ARCH 2710 Final Project

Spaces and Places: Architectural Continuity in the Post-Meroitic Transition

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1 Introduction

The Kushite State in Nubia, and the Meroitic Period it represented, came to an end not with a bang, but a whimper, between the fourth and sixth century CE.[1] The extinction of the Kushites as a significant unified political force in the region brought to a close almost a millenium of off-and-on conquest and rule that at various times extended north to the Nile Delta and to the south of modern Khartoum.[2] The period of transition acted as an interregnum between the powerful Kushite State and the medieval kingdoms of the sixth century onwards, and has been subject to many interpretations over the years. Edwards collects a few narratives that have been constructed over the past century, many of which center around the idea of the "end of Meroë" and the invasion of barbarian 'Noba' peoples.[3] Today, more complex and nuanced perspectives are required to understand the complex transition that took place during this phase of inhabitation in the region.

The post-Meroitic milieu was characterized by a mixture of continuity and change. While some

sites were continuously occupied from before the beginning of the Kushite collapse onwards into the medieval era, others were abandoned or were occupied informally without new construction.[4] The cultural remains found in the post-Meroitic 'dark age' (mostly in Lower Nubia) were designated by Reisner as the "X-Group," based on mortuary remains. Early workers identified the X-Group with slaves and others "alien" to the Meroitic culture. However, in 1925, it was observed by Hermann Junker that there was 'no striking difference between the X-group and Meroitic culture,' and many elements of material culture were shared between the two phases.[5] These similarities notwithstanding, the transitional period between Meroitic Nubia and Medieval Nubia was one of demographic changes and population movements, albeit ones not as large as believed by some. These changes affected how and where people lived, and what kinds of spaces they lived in.

2 The Post-Meroitic Transition and Architectural Continuity

The analysis of architecture and urban spaces is not a new field, and coherent studies have been made of many ancient cities and settlements. The Classical world has been richly studied, with thorough work having been done with Pompeii[6] and Olynthus[7]. Mesopotamian cities[8] and the Syro-Hittite city-states[9] have also been studied. Closer to Nubia, architecture in Egypt has been treated as well[10].

However, relatively little work has been done on architecture in Nubia, with architectural analysis only appearing as an aside in reports and publications covering a site or the region as a whole. Via a systematic analysis of Meroitic and post-Meroitic architecture and building practices, my goal with this project is to determine the degree of architectural continuity during the Meroitic to post-Meroitic transition.

2.1 Previous Work

Previous studies of Nubia and the Sudan have touched on this issue to some degree, most dealing with the most-evidenced post-Meroitic culture, the so-called Ballaña Culture, the materials of which

are found from Saï in the south to Aswan in the north.[11] The Ballaña Culture is named after the eponymous cemetery site that sits across from Qustul, both home to many large tumuli, excavated in the 1930s by Emery and Kirwan.[12] Adams notes that the dwellings of the Ballaña culture[13] were "indistinguishable from those of the Meroitic proletariat in any part of the empire."[14] At the same time, he noted clear differences between the Meroitic buildings and Ballaña buildings at a given site. His excavation reports from the 1961-1962 season on the West Bank of the Nile detail houses in Lower Nubia that "by comparison to Meroitic houses [are] decidedly small and crude, comprising random clusters" and possessing walls made out of "mud brick or coarse stone masonry."[15] Some early workers ascribed this change to "cultural 'decline"' and 'barbarism,' but Edwards encourages an interpretation based on functional change of the settlements themselves, describing the settlements in the north as changing from outposts of the state to farming settlements.[16]

It is important to note that all discussion of the Ballaña culture is limited to Lower Nubia, mostly north of Saï Island and entirely below the Fourth Cataract and the Dongola Reach. In Upper Nubia, above the Fourth Cataract, evidence is much more limited and while the so-called 'Tanqasi Culture' was held by some to be contemporaneous with the Ballaña Culture,[17] they should by no means necessarily be equated.

Overall, the idea of the transition is difficult to work with, as there is disagreement over when the Meroitic period ended, if it can be said to have ended, and what can be said to have come after it. Discussion at a conference in 1977 focused on this problem of culture vs. chronology, with Adams convinced of the utility of 'X-Group' to refer to a specific mixture of material cultures, and Kirwan firmly opposed to the use of the term as anything other than a chronological marker.[18] Kirwan dealt with the issue of the X-Group in a paper at that same conference, treating the different groups that inhabited the area at the time of the 'X-Group,' looking at the archaeologically evidenced Ballaña culture as well as the historically evidenced Nobatians (Noubades, Nouba, etc) and Blemmyans.[19] In Lower Nubia, while we only have one culture evidenced in the archaeology, history tells us of two, a discrepancy which Adams terms the "riddle of post-Meroitic Nubia."[20] Trigger exacerbates the issue further, noting that we know very little about the political scene surrounding the Ballaña

culture, both before and after. What kings came before those whose tombs are so prominent at Ballaña and Qustul? Which came after? In Trigger's words, "the ruins of how many dynasties that struggled for power at this time lie buried beneath the waters of Lake Nasser?"[21]

Between what items, then, am I looking for architectural continuity: Meroitic and later cultures? Meroitic *Period* and the X-Group? The elite and Adams' 'proletariat'? I hypothesize that there will be a high degree of architectural continuity across all of the above, given the evidence for at least some degree of cultural continuity for the same. The question of architectural continuity in this case has two components - space and time. Of interest are the questions of what continuities existed synchronically across the different areas of Meroitic influence, and what continuities existed diachronically across the timespan of the transition.

2.2 Limits of Evidence

One major issue with finding these continuities and addressing these issues is the evidence that is on the ground, and sometimes the lack thereof. In many places, evidence is confused, limited, or simply not there. Williams bemoans the lack of stratigraphic control at many settlement excavation sites below the Fourth Cataract, as the result of an 'architectural' focus. This lack, in addition to the reuse, ancient and modern, of various sites, is what Williams identifies as the major difficulty with conducting settlement investigations in Lower Nubia.[22] Reuse takes many different forms; one of the most damaging is the digging of *sebakh*, ancient mud-brick deposits prized for agricultural and construction use. Reuse occurred in ancient times as well, with evidence both of squatters and occupation without new construction at several sites.

In Upper Nubia, the situation is even more severe, with few sites evincing settlements. Most evidence for post-Meroitic habitation in Upper Nubia comes in the forms of cemeteries, which are abundant throughout the area.[23] Most Meroitic settlements in the south show no signs of later occupation, and while new settlements, such as Soba[24] and others, were founded, the number of settlements with levels dating to the post-Meroitic transition is vanishingly small.[25] In addition, as many of the sites in Upper Nubia were investigated after the sites in Lower Nubia, while they have

excellent stratigraphic control, the breadth of excavation is sometimes limited, such as is the case with the later excavations Meroë.[26] It is important to note that this is the complete opposite of the earlier excavations by Garstang at Meroë, which, like some of those in the north, dispensed almost completely with stratigraphic control.[27]

Prevalent among all sites is a focus on monumental architecture to some degree. In the case of many of the older excavations, temples and tombs were excavated in greater numbers than residential areas, with a few exceptions, such as Emery and Kirwan's excavations at Wadi El Arab. Even there, the excavation was incomplete, and they noted that the site was "poor in smaller antiquities and inscriptions."[28]

One interesting avenue for study that may be less impacted by the extent of excavation is the examination of middens and refuse. The waste products of a building are often closely related to the use of the building, and allow for a classification of building-level use even in cases where the exact locations of finds are not recorded. This is also the case with those sites that, as mentioned above, only have house-level find documentation.

The architectural evidence available for use is fragmentary, poorly documented, and woefully biased at times. While other kinds of evidence, such as find scatters, are more common, without an architectural context, they are less useful for this type of analysis. To work with the problem of the built environment in Nubia, any type of analysis will need to make careful consideration of the limitations of knowledge and interpretation.

