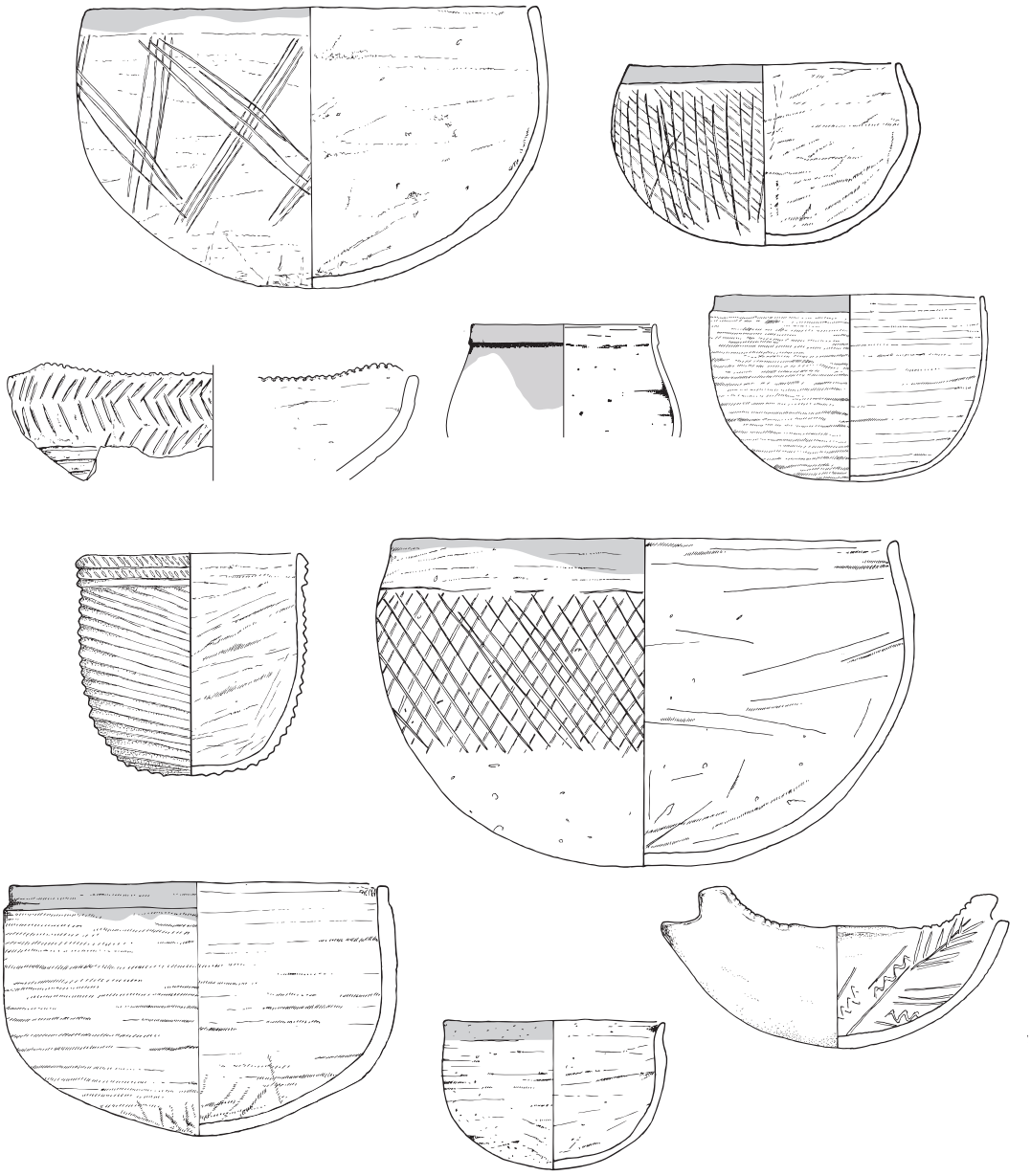
Crossed Lines

An analysis of the Pan-Grave ceramic tradition in Upper Egypt, Lower Nubia, and beyond.

Aaron M. de Souza
MA (Egyptology), Macquarie University.



Thesis submitted for the Degree of Doctor of Philosophy.
Department of Ancient History, Faculty of Arts.
Macquarie University.
June 2016.

Crossed Lines

An analysis of the Pan-Grave ceramic tradition in Upper Egypt, Lower Nubia, and beyond.

Aaron M. de Souza
MA (Egyptology), Macquarie University.

Thesis submitted for the Degree of Doctor of Philosophy.

Department of Ancient History, Faculty of Arts.
Macquarie University.
June 2016.

For Adam

without whom I could never have done this,
and for whom no amount of gratitude could ever be enough.

Table of Contents

Chapter 7: Decoration

List of Abbreviations

AI	Aperture Index
AKS	The Amri to Kirbekan Survey
AKAP	The Aswan - Kom Ombo Archaeological Project
ARCE	American Research Centre in Egypt
ASN	Archaeological Survey of Nubia
BM	The British Museum, London
Boston MFA	Boston Museum of Fine Arts
CeRDO	Centro Ricerche sul Deserto Orientale
CISA	Centro Interdipartimentale di Servizi di Archeologia
Gust.	Museum Gustavianum, Uppsala University
HK	Hierakonpolis
IAMS	Italian Archaeological Mission to Sudan, Kassala
Leip.	Ägyptisches Museum Georg Steindorff, University of Leipzig
LaMNI	Late Middle Nubian Imitation Ware
Man. Mus.	Manchester Museum, The University of Manchester
NDRS	Northern Dongola Reach Survey
OI	Oriental Institute, Chicago
OINE	Oriental Institute Nubian Expedition
Pet. Mus.	The Petrie Museum of Egyptian Archaeology
Swan.	The Egypt Centre, Swansea
SJE	Scandinavian Joint Expedition to Sudanese Nubia
VI	Vessel Index
WBS	The West Bank Survey
Yale	Peabody Museum, Yale University

List of Tables

List of Figures and Graphs

Abstract

The enigmatic Pan-Grave culture is archaeologically attested in the Nile Valley of Upper Egypt and Lower Nubia from the late Middle Kingdom until the end of the Second Intermediate Period. Despite being known to Egyptology for over a century, uncertainty still surrounds their true identity, their place in Egyptian and Nubian society, their origins, and their eventual fate. This thesis aims to address these and other issues through a dedicated study of the most abundant and accessible of Pan-Grave material remains - their ceramics.

The analysis is divided into three parts:

Part One identifies the issues that are central to the thesis, critically evaluates existing literature, introduces the datasets being analysed, and lays out the aims and methodology of the analysis.

Part Two analyses pottery from confirmed Pan-Grave sites across Upper Egypt and Lower Nubia to establish the key characteristics that define the Pan-Grave ceramic tradition. The morphological aspects investigated include vessel form, fabric, ware and surface treatment, and decoration.

Part Three contextualises the Pan-Grave ceramic tradition based on the defining criteria identified in Part Two. Pottery from sites in Upper Nubia, the Eastern Desert, and the Western Desert oases, and from Egyptian cultural contexts will be brought into the analysis to ensure the fullest possible coverage of the Pan-Grave ceramic tradition. An analysis of pottery distribution aims to identify any regional variation and chronological developments in Pan-Grave pottery. Part Three includes a cladistic analysis to identify any evolutionary developments in Pan-Grave pottery decoration.

Three main outcomes are reached: First, it is shown that a relative chronological sequence can be constructed using certain aspects of the Pan-Grave ceramic tradition in relation to dateable Egyptian artefacts. Second, that this relative chronological sequence can assist in developing and re-evaluating theories relating to the origins and fate of the Pan-Grave people. Finally, that the identity of the Pan-Grave culture and its relationships with other contemporary cultures should be reconsidered in light of new evidence.

I, Aaron Marc de Souza, certify that this thesis is an original piece of research, written only by me. It has not previously been submitted for any degree, nor has it been submitted to any university or institution other than Macquarie University, Sydney, Australia.

I certify that all sources of information, published and unpublished, have been fully and accurately acknowledged. Any assistance that I have received in conducting this research, and any assistance received in the preparation of the thesis itself has also been fully and appropriately acknowledged.

Ethics approval was not required for this work.

Aaron Marc de Souza
30 June 2016.

Acknowledgements

This dissertation was assisted in a large part by the generous scholarship provided through the Macquarie University Research Excellence Scheme (MQRES) and the travelling grants awarded to me by the university that have allowed me to study collections around the world. But money can only take one so far, and I am fortunate to have received the support of so many people, each of whom has left their mark on my work.

First and foremost, thank you to my supervisor, Yann Tristant, for your support, encouragement, and for believing in me more than I sometimes believed in myself.

To my parents, my sisters, and their families, who encouraged me all the way along this long-winded and winding academic road. Thank you for your love and support over so many years.

To my associate supervisor, Susanne Binder, for your encouragement, careful and considered editing, and for keeping me on track.

To James Valentine, for your invaluable contribution to the cladistics aspect of this project, for our long discussions over the years, and for encouraging me to look at this pottery in a new way.

To Hans-Åke Nordström and Janine Bourriau, who unknowingly set me on this Pan-Grave path, and whose work, past and present, is a constant inspiration.

To Nadine Moeller, Gregory Marouard, Renée Friedman, Yann Tristant, and Christiana Köhler, for allowing me to participate in your field projects over the years, and for your support and encouragement in between seasons. My experiences with all of you have been valuable beyond measure.

To the staff at the Museum Gustavianum (Uppsala University), especially Ludmilla Werkström, for your interest, enthusiasm, for putting up with my endless questions during both of my visits… and for the princess cake! Tack så mycket!

To the institutions and their staff, who have allowed me access to their collections: The Petrie Museum of Egyptian Archaeology (University College London), The British Museum, The Museum Gustavianum (Uppsala University), and the Egypt Exploration Society. Special thanks to Carl Graves at the EES for going out of his way to help me during my frantic trip to London in 2014, and for all of his help since then. Thank you also to the many curators from museums around the world, who have taken the time to answer my questions and generously provide information – in particular Alice Stevenson at the Petrie Museum, and Lawrence Berman and Susan Allen at the Boston Museum of Fine Arts.

To dear friends: Annika (and her flatmate Lauren) for letting me live in your living room while I was in London; to Andrea, for teaching me how to use modern technology; and to Tracey, for your invaluable feedback on some of the most important parts of this thesis.

To Natasha Ayers, for teaching more than I could ever have learned from a book, for the pottery photo-shoots, but most importantly for the conversations consisting solely of quotes from *Ab Fab*.

To Dr Gene Sherman AM, for being the most understanding, supportive, and generous of bosses, and to all of the staff at Sherman Contemporary Art Foundation, for covering for me

during my many long absences over the years - in particular, Alison, Michael (Mo), Emily, Danielle, and Colin.

For various fruitful discussions, emails, the occasional disagreement, and friendship along the way, I thank (in no particular order): Julien Cooper, Melanie Pitkin, Kate Liszka, Dietrich Raue, Bruce Williams, Geoff Emberling, Andrea Manzo, Bettina Bader, Christian Knoblauch, Amber Hood-Highcock, Vlastimil Vrtal, Pavel Onderka, Elisa Priglinger, Michael Ertl, Damian Gore, Alex Woods, Boyo Ockinga, Naguib Kanawati, Karl van Dyke, David Aston, Oren Siegel, Kathryn Bandy, Jonathan Winnerman, Elise MacArthur, Jim Rossiter, Meredith Brand, Magdalena Wlodarska, Xavier Droux, Liam McNamara… and many, many others.

To each and every one of you, to all of my friends, and especially to those I have unintentionally forgotten, I say the most sincere and heartfelt thank you.

PART ONE

THE PAN-GRAVE ENIGMA

Chapter 1

Introduction, Aims, and Approach

"While working at Abadiyeh, Mr Mace found a grave (E2) which puzzled us greatly."[1]

So said Petrie of his discovery of a "new class of grave" at Abadiyeh cemetery E in 1898. He identified this grave as the first example of what he called the Pan-Grave culture, named after the shallow 'pan-shaped' burial pits and unusual assemblages.[2] With the benefit of hindsight, it is now clear that Abadiyeh grave E2 is not Pan-Grave at all, but is rather a Kerma burial. Petrie's error can be forgiven as this was the first discovery of its kind, but it set a precedent for similar misidentifications in reports of this enigmatic archaeological culture during the early 20th century. These misidentifications continue to permeate into more recent scholarship, and this forms the genesis of the study presented here. Even after over a century of scholarship, the Pan-Grave culture continues to puzzle researchers to the present day, just as it puzzled over a century ago.

1.1 Introducing the Pan-Grave people

According to current theories, the so-called Pan-Grave people are archaeologically attested at sites in the Nile Valley of Upper Egypt and Lower Nubia from the late Middle Kingdom until the early 18th Dynasty (**Plate 1**). Traditionally viewed as nomadic or semi-nomadic pastoralists existing as small groups in the Eastern Desert and along the Nile Valley,[3] the Pan-Grave people have often been equated with the Medjay known from Egyptian texts.[4] This assumed association led to the related assumption that the Pan-Grave culture has its origins in the Eastern Desert, although strong challenges have recently been levelled at these connections.[5] The association with the Medjay also led to the traditional theory that the Pan-Grave people served as mercenary soldiers, fighting alongside the Thebans in their struggles against the Hyksos. Like all things Pan-Grave, this theory has also recently been challenged, and the evidence for both sides of the argument is very much open to interpretation.[6]

---

[1] PETRIE 1901, p. 45.
[2] PETRIE 1901, p. 45.
[3] LISZKA 2015, p. 49; NÄSER 2012, pp. 84-85; HAFSAAS 2006, p. 133.
[4] Kate Liszka's PhD dissertation is presently the most comprehensive critical review of the Medjay from the Old Kingdom until the New Kingdom (LISZKA 2012). See also BIETAK 1966, p. 61-68; HAFSAAS 2006, p. 129-131.
[5] LISZKA 2012, pp. 512-523; LISZKA 2015, pp. 42-60.
[6] For an overview of these issues see LISZKA 2012, pp. 492-495; LISZKA 2015, p. 50.

The Pan-Grave culture is best known for its distinctive material culture including idiosyncratic jewellery such as mother-of-pearl plaque beads (spacers) and nerita shells, painted frontal bones and horns of goats, sheep, and cattle, leather garments, and of course the pottery that is the focus of this study.[7] The Pan-Grave people were most often buried in a contracted position in shallow circular graves, sometimes with a loose stone superstructure, in small isolated cemeteries located in the low desert on the fringes of the Nile Valley. This is not always the case, and supine burials in rectangular graves also occur, although such contexts are generally interpreted as evidence of Egyptian influence.

In short, the identity, origins, lifestyle, social structure, cultural interactions, the eventual fate, and many other aspects of the Pan-Grave culture continue to be debated to the present day. The Pan-Grave people, as far as we know, were illiterate and hence did not leave us any texts of their own to tell us who they were. Therefore, the modern scholar is reliant on contemporary Egyptian texts and, more importantly, on their material and physical remains.

1.2 A timeline for the Pan-Grave culture

At present, no chronological framework exists for the Pan-Grave culture,[8] which is in stark contrast to the well established and widely accepted internal phasing systems that have been devised for the C-Group and Kerma Cultures (**Table 1.1**).[9] Both of those cultures have left an extensive material record in large cemeteries and settlement sites. However, the limited quantity of Pan-Grave material remains complicates the process of devising a similar internal chronology. The closest that the Pan-Grave culture has come to a relative chronology is Williams' dissertation on the archaeological sequences of the Second Intermediate Period in Egypt and Nubia.[10] While he did refer to Pan-Grave pottery, his analysis focussed on the Egyptian material and, as such, he did not identify developments or evolution for Pan-Grave pottery specifically. Moreover, he only considered the sequences of Pan-Grave material from sites in Egypt, demonstrating our dependence on Egyptian archaeological sequences.[11] It will be shown in the coming chapters that there is, in fact, enough evidence to form at least a relative sequence of phases for the Pan-Grave ceramic tradition and to expand our current understanding of the history of the culture in general.

