New Kingdom Nubia (cf. Auenmüller in this volume; Vieth in this volume). Aspects of urbanism in earlier periods were tackled as well (see Moeller and Marouard in this volume). Comparative approaches were also useful on this large scale. Therefore, the role of foreigners in Egyptian towns were discussed from a broad perspective and aspects of the “cultural entanglement” of Asiatics compared with those of Nubians (cf. Bietak 2016; in this volume).

Combining research questions on the micro-level with the macro-level promises in general new information about cities and households in Ancient Egypt and Nubia. The AcrossBorders conference therefore represented a case study for the current status of modern Egyptian settlement archaeology which is characterised by a strong interdisciplinary focus. The rich potential of well-preserved but still not completely explored sites in modern Sudan, especially as direct comparison for already excavated sites located in Egypt, was highlighted.

### **Entanglement of cultures in Bronze Age Nubia**

*‘The idea of entanglement has been announced recently in archaeology as a remedy of a host of interpretive problems’* (Silliman 2016, 31). Since recent theoretical approaches to Nubian material culture in the New Kingdom were also tackled during the conference, “entanglement” and its significance for the area of Northern Sudan was also discussed. For about five years now, the concept of “Egyptianisation”, well established in earlier discussions of Nubian culture, has been subject to criticism

on the grounds that it projects a one-dimensional and static view of culture (see also Williams in this volume; Smith and Buzon in this volume). In its stead, a model based on the notion of “cultural entanglement” has been suggested (van Pelt 2013, based on Stockhammer 2012; see also Dietler 2010, 55-74). Ongoing excavation work on New Kingdom sites has since expanded the material basis of the debate and has shown how central the dynamics of cultural entanglement really are (see Smith and Buzon 2014; Spencer 2014; Budka 2015; Budka 2017a; Spencer *et al.* 2017; see also the individual contributions in this volume).

Similar to research in North America and elsewhere, the use of “entanglement” in Sudanese archaeology is related to colonial and postcolonial studies (“colonial entanglement”, see Silliman 2016, 33 with further references; cf. also Dietler 2010; see Hodder 2012, 88-112 for various approaches to entanglement). What until now has not been touched in detail is the question, whether entanglement for Nubia is used as a model or as a metaphor (cf. Silliman 2016). Its relation to the concept of “Egyptianisation” might suggest that it is regarded as a model (cf. van Pelt 2013) which could cause several problems, similar to the concept of hybridity (cf. Stockhammer 2012). Following Silliman (2016) it seems more plausible to use it as metaphor: cultural entanglement stands for the redirection of the archaeological interpretation of finds in Northern Sudan, but should not be regarded as the one and only solution.

Within the material studies, small finds, ceramics and other objects can be seen as evidence of “material entanglement”, following Stockhammer’s (2012, 49-51) categories. The concept of hybridity has been discussed in a number of recent papers on Nubian New Kingdom sites (see Budka Ceramics in this volume).

Biologic entanglement is another theme recently discussed in Nubian archaeology (Smith and Buzon 2017). Especially the funerary evidence suggests that the individuals buried at the New Kingdom sites were both Egyptians and Nubians and therefore represent a complex community (Smith and Buzon 2017, 618). Here, in the last decade the analysis of systematic variation in the isotopic composition of Sr in the environment and in dental enamel of ancient skeletons was used in Nubian archaeology for tracing human migration. The isotope signals can be used as basis for the further interpretation of the autochthony or allochthony of the skeletal remains of the excavated individuals. Whereas the analyses conducted within the framework of the Across-Borders project are still ongoing (see Budka Tomb 26 in this volume), the project working at Tombos has already published data which suggest a *‘culturally and biologically mixed group of people living at Tombos’* (Smith and Buzon 2017, 619).

## Current developments in Egyptian and Nubian settlement archaeology

To summarise the above, there are two major developments in the study of urban patterns and individual households in ancient Egypt and Nubia in the last decade. The first is specific for New Kingdom Nubia and concerns the above-mentioned advances regarding the concept of “Egyptianisation” which is now replaced by approaches using theories of cultural entanglement and appropriation (van Pelt 2013); new within this approach is also the notion of the importance of indigenous people (see already Morkot 2013). The AcrossBorders project and its interpretation of Sai illustrate this development. Other than drawing artificial border lines between Egyptians and Nubians, AcrossBorders’ multi-faceted research illustrates that at the local level social, economic and cultural identities were changing, interacting and merging with each other. Sai can, therefore, be regarded as an example for the dynamic and situational character of past societies (Budka 2017c, 177). With this focus on the importance of the microhistories and individuals of specific sites, the “entanglement” advance developed in the last years in Nubia is also of relevance for sites located in Egypt (see, *e.g.*, the corresponding research by Bader 2013 and Bietak 2016).