3 Sites

Several sites have been found that provide good documentation for one or more phases of the period of interest. These sites have been chosen for the amount and diversity of building types they exhibit. Many of these sites also exhibit multiple building phases, either across the Meroitic transition or within one historical period. The sites have also been chosen for quality of publication and availability of data, with some exceptions. They are listed below with a brief summary of the

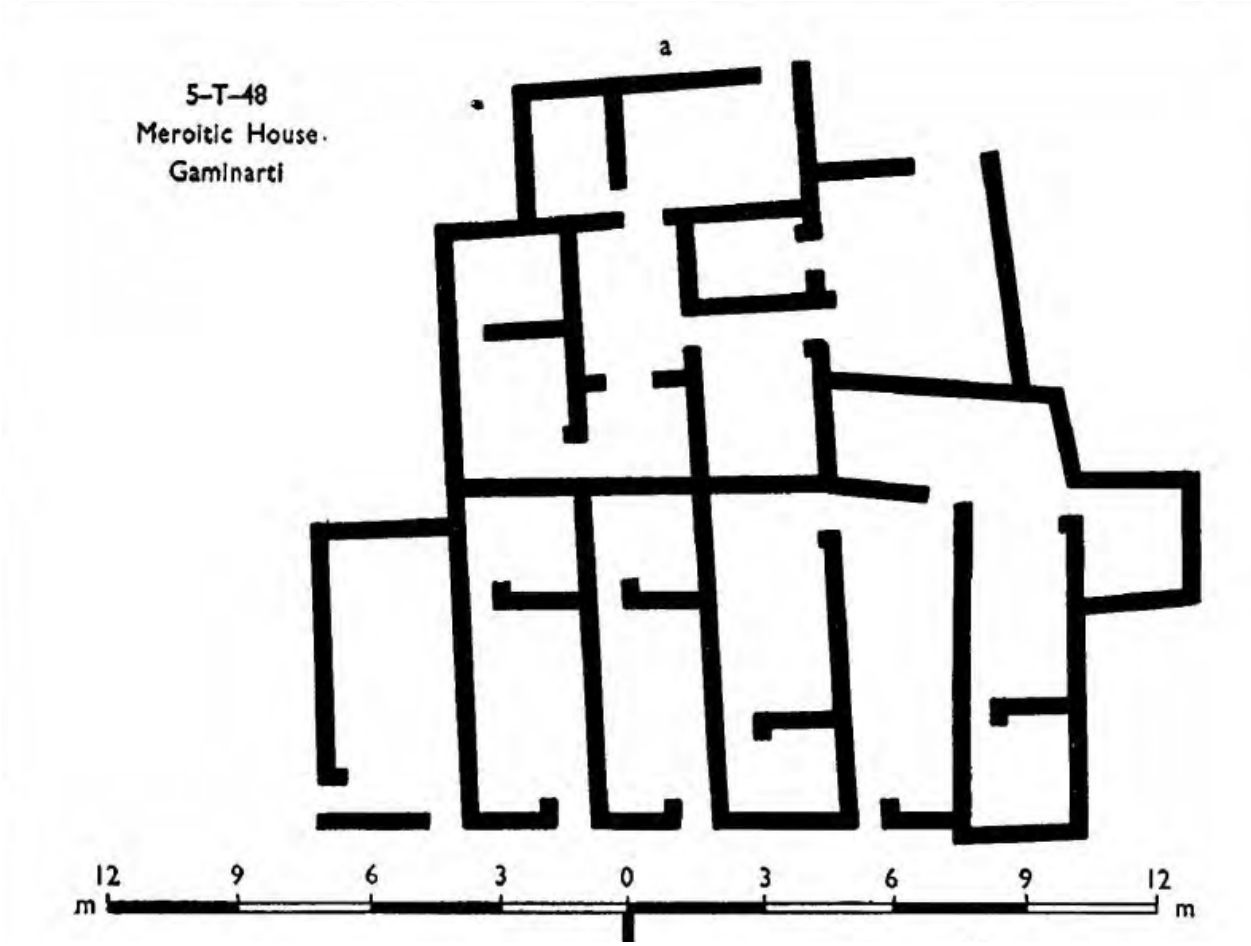


Figure 1: House 5-T-48 at Gaminarti, after Adams and Nordström, 1963

site, history of excavation, publication quality, and utility for this study.

3.1 Gaminarti

The principal excavation of this site was done by Adams and Nordström in the 1960s, under the auspices of the UNESCO salvage work. Gaminarti was one of four sites to exhibit significant structures on that campaign, and it was among the earliest sites to yield Meroitic domestic remains.[29] Figure 1 shows the larger structure found at the site. The structures are large clusters of 10 or more rooms, close together, sharing walls. In many cases, the rooms open to the exterior of the structure, and are grouped in two-room suites. Doorways and other installations are somewhat preserved, and the building material specifications are recorded for both structures.

The site also contained a fairly robust corpus of pottery, with pots and sherds of several standard types found elsewhere, as well as types of pottery that were rarely found in cemeteries.[30] The finds were registered at the house level, which is not as helpful as it might be, given the small number of houses. Any further provenience information would be found in the field notes of Adams. The site only evidenced Meroitic remains, and Adams and Nordström note that the houses are in most respects similar to Karanog, a site ca. 100 km to the north. The site is mainly published in Adams, 2005, along with the first site reports in Adams and Nordström, 1963.

3.2 Gezira Dabarosa

This site was excavated as part of the UNESCO-SAS West Bank Survey in the early 1960s. First dug by G. J. Verwers, then by the University of Colorado, Gezira Dabarosa may have been, to Adams' estimation, "the most important Ballaña settlement in Sudanese Nubia."[31] The site features well-preserved Ballaña house remains, with walls standing in many places up to a meter or more. Interestingly, at this site, no excavation was performed below the surface structures; Adams attributes this to the Colorado team's prior experience having been in the American Southwest, where destruction of standing structures is often illegal and almost unthinkable.[32] Even without extensive sub-surface digging, the site yielded structures dating from the Meroitic up through the Classic Christian periods. However, the limited depth of excavation means that there is no way to form an impression of architectural change over time. All the same, this site, along with Gaminarti, has some of the most complete Ballaña phase buildings out of the sites summarized here.

The site contains several key features of interest: House 1 (see figure 2), the largest structure at the site, comprises several clusters of rooms and has well-preserved walls. Made up of four suites of rooms, one suite has much thicker walls than the others, and is believed by some to have been the home of an important personage, with a monumental entryway and a threshold stone with extensive votive installations.[33] The site is, as far as I can tell, published solely in Adams, 2005, with the extensive records of the Colorado campaign having been used in the publication. Find records are sparse, however, and while extremely detailed building plans of the excavated areas