---

[7] Detailed descriptions of the non-ceramic components of Pan-Grave material culture are presented in Section 7.2. Other relevant works include BIETAK 1966, pp. 43-61; BIETAK 1968, pp. 117-113; SÄVE-SÖDERBERGH 1989, pp. 15-19; HAFSAAS 2006, pp. 123-133.

[8] NÄSER 2012, p. 82.

[9] For the C-Group see BIETAK 1968; SÄVE-SÖDERBERGH 1989, pp. 6-14; HAFSAAS 2006, pp. 42-47. For the Kerma culture see GRATIEN 1978, pp. 131-270; GRATIEN 1986, pp. 398-436.

[10] WILLIAMS 1975, pp. 193-219.

[11] Williams only briefly identifies and describes Pan-Grave sites in Lower Nubia and Egypt (WILLIAMS 1975, pp. 589-598).

	EGYPT		C-GROUP	KERMA	**PAN-GRAVE**	ATBAI
2050 BC	Middle Kingdom	12th Dyn.	C-Group Phase IIA	Kerma Moyen		Gash Group
2000 BC						
1950 BC						
1900 BC						
1850 BC						
1800 BC	Second Intermediate Period	13th Dyn.				
1750 BC			C-Group Phase IIB		**Pan-Grave**	
1700 BC				Kerma Classique		
1650 BC		17th Dyn.				
1600 BC			C-Group Phase III			
1550 BC	New Kingdom	18th Dyn.		Kerma Recent		Jebel Mokram Group
1500 BC						
1450 BC						
1400 BC						
1350 BC						
1300 BC						
1250 BC						continues until c.1000 BC

***Table 1.1**: Chronological table for the cultures and phases referenced throughout the current study.*

The origin of the Pan-Grave culture remains a vexed issue. The traditional view maintains that the Pan-Grave people migrated into the Nile Valley from elsewhere, generally assumed to be the Eastern Desert.[12] At present, there is only scant archaeological evidence of Pan-Grave activity in the Eastern Desert, but on-going archaeological surveys and excavation in the region continues to shed further light on the validity of this connection. As a counter-argument to an Eastern Desert origin, Liszka has recently raised the possibility that the Pan-Grave culture may have always been present in the Nile Valley, and that their sudden prominence is a result of the heightening of their cultural expression in response to social and environmental changes.[13]

The Semnah Despatches make reference to a small family group of Medjay seeking entry to Egypt in the hopes of finding food or employment, claiming that there was a famine in the desert.[14] It is not clear if the Medjay in these texts are the same as the Pan-Grave people identified in the archaeological record, but the supposed drying phase in the desert coincides with the time at which Pan-Grave people begin to be attested in the Nile Valley. Regardless of where they came from and if they are or are not the Medjay, the Pan-Grave archaeological culture is well attested in the archaeological record of the Nile Valley by the late 13th Dynasty. Näser has dramatically described the appearance of the Pan-Grave culture in the Nile Valley as "abrupt and massive",[15] but it would perhaps be more accurately described as gradual and insubstantial. Pan-Grave cemeteries that can be dated to this early stage are small, self-contained, and isolated, suggesting a deliberate avoidance of Egyptian sites. The limited amounts of Pan-Grave pottery at Egyptian settlement contexts in Upper Egypt dated to the same period demonstrates that their appearance at this early stage was anything but "massive".[16]

The peak of Pan-Grave activity in the Nile Valley coincides with the Second Intermediate Period, during which time the people appear to have adopted certain Egyptian customs and practices. This process of so-called Egyptianisation is clearest in the evolution from circular graves with contracted burials, to elongated and rectangular graves with extended burials.[17] This process has been used as a means by which to explain the seeming

[12] Liszka's work is currently the most thorough critique on the topic of the Medjay/Pan-Grave debate (LISZKA 2012, pp. 422-486; LISZKA 2015). See also Sections 2.1.7 and 2.1.8 of the current thesis for further details and references. The current author and Kate Liszka are co-authoring a chapter on the Pan-Grave/Medjay issue (LISZKA, DE SOUZA in prep.).
[13] LISZKA 2015, p. 51.
[14] SMITHER 1945, p. 9; LISZKA 2012, p. 1. See also SCHNEIDER 2003, p. 179; BIETAK 1982, column 1000.
[15] NÄSER 2012, p. 82.
[16] See Chapter 9.
[17] DE SOUZA 2013, pp. 111-113. SÄVE-SÖDERBERGH 1989, p. 18.

'disappearance' of the Pan-Grave culture from the archaeological record in Egypt by the beginning of the 18th Dynasty.[18] The reasoning is that the Pan-Grave people adopted Egyptian customs and objects to such an extent that they became archaeologically indistinguishable as a separate cultural entity.[19] The current author has recently demonstrated that, in fact, Pan-Grave material culture items are always present in Pan-Grave cemeteries in spite of Egyptian influence.[20] There is also some, though minimal, evidence that the Pan-Grave culture remained active until much later in the New Kingdom.[21]

Exactly what happened to the Pan-Grave people after their supposed disappearance remains uncertain. Jebel Mokram pottery, which bears uncanny similarities to Pan-Grave pottery, appears suddenly in the Southern Atbai at around 1500 BC, which is the same time that the Pan-Grave culture disappears from the Nile Valley.[22] This has been linked to an expansion of Medjay territory into the Southern Atbai, which has in turn been linked to the Pan-Grave culture if the traditional association is followed. Reinvestigating this theory is a key aspect of the current study, and alternative hypotheses of structured migration and individual agency are explored through analysing the ceramic data in relation to other archaeological and historical evidence.

1.3 The social and political landscape

The Pan-Grave culture is best attested in the Nile Valley during the Second Intermediate Period, when Egypt was politically unstable and had lost control of Lower Egypt and Nubia. It is this loss of Egyptian control over her borders that may have eased the Pan-Grave people's entry into the Nile Valley. The same social and political fragmentation that characterises this period is also reflected in the conflicting archaeological sequences of different regions in the Nile Valley.[23] The Hyksos-controlled Eastern Delta and Lower Egypt displays a mixed material culture that reflects a continuation and development of Egyptian Middle Kingdom styles with a strong Levantine influence. The Memphis-Faiyum region continued earlier Middle Kingdom traditions, while Upper Egypt broke away from these

[18] BIETAK 1996, pp. 72-73; SÄVE-SÖDERBERGH, 1989, p. 18; WESCHENFELDER 2014, pp. 363-364. The concept of total acculturation has been challenged by the current author (DE SOUZA 2013).
[19] SCHNEIDER 2003, pp. 179-180.
[20] DE SOUZA 2013, pp. 116-118.
[21] In Lower Nubia, these "Transitional cemeteries" show evidence of activity well into the 18th Dynasty. See SÄVE-SÖDERBERGH 1989, pp. 23-24. The transitional cemetery SJE Site 176 at Debeira East was thought to show modified forms of Pan-Grave pottery and activity into the late New Kingdom (SÄVE-SÖDERBERGH 1989, pp. 200-205), however recent research has shown that this pottery is more likely to be much later in date, late New Kingdom at the earliest, and possibly even Napatan. See KENDALL 1999, pp. 17-18, 21-23, 52-53; TÖRÖK 1999, pp. 152-155. The author studied the pottery from SJE Site 176 in 2013 and supports a Napatan date for the assemblage.
[22] SADR 1987. See also Section 2.1.8 of the current study.
[23] BOURRIAU 2010b, pp. 11-37; SEILER 2010, pp. 39-53.

earlier styles and developed a new Theban ceramic tradition. Pan-Grave activity, and Nubian activity in general, is best attested in the south, but this does not make it any easier to connect the Nubian sequence with political and social developments taking place during the Second Intermediate Period.

Other Nubian cultures, namely the C-Group and Kerma, were also active in the Nile Valley during this period. C-Group activity was concentrated in Lower Nubia, but there is evidence of a C-Group presence in Upper Egypt.[24] The Kerma culture is best attested further to the south in Upper Nubia, but evidence of their presence is also found at sites across Lower Nubia.[25] Isolated Kerma graves have also been identified in Upper Egypt,[26] and Kerma pottery has been found as far north as the Eastern Delta.[27] All three groups show similarities in material culture yet they remain quite distinct, and it is within this multi-cultural landscape that the Pan-Grave culture must be considered.

The following sections briefly outline the current understanding of the relationships between the Pan-Grave culture and the other cultures it encountered in the Nile Valley, namely the Egyptians, C-Group Nubians, and Kerma Nubians. The varying interactions with each of these impacted upon the Pan-Grave people and their material culture, but equally the Pan-Grave people impacted in some way on these Nile Valley-based cultures.

1.3.1 The Pan-Grave culture and Egypt

No confirmed Egyptian textual evidence survives that refers directly to Pan-Grave people, and the Medjay referenced in the Semnah Despatches should not necessarily be interpreted as being Pan-Grave people. Therefore, we are entirely dependant on archaeological evidence. The exact nature of the relationship between Pan-Grave and Egyptian people is therefore not clear, but each party appears to have benefitted in some way from their interactions.

The mortuary evidence suggests that Pan-Grave communities obtained goods and perhaps even payment from Egyptians, evident in the numerous and varied Egyptian items found at the large Pan-Grave cemeteries in Middle Egypt.[28] Egyptian pottery occurs in ever increasing amounts in Pan-Grave burials, and other items such as jewellery and weapons are also found

[24] BIETAK 1968; SÄVE-SÖDERBERGH 1989, pp. 6-14; WILLIAMS 1983, pp. 1-23. C-Group cemeteries in Upper Egypt have been found at Kubbaniya (JUNKER 1919), Hierakonpolis (FRIEDMAN 2001a, pp. 29-33; FRIEDMAN 2004, 47-52), and as far north as Armant (MYERS, unpublished mss.).
[25] Key texts for the Kerma culture include GRATIEN 1978; GRATIEN 1986; BIETAK 1968, pp. 123-127; SÄVE-SÖDERBERGH 1989, pp. 20-22.
[26] BOURRIAU 1991; BOURRIAU 1981, pp. 31-37.
[27] ASTON 2012; FUSCALDO 2002; FUSCALDO 2004; FUSCALDO 2008.
[28] See Chapter 7.

(see below). Pan-Grave pottery is also found in Egyptian settlement contexts in levels dated to the periods during which Pan-Grave activity is at its peak. This suggests that Pan-Grave people were either living amongst or trading with Egyptian communities.

If the traditional models are accepted, the Egyptians may have benefitted from the Pan-Grave people's role as mercenary soldiers.[29] This military function of the Pan-Grave people is based on the assumed association with the Medjay and on the Egyptian weapons found in Pan-Grave burials. However, it has already been noted that weapons are often found in burials of women and children, which weakens the argument for a military role. It has also been suggested that Nubian people were employed as domestic staff in towns and temples, which is evident from the Nubian cooking pots found in Egyptian settlements.[30] So, if the Semnah Despatches are accepted as relevant evidence, and if the Medjay are equated with the Pan-Grave people, it appears that the desert nomads who sought food and employment in Egypt had eventually received it. Remains of grain found in Pan-Grave cemeteries in Lower Nubia also suggest that Pan-Grave people living outside of Egyptian settlements may have traded food and commodities with nearby Egyptian communities.[31]

The clearest evidence of the interconnection between Pan-Grave and Egyptian communities is Egyptianisation. While this process does not appear to have been detrimental to Pan-Grave cultural identity, it manifests itself in the evolved material expression thereof. Besides changes to grave shape and mode of burial, Egyptian influence is best seen in the motifs decorating the painted bucrania and frontal bones often associated with Pan-Grave burials. Examples of such objects from Mostagedda carry depictions of lotus blossoms and, most famously, the only figurative image of what is assumed to be a Pan-Grave individual, complete with a hieroglyphic label that has not yet been properly translated.[32] It may also be possible to see a corresponding Pan-Grave influence on Egyptian material culture in the development of black-rimmed Egyptian pottery that occurs during the late 17th and early 18th Dynasty. The current author is exploring the possibility that this is actually evidence of the appropriation of Egyptian pottery by Pan-Grave people.[33]

---

[29] See Sections 2.1.5 and 2.1.9 of the current study.

[30] BOURRIAU 1990, p. 17; LISZKA 2015, p. 48. Nubian pottery in Egyptian settlements is discussed in further detail in Chapter 9. See also the various chapters in FORSTNER-MÜLLER, ROSE 2012.

[31] Grain was found in grave 68 at SJE Site 47, now at the Museum Gustavianum, Uppsala (SJE47/68:7).

[32] A key text on the topic of faunal remains in Pan-Grave contexts is BANGSGAARD 2013. See also Section 8.3.3 of the current study for further details and references.

[33] DE SOUZA, in prep.

1.3.2 The Pan-Grave culture and the C-Group

The Pan-Grave culture was for a long time conflated with the Late C-Group, and this confusion has led to difficulties in identifying and interpreting Pan-Grave remains, especially in Lower Nubia. There are certainly many similarities between the two cultures, particularly in ceramics and burial practices. Both were active in the same areas of the Nile Valley, but on the whole, the two cultures appear to have remained distinct. Pan-Grave cemeteries in Lower Nubia are self-contained and separate from contemporary C-Group cemeteries.[34] Even at locations where cemeteries of the two cultures are in relative proximity to one another, their assemblages can be easily distinguished. Furthermore, the C-Group had all but disappeared by the time the Pan-Grave presence in Upper Egypt reached its peak, creating the impression that the latter succeeded the former, but did not necessarily replace it.

The mistaken conflation of the late C-Group and the Pan-Grave cultures led some scholars to explain the decline and eventual demise of the C-Group through external influence from Egypt and from the Pan-Grave culture.[35] Bietak's C-Group Phase III is defined as a period in which C-Group material culture went into decline owing to influence from Egypt, Kerma, and the Pan-Grave culture.[36] Certainly the C-Group was heavily impacted upon by Egyptian influence, but there does not seem to be any clear evidence of the Pan-Grave culture impacting upon C-Group material culture. In fact, the author questions how the Pan-Grave people, as small and probably nomadic groups, could have exerted an influence upon a culture as well established and widespread as the C-Group.[37] While there are some similarities in the ceramic traditions of both groups, there are ample differences to rule out the possibility that influence from the Pan-Grave culture was in any way the cause of any decline in C-Group identity.

Analysis of Pan-Grave and C-Group human remains, although limited, has revealed some biological differences that further support a difference between the two populations. To date, the most comprehensive analysis of Pan-Grave human remains is that undertaken for the cemeteries at Sayala, which concluded that the Pan-Grave people were generally taller than C-

[34] For example, there is a distance of approximately 1.5 km between Aniba N and Aniba C (**Plate 10**). The distance between the Pan-Grave and C-Group clusters at Adindan K is small (c. 25 m) but there is clear and distinct separation (**Plate 11**).

[35] DE SOUZA 2013, p. 118-119; SÄVE-SÖDERBERGH 1989, pp. 10-11; BIETAK 1968, p. 113. WESCHENFELDER 2014, p. 363.

[36] BIETAK 1968, pp. 113-117.

[37] DE SOUZA, in press.

Group people.[38] Analysis of the human remains from the Pan-Grave cemetery HK47 at Hierakonpolis has similarly shown that the males were taller and more robustly built than their contemporaries, measuring an average of 178 cm in height with strong muscle attachments in their legs.[39] Strouhal also noticed minimal physical differences between the Pan-Grave populations from Sayala and Mostagedda, which may be taken as further indication of a genetic difference between Pan-Grave and C-Group peoples.[40] Equating physiological differences to cultural units can be problematic,[41] but overall the physical differences seem to align with the distinctions between C-Group and Pan-Grave material culture.

1.3.3 The Pan-Grave culture and Kerma

Bourriau has previously observed that the Pan-Grave and Kerma cultures appeared to be distinct, noting that Kerma pottery has never been found in a Pan-Grave context in Egypt.[42] This no longer appears to be the case, and there is mounting evidence for a closer relationship between the Pan-Grave and the Kerma cultures. Chronologically, both cultures are active at the same time, and Pan-Grave activity coincides with the *Kerma classique* phase. A close relationship is especially visible at the Fourth Cataract, where pottery bearing striking similarities to the Pan-Grave tradition was found in graves that have been identified as Kerma burials.[43] At Kubban Cemetery 110 in Lower Nubia, Pan-Grave pottery and burials are located in the same section of the cemetery as *Kerma classique* graves. Conversely, Kerma pottery has also been found amongst the ceramic assemblage from the Pan-Grave cemetery HK47 at Hierakonpolis.[44] Both cultures share comparable burial customs and ritual behaviours, such as the inclusions of arc-shaped troughs filled with animal skulls. While the similarities between the Pan-Grave and Kerma cultures are clear, the relationship between the two is not necessarily just a case of social interaction. Instead, it is possible that the Pan-Grave and Kerma cultures share a cultural heritage that is reflected in their respective material cultures.