The second development in the study of urban patterns and individual households in ancient Egypt and Nubia in the last decade concerns the application of archaeometric analyses and scientific methods during the actual fieldwork. Within this category, settlement archaeology in modern Sudan is much more advanced than in Egypt. I would suggest that this new development is crucial for the now established research of households; especially analyses conducted at the micro-scale like micromorphology and petrography (see D’Ercole and Sterba in this volume) allow the investigation of specific aspects of individual households and rooms within houses. This archaeometric/scientific achievement also includes digital landscape models (see fig. 2, also Fera and Geiger in this volume) and GIS applications (see Vieth in this volume).

Altogether, the current developments represent major footsteps forward in the field of settlement archaeology in Northeast Africa in the last years, especially for the Bronze Age.

## From macro- to microcosm in Northeast Africa

Previously, settlement sites in Northern Sudan were primarily touched upon within studies of urbanism and colonialism (*e.g.* O’Connor 1993). Sites like Sai and Sesebi were studied on the basis of textual references and were interpreted within the administrative matrix (which was again reconstructed by means of texts and inscribed

records). This approach from the macro perspective allowed assessments within the larger historical picture, but had clear shortcomings on the micro-level of individual sites. These shortcomings have been addressed by the recent boom of settlement archaeology in Northern Sudan. Thanks to new fieldwork with a bottom-up approach, detailed information on selected sites is now available and their analysis is still ongoing. Sai may again serve as a case study, illustrating how much information can be added with detailed excavation records in combination with the analysis of the material culture, textual records and architecture (Budka 2017c). First of all, the “planned” appearance of Sai is not as uniform as previously thought – AcrossBorders’ excavation unearthed diverse areas within the orthogonal settlement which have much in common, but also depict unique features, most likely the results of a number of dynamic factors characterising a social fabric which is more complex than the macro approach towards an “Egyptian town” would suggest (see Budka 2017c).

Evidence from both Amara West and Sai Island indicates that real developments within Egyptian towns in Nubia may differ significantly from theoretical urban planning (Spencer 2015, 201-202; Budka 2017d, 17). Although a hierarchy of different sizes of houses is present at these state foundations, a dissonance of houses from “standard layouts” seems to have actually been common and integral parts of very dynamic worlds.

Another example illustrating the potential of the micro-scale for settlement sites is Elephantine (cf. von Pilgrim 1996). House 55 (von Pilgrim 2015; in press) was meticulously studied – building phases, floor levels, abandonment phases and activities related to crafts and other activities within the building are currently being reconstructed by means of an integrated approach, considering the complete archaeological stratigraphy (fig. 5) and finds as well as the architecture. Micromorphological samples were taken in House 55 and their analysis is still pending, but exemplifies the potential of the use of micro-archaeology also in Egypt.

As was mentioned above, micromorphology offers new data about the maintenance of floors, pavements and wall plaster (Dalton 2017). The technique also allows a better understanding of spaces used for animal husbandry in towns, as midden or in connection with the general waste management (cf. Arnold 2015).

On the micro-level, also installations within Egyptian houses are of interest. Examples have been discussed for the New Kingdom from Amarna (Spence 2007; see also Steadman 2015, 265) in connection with the use of space and the general aspect of ritual and sacred activities within the domestic sphere (cf. Stevens 2006). Sector SAV1 North of the New Kingdom town of Sai yielded several installations in 18<sup>th</sup> Dynasty houses, *e.g.* storage bins,



Figure 5. Section within House 55. © Cornelius von Pilgrim, Swiss Institute Cairo.

grinding emplacements and miscellaneous installations (Doyen 2017). Staircases and mastabas are other types of installations well known from larger buildings in Amarna and elsewhere (Kemp and Stevens 2010, 492-496).