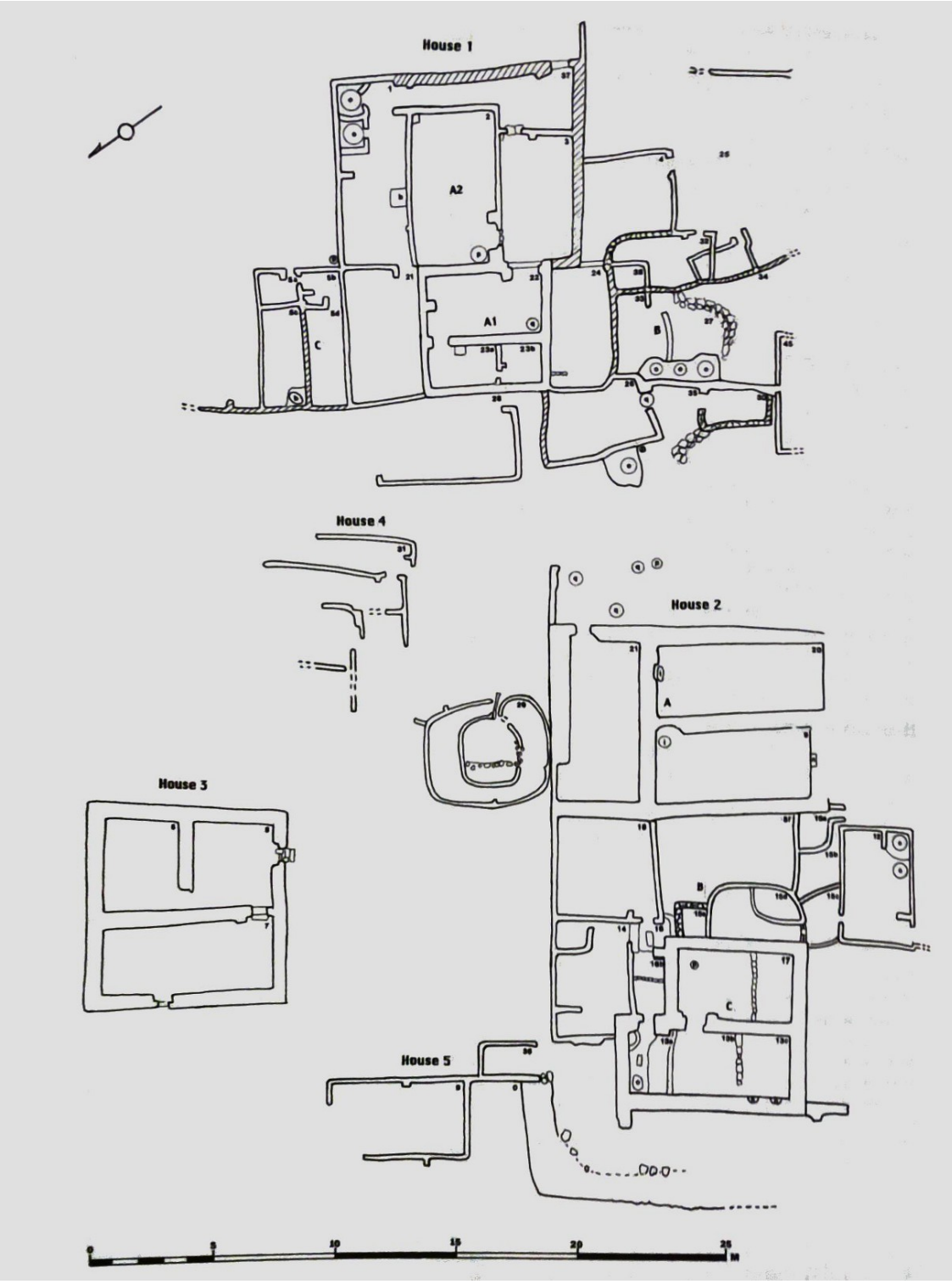


Figure 2: Gezira Dabarosa Sector 1, from Adams, 2005, p. 100

are contained in the records on file at the University of Colorado, no artifact catalogue has been found.[34] Any finds from the earlier Adams dig would be recorded in the notebooks of Verwers.

3.3 Hamadab

Hamadab was first excavated in 1914 by the Garstang expedition to Meroë. While that campaign unearthed a small temple, recent fieldwork by Wolf and others[35] has unearthed a substantial Meroitic Period settlement, with extensive habitation sites.[36] Figure 3 shows the schematic plan of the Meroitic Upper Town. This settlement has been shown to extend to two mounds more than 15 hectares in area, rivaling the settlement mounds at Meroë. The Upper Town is surrounded by a city wall, and contains a temple as well. Interestingly, the foundation of the city wall and temple precinct seems to predate the construction of the rest of the interior of the village. Wolf believes that this, along with the straight main street and side lanes, points to deliberate initial town planning. He contrasts this with the extremely irregular and dense construction within the building plots, which "were probably not subject to central authorities."[37].

The high quality of excavation has allowed Wolf et al. to determine phases of construction for individual houses, and the good field practice has allowed for a detailed accounting of possible room functions in the houses, ranging from kitchens to workrooms of various sorts. Unfortunately, the detailed site report has not yet been made, leaving this tantalizingly good site somewhat out of reach for the time being. Even so, this site has some of the most complete Meroitic architectural evidence of any site on this list, and the excavation has been conducted recently to a high standard. Those factors make Hamadab a key data set for this project.

3.4 Karanog

This site, ancient Nalote, excavated by Woolley and Randall-MacIver in 1907-10, was a main center of government during Meroitic times, and remained inhabited by Blemmyes and others up until the Christian Period.[38] The most striking feature of the site are the largest buildings, the so-called Castle and House 2, believed to be the palaces of the *peshtos* who governed the region of Akin from Nalote

Figure 3: Schematic Map of the Meroitic Upper Town at Hamadab, after Wolf, Nowotnick, and Hof, 2015, p. 137

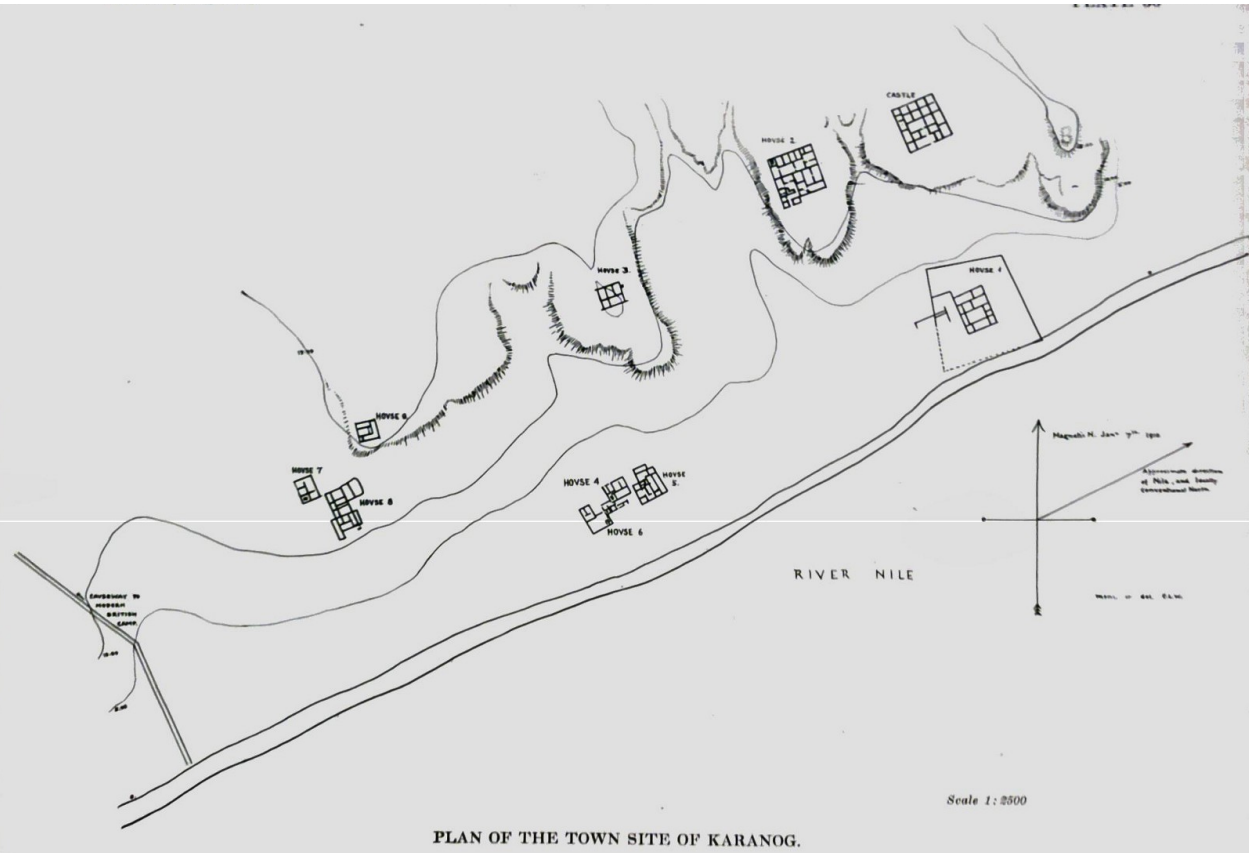


Figure 4: Town Plan of Karanog, after Woolley, 1911, Pl. 30

on behalf of the Meroitic State. These buildings, set up on bluffs overlooking the winding streets of the town below, are large and in parts preserved up to three stories above the ground.[39] The town itself is excavated piecewise, in individual building clusters as seen in figure 4. While this does not allow for rigorous inter-building analysis, the buildings that are excavated are well-preserved and show above-ground features like jambs, frames, and windows on occasion. Each building has room-level find inventories, and the reports also include descriptions of installations found in the rooms.[40] The presence of the large palaces is also a boon, allowing for possible comparison with larger structures, "administration buildings," and temples at other sites.