---

[38] STROUHAL 1982, pp. 321-326. EHGARTNER, JUNGWIRTH 1966, pp. 83-88; STROUHAL, JUNGWIRTH 1984, pp. 187-191; BIETAK 1987, p. 123. A focused analysis of teeth from C-Group cemetery HK27C has also been conducted (IRISH 2004, pp. 56-59). See also SADR 1991, p. 102.

[39] FRIEDMAN 2001a, p. 37.

[40] STROUHAL 1982, p. 324. Strouhal studied the human remains from Brunton's excavations at Mostagedda at the Institute of Anatomy, Cairo University.

[41] LISZKA 2015, pp. 45-46, 49.

[42] BOURRIAU 1981, p. 25.

[43] See Sections 8.6-8.8 of this thesis.

[44] This pottery has been sighted by the current author, and will be included in a forthcoming publication of the Nubian evidence at Hierakonpolis.

1.4 Aims, approach and projected outcomes

It should now be clear that there are a number of issues that make the Pan-Grave culture as puzzling and enigmatic as it is. Our partial understanding of how the Pan-Grave people fit into the socio-political and cultural landscape of the Second Intermediate Period limits how their material remains can be interpreted. The extent to which they were or were not influenced by Egyptian culture is unresolved, and the difficulties in establishing an internal relative chronological framework also limits our understanding of the Pan-Grave culture and its place in Egyptian and Nubian history.

This study focuses on the Pan-Grave ceramic tradition, pottery being the most abundant, widespread, and hence the most informative artefact type for the Pan-Grave culture. Pan-Grave pottery is also found in Egyptian cultural contexts such as settlements, temples, and Egyptian tombs, providing an insight into the relationship between Pan-Grave and Egyptian communities. The stratified record of Egyptian settlements also provides an opportunity to establish a reliable chronological sequence for Pan-Grave pottery and for the culture as a whole. Discoveries of pottery displaying Pan-Grave characteristics in the Eastern Desert and in Upper Nubia can also be used to establish the fullest possible reach of the Pan-Grave ceramic tradition.

Four key issues have been identified that will be addressed through the analysis of the ceramic evidence:

1. The identification and definition of Pan-Grave pottery
2. Regional variation within the Pan-Grave ceramic tradition
3. The geographic extent of the Pan-Grave ceramic tradition[45]
4. Chronological sequences and developments within the Pan-Grave ceramic tradition.

Each of the four issues is detailed below along with an outline of the approach that will be taken to address them.

1.4.1 Issue 1: Identifying and defining Pan-Grave pottery

The necessary first step before interpreting the ceramic evidence is to identify what Pan-Grave pottery actually looks like. Until now, pottery of the Pan-Grave tradition has been identified by its distinctive decoration, but as yet no single, comprehensive, cross-regional study has defined the full range of features and characteristics that make Pan-Grave pottery so

[45] See Section 1.6.1 for an explanation of the difference between 'culture' and 'tradition' in this study.

distinctive. A study undertaken by Serena Giuliani set out to identify the defining characteristics of Pan-Grave pottery, however her work remains unpublished, aside from a brief article and a series of site-specific reports.[46] As part of the present study, the current author has re-examined much of the same pottery that was viewed by Giuliani and has identified that many of Giuliani's observations require revision.

Site-specific typologies for Pan-Grave pottery do exist,[47] but the descriptions and definitions for each assemblage differ broadly, and problems arise when attempting to compare material from different sites. Decoration has long been employed as the primary identifying characteristic for the Pan-Grave tradition, but as yet no comprehensive typology of Pan-Grave pottery decoration has been devised. Similarly, an integrated classification system of Pan-Grave ware, shape, and fabric is yet to be published.

The lack of a broad and unifying system of classification hinders comparative studies between sites and assemblages, limiting the scope for identifying any regional variation and chronological sequences. A comprehensive classification and typology would also greatly assist in the analysis of Nubian sherds in Egyptian cultural contexts. Without a reliable set of criteria, a handmade sherd with incised decoration could be Pan-Grave, Kerma, C-Group or, at best, Nubian.

In order to remedy these deficiencies, the current study aims to:

- Identify the defining features of Pan-Grave pottery.
- Establish a classification system and typology that can be applied to Pan-Grave pottery wherever it is found.

Approach:

In order to establish what it is that defines the Pan-Grave ceramic tradition, the dataset for this analysis must be drawn from assemblages that are known and accepted to be from Pan-Grave sites. It is not the cultural identity of the pottery that is in question, but rather what it is that identifies the pottery as being of this particular cultural tradition.

---

[46] Giuliani completed her PhD at the University of Rome, La Sapienza, but access to her thesis has not been possible. To the author's knowledge, no other researcher has yet accessed her work. The main article cited by most researchers is GIULIANI 2006a. Aspects of her work have also been referenced in her reports on the Pan-Grave cemeteries at Hierakonpolis (GIULIANI 2001a; GIULIANI 2001b; GIULIANI 2006b) and the Aswan - Kom Ombo Archaeological Project (GIULIANI 2013).

[47] For example at Mostagedda (BRUNTON 1937, pp. 124); Sayala (BIETAK 1966, pp. 53-56; BIETAK 1968, pp. 119-121); The SJE concession (SÄVE-SÖDERBERGH 1989, pp. 53-56); Gharb Aswan (GATTO 2014, pp. 23-24).

To meet these criteria, the primary data source for the analysis will be pottery from Pan-Grave cemeteries in Upper Egypt and Lower Nubia. Cemetery material has been selected for two reasons: Firstly, Pan-Grave settlements or occupation sites have not yet been positively identified, nor is it known what a Pan-Grave settlement would actually look like. It is therefore not currently possible to speak of Pan-Grave settlement pottery.[48] Secondly, funerary rites may be viewed as a deliberate act conducted by the living members of a culture in order to reaffirm the identity of the deceased as a member of that community. Therefore, items placed in graves can be interpreted as an indicator of the living culture in which the deceased existed. Pottery found in graves that contain other Pan-Grave identifiers is therefore the most reliable source of data that can be identified as being of this ceramic tradition.

The pottery comprising the core dataset (**Table 3.1**) was analysed either first-hand by the current author in museum collections or in the field. As an alternative, high-resolution full colour photographs were examined where available. In cases where such resources were not available, published drawings, black-and-white photographs, and written descriptions were consulted.

Vessel shape, fabric, surface treatment, ware, and decoration have been analysed separately in order to identify the key characteristics of each aspect and to establish a uniform system of classification and description applicable to Pan-Grave pottery wherever it occurs.[49] This allows for easier comparison of pottery across sites and regions, and aids in assessing the most likely cultural association of pottery from ambiguous contexts. At various points in the analysis, comparisons will be drawn between the Pan-Grave ceramic tradition and those of other Middle Nubian cultures, namely the C-Group and Kerma, in order to illustrate how each is different or similar to one another across space and time.

1.4.2 Issue 2: Regional variation in the Pan-Grave ceramic tradition

The best-known Pan-Grave sites are distributed along the Nile Valley from Middle Egypt in the north to the Second Cataract in the south. This sphere of activity may be greatly expanded if 'Pan-Grave related' pottery found at sites across Upper Nubia and the deserts on either side of the Nile can be more firmly linked to the Pan-Grave tradition. It is therefore reasonable to expect that a degree of regional variation would be present in the Pan-Grave ceramic tradition

[48] Possible Pan-Grave campsites have been identified at Badari (BRUNTON 1930, pp. 3-4), Mostagedda (BRUNTON 1937, pp. 121-122), and possible cave-shelters at Nag el Qarmila (GATTO ET AL. 2009, pp. 26-27; GATTO, CURCI, URCIA 2014, pp. 38-41).

[49] See Chapters 4-7.

given this vast geographic expanse and the handmade nature of the pottery. Some basic differences between assemblages have already been identified,[50] but a dedicated comparative, cross-regional study of Pan-Grave pottery has not yet been conducted.[51]

Identifying regional variation would encourage new discourse relating to the Pan-Grave people as a cultural entity, taking into consideration how its material expression changes and evolves depending on time and place. If the traditional model of the Pan-Grave culture as bands of nomadic or semi-nomadic people is accepted, then it follows that each group would have produced its own pottery and each would have done so in a slightly different way. These differences could arise from any number of factors including external influence, materials, tools, and personal taste. Such minor variations within an overall tradition could therefore be viewed as a reflection of Pan-Grave social structure.

With these issues in mind, the present study aims to:

- Identify regional variation within the Pan-Grave ceramic tradition in Upper Egypt and Lower Nubia.
- Identify the ways in which Pan-Grave material culture is affected by the social context of each community at its given location.
- Consider how regional variation reflects the nature and structure of the Pan-Grave culture as a whole.

Approach:

The defining characteristics of Pan-Grave pottery will be identified and the assemblages from different sites will then be compared and contrasted in order to establish the similarities and differences between them. The first stage of the comparative analysis will be based on individual aspects of pottery morphology – shape, fabric, ware, and decoration. Each aspect will be quantitatively and qualitatively analysed in order to identify any regional groupings of sites showing similar traits.

Possible explanations as to the cause(s) behind any variation and regional patterning identified in the dataset will be considered in the concluding sections of the thesis. Chronology, trade, external influence, intra-cultural divisions, and other factors that may have impacted upon the Pan-Grave culture and its ceramic tradition will be taken into account. In relation to this point,

[50] For example, Gatto has identified that there are more similarities between Wadi Kubbaniya Site WK11 and Sayala B than there are with other sites in Egypt. See GATTO 2009, p. 33.

[51] The identification of regional variation is believed to have been an aim of Giuliani's PhD research. See GIULIANI 2006a, p. 647.

it is acknowledged that it is inappropriate to view cultures as immutable and monothetic entities with clear lines of difference between one group and another. The present study therefore considers both the similarities *and* the differences in the assemblages in order to consider how the ceramic evidence might reflect Pan-Grave social structure. If multiple, noticeably different regional groups can be identified, it may indicate that there is not a single Pan-Grave culture, but rather a group of related sub-cultural units.

1.4.3 Issue 3: The geographic reach of the Pan-Grave ceramic tradition

The full geographic reach of Pan-Grave activity has not yet been established. As far as can be ascertained, evidence of Pan-Grave activity is concentrated in the Nile Valley of Upper Egypt and Lower Nubia, with scattered occurrences of pottery displaying Pan-Grave characteristics found in the Upper Nubian Nile Valley, in the deserts of Northeast Sudan, and at the Western Desert oases. Before establishing the full reach of the Pan-Grave tradition, it first needs to be established if and how the evidence from outside the Nile Valley fits into the overall picture. This is especially important for the pottery found in regions to the east of the Nile Valley that has frequently been cited to support the argument that the Pan-Grave culture originated in the Eastern Desert.

In order to address these issues, the following aims have been identified:

- To identify the fullest possible extent of the distribution of pottery that can be attributed to the Pan-Grave tradition.
- To reconsider the origins of the Pan-Grave culture.
- To investigate the connections between the Pan-Grave and other contemporary cultures.

Approach:

Ceramic evidence from sites in Upper Nubia and the deserts on either side of the Nile Valley will be analysed in order to establish how closely it relates to the pottery comprising the core dataset. The same will be done for Middle Nubian pottery from Egyptian cultural contexts. The aim is to establish if and to what extent a given assemblage can be associated with the Pan-Grave tradition. It is anticipated that this renewed analysis will result in an expansion of the geographic reach of the Pan-Grave ceramic tradition, opening new avenues by which to understand the Pan-Grave culture and its position in the history of Egypt and Nubia.

It is acknowledged that the presence of Pan-Grave pottery does not automatically indicate the actual presence of Pan-Grave people. Nevertheless, the pottery itself marks the expanse across which the Pan-Grave ceramic tradition can be recognised, whether it reached these areas directly or indirectly.

1.4.4 Issue 4: Chronological sequences and developments in the Pan-Grave ceramic tradition

The lack of a chronological framework or phasing system is a major hindrance to new investigations and interpretations of the Pan-Grave culture. A limiting factor in establishing even a relative chronology is that we are restricted to assemblages with more easily dateable evidence, which is inevitably Egyptian. Egyptian pottery is present at most Pan-Grave sites, but the quantities are often insufficient for identifying a reliable date. There are a number of Pan-Grave sites that are effectively devoid of any readily dateable material, meaning their chronological significance would be overlooked. However, there are important developments in Pan-Grave material culture that are likely to be chronologically significant, for example the shift from circular to rectangular graves. Developments such as this can be used to form relative sequences for sites and their assemblages if dateable Egyptian evidence is lacking.

Therefore, overarching aims of the current study are:

- To identify a relative chronological sequence for Pan-Grave sites and assemblages.
- To identify corresponding developments in the Pan-Grave pottery tradition that can be linked to this chronological sequence.

Approach:

Dateable Egyptian artefacts associated with Pan-Grave burials, in particular Egyptian pottery, will be used to establish a relative date for Pan-Grave assemblages. Sequences for associated Egyptian pottery will be used as a starting point for this aspect of the project, and stratified sequences of Egyptian and Nubian pottery from Egyptian settlements will also be incorporated. The possibility that the Egyptian material may not be contemporary with its deposition in a Pan-Grave context will be taken into account. For example, Petrie noted that Middle Kingdom Egyptian stone vessels in graves at Hu Cemetery X were heavily worn, suggesting that they had been in circulation long before deposition.[52]

Where dateable Egyptian evidence is not available, changes to Pan-Grave material culture that took place as a result of Egyptianisation will be used as evidence for chronological sequences

[52] PETRIE 1901, p. 47.

in Pan-Grave material culture. The key development is the shift from circular to rectangular graves that has been shown to be chronologically significant.[53] Pan-Grave pottery will then be analysed in relation to the distribution of the various grave shapes and the overall nature of the cemetery in order to identify changes in pottery styles that may be linked to chronology.

1.5 Clarification of terminology

1.5.1 'Culture' vs. 'Tradition'

Up to this point, the term "culture" has been used to refer to the Pan-Grave culture in a general sense, encompassing both their material and non-material aspects. As this study focuses specifically on Pan-Grave pottery, the word "tradition" will be used when referring directly to the ceramics. The word tradition expresses the stylistic continuities that unite Pan-Grave ceramic assemblages and separate them from those of other traditions. It also ensures that pottery is considered independently of its assumed culture of origin, and does not presume that pottery displaying characteristics of the Pan-Grave tradition was necessarily produced by a member of the Pan-Grave culture. The term "culture" will continue to be used when referring to the Pan-Grave people more generally.

1.5.2 'Pan-Grave' vs. 'Nubian'

At certain times, it will not be appropriate to identify a particular object or assemblage as being "Pan-Grave", namely when an object is clearly not Egyptian, but its context or cultural attribution is uncertain. This is especially the case for Nubian cooking pottery from Egyptian settlement contexts, which can often equally be assigned to the Pan-Grave, Kerma, or C-Group tradition. The past has demonstrated that erroneous identifications can easily become fixed in the literature and are thereafter difficult to correct. Therefore, in ambiguous cases such as this, the term "Nubian" will be applied in order to avoid the problem of inappropriately ascribing a fixed cultural association to an object. This allows for flexibility in description and also permits future adjustments as new evidence comes to light.

1.5.3 Chronological divisions

The complex and fragmented archaeology of the Second Intermediate Period has already been introduced, as have the associated problems of correlating sites and assemblages from different regions, especially between Upper and Lower Egypt. Dynastic dates (e.g. 13th Dynasty, 17th Dynasty etc.) are often irrelevant and mean different things in different places.

[53] DE SOUZA 2013, pp. 110-113.

For example, the 13th Dynasty at Memphis can and often does correspond chronologically with the 17th Dynasty at Thebes. In this case, referring to 13th Dynasty pottery at Memphis could be misleading when related to assemblages from Upper Egypt.