A recent example where the micro-level investigation of Egyptian settlements and towns was combined with a meso- and macro approach is the study on ‘Technology and Urbanism in Late Bronze Age Egypt’ by Anna Hodgkinson (2018). Detailed studies on crafts and workshops on individual sites were combined with GIS analysis, distribution patterns and a consideration of the historical framework (cf. also Vieth in this volume).

Sai Island can serve as another case study for the fruitful combination of investigation on both the micro- and the macro-level. In 2015, I have proposed that the three main phases of the evolution of the New Kingdom town of Sai reflect general settlement patterns for the region of Kush (Budka 2015). For example, Phase B on Sai with the erection of the town wall, the stone temple and administrative buildings mirrors the installation of a permanent Egyptian administration. This indicated that the Egyptian temple towns flourished and dominated the landscape of Upper Nubia only after the defeat of the Kerma Kingdom and were integral parts of the Egyptian administration as installed

by Thutmose III. Although their layout was planned, the specific sites show evidence of dynamic sides and local features in regard of both architecture and material culture – aspects which are also well traceable in New Kingdom towns in Egypt proper, but have often been overlooked because of a macro-scale approach.

The results by Smith (2003) and Spencer (2015) that “cultural entanglement” is almost not traceable within the domestic record, but appears clearer in the mortuary culture of Egyptian sites in Nubia, were also confirmed by AcrossBorders’ research. Case studies like Tomb 26 on Sai (Budka Tomb 26 in this volume) allow tracing not only individuals on the micro-scale, but also allow projections about the social fabric on Sai and in Upper Nubia on the macro-scale (cf. Auenmüller in this volume).

To conclude, the complex whereabouts of New Kingdom sites in Nubia have to be further assessed from a micro and also a macro perspective, the latter in particular with considering the corresponding historical and political situation and the relationship and networks of the individual sites with other sites. For Sai, much new information about the town’s role in the Egyptian “re-conquest” were gained by a joint analysis of archaeological and textual sources in the last years (see Doyen and Gabolde 2017, 149-150).

## Outlook

The 2017 conference has both demonstrated recent advances and highlighted blank areas in our knowledge of settlement archaeology in Egypt and Nubia during the New Kingdom.

The occupation of the Egyptian sites in Nubia and the social stratification of their population still represent many open questions. In terms of architecture, mainly the fortified towns have been investigated so far; new research should also include architecture outside the town wall. As recent work at Sesebi (Spence *et al.* 2011; Spence 2017) has shown, extra-mural settlements existed obviously already in the 18<sup>th</sup> Dynasty (other than originally proposed by Kemp 1972). Of similar importance would be more in depth integrated approaches considering also the hinterland of the main sites; surveys in these areas should also be of high priority (see already Stevens and Garnett 2017).

The end of the occupation of the New Kingdom sites still poses several questions, as is the dating of the respective abandonment. The latter also still raises problems in understanding why sites were actually abandoned (cf. Spencer *et al.* 2012). At some sites, cemeteries seem to have a longer duration than the town areas (see Binder 2012; cf. also my comments on the use of SAC5, Budka 2017a).

Assessments of the material culture of New Kingdom sites will have to continue in the next years and require more data and additional comparative approaches. Information about the production of faience, pottery and leather as well as activities like weaving and metal working is also still quite limited (Spencer *et al.* 2017). The subject of gold exploitation in Nubia (Klemm and Klemm 2013;

in this volume) has been addressed by all missions in the last years and therefore still awaits an updated synthesis considering all new data.

Assessments of the agriculture, animal husbandry and food production are at most sites still ongoing (*e.g.*, Cartwright and Ryan 2017). Various scientific analyses contribute to the micro-archaeology of Egyptian sites in Nubia, including the study of pigments which also allow addressing questions on the macro level (see Fulcher 2017).

All in all, the 2017 conference was an outcome of the new age of settlement archaeology in Egypt and Nubia, which is characterised by archaeometric approaches and a strong focus on bioarchaeology, but also by new theoretical approaches (Spencer *et al.* 2017). With a continued focus on settlement archaeology, a more realistic understanding of ancient Egypt, including its “colonial” phases in northern Sudan, different from elite-biased and idealised projections deriving from the mortuary record only, can be established. Communication between the individual disciplines engaged in settlement archaeology nowadays and collaborative research between teams investigating settlement sites throughout Egypt and Sudan promise further advances in the near future.

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