Overall, this site has promising data quality, with good site plans detailing multiple phases of construction and high-quality (for the time) data for finds. The most impressive feature of Karanog will always be the Castle, with its well-preserved vaults and windows, and the overall high degree of preservation allows for more reconstruction of wall features than at most sites. For this project,

the access to data such as as window locations is invaluable.

3.5 Meili

This site, situated on one of three small islands strung across the Nile, sat opposite the village of Gemai near the Second Cataract. The site was excavated by Adams and Nordström in the early 60s, and was published both at the time of excavation in the annual reports[41] as well as more recently in the West Bank Survey volumes.[42] As can be seen in figure 5, the site yielded several phases of occupation within the Meroitic period alone, the result of a series of floods that led to repeated new-build construction on the same location. Several structures were excavated, with 6 'Houses' in total being excavated in a relatively small location. This provides a unique opportunity for analyzing the degree of architectural continuity within a single period of occupation, possibly by the same population.

Unfortunately, the finds at Meili, due to the salvage-survey nature of the excavations, are not recorded locationally with detail. While they are often distinguished by phase, and the stratigraphic control is often adequate, the location of finds is not included in the accessible publications. The detailed provenience information, as for many other sites included in the UNESCO-SAS West Bank Survey, is located currently in the University of Kentucky.[43] Nevertheless, the site has many architectural features to commend it, and records other information about the structures, such as installations and building material, at the building level.[44]

3.6 Meinarti

The *kom* of Meinarti, on an island 10 km to the south of Wadi Halfa, was excavated by Adams over twelve months in 1963-64. The site was occupied for over a millennium, from the Meroitic Period on through to the end of the Middle Ages. With a total of 18 recorded stratigraphic layers encompassing more than 50 buildings and more than 1500 registered artifacts, Meinarti is published in both the original site reports[45] and in a more recent series of volumes.[46] The site is, to Adams' view,

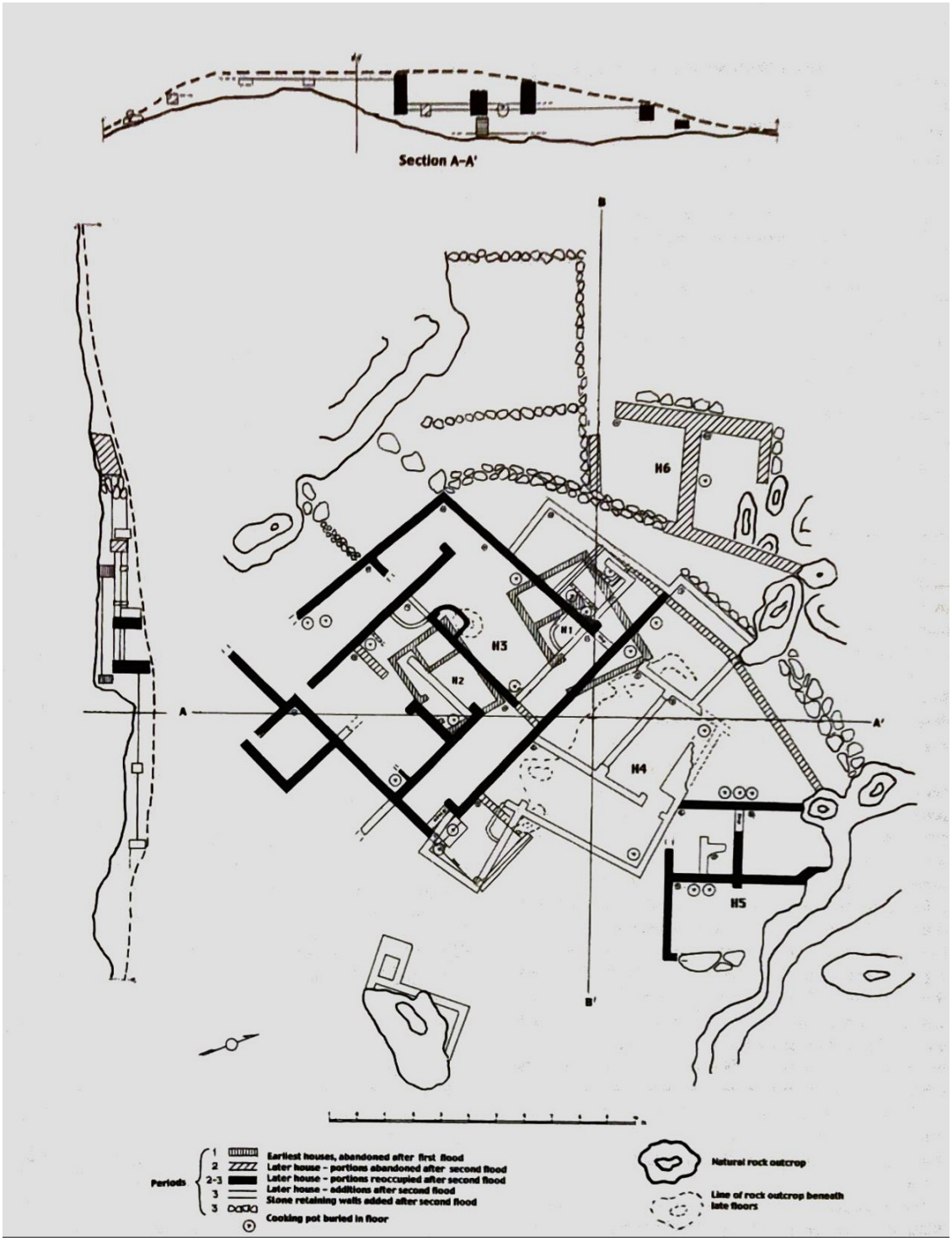


Figure 5: Plan of Meili townsite, showing successive phases of Meroitic occupation, after Adams, 2005, p. 40