To avoid this confusion, relative dates are favoured over dynastic dates, which will be avoided as much as possible. That is, rather than assigning objects to a particular reign or dynasty, one assemblage will either be earlier than, later than, or contemporary with another. This approach also avoids fixing an object or assemblage in time, and in theory will make the conclusions more flexible and adaptable when incorporating future developments.

Chapter 2

Review of Existing Scholarship

2.1 The Cultural Context

2.1.1 Petrie discovers "A New Class of Graves" [54]

The complexities of defining the Pan-Grave culture and its associated material remains may be traced back to the initial discovery made by Petrie at Diospolis Parva. The first published example of the then unknown culture is Abadiyeh Grave E2,[55] although this grave is now known to be of *Kerma Classique* date. Actual Pan-Grave were found at Abadiyeh Cemetery B and Hu Cemetery X, where Petrie found the shallow, pan-shaped graves that give the culture its name. The burials at these sites stood out to Petrie not only for their unusual form, but also for their distinctive pottery, rectangular mother-of-pearl spacer beads, and decorated animal skulls.

The term 'Pan-Grave' quickly became a misnomer after Petrie discovered the same material culture at Rifeh but in rectangular graves up to 3 metres deep.[56] The eponymous pan-shaped graves found at Hu Cemetery X would eventually prove to constitute only one type of Pan-Grave burial, but the term 'Pan-Grave' stuck, and continues to be used to the present day. The on-going use of this term is a continuing issue and more recent evidence suggests that the Pan-Grave culture is not so easy to define. The application of this term to certain material culture items, especially with regard to settlement contexts in Egypt, is in many ways inappropriate and requires review.[57]

2.1.2 Reisner's cultural divisions

In the years following Petrie's discoveries, the term Pan-Grave in relation to ceramics was used to describe any non-Egyptian pottery from the late Middle Kingdom that was black-topped or carried incised decoration. A clear example of this is Weigall's reports on Lower Nubia and Upper Egypt, in which any non-Egyptian incised pottery was classified under the single description of 'Pan-Grave'.[58] Much of this material can now be re-classified as C-Group

[54] This phrase was used by Petrie in the table of contents for his report on Diospolis Parva (PETRIE 1901).
[55] PETRIE 1901, p. 45, pl. XXXVIII. The Classic Kerma beakers shown at top left of the plate confirm the Kerma identity.
[56] PETRIE 1907, pp. 20-22.
[57] See Chapter 8. See also RAUE 2012, pp. 49-58.
[58] WEIGALL 1907, pls. LXXVI-XCIV.

or Kerma. The situation changed in 1910, when Reisner identified different Nubian cultural groups during the first Archaeological Survey of Nubia.[59] These cultural divisions – A-Group, C-Group, Kerma, X-Group etc. – are still in use today, with some revisions.[60]

Reisner's work demonstrated that there were noticeable differences between the material traditions of these cultural entities, and that not all incised pottery was Pan-Grave. Unfortunately, the terms 'Pan-Grave' and 'late C-Group' came to be used almost interchangeably, which is particularly problematic in Firth's survey reports. This conflation has led to further complications for subsequent researchers, right up to the present day.[61] It is becoming ever clearer that the boundaries between these cultural groups cannot be so clearly defined and that the relationships between the groups constituted a dynamic and complex network of exchange and interaction. Nevertheless, the identification of these different groups enables each to be considered in its own right and in relation to its contemporaries.

2.1.3 The Archaeological Survey of Nubia

Pan-Grave remains continued to be discovered throughout the early 20th century. Numerous cemeteries of varying size were found along the Nile Valley of Lower Nubia as part of the first Archaeological Survey of Nubia (ASN). The aim of the mission was to comprehensively survey and record sites that were under threat of submergence following the increasing in size of the Aswan Dam.[62] The surveys were conducted by Reisner[63] and Firth,[64] with a subsequent season led by Emery and Kirwan between Wadi es Sebua and Adindan.[65]

Both Reisner and Firth conflated the Late C-Group and the Pan-Grave culture, and the terms are both used interchangeably. At Shellal Cemetery 7, Reisner identified Pan-Grave objects such as mother-of-pearl spacer beads but classified pottery from the same location as C-Group,[66] thought it is now clear that the pottery from Shellal more closely resembles the Pan-Grave tradition.[67] In 1912, Firth continued to equate the Pan-Grave with the Late C-Group culture, and even went so far as to conclude that the simplicity of Pan-Grave burials in comparison to C-Group burials was "due to poverty and the altered political condition of the

[59] REISNER 1910, p. 312-348.
[60] Chief among these is Smith's article, which concluded that Reisner's B-Group is invalid (SMITH 1966, pp. 69-124). Bietak later identified chronological sub-phases within the C-Group (BIETAK 1968, pp. 92-117).
[61] A useful example is the Pan-Grave/Nubian evidence at Abydos. See Section 9.7.
[62] See H. G. Lyons' preface in REISNER 1910, pp. iii-v.
[63] REISNER 1910 (1907-1908 Season).
[64] FIRTH 1912 (1908-1909 Season); FIRTH 1915 (1909-1910 Season); FIRTH 1927 (1910-1911 Season).
[65] EMERY, KIRWAN 1935 (1929-1931 Season).
[66] REISNER 1910, p. 52-53.
[67] Bietak included Shellal in his list of Pan-Grave sites. BIETAK 1966, p. 65.

people."[68] This early link between the Pan-Grave culture and the Late C-Group was to set the foundations for ensuing studies that continued to consolidate this assumed connection.

2.1.4 Wainwright at Balabish

Following Petrie's discoveries, numerous other Pan-Grave sites were found during the first half of the 20th century. In Egypt, Wainwright discovered the Pan-Grave cemetery at Balabish.[69] Soon after that, Brunton recorded sizeable cemeteries and a number of possible settlements at Qau and Badari,[70] shortly followed by the discovery of two large cemeteries and other isolated remains at Mostagedda.[71] The Pan-Grave culture was now firmly a part of the archaeological record in Egypt. Wainwright's study of the Pan-Grave remains from Balabish is the most comprehensive of these early reports, as far as the Pan-Grave culture is concerned. His report presents detailed discussions of the graves themselves and each class of object – leather, textiles, jewellery, weapons, and of course, pottery. Wainwright conducted a comparative study of Pan-Grave sites known at that time and observed that there were clear differences between the assemblages, but that there were enough similarities overall to demonstrate that they had the same cultural origin.[72] Wainwright's observations demonstrate that the heterogeneity of the Pan-Grave culture was recognised since the time of its discovery, while also acknowledging that there is some consistency within the variation.[73]

Wainwright believed that the Pan-Grave culture was derived from the late C-Group, and his comparative analysis shows him grappling with how the Pan-Grave, C-Group, and Kerma cultures might be linked in order to support his theory.[74] Although the differences between the Nubian groups was becoming more apparent, the Pan-Grave culture was still considered to be a variant of the A-Group, C-Group, or Kerma cultures. Steindorff, who discovered Pan-Grave remains at Aniba,[75] was of Wainwright's opinion that the Pan-Grave culture was a variant of the late C-Group, whose material culture had changed upon settling in Egypt.[76] The work of Wainwright and Steindorff therefore continued to support the assumed connection

---

68 FIRTH 1912, p. 16.
69 WAINWRIGHT 1920, pp. 1-52.
70 BRUNTON 1930, pp. 3-7.
71 BRUNTON 1937, pp. 114-133.
72 WAINWRIGHT 1920, pp. 42-52.
73 Weigall identified some differences between Pan-Grave assemblages in Upper Egypt and Lower Nubia, however his definition of 'Pan-Grave' was closely tied to the C-Group and his observations are therefore mostly incorrect. See WEIGALL 1907, p. 26.
74 WAINWRIGHT 1920, pp. 51-52.
75 Steindorff included the Pan-Grave culture in his phase NM4 (STEINDORFF 1935, pp. 9-10). Aniba Cemetery C is a small Pan-Grave site (STEINDORFF 1935, pp. 193-196). Pan-Grave pottery is also present in the large C-Group Cemetery N (STEINDORFF 1935, Taf. 58.1-6).
76 STEINDORFF 1935, pp. 9-10.

between the Pan-Grave and C-Group culture, which was started by Reisner and Firth before them.

2.1.5 Creating a link between the Pan-Grave and the Medjay

The association with the Medjay is perhaps one of the most problematic and inescapable problems in any study of the Pan-Grave culture, and is one that has persisted almost since the time of their initial discovery.[77] The equation between Pan-Grave and Medjay, and the ensuing assumption that the Pan-Grave people were 'warlike' was initiated by Weigall in his survey of Lower Nubia, when he discovered what he described as 'Pan-Grave' pottery in the fortified town of El Kab.[78] Weigall also went on to find what he identified as large 'Pan-Grave' cemeteries around the fortresses at Aniba, Koshtamna, and Kubban.[79] This led him to conclude that the makers of this pottery served a military function and were therefore likely to be the Medjay referenced in Egyptian texts. It must be noted that Weigall appears to have actively sought evidence to support his preconceived assumption and, as such, his interpretations of the evidence are inherently biased. Indeed, Weigall himself explicitly stated that he considered the evidence from Upper Egypt with "evidence of the warlike tendencies of the 'Pan-Grave' races in mind."[80] It should also be remembered that Weigall did not distinguish between Pan-Grave and C-Group pottery, and it is therefore highly possible that the pottery found at the fortresses may not actually be Pan-Grave at all. In fact, it is most likely that Weigall's 'Pan-Grave' sites around the Lower Nubian fortresses are actually the now well-known C-Group cemeteries at those sites.[81]

Weigall's concept of a warlike Pan-Grave people became cemented into the scholarship following the discovery of weapons in Pan-Grave burials at a number of sites. The weapons, which included axes, daggers, bows and arrows, and leather wrist guards, were of Egyptian manufacture, strengthening the Pan-Grave people's supposed role as Medjay soldiers.[82] The evidence all seemed to suggest that the Pan-Grave people were likely to have been mercenaries employed by the Egyptians in their battles against the Hyksos. This, however, should not necessarily mean that the Pan-Grave people and the Medjay are one and the same.

---

[77] LISZKA 2015; LISZKA 2012; SADR 1987; SADR 1990.
[78] WEIGALL 1907, p. 26.
[79] WEIGALL 1907, pp. 26-27.
[80] WEIGALL 1907, p. 27.
[81] Weigall describes seeing multiple 'Pan-Grave' cemeteries along the length of the Lower Nubian Nile Valley. His list of sites includes Aniba, Koshtamna, and Dakka, all of which are primarily C-Group cemetery sites. It is therefore most likely that he was confusing C-Group pottery as Pan-Grave pottery (WEIGALL 1907, p. 26).
[82] For examples of such finds, see WAINWRIGHT 1920, pls. XII-XIII; BRUNTON 1937, pp. 127-128, pl. LXXVII.

A significant side-effect of the association with the Medjay was the assumption that the Pan-Grave culture had its origins in the Eastern Desert, despite there being a lack of archaeological evidence from that region to support this claim. Bietak in particular put forward what was a convincing argument at the time of his writing to demonstrate that the Pan-Grave culture entered the Nile Valley from the Eastern Desert via the Wadi Allaqi.[83] Bietak's conclusions were so widely accepted that it effectively closed the case. The Pan-Grave culture *was* the Medjay and therefore the Pan-Grave culture *does* come from the Eastern Desert. These assumptions have led to numerous terminological issues that will be discussed in further detail below.

2.1.6 The Pan-Grave culture and Egyptianisation

A further important theme that arose from these early studies is the assumption that the Pan-Grave culture apparently underwent a process of what is called Egyptianisation. This concept is based on changes in Pan-Grave assemblages such as the development from circular graves containing contracted burials to rectangular graves containing extended burials, accompanied by an increase in Egyptian artefacts deposited in the graves.[84] The shift from circular to rectangular graves was most notable at the Pan-Grave cemeteries in Middle Egypt, especially at Mostagedda and Balabish.[85] It was also observed that there appeared to be virtually no *archaeological* evidence of the Pan-Grave culture in Egypt from the early 18th Dynasty onwards. It was therefore assumed that the acculturation of the Pan-Grave people was so complete that they blended in with contemporary Egyptian communities and effectively 'disappeared' from the archaeological record in Egypt.[86]

Wainwright even went so far as to suggest that the "warlike" kings of the late 17th Dynasty such as Ahmose and Kamose were in fact Egyptianised Medjay soldiers – in other words, these kings may have actually been Egyptianised Pan-Grave people.[87] More recent research by the present author has suggested that this process of Egyptianisation is not as culturally destructive as once thought.[88] While there does appear to have been some degree of Egyptian influence, the contents of rectangular and therefore the most "Egyptianised" graves remained

---

[83] BIETAK 1966, p. 71. See also Section 2.1.7.a.

[84] The process of Egyptianisation was observed at Mostagedda (BRUNTON 1937, p. 122-124); Qau and Badari (BRUNTON 1930, p. 6); and Balabish (WAINWRIGHT 1920, p. 3). It has been recently demonstrated that the increase in Egyptian objects does not appear to be accompanied by a decrease or cessation in Nubian objects being deposited in Pan-Grave burials (DE SOUZA 2013, pp. 116-118).

[85] For the cemeteries at Mostagedda see BRUNTON 1937.

[86] SADR 1987, p. 267; BIETAK 1966, pp. 72-73.

[87] WAINWRIGHT 1920, p. 6.

[88] DE SOUZA 2013, pp. 116-119.

distinctly un-Egyptian. It is now suggested that other explanations need to be sought for the disappearance of the Pan-Grave culture from the Egyptian archaeological record.

2.1.7 Bietak at Sayala

The image of the Pan-Grave culture became almost fixed with the publication of Bietak's excavations at Sayala.[89] This was shortly followed by his treatise on the C-Group, including updated typologies of Pan-Grave and Kerma material cultures.[90] Bietak presented an extensive and convincing argument for an Eastern Desert origin for the Pan-Grave culture and proposed that their point of entry into the Nile Valley was in the area around Wadi Allaqi.[91] His conclusion was based on the concentration of Pan-Grave finds at that locality, however concerns have been raised over Bietak's methodology.[92] It has also been suggested that his interpretation of the data and its distribution does not reflect the true density of the finds, which is likely to be far lower than Bietak suggests.[93]

a. Bietak and the Medjay

Bietak also continued the discussion of connections between the Pan-Grave, the Medjay, and the Eastern Desert. In his 1966 report on the Pan-Grave cemeteries at Sayala, Bietak updated Säve-Söderbergh's distribution map of Pan-Grave sites[94] and put forward some significant observations (**Plate 2**). He argued that a defined Pan-Grave region (*"Provinz"*) could not be established, with evidence of Pan-Grave activity occurring in both Upper Egypt and Lower Nubia on both sides of the Nile.[95] Bietak further noted that the C-Group Nubians already occupied the Nile Valley between Kubbaniya and the Second Cataract, leaving no room for the development of another culture within the Valley.[96] Therefore, Bietak concluded that the Pan-Grave culture must have its origins *outside* of the Nile Valley in the Eastern Desert. Bietak cited pottery from Erkowit, Kassala, and Khor Arbaat as evidence, but with the important caveat that the pottery found at those sites was surface material and hence could not be securely classified or dated.[97] He further supported his conclusions using the Nerita shells that are commonly associated with Pan-Grave burials, noting that these come from the Red Sea and may therefore represent a further connection to the east.[98]

---

[89] BIETAK 1966, p. 71.
[90] BIETAK 1968, pp. 117-127.
[91] BIETAK 1966, pp. 70-71.
[92] LISZKA 2012, pp. 438-447.
[93] See Section 9.7 of the current study.
[94] SÄVE-SÖDERBERGH 1941, pp. 135-140.
[95] BIETAK 1966, pp. 70-71.
[96] BIETAK 1966, p. 70.
[97] BIETAK 1966, p. 70.
[98] BIETAK 1966, pp. 59-60.

Interestingly, Bietak stresses that the link between the Pan-Grave and the Medjay can only apply during the Middle Kingdom and Second Intermediate Period and states that the Pan-Grave in its entirety can hardly be described as the Medjay.[99] His reservation supports the idea that the Medjay of Egyptian texts may not be tied to a single ethnicity or culture. Rather, the term appears to have had different meanings at different times, and may describe people from a specific region, ethnic group, or occupation.[100]

Bietak's use of the ceramic evidence is also problematic, and he duly acknowledged that the surface finds from the Eastern Desert were all that was available to him at the time. Recent and on-going surveys in the Eastern Desert have uncovered further ceramic evidence that suggest strong connections to the Pan-Grave tradition,[101] however this on its own should not be taken as evidence of an origin in that region. The Nerita shells found in Pan-Grave burials along the Nile Valley have their closest source in the Red Sea, however this does not necessarily mean that the Pan-Grave people carried them from there to the river. It is equally possible that these items could have found their way into Pan-Grave communities through trade with communities living near the Red Sea Coast or with some other third-party. The more recent evidence presents an opportunity to investigate Bietak's theories in greater detail.

b. Bietak and Egyptianisation

Bietak also continued to argue in favour of extensive Egyptianisation of the Pan-Grave culture and also presented a list of defining characteristics, including a typology of Pan-Grave pottery that will be referenced throughout this study. He noted that the earliest evidence of the Pan-Grave culture, archaeologically speaking, appeared to be so homogeneous and distinctive that it supports a long period of isolated development, which he argued took place in the Eastern Desert.[102] Bietak further argued, like those before him, that it is only upon entering the Nile Valley that the Pan-Grave people adopted characteristics of the cultures that they encountered there, primarily the Egyptians. In relation to these points, Bietak observed that the Pan-Grave people appear to have existed as small, nomadic/semi-nomadic bands or family groups.[103] Despite this supposed isolation, there are enough commonalities between the Pan-Grave, C-Group and Kerma cultures to suggest that they all shared a common ancestry, as evidenced by the production of black-topped pottery, incised pottery, the inclusion of animal skulls and horns in their burials, and other features.

---

[99] BIETAK 1966, p. 78; BIETAK 1982, column 1003-1004.
[100] Kate Liszka's work is the most up-to-date critique of these issues. See Section 2.1.9 and associated references.
[101] See Chapter 8.
[102] BIETAK 1966, p. 73.
[103] BIETAK (1966, p. 70) cites the small clusters of Pan-Grave burials such as at Aniba C and Tod as evidence of small family groups.

In the current author's opinion, Bietak's C-Group Phase III is central to the discussion of Egyptianisation and its effects on Nubian cultures. Bietak identified C-Group Phase III as a time during which that culture shows strong influence from the Pan-Grave and Egyptian cultures. He cited a multitude of evidence that he believed clearly demonstrated a rapid transition from Nubian to Egyptian traditions. Among this evidence is Cemetery 58:100 at Ginari (**Plate 8a**).[104] Bietak observed that the cemetery could be divided into two halves - one Nubian, one Egyptian – and that there was little evidence of a gradual transition. He interpreted this as evidence of rapid Egyptianisation and the replacement of Nubian traditions with Egyptian.[105]

Some important revisions should be made to Bietak's conclusions in light of more recent discoveries. A re-examination of the Nubian burials at Cemetery 58:100 shows little evidence of anything that can clearly be identified as C-Group and instead shows a greater affinity with Pan-Grave traditions.[106] It is therefore suggested that these graves are not C-Group at all. Instead, it is proposed that they should be interpreted as actual Pan-Grave burials rather than evidence of their influence upon the C-Group. Following this, the two distinct halves of the cemetery identified by Bietak may instead simply be Egyptian burials adjacent to Nubian burials and not as evidence of rapid Egyptianisation. The Egyptian pottery found in the Nubian half of the site suggests that the graves are all roughly contemporary and date to the early 18th Dynasty.

It may also be observed that some Pan-Grave sites in Lower Nubia show a closer connection with contemporary Egyptian cemeteries than they do with C-Group cemeteries. At Cemetery 110 at Kubban,[107] the Pan-Grave burials (formerly identified as C-Group Phase III) are in a separate cluster from the main cemetery at the same location (**Plate 12**). Aniba Cemetery C, a Pan-Grave cemetery, is near to the large Egyptian Cemetery S but is situated at a considerable distance from the large C-Group Cemetery N (**Plate 10**).[108] The same may be seen at Adindan Cemetery K, where there is a distinct separation between Pan-Grave burials and the larger C-Group cluster (**Plate 11**).[109] This pattern of separation between Pan-Grave and C-Group sites may indicate a corresponding cultural distinction that manifested itself in separate and distinct burial grounds. At the same time, the proximity of some Pan-Grave clusters to Egyptian

[104] FIRTH 1912, pp. 57-61; BIETAK 1968, pp. 45-46.
[105] BIETAK 1968, pp. 46.
[106] DE SOUZA in press a.
[107] FIRTH 1927, pp. 46-55; BIETAK 1968 pp. 760-761.
[108] STEINDORFF 1935, Map 1.
[109] WILLIAMS 1983, pl. 3.

cemeteries has implications for the understanding of cultural developments and interactions taking place between the Middle Nubian cultures and, in particular, the relations between the Pan-Grave culture and Egypt.[110]

c. Bietak's legacy

Bietak's 1966 and 1968 publications were among the first comprehensive reports of work conducted as part of the salvage campaigns of the early 1960s. His conclusions exerted a strong influence upon subsequent reports of other missions that were published some time later, most notably those of the Oriental Institute Nubian Expedition (OINE)[111] and the Scandinavian Joint Expedition (SJE).[112] These reports followed Bietak's typologies and chronologies for the Middle Nubian cultures, including the Pan-Grave culture. Williams, for example, follows Bietak's phasing for the C-Group and uses Bietak's classification system for Pan-Grave objects.[113] Säve-Söderbergh similarly follows Bietak's chronology and continued the argument for a full Egyptianisation of the Pan-Grave culture by the beginning of the 18th Dynasty.[114] Both also follow Bietak's conclusion that the Pan-Grave and C-Group influenced one another during C-Group Phase III. The long-lasting influence of Bietak's work is evident in the final report of the Early and Middle Nubian remains from the West Bank Survey (WBS) published in 2014, which included Bietak's problematic C-Group Phase III.[115] It has been recently argued by this author that Phase III may be divided into two separate developmental pathways, one for the Pan-Grave and one for the C-Group.[116] It is therefore advisable that the references to C-Group Phase III in the reports of the salvage campaigns be approached with these issues in mind.

An important aspect of Bietak's work is the inclusion of ceramics from Kassala, Khor Arbaat, and Erkowit in his list of Pan-Grave material.[117] It may be that Bietak included pottery from these three sites in order to support his theory of an Eastern Desert origin for the Pan-Grave culture and also to demonstrate that the distribution of the ceramic reflects an annual migration between the Nile Valley and the Red Sea ("*Wanderrythmus*").[118] It must be remembered that this pottery is from surface survey and can in no way be used as definitive

[110] DE SOUZA, in press.
[111] At Adindan (WILLIAMS 1983) and Serra East (WILLIAMS 1993).
[112] SÄVE-SÖDERBERGH 1989.
[113] WILLIAMS 1989, pp. 2-12.
[114] SÄVE-SÖDERBERGH 1989, p. 18.
[115] NORDSTRÖM 2014, p. 152.
[116] DE SOUZA, in press.
[117] BIETAK 1966, p. 70.
[118] BIETAK 1966, p. 71; SADR 1987, pp. 267-268; MEURER 1996, p. 71.

evidence, a reservation expressed even by Bietak himself.[119] These three sites are outside of what was considered the traditional Pan-Grave distribution and, in this way, encouraged extending the search for the Pan-Grave culture beyond the old boundaries.

Bietak's work on the Middle Nubian cultures virtually set in stone the way that subsequent researchers approached these groups, but new research is highlighting the need for a revision of his work. The on-going excavations of the Aswan - Kom Ombo Archaeological Project (AKAP) is providing further insights into the earliest evidence for the Pan-Grave culture in Upper Egypt, which suggests that they may attested as early as the 13th Dynasty around the Aswan region. Liszka has presented a thorough and convincing argument that the association between the Pan-Grave and the Medjay is problematic. As noted above, the current author has argued against the full Egyptianisation of the Pan-Grave culture and has also suggested that Bietak's definition of C-Group Phase III should be revised. Nevertheless, the lasting influence of Bietak's work is still present in current research.

2.1.8 Sadr, the Medjay, and the Eastern Desert

Two decades after Bietak published his conclusions, Sadr presented new perspectives on the geographic extent of the Pan-Grave culture, in particular regarding their connection with the Eastern Desert.[120] It is important to state from the outset that Sadr firmly accepted the reasoning that the Pan-Grave culture and the Medjay are one and the same, and he appears to use both terms interchangeably. For the sake of clarity, the term Medjay will be used here in reference to Sadr's work specifically, but it is to be understood that this term refers to Sadr's 'Pan-Grave-equals-Medjay' unit.

Sadr and the Castiglionis have expressed surprise at what they saw as the absence of archaeological evidence for the Pan-Grave culture in the Eastern Desert of northern Sudan based on their acceptance of the connection between the Pan-Grave, the Medjay and the Eastern Desert. In their view, the Nubian Desert "should have been littered with pan-graves [sic.]."[121] Sadr did, however, identify the striking similarities between Pan-Grave pottery and that of the Jebel Mokram Group, an archaeological culture attested in the southern Atbai from c. 1500 BC until the end of the 2nd millennium.[122] The similarities between the ceramic traditions of the two groups were so remarkable that Sadr considered it evidence that the Pan-

[119] BIETAK 1966, p. 70.
[120] SADR 1987; SADR 1990.
[121] Sadr, Castiglioni, Castiglioni 1995, p. 204.
[122] SADR 1987; SADR 1990, pp. 104-108; SADR 1990.

Grave culture and Mokram group were the same culture present in two areas.[123] Sadr also noted that the Mokram Group replaced the Gash Group in the southern Atbai at around the same time that the Pan-Grave culture 'disappeared' from the archaeological record in Egypt.[124]

In spite of his adherence to the theory that Pan-Grave-equals-Medjay, Sadr echoed Bietak's reservations about this equivalence due to changes in the meaning of the term "Medjay" over time.[125] He instead suggested that the change may have been geographical and that Medjay territory expanded to incorporate the southern Atbai, meaning that the Jebel Mokram Group *is* the Medjay (i.e. the Pan-Grave culture) *in that region*.

Sadr's suggestion that the Pan-Grave and Jebel Mokram groups are variants of each other was based heavily on limited ceramic evidence and therefore may not be a true or complete representation of the cultures and their material traditions. While the similarities in ceramics are undeniable, other markers of Pan-Grave identity such as mother-of-pearl spacer beads or painted animal skulls were not found with the Jebel Mokram material, and Sadr himself acknowledged that the archaeological evidence is insufficient.[126] Evidence uncovered in recent years, however, offers new insights that can revive discussions of the Pan-Grave culture and its connection to the Eastern Desert.[127]

In all, Sadr proposed three hypotheses for the origin of the Medjay pastoral nomads (i.e. Pan-Grave) culture in the Eastern Desert.[128] The first is that the Medjay were a group displaced from the Nile Valley to the desert owing to environmental or social pressures. The second theory is that the Medjay were always present in the desert. The third is that the Medjay (i.e. Pan-Grave), C-Group, and Kerma cultures all share a common ancestor, which he identified as the A-Group. All three theories have merit, but the current author agrees with Sadr and acknowledges that the third model is the most likely. This will be discussed further and in direct relation to the Pan-Grave culture in the concluding chapter of this study.

Sadr's connection between the Pan-Grave (i.e. the Medjay) and the Beja, thought to the Pan-Grave's modern counterpart, is also pertinent for understanding Pan-Grave social structure. It

---

[123] SADR 1987, p. 280.
[124] SADR 1987, pp. 286-7.
[125] SADR 1987, p. 286. The changing meaning of the term "Medjay" is a central aspect of Liszka's PhD research (LISZKA 2012).
[126] SADR 1987, p. 289.
[127] See Chapters 8 and 12 of this study.
[128] SADR 1991, pp. 107-108.

was noted that the Beja can be divided into four main tribes, each with its own sub-groups.[129] These sub-groups in turn are defined by their own particular subsistence pattern – some are nomadic, some semi-nomadic, some fully settled, some are pastoralists, some agro-pastoralists, and so on. Sadr uses this analogy to suggest that the Pan-Grave and Mokram may have been two such subgroups of a larger, unifying cultural tradition.[130] Sadr's inference is based on an assumed connection between the Pan-Grave and Medjay, but his suggestion points toward the possible existence of a greater cultural tradition with subgroups and variants, which is an underlying theme of this present study.

2.1.9 Deconstructing old ideas

More recent scholarship has begun to question and revise old theories with the benefit of hindsight and in light of new evidence. Two particular theories have received most attention, namely the connection between the Pan-Grave and the Medjay, and the role of Egyptianisation in the decline and 'disappearance' of the Pan-Grave culture from Egypt.

a. Deconstructing the connection with the Medjay

The Pan-Grave/Medjay equation continues to feature in literature about the Pan-Grave culture, with most scholars repeating the same evidence as cited by Bietak and those who came before him.[131] A key study in relation to this point is Ryholt's analysis of the political history of the Second Intermediate Period, in which he applies the assumed Pan-Grave/Medjay equivalence to the archaeological record. Ryholt accepts that the Pan-Grave people acted as mercenary soldiers, and he proposed that the distribution of Pan-Grave sites suggests strategic placement by their Egyptian leaders.[132] Ryholt linked the distribution of Pan-Grave cemeteries to the extent of the territory controlled by the 16th and 17th Dynasty Theban rulers, stating that the Pan-Grave grave communities were strategically situated to protect key locations.[133] His theory has some merit, but it should also not be taken as direct support for an association with the Medjay or with military service. The fact that Pan-Grave cemeteries are located near Egyptian urban centres could simply be because living in these areas would have made it easier for the Pan-Grave people to access any necessary resources.

---

[129] SADR 1987, pp. 281-283.
[130] SADR 1987, p. 288.
[131] SADR 1987; RYHOLT 1997, pp. 178-183; BAINES 1996, p. 376; MEURER 1996, p. 71; SCHNEIDER 2003, pp. 179-180; BARNARD 2009a, pp. 22-23; BARNARD 2009b, pp. 17-19; NÄSER 2012, pp. 82-84; WESCHENFELDER 2014, pp. 357-363.
[132] RYHOLT 1997, pp. 178-179.
[133] RYHOLT 1997, pp. 178.

Liszka has recently spoken out in strong opposition to a *total* association between the Pan-Grave and the Medjay, and also argues against their role as mercenary soldiers.[134] Liszka argues that the changing meaning of the term "Medjay" in Egyptian texts from the late Old Kingdom until the early New Kingdom does not fit with the Pan-Grave timeline.[135] Liszka also argues against a connection of the Pan-Grave people to the Eastern Desert, stating that there is insufficient archaeological evidence to support such a connection, and that there is an equal amount of evidence from the Western Desert.[136] As an alternative, Liszka raises the possibility that the Pan-Grave culture may have arisen from groups already present in the Nile Valley, whose material expression was heightened as a reaction to the changing political climate at the end of the Middle Kingdom.[137]

Liszka's opinions have shaken-up the traditional views, but this author is inclined to take a more cautious path. As Liszka notes, the evidence to support the traditional theories is insufficient, but this does not mean that the evidence is absent. S*ome* Pan-Grave people may have worked as soldiers and therefore could be identified as Medjay, but a wholesale equivalence between the two groups is not necessarily correct. It is important to remember in this context that "Medjay" is an Egyptian term that does not necessarily reflect the self-identification of the relevant group(s). The current author therefore questions how far it is advisable to impose an ancient Egyptian concept onto archaeological remains. This author also advises against the dismissal of an Eastern Desert origin. The evidence may be minimal, but there is enough to suggest a cultural heritage that can be linked to that region.[138]

b. Reconsidering Egyptianisation

The current author has revisited the question of Egyptianisation, namely in relation to its assumed impact on the Pan-Grave culture and its disappearance from the archaeological record in Egypt.[139] It was observed that Egyptian culture clearly influenced Pan-Grave material culture in the ways that have already been discussed. However, these influences do not appear to have had as detrimental an impact upon Pan-Grave cultural identity as traditionally thought. Although Pan-Grave people adopted rectangular graves and buried their dead in an extended supine position, the funerary assemblages placed in these graves remained

[134] LISZKA 2012, pp. 512-523; LISZKA 2015, pp. 50-51.
[135] For a detailed discussion of the changing role of the Medjay, see LISZKA 2012, pp. 388-523. For the role of the Medjay as desert police, see ANDREAU 1982, columns 1068-1071. Other detailed studies on the Medjay are SADR 1987; SADR 1990.
[136] LISZKA 2015, pp. 47-48.
[137] LISZKA 2015, p. 51.
[138] See Chapters 8 and 12.
[139] DE SOUZA 2013, pp. 109-126.

emphatically Pan-Grave in character. The usual types of Pan-Grave jewellery and ceramic types continued to be present. Egyptian pottery increased in quantity, but at no point does it seem to have replaced Pan-Grave pottery.