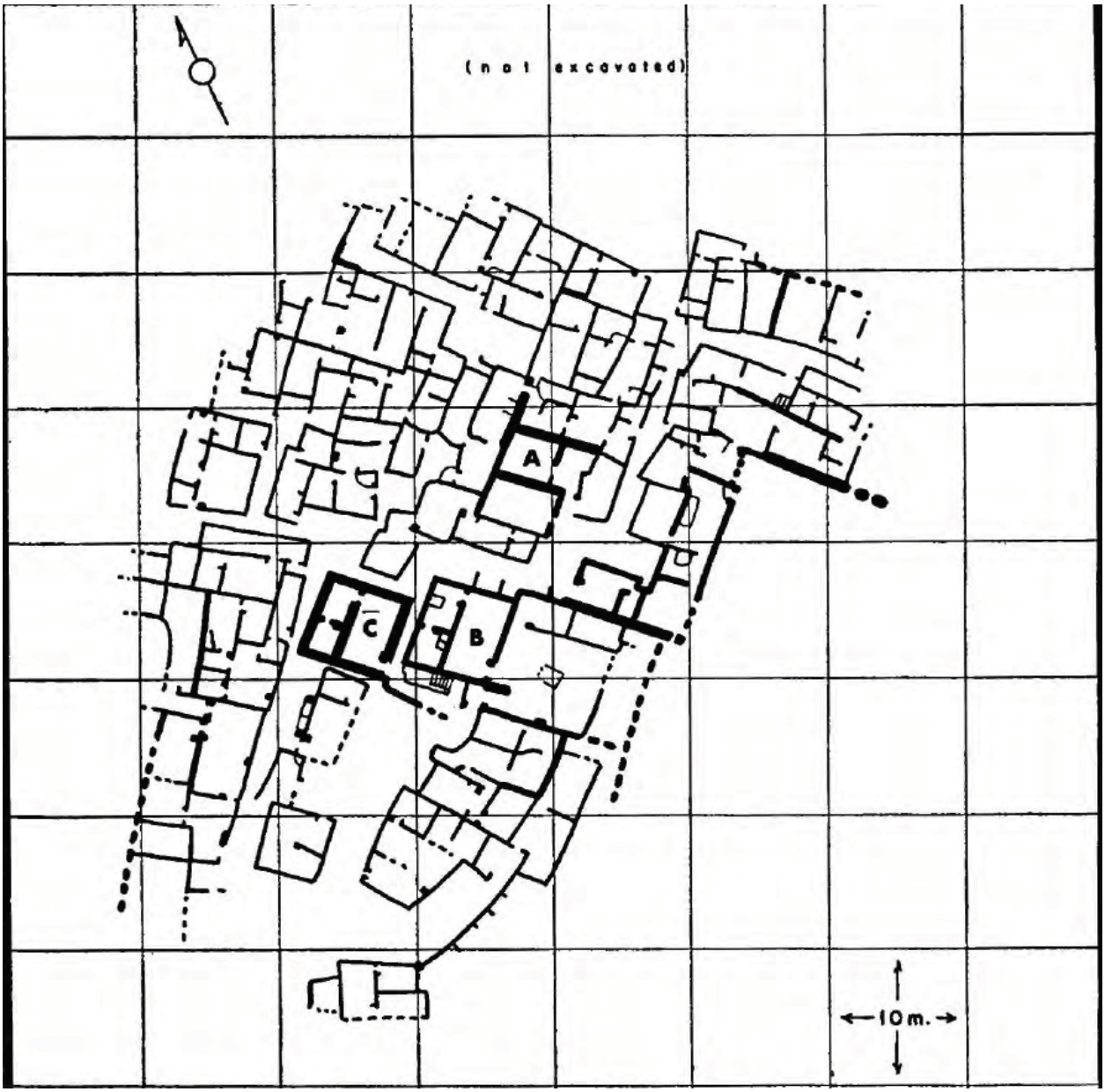


Figure 6: Plan of Ballaña Phase structures at Meinarti, after Adams, 1965, p. 154

> one of the few archaeological sites which have ever been completed to the excavator's entire satisfaction, thanks to the scientific dedication of the Sudan Antiquities Service. One-half of the mound remains untouched, but the 50 per cent sample which was obtained is adequate for every period, and test excavations have shown conclusively that there is nothing left underneath the site. The record of human occupation on the island is therefore about as complete as the archaeological record will ever make it.[47]

While the site is chronologically very complete, the nature of the dig and Adams' own preferences means that the horizontal provenience of a find is rarely recorded. However, Adams has digitized his revised field notes, and they are available from him on disc.[48] These notes in some cases will contain provenience information not included in the reports, which solely provide phasing information. Overall, though, the quality of data is remarkable for the speed at which the site was excavated, and the long history of occupation, combined with the comprehensive building plans, makes this site very useful for this project.

3.7 Qaṣr Ibrim

This site has been excavated intermittently from 1962 to 2008 under the auspices of the Egypt Exploration Society, under various directors, and additionally under Alexander and Driskell later on. There has also been excavation conducted by Edwards, but the publication of his work has been difficult to find, if indeed it is published. Qaṣr Ibrim, while possessing a well-known Meroitic temple complex, has few other structures from the Meroitic Period. However, the site, which is situated on the east bank of the Nile some 200 km south of Aswan, has a much richer set of evidence for the Ballaña Period. Several clusters of of houses have been excavated, with the so-called "Tavern Street cluster," seen in context in figure 7, being of particular interest.[49] The site has a long history, having been occupied on and off from around 1600 BCEuntil 1900 CE. This long history, over which time it was built on, invaded, retaken, razed, and squatted upon, has yielded a rich archaeological record which in combination with its dry climate has provided excavators with a combination of textual remains and other finds in quantities rarely seen in sites in Nubia.

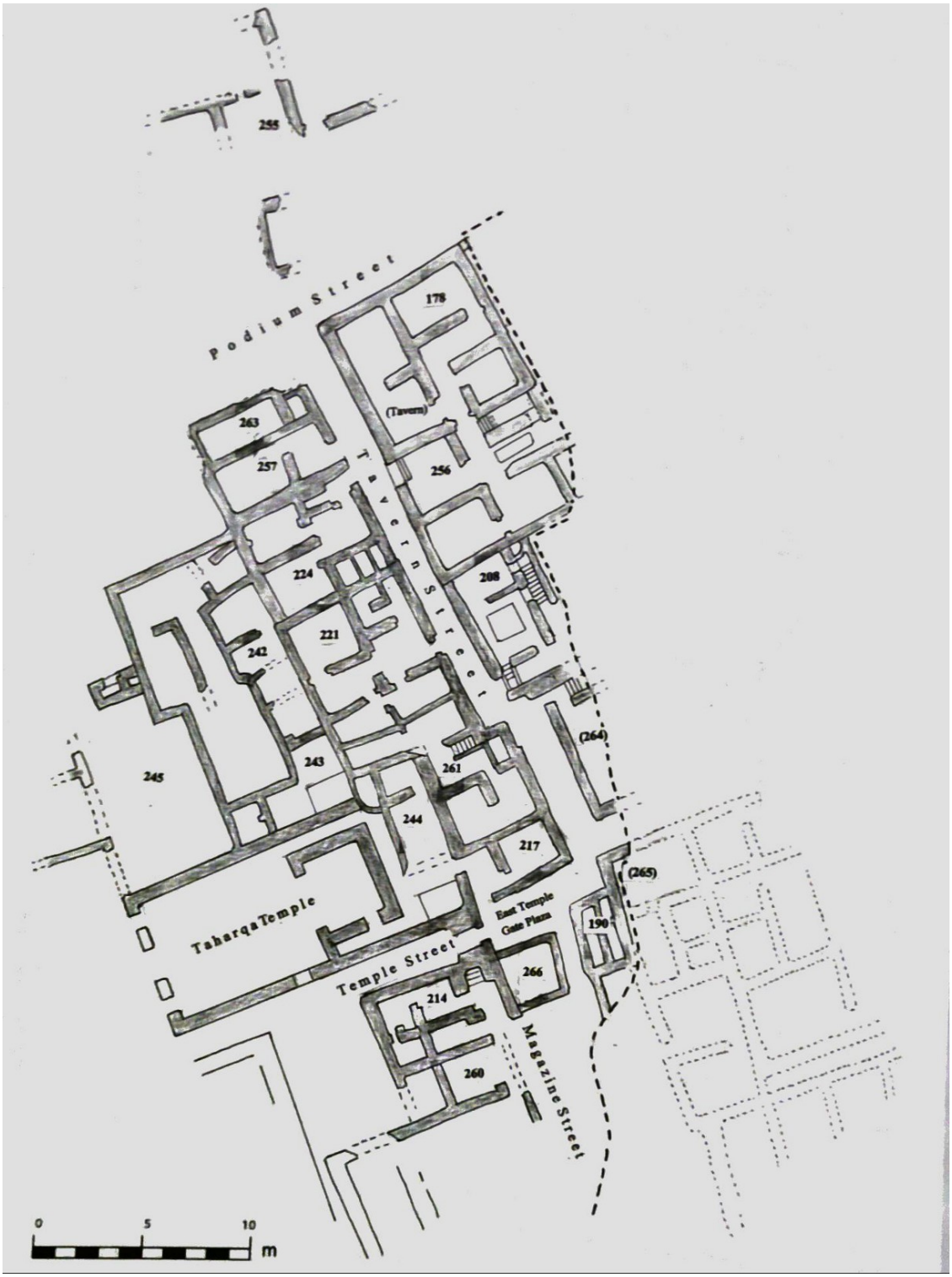


Figure 7: Map of Tavern Street and Magazine Street house clusters, after Adams, 2013, p. 28