The current author then raised the question that if Egyptianisation is not the cause for the disappearance of the Pan-Grave culture, then what happened to them? This question will be explored further in the concluding chapters of the present study, but for now it is important to recognise that the traditional model of Egyptianisation having a damaging effect on Pan-Grave identity no longer seems fully valid, and other hypotheses should be considered.

2.1.10 The Pan-Grave culture beyond the Second Cataract

With new discoveries, it became ever clearer that the Pan-Grave culture was not limited to the Nile Valley of Upper Egypt and Lower Nubia. Recent excavations have unearthed further evidence of possible Pan-Grave activity, mostly ceramics, far into Upper Nubia and northeastern Sudan. It is difficult to connect and interpret this data to the Pan-Grave culture in its Upper Egyptian and Lower Nubian manifestations. The ceramic data from Upper Nubia that does bear striking similarities to Pan-Grave pottery is generally not associated with other diagnostic Pan-Grave objects. Instead, the pottery is found in contexts that have more in common with the Kerma culture. Nevertheless, the similarities in the ceramics are so striking that it is impossible to deny some kind of connection to the Pan-Grave culture. The archaeological evidence from these regions is discussed in Chapter 8, and the following constitutes a brief introduction to the key points.

a. The Northern Dongola Reach Survey

The Northern Dongola Reach Survey (NDRS) recorded sites and artefacts that were deemed at high risk of loss or destruction.[140] The pottery from the survey was analysed and published by Welsby-Sjöström, who, while acknowledging the presence of Pan-Grave style decoration, does not explicitly assign the pottery to the Pan-Grave culture nor does she suggest that the Pan-Grave culture was present in the area. In relation to regional variation, Welsby-Sjöström observed that the Pan-Grave, Kerma, and C-Group cultures are quite distinct in Lower Nubia, whereas the distinction between the different cultural groups is less clear in Upper Nubia.[141] Pan-Grave style decoration was identified as occurring on vessels that are more akin to Kerma

[140] For a detailed discussion of the survey, excavation and recording methods and rationale, see WELSBY 2001, pp. 1-6. A large portion of the material housed at The British Museum, London. Sincere thanks to Derek Welsby for access to the NDRS pottery at the British Museum, 7 October, 2014.

[141] WELSBY-SJÖSTRÖM 2001a, pp. 252-253.

shapes in the NDRS Concession, suggesting complex cultural interaction and exchange. It may also suggest that the shared heritage of the Middle Nubian cultures was more visible in Upper Nubia than at sites further north. Survey and excavation work was also conducted as part of the Amri to Kirbekan Survey (AKS). Pottery showing strong similarities to Pan-Grave material from Lower Nubia and Upper Egypt was identified, although to a lesser extent than in the Northern Dongola Reach.[142]

b. The Fourth Cataract

Salvage excavations conducted at sites above the Fourth Cataract identified pottery as being of the Pan-Grave tradition at a number of sites, however the cultural context was occasionally unclear. Williams noted that the pottery found at el Widay and Hosh al Guruf forms part of he describes as the "*Pan-Grave complex*, whose influence spread from Middle Egypt to the Ethiopian Plateau."[143] The association between the Pan-Grave culture and the Eastern Desert is also referenced, and it is suggested that Pan-Grave pottery in the assemblages from el Widay reflects a close connection to Eastern Desert nomadic traditions at the site rather than the Pan-Grave culture actually being present.[144] Pottery from Shemkhiya and el Ar also bears striking similarities to Pan-Grave pottery, but this has been attributed to the Kerma culture based on its location and associated assemblages.[145]

With this new data comes the increasing possibility that the origins of the Pan-Grave culture could lie in the far south, or that the Pan-Grave culture had a stronger connection to the south than was previously thought. This possibility also has implications for the present study, in that it broadens the expanse across which regional variation should be sought.

c. Looking for the Pan-Grave culture in the Eastern and Western Deserts

Survey work has been conducted in the Eastern Desert regions of northeast Sudan and in the Red Sea Hills by various missions and to varying extents since the early 20th Century.[146] A considerable amount of the ceramic material found in these regions shows undeniable affinities with Pan-Grave pottery found in the Nile Valley. Bietak included pottery from Agordat, Kassala, and Erkowit in his list of Pan-Grave sites, but acknowledged that the

---

142 WELSBY 2003. Sincere thanks to Derek Welsby for access to the AKS pottery at The British Museum, 7 October, 2014.
143 EMBERLING, WILLIAMS 2010, pp. 35 (emphasis added).
144 EMBERLING et al. 2014, pp. 333-334.
145 See Section 8.6 for further details and references.
146 See Chapter 8. Key examples include: CROWFOOT 1928; ARKELL 1954; FATTOVICH, SADR, VITIGLIANO 1988/89; CASTIGLIONI, CASTIGLIONI, VERCOUTTER 1998; SADR 2004; MANZO 2012b.

evidence is too scant for any definitive identification. The pottery found during the various surveys was mostly found on or just below the surface, often without other associated objects that could aid cultural identification. The pottery most relevant for the present study was found in the Southern Atbai and has been identified as belonging to the Gash and Jebel Mokram ceramic traditions. The striking similarities between this material and Pan-Grave pottery from Upper Egypt and Lower Nubia lend weight to a connection between the Pan-Grave culture and the Eastern Desert.

However, Middle Nubian and possibly Pan-Grave pottery has also been identified in the Western Desert Oases. Pottery bearing striking similarities to Nile Valley Pan-Grave pottery has been found in settlement contexts at the Dakhleh Oasis,[147] at Balat,[148] and at Umm Mawagir in the Kharga Oasis.[149] The pottery from Umm Mawagir is said to be made of oasis silt demonstrating that the pottery was produced locally and, by extension, that the [Pan-Grave?] people who produced it lived at the site long enough to make and use the pottery. The material found at the oases and in the deserts on either side of the Nile demonstrates that Williams' "Pan-Grave complex" extends along the Nile Valley and outwards to the east and west into the surrounding desert regions. An Eastern Desert connection cannot be ruled out, but at the same time it should not be favoured over other possibilities.

2.2 Existing literature on the Pan-Grave ceramic tradition

To date, no single, published report exists that analyses Pan-Grave pottery from sites across Egypt and Nubia. Site-specific classification systems have been developed for sites at which Pan-Grave pottery has been found, however the differences between these systems complicates a comparative analysis of Pan-Grave assemblages. The various site-specific systems will be discussed in detail throughout Part Two of this study, and the following constitutes a brief introduction to the key sources.

2.2.1 The early 20th Century

Wainwright was the first to attempt a classification system for Pan-Grave pottery. His system was perhaps overly simplified and he identified only three ware types at Balabish – red polished, black topped, and hatched wares, with no further subdivision.[150] Brunton put forward a more comprehensive classification for Pan-Grave ceramic wares, which he devised

[147] EDWARDS, HOPE, SEGNIT 1987, p. 26, pl. XXVIIIa.
[148] MARCHAND, SOUKIASSIAN 2010, pp. 206, 325.
[149] MANASSA 2012b, pp. 117-128.
[150] WAINWRIGHT, 1920, pp. 35-37. The other classes identified by Wainwright (Buff Wares and Borrowed Pottery) represent Egyptian pottery found in Pan-Grave contexts.

for the pottery from Mostagedda.[151] His system sorted the pottery first by the presence or absence of incised decoration and then further divided the pottery into subgroups based on ware and surface treatment, resulting in eleven different types. A comparison of Wainwright's and Brunton's systems already show the vast differences in approach to Pan-Grave pottery, and the difficulties associated with correlating site-specific systems.

2.2.2 Bietak's typology

Bietak presented a classification system for Pan-Grave pottery as part of his 1966 report on the excavations at Sayala,[152] which was subsequently revised in his 1968 report on the C-Group.[153] In the latter, Bietak identified eight types that are organized first by ware, thence by surface treatment. Bietak's system is in many ways overly prescriptive in its description of the decorative motifs and wares, and it has proven difficult to apply his classification to pottery from other sites. There was little discussion of the specific, diagnostic characteristics that set Pan-Grave pottery apart from other traditions. For example, black-topped pottery constitutes Bietak's type P/7, however black-topped vessels also occur in the C-Group and Kerma traditions, but the differences are not identified. Similarly, his type P/8 consists of uncoated wares with cross-hatched incised decoration, which also occurs in the C-Group and Kerma traditions.

2.2.3 The Scandinavian Joint Expedition typology

Nordström and Säve-Söderbergh published a detailed and scientifically rigorous analysis of Early and Middle Nubian pottery from the SJE concession, covering fabric, shape, ware, and decoration.[154] Their system represents an important step forward in that it comprised a number of 'sub-typologies' that could be combined to allow for the extensive range of variation present in the assemblage. While the SJE system is more flexible than anything that came before, it is in some ways too rigorous and rigid for handmade Pan-Grave pottery. Nevertheless, the structure of the SJE system has provided the foundation upon which the system proposed in the current study is based.

---

151 BRUNTON 1937, p. 124.
152 BIETAK 1966, p. 53-56.
153 BIETAK 1968, pp. 119-121.
154 The classification system was devised by Nordström for the early Nubian pottery in the SJE Concession (NORDSTRÖM 1972, pp. 80-94 (vol. 1), pls. 6-26 (vol. 2). The system was subsequently revised for the Middle Nubian Pottery (SÄVE-SÖDERBERGH 1989, pp. 25-58(vol. 1)).

2.2.4 Giuliani's Pan-Grave focus

The first significant attempt at defining the Pan-Grave ceramic tradition in its entirety was made by Giuliani as part of her PhD research. Giuliani had first-hand access to Pan-Grave pottery in European museum collections and examined material in the field at Hierakonpolis and as part of the AKAP mission and the Survey of Memphis, however renewed analysis of the same pottery by this author has demonstrated that many of Giuliani's observations are in need of review. In spite of the setbacks, Giuliani's work was an important step forward for the study of Pan-Grave pottery, and forms a key starting point for the present study. Part Two of this thesis will address and update aspects of Giuliani's research as they arise.

2.2.5 The Austrian Archaeological Institute

In 2010, a workshop facilitated by the Austrian Archaeological Institute focused solely on Nubian pottery in Egyptian cultural contexts from the Middle Kingdom to the Early New Kingdom.[155] Researchers from sites in both Egypt and Sudan presented evidence from their sites in an attempt to make sense of the issues and problems associated with Nubian pottery when found in Egyptian settlements and cemeteries. These issues included (among others): the dating of Nubian pottery, identifying chronological and typological sequences based on associated Egyptian material, explaining how and why Nubian pottery is found in Egyptian cultural contexts,[156] the function of Nubian pottery in those contexts, as well as general discussions relating to the physical characteristics of the pottery and comparing these observations across sites.

A key theme was the interpretation and identification of 'domestic' Nubian pottery, which can be difficult to assign to one culture or another. This point was clearly illustrated in Forstner-Müller and Rose's introduction to the proceedings, in which they outline the frequent disagreements over cultural identification of material from a single locality.[157] These issues are too complex to be addressed in this study, and so-called domestic Nubian pottery from Egyptian settlement contexts deserves a dissertation of its own.[158] The workshop results highlight the need for a clearer understanding of those characteristics that define the different Middle Nubian ceramic traditions in order to facilitate the interpretation of Nubian pottery when found in a non-Nubian context.

---

155 FORSTNER-MÜLLER, ROSE 2012.
156 For example: ASTON 2012, pp. 159-180; AYERS, MOELLER 2012, pp. 103-116.
157 FORSTNER-MÜLLER, ROSE 2012, p. 7.
158 Raue's habilitation thesis focusing on the Nubian pottery from settlement contexts at Elephantine is currently in preparation (RAUE, in prep).

A key paper presented at the Nubian pottery workshop is that presented by Raue,[159] which highlighted terminological issues through the stratified contexts at Elephantine. In his paper, Raue expresses caution in applying clear divisions between Middle Nubian ceramic traditions, particularly in relation to Nubian pottery found in settlements. In his view, any terminology used to describe Middle Nubian material culture should take into account the complex networks of social and cultural interactions between the Nubians and Egyptians living in the Nile Valley and the surrounding deserts.[160]

Raue's view is completely justified. One only needs to consider the numerous similarities and crossovers between the archaeological remains of the Middle Nubian cultures to see that intercultural contact and exchange was exceedingly complex. However, Elephantine is a special case in many respects. Located at the frontier between Egypt and Nubia, it is highly likely that the cultural contact and exchanges taking place there were more heightened and complex than elsewhere in Egypt. Furthermore, the Nubian pottery from Elephantine comes from an Egyptian cultural context, which brings with it its own set of associated interpretational issues.[161]

While Nubian populations appear to have developed new and different forms of cultural expression upon contact with Egypt, it is important to stress that the same Nubians also appear to have consciously ensured that their cultural identity was clearly expressed *in death*. Pan-Grave burials do seem to adopt certain Egyptian characteristics such as rectangular shafts and extended burials, but the grave goods communicate a decidedly un-Egyptian identity through handmade pottery, distinctive jewellery, and decorated animal skulls. A more nuanced understanding of Nubian pottery from Egyptian settlement contexts such as Elephantine is undeniably important, but, at the same time, each assemblage should be interpreted on a case-by-case basis, taking into consideration its archaeological and historical context, and its geographic situation. As Raue himself notes, the cultural development of mobile groups should not be expected to be linear and uniform,[162] therefore the patterns and developments seen at one site should not necessarily be expected to apply to all Middle Nubian assemblages.

[159] RAUE 2012, pp. 49-58.
[160] RAUE 2012, p. 56.
[161] See Chapter 9.
[162] RAUE 2012, p. 49.

Chapter 3

The Ceramic Data

3.1 The core dataset: Pan-Grave mortuary data

The core dataset is drawn from sites that are acknowledged as being of the Pan-Grave culture in the Nile Valley of Upper Egypt and Lower Nubia, which effectively limits the dataset to mortuary sites. Limiting the core dataset in this way ensures that the identification of defining characteristics for Pan-Grave pottery is based on data that is assuredly assigned to the Pan-Grave tradition. This identification is supported by associated indicators of Pan-Grave culture such as painted animal skulls and mother-of-pearl spacer beads.

The focus on mortuary data is also linked to two key factors: firstly the Pan-Grave archaeological record is almost exclusively funerary. *Confirmed* Pan-Grave settlements are yet to be identified, and Nubian pottery in Egyptian settlement contexts is often culturally ambiguous. Second, the focus on cemetery data is based the notion that the burial was conducted by living members of a living community who consciously and deliberately selected objects to be included in a grave that would mark the deceased as belonging to the Pan-Grave culture. In short, a Pan-Grave identification is more secure when based on cemetery data than settlement data.

The pottery comprising the core dataset comes from the sites listed in **Table 3.1**. The sites and assemblages in question span the period from the late Middle Kingdom until the beginning of the 18th Dynasty, the time during which the Pan-Grave culture is best attested in the archaeological record of Upper Egypt and Lower Nubia. Any dates given are relative, and are based on associated dateable Egyptian artefacts, primarily pottery.

Site	Locations	Select Bibliography
Mostagedda	Cemeteries 3100 & 3200	BRUNTON 1935
Rifeh	Cemetery S	PETRIE 1907
Qau	Cemetery 1300	BRUNTON 1930
Balabish	Cemetery B	WAINWRIGHT 1920
Hu	Cemeteries X and Y/YS	PETRIE 1901 BOURRIAU 2009
Armant	Cemetery 1900	MYER, no date.
Tod	-	BARGUET 1952
Moalla	Area H3	MANASSA 2012
Genemiya	North of Genemiya Pyramid	WEIGALL 1907
Hierakonpolis	HK 47 and HK 21A	FRIEDMAN 2001a; 2001b; 2004 GIULIANI 2001a; 2001b; 2004
Wadi Kubbaniyeh	WK 11	GATTO ET AL. 2009 GATTO 2012; 2014
Sheikh Mohammed	SM 14	GATTO ET AL. 2009 GATTO 2012; 2014
Wadi Tawil	WT 1	GATTO ET AL. 2009 GATTO 2012; 2014
Shellal	Cemetery 7	REISNER 1910, pp. 53ff
Ginari	Cemeteries 58:1 & 58:100	FIRTH 1912, pp. 55ff
Dakka	Cemetery 101	FIRTH 1915, pp. 112ff
Kubban	Cemetery 110	Firth 1927, pp. 46-98, fig. 1, Plan V
Qurta	Cemetery 118	FIRTH 1927, pp. 140ff
Sayala	Cemetery 135 Cemeteries B & G	Cem. 135: FIRTH 1927, pp. 198f Cem. B/Cem. G: BIETAK 1966
Tumas	Cemetery 189	EMERY, KIRWAN 1935, p. 212
Aniba	Cemeteries N & C	STEINDORFF 1935
Masmas	Cemetery 201	EMERY, KIRWAN 1935, 312ff
Adindan	Cemeteries T & K	WILLIAMS 1983
Faras	SJE Site 193	SÄVE-SÖDERBERGH 1989
Serra East	Cemeteries C	WILLIAMS 1993
Debeira East	SJE Sites 35, 47, 65, 99 and 170	SÄVE-SÖDERBERGH 1989
Ashkeit	SJE Site 254	SÄVE-SÖDERBERGH 1989
Abu Sir (West)	Site 5-T-26 and 24-I-4	NORDSTRÖM 2014

Table 3.1: List of sites comprising the core dataset, listed from north to south.

3.2 Pottery outside the core dataset

Pottery from sites that do not fit the criteria for the core dataset will also be included in the broader analysis, but the uncertainty of their cultural association makes them inappropriate for defining the Pan-Grave tradition (**Tables 3.2 and 3.3**). These sites are either not Pan-Grave cemetery sites or they are located outside of the Upper Egyptian and Lower Nubian Nile Valley. The purpose of including this data in the overall analysis is to ensure that the full spectrum of Pan-Grave material is considered in forming observations and conclusions. The material in this category will be compared against the core dataset with the intention of reviewing their existing cultural associations and, at least hypothetically, reassessing the reach of the Pan-Grave ceramic tradition.

3.2.1 Nubian pottery in Egyptian cultural contexts

This group of data comprises Nubian pottery (or perhaps more accurately, non-Egyptian pottery that is most likely Nubian) found in Egyptian cultural contexts such as settlements, temple complexes, fortresses, or in Egyptian burials. While this pottery is, in most cases, clearly Nubian in style, its occurrence outside of a Nubian cultural context means that it cannot be known if the pottery was made by or used by Nubians. The pottery may have been used by Nubians living in Egyptian communities, it may have been purchased and used by Egyptians from Nubian potters, it may have been made by Egyptian potters imitating Nubian styles, or there may be some other explanation.

Location	Comments	Select Bibliography
Khatana L81	From Egyptian settlement context. Possibly not Middle Nubian.	ASTON 2012 ASTON, BIETAK 2016
Memphis / Kom Rabia	Egyptian settlement context – most likely Pan-Grave, but not certain.	BOURRIAU 2012
Kahun / Lahun	Single sherd only. Found in Egyptian settlement. Cultural identification uncertain.	KEMP 1977
Abydos Wah Sut	Egyptian settlement / temple context. Most likely to be Pan-Grave.	WEGNER 2007
Abydos Cemeteries C and D	Pan-Grave bowls in Egyptian tombs.	PEET 1913; PEET 1914
Dendara	Probable Pan-Grave sherds in settlement contexts within temple enclosure.	Not yet published.
Karnak North Treasury of Tuthmosis I and Mut Complex	Egyptian temple context. Pan-Grave and Kerma material found at this site.	JACQUET-GORDON 2012
Dra Abu el Naga	Possible Pan-Grave bowls in Egyptian tombs.	SEILER 2005
Tell Edfu	Egyptian settlement context. Pan-Grave and Kerma appears to be present.	AYERS, MOELLER 2012
Aswan / Syene	Egyptian settlement context.	FORSTNER-MÜLLER 2012
Elephantine	Egyptian settlement context spanning four millennia.	VON PILGRIM 1996 RAUE 2012 RAUE in prep.
Umm Mawagir	Egyptian settlement context. Locally produced from Oasis clay.	MANASSA 2012
Balat	Egyptian settlement context.	SOUKISASSIAN, MARCHAND 2010
Askut Fortress	Egyptian cultural context (fortress). Pan-Grave and Kerma pottery present.	SMITH 1995 KNOBLAUCH 2007

Table 3.2: *Egyptian cultural contexts in which Nubian pottery has been found.*

An all-pervasive issue is the definition and cultural identification of Nubian pottery found in Egyptian settlement contexts. All such pottery is handmade, often black-topped, and may be decorated with incised motifs that can be associated with any of the Middle Nubian cultures.

Examples include the pottery from settlement contexts at Elephantine, Tell Edfu, and Kom Rabia (Memphis) where it can be difficult to distinguish between Kerma and Pan-Grave pots.[163] The associated Egyptian pottery offers a significant opportunity to trace chronological developments of Nubian pottery at that particular location. An additional example of such ambiguity is the pottery from Wadi es Sebua,[164] an alleged C-Group settlement site, but many of the decorative motifs have parallels in Kerma contexts such as Sai Island.[165]

Raue has considered issues relating to cultural exchanges taking place where Nubian and Egyptian communities co-exist. A tangible outcome of this is the "Late Middle Nubian Imitation Ware" (LaMNI) attested at Elephantine, and possibly also at Edfu.[166] The Nubian pottery from the Deir el Ballas palace complex further illustrates these interpretational issues.[167] This pottery can be confidently assigned to the Kerma tradition,[168] however in this case, it is the function and use of the pottery that is uncertain. The pots are clearly cooking pots and are the only type of cooking vessel present in the settlement contexts at the site. Bourriau suggested that the pottery might have been used by a Nubian servant class who cooked for Egyptians,[169] but given the virtual absence of other Nubian artefacts, it is equally possible that the pots were used by Egyptians themselves.

Middle Nubian pottery has also been found, although rarely, in burials that appear to be Egyptian, particularly in Upper Egypt. Isolated Pan-Grave bowls have been found in Egyptian-style multi-chambered graves at Abydos and Dra Abu el Naga.[170] These bowls can be clearly associated with the Pan-Grave culture based on their distinctive recessed rims and well-defined black-tops, but in every case they are the only indicator of a Pan-Grave connection.[171] In most cases, a single vessel was found in association with an otherwise Egyptian burial in a multi-chambered tomb. Although not Pan-Grave, one of the best-known examples of Nubian pottery in an otherwise Egyptian grave is the 17th Dynasty burial of an unknown and possibly royal woman found by Petrie at Qurneh.[172] The woman was buried in an Egyptian rishi coffin along with four Kerma beakers. These vessels may be interpreted as

---

163 See Chapter 9.
164 GRATIEN 1985, pp. 39-70.
165 GRATIEN 1986, pp. 395-396. For a general discussion of the decoration of Nubian cooking pots, see GRATIEN 2000.
166 RAUE 2012, pp. 55-56. See also Sections 9.3 and 9.4.
167 BOURRIAU 1990, fig. 4.1, pl. XIV-XV.
168 BOURRIAU 1990, pp. 16-17.
169 BOURRIAU 1990, p. 17.
170 See Sections 9.5.2 and 9.7.4.
171 For further details on the relevant Pan-Grave pottery characteristics see Sections 4.7.3 and 6.2.4.
172 PETRIE 1909, pp. 6-10, pls. XXII-XXIX. The contexts of this grave are housed in the National Museum of Scotland (http://www.nms.ac.uk/explore/collections-stories/world-cultures/ancient-egypt/qurna-burial/). Last accessed Wednesday 8 June, 2016.

foreign luxury items or may reflect a possible Nubian connection for the tomb occupant. In all of these cases, it is difficult to interpret the presence of the Nubian vessel(s) in an otherwise Egyptian grave. It may be that the occupant was not Nubian but, at the very least, may have been an Egyptian with Nubian connections. It is equally possible that a seemingly Egyptian grave containing a Nubian vessel may represent a Nubian individual who has been "Egyptianised".

3.2.2 Pottery from outside Upper Egypt and Lower Nubia

In Egypt, pottery that may be associated with the Pan-Grave tradition has been identified as far north as the Nile Delta and in the Memphite region.[173] The finds in this region are low in quantity and it is difficult to correlate the contexts chronologically with material from Upper Egypt owing to the strong regionalism that characterises the Second Intermediate Period. Nevertheless, its very presence illustrates that evidence of Pan-Grave activity is found well far north of Upper Egypt. The "non-Egyptian" pottery from the Eastern Delta site of Khatana may be imitation Nubian wares in that their overall appearance is similar to true Nubian pottery, but their shapes and some decorative motifs are unattested anywhere else.[174]

To the south, a scattering of vessels bearing a striking resemblance to Pan-Grave pottery was found during the Northern Dongola Reach Survey (NDRS).[175] This material has been identified as Kerma based primarily on its geographic location and associated assemblage.[176] Even further south, Pan-Grave pottery has been found at a number of sites around the Fourth Cataract, where it has variously been described as being of either the Pan-Grave or Kerma tradition.[177] The possibility that Pan-Grave pottery may be identified so far south has significant implications for how the Pan-Grave tradition fits into the broader geographic and cultural sphere of northeast Africa.

Surveys and excavations in the Eastern Desert of Sudan have been and continue to be conducted, uncovering evidence for possible links between the Pan-Grave culture and the Eastern Desert. Pottery identified as 'Pan-Grave type' has been identified in the Gash Delta region, the Southern Atbai, the Red Sea Hills, and on the Red Sea Coast.[178] This pottery has been found in association with cemetery and possible settlement locations, and shows clear

---

[173] See Section 9.8.
[174] See Section 9.8.6. The author thanks Manfred Bietak, David Aston, and the Austrian Archaeological Institute for kindly providing high-quality, unpublished photographs of the pottery from Khatana L81.
[175] See Section 8.5.
[176] WELSBY-SJÖSTRÖM 2001, p. 350.
[177] See Sections 8.6 - 8.8.
[178] See Sections 8.9 - 8.11.

similarities with Pan-Grave assemblages from the Nile Valley. Some of the pottery is identified as being of the Jebel Mokram group, and the similarities with the Pan-Grave tradition are undeniable.[179]

Location	Comments	Select Bibliography
Northern Dongola Reach Survey	Pottery showing Pan-Grave characteristics, identified as Middle Kerma.	WELSBY 2001 WELSBY-SJÖSTRÖM 2001
El-Widay / Hosh al Guruf	Pottery with Pan-Grave characteristics but no other Pan-Grave finds.	EMBERLING/WILLIAMS 2010 EMBERLING ET AL 2014
Shemkhiya	Pottery with Pan-Grave characteristics but no other Pan-Grave finds.	WLODARKSA 2014
El Ar	Pottery with Pan-Grave characteristics	PANER 2014
Kassala	Pottery showing Pan-Grave characteristics.	CROWFOOT 1928 BIETAK 1966 MANZO, various (see bibliography)
The Gash Delta	Pottery described as Pan-Grave type. Some Jebel Mokram pottery.	SADR 1987 MANZO, various (see bibliography)
Jebel Mokram K1	Pottery showing strong Pan-Grave characteristics.	SADR 1987 MANZO, various (see bibliography)
Mahal Teglinos	Pottery described as Pan-Grave type. Some Jebel Mokram pottery.	MANZO, various (see bibliography)
Agordat	Pottery showing strong Pan-Grave characteristics.	ARKELL 1954

Table 3.3: Pottery from outside Upper Egypt and Lower Nubia.

3.3 Data not included in the analysis

There are a number of sites at which Pan-Grave pottery has supposedly been identified, but reviewed analysis of this material by the current author has ruled out a Pan-Grave association. This data is listed in **Table 3.4** along with the reasons for exclusion.

The first reason for exclusion is that a Pan-Grave identification cannot be supported based on renewed analysis of some of the material cited in earlier studies. The revised interpretations have been based on visual analysis of either the pottery itself or high quality colour photographs thereof, or based on published written descriptions. Key examples include pottery cited by Snape at Abydos, which can clearly be identified as C-Group based on the descriptions provided,[180] and the pottery from Dashur, for which a Pan-Grave association can confidently be ruled-out based on visual analysis of photographs.[181]

[179] See Section 8.9.4.
[180] See Section 9.7.1.
[181] See Section 9.8.3.

The second reason for exclusion is that the pottery could either not be located, is unpublished, or the publication is not sufficient for an assured cultural identification. This includes some of the pottery cited by Bietak in his 1966 study, which he himself was not able to verify.

Site	Reason for exclusion	Select Bibliography
Dashur	Incorrectly identified as Pan-Grave.	BOURRIAU 1981
Abydos – North Cemetery	Incorrect identification. Description suggests C-Group, not Pan-Grave.	SNAPE 1986 LISZKA 2012
Thebes	Pottery could not be located. No details beyond a brief mention in Diospolis Parva report.	PETRIE 1901
Naga ed Deir	Surface finds. Cultural association uncertain.	WEIGALL 1907, p. 25
El Kab	Surface finds. Cultural association uncertain.	WEIGALL 1907
Daraw	Unverified by Bietak, 1966.	WEIGALL 1907
Deir el Ballas - palace complex	Egyptian settlement context. Thought to be Kerma.	BOURRIAU 1990
Moalla Cem. 68	Bietak identifies two contexts with Pan-Grave elements, however the finds are not illustrated. The cemetery and assemblage appears C-Group.	FIRTH 1912, pp. 64ff
Dakka – Cem. 97 and 98:1000	Identified as Late C-Group/Pan-Grave. Re-examination of data suggests that Pan-Grave identification is incorrect.	FIRTH 1915
Wadi Allaqi – Cem. 114	Identified as Late C-Group/Pan-Grave. Re-examination of data suggests that Pan-Grave identification is incorrect.	FIRTH 1927
Maharaqqa	Identified as Late C-Group/Pan-Grave. Re-examination of published data suggests that Pan-Grave identification is incorrect.	BIETAK 1966
Areika	Three sherds identified by Bietak as grey-brown ware with incised net-pattern. Cultural identity cannot be confirmed.	MACIVER, WOOLLEY 1909, pl. 10. 4101-4103
Mirgissa – Area M XVI A	Egyptian cultural context (fortress). Pan-Grave identification uncertain.	VERCOUTTER 1970
Dakhleh Oasis Site 32/390-I5-1	Survey material from settlement context. Two sherds only. Cultural identity uncertain.	EDWARDS ET AL. 1987
Afyeh 2	Excavated by the Indian Expedition to Nubia, cited by Hafsaas (2006), but no evidence for a Pan-Grave identification.	LAL 1969 HAFSAAS 2006, p. 158.
Amri – Kirbekan Survey	Mostly survey material. Pottery of various cultures with possible Pan-Grave characteristics, but not enough for clear identification.	WELSBY 2000

Table 3.4: Assemblages not included in the analysis.

3.4 Analysis of the ceramic data

This study takes a combined qualitative and quantitative approach. The identification of the defining characteristics of the Pan-Grave tradition will first be conducted through a qualitative, visual analysis of the core dataset. Characteristics including shape, size, ware, fabric, and decoration will be observed in order to establish the overall range of types and styles in the repertoire. Each of the characteristics will then be quantitatively assessed to establish their frequency and distribution, and to identify common and unique types within the dataset. It is

important to note that the intention is not to form a typology for the Pan-Grave tradition, but rather to offer criteria that can be applied to each assemblage as is appropriate. Where relevant, comparisons will be made with pottery from other Nubian cultures in order to further isolate those characteristics that are unique to the Pan-Grave tradition. Once this core set of defining criteria has been established, they will be compared to the material from the sites analysed in Part Three of the thesis. The aim of this is to assess the extent to which pottery from other regions can be related to the Pan-Grave ceramic tradition.