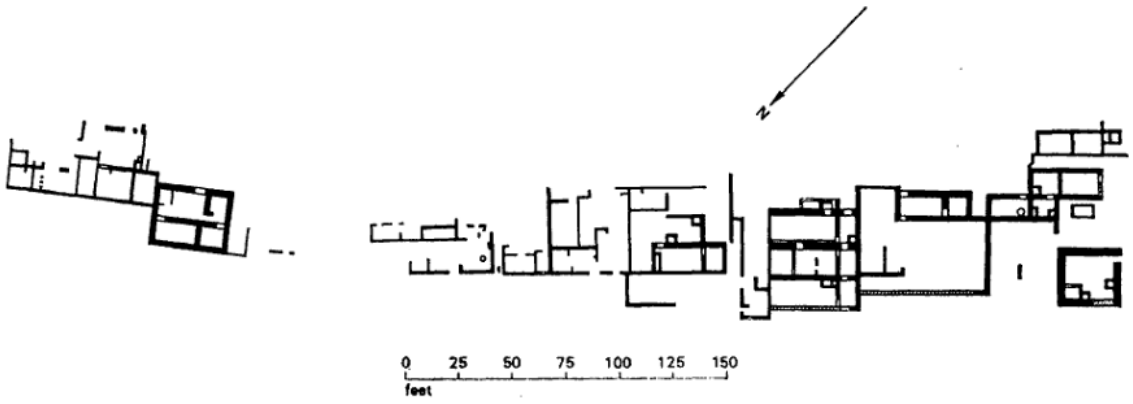


Figure 8: Plan of a portion of the Meroitic town at Wadi el-Arab, after Adams, 1977, p. 357 from Emery and Kirwan, 1935, Pl. 17

In addition, the publication quality can be quite good, with some finds provenienced to individual houses and occasionally to individual rooms.[50]

3.8 Wadi El Arab

Wadi El Arab was first excavated over the course of the 1929 - 1931 season Nubia Archaeological Mission, which was conducted by the Service des Antiquités de L'Égypte. This campaign was directed by Emery and Kirwan, and covered the Nile Valley between Wadi es-Sebua and Adindan. The site contains a Meroitic town, and a plan of the excavated portion can be seen in figure 8. The documentation of the town is somewhat sparse, and there is not a surfeit of recent work done with the data. The only publication[51] lists 22 houses, and gives find documentation for each house, down to the room level. Stratigraphic control is almost non-existent, but lateral provenience is a unique element that is present for almost all of the houses.

4 Methodology

Various methods can be used to classify buildings architectural features, but of special interest to this study will be both those that can systematize and abstract buildings and structures, as well as those that integrate finds and installations. These methods have to deal with a few difficulties that

are not present at sites like Pompeii[52] or Olynthus;[53] namely, a lack of wall preservation for the majority of sites, a frequent paucity of find provenience, and a lack of textual remains describing the sites. To this end, three principal methods have been chosen for use. Using these methods, the goal would be to look for commonalities (or the lack thereof) both between Meroitic and post-Meroitic sites, as well as between sites of the same period. This would allow for an assessment of the degree of continuity across the transition period.

4.1 Find Scatters and Installations

The most direct route to building function and building use is the analysis of the physical objects at the site: pots, sherds, weights, tools, lithics, etc. However, as seen above in the site descriptions, lateral provenience is often neglected, especially at sites dug by Adams, e.g., most of them. However, there are some sites that have lateral provenience data, and possibly more data is lurking in Adams' field notebooks, especially for such otherwise-extremely-promising sites such as Meinarti.

Find scatters have been used almost as a matter of course to analyze building function at many sites from across the ancient world. This is of course with the caveat that this method is only possible with certain data sets. Koltsida collates find data from the Amarna Workmen's Village dig to establish typological distributions of various object categories across all rooms of one type in the houses there.[54] This method can be extended to installations: doors, windows, storage jars, and other permanent or semi-permanent fixtures can be collated and used to develop room typologies, and from that building typologies, if the data exists. If the data does not exist at the room level, a proxy for the function of a building can be the contents of middens and refuse dumps associated with the building, or simply the remains associated with the building. Unfortunately, none of the site reports I was able to find dealt with middens to any detail, and middens, the same as any other collection of artifacts, will not show up in solely vertically-provenienced find registers.

The use of find scatters, when present, can render meaning beyond simple building function. Cahill used room-level find provenience at Olynthus to delineate masculine- and feminine-designated areas of houses.[55] This method requires some cultural context, which in the case of

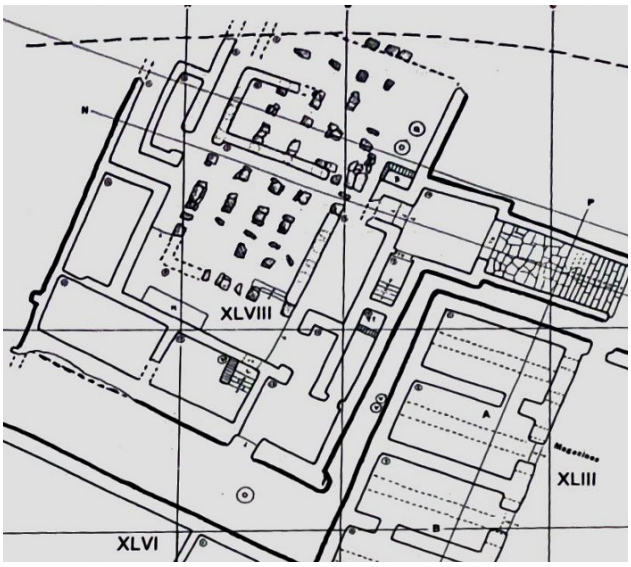
Olynthus was provided by plentiful Classical documentation. While this documentation simply does not exist at the sites in Nubia, one possible avenue of correlation is via the objects found buried with skeletons of different sexes in cemeteries. Any correlations found between sex and item at the cemeteries could then be used to analyze the find distributions at the town sites, allowing for a less functional, more social reading of the built environment. This method can be used for other relations, and can shed light on issues of class, cultural, and occupational distributions in the settlements. Again, this comes with the caveat that frequently, the data needed to conduct this analysis does not exist.

4.2 Morphic Language

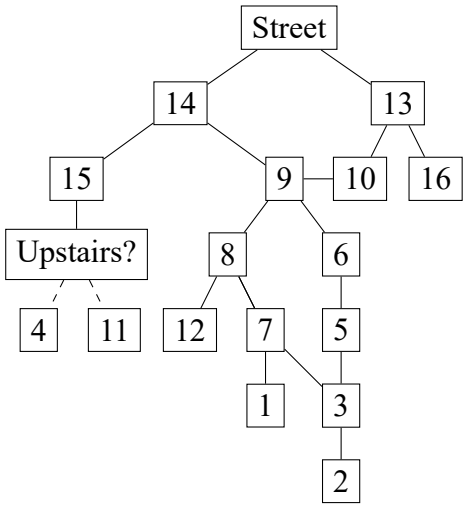
Buildings are complex structures, and the most common way of rendering these structures in archaeology is the plan: a two-dimensional representation of the layout of the building. This model of representation emphasizes walls, and the physical location of the elements of the building. Another way of representing a building is the morphic language used by Laurence to great effect in Pompeii (for a complete description of the practice, see Hillier and Hanson, 1984).[56] The system places greater importance on the voids and spaces of the building, and the connectivity between them, than on the physicality of the structure itself.

In the morphic language, a dot or other shape represents a single room, corridor, or other void, while a line indicates a connection, usually a door, but windows can also be used, when present in the record. This can be seen in the example in figure 9b. One of the main benefits of using this method to describe buildings is the way in which it clarifies access and privacy. A room that shares a wall with the street may in fact only be accessibly from a room interior to the house; proximity, in this case, is not the only factor in determining the "publicness" of a room. These insights are not impossible to gain from the plan alone, but representing the building in this abstract way makes it easier to recognize patterns in a large building population.

The abstraction of the building to what a mathematician would call a 'graph' – a set of nodes connected by edges – allows for further abstraction through the use of various metrics. At Pompeii,



(a) Building XLVIII, Phase 1a, Meinarti. Excerpt from Adams, 2000, Fig. 8



(b) Building XLVIII, Meinarti (room numbers from Adams, 2000). Method after Brusasco, 2007

Cahill uses a metric called Relative Asymmetry to categorize buildings, formulated as

$$\mathrm{RA} = \frac{2(\mathrm{MD}\text{-}1)}{\mathrm{K}\text{-}2}$$

where MD is the mean depth (number of edges between a node and the entry) and K is the number of spaces. This formula gives a value for Relative Asymmetry that ranges between 0 and 1.[57] For example, the Relative Asymmetry of Building XLVIII in figure 9b is about 0.32. This number might seem arbitrary, but it provides a convenient way of expressing the balance between ease of access to spaces and the total number of spaces in the house. An RA of 1 would indicate that the average depth of a room in the building is $\frac{K}{2}$, meaning that the house is laid out in a straight line, one room to the next, with one end connected to the street. An RA of 0 would indicate that every room in the building is directly connected to the street. In this way, it provides a single number that describes how integrated the building is with the surrounding urban milieu, allowing for broad characterizations of buildings. This is only one metric; others can be defined as needed, and the graphic representation of the building enables these analytical methods to be applied in an efficient way.

4.3 Urban Context

The final method I will look to employ is the analysis of the building as a component of a settlement, and the analysis of the settlement as a whole. This method will be hampered by the limited degree of excavation at many sites in Nubia, but there are some sites (c.f. Gezira Dabarosa, Meinarti, Hamadab) that have a large enough portion of the settlement excavated to be able to make statements about the relative positions of different buildings.

There are multiple ways to look at urban context; Hillier and Hanson provide a selection of graphical and mathematical methods that can be used to describe and analyze settlements en masse. The procedures for these are too lengthy to go into, but suffice it to say that they reduce the open space (streets, plazas, other public areas) to a set of convex areas linked by axes of access. The procedure is outlined in figure 10. The collections of axes and spaces can then be operated upon with various metrics and procedures to yield holistic measures of a settlement pattern. Similarly to the method of Relative Asymmetry seen above, there is a way to measure the symmetry of relations between spaces in the settlement - the more symmetry there is, the more integration there is between various spheres: inhabitant and stranger, worker and customer, elite and proletariat. Similarly, the more asymmetric, the more distant and disconnected these relations become.

Another way to examine the settlement as a whole is to collate distributions of buildings of different types. This is a method that must, perforce, be used in concert with the other methods mentioned above, in particular the first. One must have a classification for a building before it can be put in a category and plotted on a map. Once this is done, though, the resulting plans can reveal what we would call “districts” in a city today - zones of occupation with an above-average focus on a particular industry or activity, be it religion, production, or residence. This method, as it depends on the building-level analyses described above, is subject to the same caveats, again, particularly as relate to the method of find analysis.

Fig. 26 The open space structure of G.

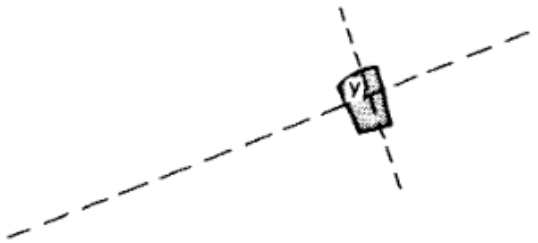


Fig. 27 The point y seen convexly and axially.

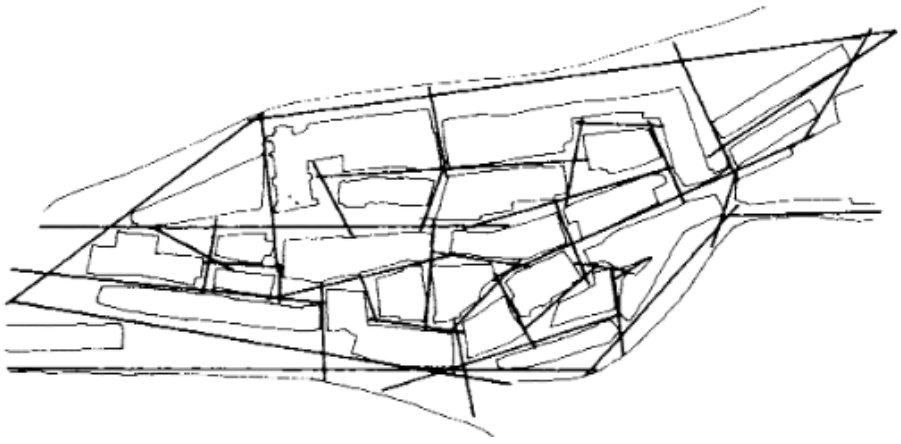


Fig. 28 Axial map of G.

Figure 10: Alpha-analysis figures, after Hillier and Hanson, 1984, p.91

5 The Way Forward

In this prospectus, I have attempted to describe a new way of looking at Meroitic and post-Meroitic settlement patterns, by means of abstract and concrete methods of analysis. The list of sites in section 3 is by no means complete, and there are some sites that either have not been fully published, have not been fully excavated, and doubtless, some that have yet to be found. However, I believe that there is a sufficient amount of evidence, with the current quality of publication, to begin at least a preliminary analysis of the body of data.

Future work, and possible further excavation, would ideally be focused in Upper Nubia, in the region outside the umbrella of the Ballaña Culture. There are plentiful cemeteries; where are the settlements? Possible studies that would be very valuable could include aerial surveys of large swaths of land, along with geophysical sweeps, to look for unexcavated and undiscovered settlement sites. Axumite inscriptions refer to populations of Noba in formerly Meroitic towns around the confluence of the Niles;[58] which towns are these, supposedly built of brick? It is these questions that an aerial and geophysical survey could help answer. There is more data for sites in Lower Nubia, but that is solely a result of intense mid-century salvage campaigns. With more work in Upper Nubia, such as that currently being done at Hamadab, greater clarity can be brought to the currently murky post-Meroitic transition.

A Dissertation Outline and Schedule

A.1 Outline

1. Introduction
2. Literature Review
3. Methodology Overview
4. Site Choices

5. Data Presentation
6. Analysis - possibly integrated with data presentation
7. Conclusions

A.2 Schedule

1. Write methodology section
    (a) Determine implementation of methods
    (b) Ground methods with examples from other geographic regions
2. Write site choice section
    (a) Establish criteria for sites
    (b) Determine which sites have enough data
3. Analyze sites
    (a) Create databases
        i. Finds, rooms, buildings, etc
4. Write up analysis
5. Write conclusion, introduction, and abstract

Notes

[1]Welsby, 1996, p. 201.

[2]Edwards, 2004, p.142.

[3]Ibid., p. 183.

[4]Ibid., p. 187.

[5]Quoted in Adams, 1977, p. 391

[6]Laurence, 2007; Wallace-Hadrill, 1994.

[7]Cahill, 2002.

[8]Brusasco, 2007.

[9]Pucci, 2008.

[10]Koltsida, 2007.

[11]Adams, 1977, p.395.

[12]Trigger, 1969, p. 117.

[13]Adams identifies this group that he identifies both with the historical 'Nobatians' and the remnants of the Meroitic state. This, he states, relieves one from being "obliged to believe in a large-scale 'Nobatian migration' in the post-Meroitic period – an event for which archaeology provides no real confirmation – and we have a ready-made explanation for the cultural continuities between the Meroitic and Ballaña periods"(Adams, 1977, p. 420).

[14]Ibid., p. 421.

[15]Adams and Nordström, 1963, p. 30.

[16]Edwards, 2004, p. 204.

[17]Adams, 1977, p. 424.

[18]Millet and Kelley, 1982, p. 205.

[19]Kirwan, 1982, p. 191.

[20]Adams, 1977, p. 420.

[21]Trigger, 1969, p. 128.

[22]Williams, 1985, p. 185.

[23]Edwards, 2004, p. 188.

[24]Ibid., p. 187.

[25]Adams, 1977, p. 424.

[26]Shinnie and Bradley, 1980; Shinnie and Anderson, 2004.

[27]Williams, 2001, p. 197.

[28]Emery and Kirwan, 1935, p. 108.

[29]Adams and Nordström, 1963, p. 26.

[30]Ibid., p. 28.

[31]Adams, 2005, p. 95.

[32]Ibid., p. 97.

[33]Ibid., p. 99.

[34]Ibid., p. 109.

[35]Wolf, 2002a; Wolf, 2002b; Wolf and Nowotnick, 2005; Nowotnick et al., 2014; Wolf, Nowotnick, and Hof, 2015.

[36]Edwards, 2004, p. 148.

[37]Wolf, Nowotnick, and Hof, 2015, p. 125-126.

[38]Fisher et al., 2012, p. 368.

[39]O'Connor, 1993, p. 100.

[40]Woolley, 1911, p. 27.

[41]Adams and Nordström, 1963.

[42]Adams, 2005, p. 39.

[43]Ibid., p. 18.

[44]Ibid., p. 390.

[45]Adams, 1965.

[46]Adams, 2000.

[47]Adams, 1965, p. 174.

[48]Adams, 2000, p. 26.

[49]Adams, 2013, p. 29.

[50]Ibid., Appendix A.

[51]Emery and Kirwan, 1935, p. 108 - 122, Pl. 15-17.

[52]Wallace-Hadrill, 1994; Laurence, 2007.

[53]Cahill, 2002.

[54]Koltsida, 2007, p. 26.

[55]Cahill, 2002, Pl. 1-2.

[56]Laurence, 2007.

[57]Ibid., p. 129.

[58]Welsby and Daniels, 1991, p. 5.

References

Adams, W. Y. (1965). “Sudan Antiquities Service Excavations at Meinarti, 1963-64”. In: *Kush* 13, pp. 148–176.

— (1977). *Nubia: corridor to Africa*. London.

— (2000). *Meinarti I: The Late Meroitic, Ballaña and Transitional Occupation*. BAR International Series 895. Oxford: Archaeopress.

— (2005). *The West Bank Survey from Faras to Gemai: 2. Sites of Meroitic and Ballaña Age*. BAR International Series 1335. Oxford: Archaeopress.

— (2013). *Qasr Ibrim: the Ballaña phase*. London: Egypt Exploration Society.

Adams, W. Y. and H.-Å. Nordström (1963). “The Archaeological Survey of the West Bank of the Nile: Third Season”. In: *Kush* 11, pp. 10–46.

Brusasco, P. (2007). *The Archaeology of Verbal and Nonverbal Meaning: Mesopotamian domestic architecture and its textual dimension*. BAR International Series 1631. Oxford: Archaeopress.

Cahill, N. (2002). *Household and City Organization at Olynthus*. New Haven and London: Yale University Press.

Edwards, D. N. (2004). *The Nubian past: an archaeology of the Sudan*. London and New York: Routledge.

Emery, W. B. and L. P. Kirwan (1935). *The excavations and survey between wadi Es-Sebua and Adindan, 1929-1931*. Cairo: Government Press.

Fisher, M. M. et al., eds. (2012). *Ancient Nubia: African Kingdoms on the Nile*. Cairo and New York: American University in Cairo Press.

Hillier, B. and J. Hanson (1984). *The Social Logic of Space.* Cambridge: Cambridge University Press.

Kirwan, L. P. (1982). “The X-Group Problem”. In: *Proceedings of the Third International Meroitic Conference Toronto 1977*. Ed. by N. B. Millet and A. L. Kelley. Vol. 6. Meroitica. Berlin: Akademie-Verlag, pp. 191–204.

Koltsida, A. (2007). *Social Aspects of Ancient Egyptian Domestic Architecture*. BAR International Series 1608. Oxford: Archaeopress.

Laurence, R. (2007). *Roman Pompeii: space and society*. 2nd ed. London and New York: Routledge.

Millet, N. B. and A. L. Kelley, eds. (1982). *Proceedings of the Third International Meroitic Conference Toronto 1977*. Vol. 6. Meroitica. Berlin: Akademie-Verlag, pp. 191–204.

Nowotnick, U. et al. (2014). *Hamadab: Urban living at the Nile in Meroitic times*. Berlin: German Archaeological Institute.

O'Connor, D. (1993). *Ancient Nubia: Egypt's Rival in Africa*. Philadelphia: University of Pennsylvania Museum.

Pucci, M. (2008). *Functional Analysis of Space in Syro-Hittite Architecture*. BAR International Series 1738. Oxford: Archaeopress.

Shinnie, P. L. and J. R. Anderson (2004). *The Capital of Kush 2: Meroë Excavations 1965-1972*. Meroitica 20. Wiesbaden: Harassowitz Verlag.

Shinnie, P. L. and R. J. Bradley (1980). *The Capital of Kush 1: Meroë Excavations 1965-1972*. Meroitica 4. Berlin: Akademie-Verlag.

Trigger, Bruce G. (1969). "The Royal Tombs at Qusṭul and Ballâna and Their Meroïtic Antecedents". In: *The Journal of Egyptian Archaeology* 55, pp. 117–128.

Wallace-Hadrill, A. (1994). *Houses and Society in Pompeii and Herculaneum*. Princeton: Princeton University Press.

Welsby, D. A. (1996). *The Kingdom of Kush: the Napatan and Meroitic empires*. Princeton: Markus Wiener Publishers.

Welsby, D. A. and C. M. Daniels (1991). *Soba: Archaeological Research at a Medieval Capital on the Blue Nile*. London: The British Institute in Eastern Africa.

Williams, Bruce (1985). "A Chronology of Meroitic Occupation below the Fourth Cataract". In: *Journal of the American Research Center in Egypt* 22, pp. 149–195.

Williams, Bruce (2001). “Review: *Meroe City, an Ancient African Capital: John Garstang’s Excavations in the Sudan*. László Török, 1997”. In: *Journal of Near Eastern Studies* 60.3, pp. 197–200.

Wolf, P. (2002a). “Die Ausgrabungen in Hamadab bei Meroe - Erste Kampagne, Frühjahr 2001”. In: *Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 13.

— (2002b). “Die Ausgrabungen in Hamadab bei Meroe - Zweite Kampagne, Frühjahr 2002”. In: *Der Antike Sudan. Mitteilungen der Sudanarchäologischen Gesellschaft zu Berlin e.V.* 13.

Wolf, P. and U. Nowotnick (2005). “Hamadab - A Meroitic urban settlement: Excavations 2001 - 2003”. In: *Archéologie du Nil Moyen* 10.

Wolf, P., U. Nowotnick, and C. Hof (2015). “Hamadab - Insights into development and lifestyle of a Meroitic urban settlement”. In: *The Kushite World: Proceedings of the 11th International Conference for Meroitic Studies. Vienna, 1-4 September 2008*. Ed. by M. H. Zach. Vol. 9. Beiträge zur Sudanforschung. Vienna: Verein der Förderer der Sudanforschung, pp. 123–139.

Woolley, C. L. (1911). *Karanòg: The Town*. Philadelphia: University of Pennsylvania Museum.