An entirely new aspect of this project is a cladistic analysis of Pan-Grave pottery decoration.[182] Cladistics is a analytical method borrowed from the biological sciences that aims to quantitatively identify evolutionary relationships between species and types based on shared, derived characteristics. Cladistics has been extensively applied to material culture objects, but this study represents the first time that it has been applied to Nubian archaeological material of any kind. Applying cladistics to Pan-Grave pottery decoration aims to identify commonalities between sites and regions and, subsequently, to identify regional variation. The benefit of cladistics is that it is a rigorous, quantitative, replicable scientific method that is employed here to support and supplement the conclusions based on the more traditional comparative study as outlined above.

3.5 Limitations of the data

A major limiting factor in analysing Pan-Grave pottery is the sparse and overly simplified published record, in particular for those sites excavated during the early 20th Century. In most cases, the pottery from these excavations was only briefly reported in cursory detail, with primary focus given to shape and 'unusual' ware types, namely decorated or black-topped vessels. The early excavators paid little attention to characteristics such as fabric, and rim profile, nor did they offer detailed analyses of ware types and decoration. Intact and near complete vessels were given preference over sherds, which were generally not recorded or collected unless they were decorated or considered unusual in some way.[183] A few of these early reports offered some form of simple classification system or typology,[184] however the descriptions of the various types identified were either very vague or non-existent, and it is not possible to easily correlate one typology with another. Descriptions such as "drab ware" or "incised ware" are overly general and largely unhelpful.

[182] See Section 11.7 for details and further references.
[183] A key example of this are the hundreds of decorated (and some undecorated) sherds recorded by Weigall (WEIGALL 1907, pls. LXXVI-XCIV).
[184] WAINWRIGHT 1920, pp. 35-40; BRUNTON 1937, p. 124; PEET 1914, pp. 66-68.

Besides the descriptions in the early reports, published illustrations of Pan-Grave pottery can also be highly misleading. The reports present only a small percentage of the material that was found, almost invariably limited to complete pots. Brunton's report from Mostagedda is a clear example of this, where a single, highly stylised illustration is presented as a reference type for multiple vessels from different contexts.[185] In Petrie's publication of Cemetery S at Rifeh, undecorated pottery is depicted as little more than a series of semi-circles of various sizes with no reference to context or ware.[186] When decorated pottery is depicted, the decorative motifs are reduced to a series of lines, with no indication of the quality of the lines or the order in which they were drawn. Compounding these issues is the fact that pottery collected from these early excavations has been scattered across the world, making first-hand analyses of complete assemblages near impossible.

These issues are not confined to the early 20th Century. Bietak's reports on the C-Group and Pan-Grave culture, in particular his 1968 volume, was based on data from the ASN reports, which is mostly incomplete and in many cases now known to be incorrect. The reports published by the SJE are scientifically more rigorous than anything that came before them but are themselves not free from issue. A unique aspect of the SJE volumes is that they include exhaustive lists of sherds,[187] providing information about the state of preservation, fabric, ware type, and decoration. However, recent re-analysis of the SJE collection by the current author has found that the lists are not comprehensive. A key advantage in the case of the SJE is that *almost* the entire collection of Early and Middle Nubian pottery – complete vessels *and* sherds – is held in a single collection, making it easier to analyse the assemblage.[188]

All issues aside, the available reports from the early and mid 20th century are an invaluable resource and remain, in most cases, the only surviving and easily accessible record of these finds and their contexts. More thorough investigations of existing museum collections and archives around the world will undoubtedly supplement the available published data. This author has had first-hand access to Pan-Grave pottery from numerous sites across Upper Egypt, Lower Nubia, and Upper Nubia, which has led to renewed observations of this material in light of current research. Recently excavated material has also been studied by the current author either first-hand in the field, or through high quality photographs. Where available, online museum databases have been consulted to supplement the published records.

---

185 See for example: BRUNTON 1937, pl. LXXII: 19, 24 and 28.
186 PETRIE 1907, pp. 20-21, pl. XXV.
187 SÄVE-SÖDERBERGH 1989, vol. 2, pp. 69-86.
188 The Early and Middle Nubian pottery from the SJE Concession is held by the Museum Gustavianum, Uppsala University, Sweden. A small portion of the finds was retained by the Sudan National Museum, Khartoum.

3.6 Limitations of the archaeological and historical records

As noted, the main source of chronological data is the Egyptian pottery associated with Pan-Grave contexts, but herein lies a key problem. The archaeological sequences of Second Intermediate Period are characterised by strong regionalism, making it difficult to correlate sequences from different sites.[189] Egyptian artefacts associated with Pan-Grave burials may not always be contemporary with deposition, and at some sites is heavily worn or has been reworked into a new shape or repurposed for a new function.[190] The lack of textual evidence from both the Egyptian and Pan-Grave sides further limits chronological observations. Furthermore, the mobile or semi-mobile nature of the Pan-Grave culture means that its archaeological manifestation cannot be assumed to be consistent between sites and across regions. Different groups may have changed or developed at different times and at different rates, while other groups may not have evolved at all, making it difficult to attribute a secure date to a given assemblage in the absence of dateable material.

Bourriau has compiled a chronological sequence for the Egyptian marl biconical jars to the Pan-Grave sites at which they were found.[191] It has subsequently been noted by the current author that the Bourriau's sequence corresponds to changes in the shape of Pan-Grave burials. Earlier forms of biconical jar occur predominantly in circular or oval Pan-Grave burials, while later forms occur in rectangular graves.[192] This observation supports the idea of a *partial* Egyptianisation of the Pan-Grave culture during the time in which they are attested in Egypt. It was also observed that the majority of circular graves containing earlier forms of Egyptian pottery were located in the southernmost sites in Upper Egypt while rectangular graves containing later pottery are found mostly further north.

Recent work by Gatto as part of the AKAP survey has identified what appears to be the earliest evidence of Pan-Grave occupation in the Egyptian Nile Valley.[193] Based on associated Egyptian material, Gatto has identified differing dates for the small, self-contained cemetery groups within the survey area ranging from the 13th Dynasty to the late 17th Dynasty. Certain differences in the ceramic assemblages of these cemeteries indicate that some morphological developments did occur within the Pan-Grave tradition. These developments will be investigated further in coming chapters.

---

189 See Section 9.10.1

190 For example, Wainwright (1920, p. 45, pl. XIV) noted that three examples of his "Borrowed Pottery" (nos. 5, 6 & 7) were old vessels that had been grounded down into new shapes. Petrie noted the occurrence of "worn out stone vases" of 12th Dynasty date in Pan-Grave burials at Hu Cemetery X (PETRIE 1901, pp. 45, 47).

191 BOURRIAU 1981, pp. 25-41.

192 DE SOUZA 2013, p. 115.

193 GATTO 2014, pp. 11-28. See also Section 3.7.7.

The cemeteries in Lower Nubia present a more complex case in that the quantity of associated Egyptian pottery is proportionally less, limiting opportunities for relative dating. Furthermore, the Pan-Grave burials in Lower Nubia do not appear to have been subject to Egyptianisation in the same way that their counterparts in Upper Egypt were. Pan-Grave burials in Lower Nubia are mostly circular and are more frequently topped with a loosely constructed stone tumulus, even above rectangular graves.[194] By contrast, in Egypt this feature is only known from early graves that are circular in form and that do not appear to have undergone a process of Egyptianisation.[195] There are noticeable similarities between assemblages in Middle Egypt and in Lower Nubia, suggesting that sites in these areas may be contemporary. There is also ample evidence to demonstrate that the Pan-Grave communities that lived in Nubia were less affected by Egyptian influence and hence retained earlier characteristics for a longer period than their counterparts living in Egypt. This disparity should also be considered when comparing assemblages between regions.

3.7 An initial relative chronology

The following is a list of sites for which a date or date range may be proposed on the basis of associated Egyptian pottery and Pan-Grave characteristics. This list is far from comprehensive and includes only those sites for which chronologically meaningful data is available. All of the proposed dates remain tentative, and the aim of this section is to construct a chronological framework that will guide the ensuing analysis. Sites are listed in geographical order from north to south to illustrate any regional and chronological overlaps.

3.7.1 Rifeh

Rifeh Cemetery S is a difficult site to interpret owing to poor preservation and minimal publication.[196] No maps of the site have survived so spatial organisation and grave types cannot be considered. With the exception of only one vessel, the Egyptian pottery found at the site exclusively follows Lower Egyptian traditions, making it difficult to identify a more precise date owing to the continuation of Middle Kingdom types in that region (**Plates 15b and 17**).[197] Bourriau has suggested that this dominance of Lower Egyptian pottery may either reflect a date in the 13th or 15th Dynasty, or that the Pan-Grave community buried here was more closely connected to Lower Egypt than to Upper Egypt.[198] Tell-el Yahudiyeh ware

[194] SÄVE-SÖDERBERGH 1989, pp. 154-156 (vol. 1); WILLIAMS 1983, pp. 22-23; BIETAK 1966, pp. 51-53.
[195] GATTO ET AL. 2009, p. 33.
[196] PETRIE 1907, pp. 20-21.
[197] BOURRIAU 2010, pp. 22-23, fig. 8.
[198] BOURRIAU 1999, pp. 43-48.

juglets were also found at the sites, further strengthening the connection to Lower Egypt (**Plate 15a.ix-x**).[199]

Williams deduced that the earliest evidence from Rifeh dates to the mid Second Intermediate Period, but this is not certain.[200] Based on first hand analysis of a small sample of Pan-Grave pottery from the site, the current author identified that certain features such as applied black-tops that support a later date during the Second Intermediate Period proper.[201]

3.7.2 Mostagedda

The cemeteries 3100 and 3200 at Mostagedda represent the largest known concentration of Pan-Grave burials in Egypt (**Plates 3-4**). Both appear to be roughly contemporary with each other although a greater amount of Pan-Grave data is available for Cemetery 3100 (**Plates 15b, 16**). The cemeteries have a high proportion of rectangular 'Egyptianised' graves,[202] and the Egyptian pottery consists of well-known 17th Dynasty forms of Upper Egyptian styles (**Plate 17**).[203]

Williams identified internal phases for Mostagedda based on the distribution of Egyptian pottery forms,[204] although he did not identify any dramatic differences in the Pan-Grave vessels from his phases. He did notice a general pattern of increasing complexity, followed by simplification, and then virtual disappearance of Pan-Grave pottery. He dated this disappearance - his "Age of Expulsion"[205] - to the end of the 17th Dynasty.

Based on the Egyptian ceramic evidence and the changes to Pan-Grave burials, the Pan-Grave activity at Mostagedda appears to begin in the mid Second Intermediate Period and continues until the end of the 17th Dynasty.

3.7.3 Qau - Badari

The Pan-Grave cemeteries in this region are spread along the Nile Valley between Qau and Badari. The best-preserved and most thoroughly recorded sites are Cemetery 1300 at Qau, and Cemetery 5400 at Badari. Rectangular graves have not been explicitly identified and Bourriau

---

199 PETRIE 1907, pl. 26.90, 92-94.
200 WILLIAMS 1975, pp. 199-203.
201 See Section 10.2.3 for a discussion of the chronological significance of applied black-tops.
202 DE SOUZA 2013, p. 111-113. Of the total 107 graves for which the shape could be identified, 25 are circular, 50 are oval, and 32 are rectangular.
203 BOURRIAU 2010, pp. 22-23, fig. 8.
204 WILLIAMS 1975, pp. 194-199.
205 WILLIAMS 1975, pp. 198-199. The expulsion that Williams refers to is the expulsion of the Hyksos.

notes that Cemetery 1300 is isolated and consists predominately of circular graves, suggesting an earlier date.[206]

The Pan-Grave pottery shows characteristics that point towards a date later in the sequence, namely defined black-tops and recessed rims (**Plate 18a**).[207] The limited amount of Egyptian pottery shows a mixture of earlier forms of the late Middle Kingdom such as hemispherical bowls with red wash around the rim as well as later types.[208] Bourriau's chronology for the marl biconical jars places Qau Cemetery 1300 at the earlier end of the sequence.[209] Williams has similarly placed the Pan-Grave pottery from Qau and Badari in his earlier phases corresponding to the mid Second Intermediate Period.[210]

The Egyptian vessel forms suggest that the site is roughly contemporary with Hu Cemetery X.[211] Overall, the Egyptian ceramic assemblage is dominated by forms that appeared *after* the break with Middle Kingdom traditions. It is therefore proposed that a small Pan-Grave population was present at Qau and Badari from the beginning of the Second Intermediate Period and may have remained there until just before the 18th Dynasty. In this way, the assemblages at Qau and Badari illustrate the developments taking place in Pan-Grave material culture during the transition into the Second Intermediate Period.

3.7.4 Balabish

The assemblages at Balabish, like those at Qau and Badari, appear to be transitional, which is evident in the degree of Egyptianisation. Circular, oval, and rectangular graves are present,[212] and the only types of Egyptian pottery recorded by Wainwright are his "Buff Ware", which is equivalent to the marl biconical jars discussed above.[213] Williams noted that the Pan-Grave contexts at Balabish are poorer than those at Mostagedda, and concluded that they date to the mid-Second Intermediate Period, coinciding with the earlier phases at Mostagedda.[214]

Following Bourriau's sequence for the marl biconical jars (Wainwright's "buff ware"), the graves at Balabish sit at the later end of the Pan-Grave timeline, placing them well within the Second Intermediate Period proper. The Pan-Grave pottery also displays characteristics that

---

206 BOURRIAU 1981, p. 28. See also BRUNTON 1930, p. 6; DE SOUZA 2013, pp. 112-113.
207 For details of these characteristics see Sections 4.7.3 and 6.2.4.
208 BRUNTON 1930, pl. XV.18F.
209 BRUNTON 1930, pl. XVI.46K.
210 WILLIAMS 1975, pp. 206-207.
211 BOURRIAU 1981, p. 31.
212 WAINWRIGHT 1920, p. 8, pl. XV.
213 WAINWRIGHT 1920, pp. 37-41.
214 WILLIAMS 1975, p. 204.

the current author identifies as later features such as recessed rims (**Plate 18b**). Therefore, it is likely that Pan-Grave activity at Balabish is best dated the 17th Dynasty, ending just before the beginning of the 18th Dynasty.

3.7.5 Hu

The graves at Hu Cemetery X are, as far as can be deduced, all circular in form, which on its own may suggest that they are among the earliest Pan-Grave burials in Egypt (**Plate 5**). The Egyptian pottery, however, includes forms from the Upper Egyptian style of the Second Intermediate Period, most notably marl biconical jars (**Plate 19e-h**), which Bourriau has placed at the early end of her sequence.[215] The Pan-Grave pottery from the site does not show any characteristics that are obviously earlier or later (**Plate 19a-d**). Petrie has also noted that Egyptian objects of 12th and 13th Dynasty date are worn and well used, suggesting that they were old at the time of deposition.[216] It is therefore difficult to assign a limited date range to this cemetery, but the early Second Intermediate Period seems likely. Williams attempted to construct a chronological sequence for Cemetery X based on the published tomb groups and reached a similar date.[217] The occurrence of early forms of marl biconical jars suggests that the Pan-Grave activity at Hu X spans the transition into the Second Intermediate Period.

Cemetery Y/YS, located adjacent to Cemetery X, was excavated by Petrie and Mace and spans the period from the 6th to the 18th Dynasty.[218] The cemetery was large, and Pan-Grave artefacts were identified in 31 graves; 21 included Pan-Grave pottery, the remainder included other artefacts such as painted skulls.[219] Bourriau's updated record of this site states that the latter graves – that is, those containing Pan-Grave artefacts but *not* Pan-Grave pottery – were all rectangular and contained extended burials. Bourriau compares this to the cemetery at Mostagedda and concludes that these graves represent Egyptianised Nubians. Mace also noted that Pan-Grave pottery similar to that from Cemetery X was present at the site, but he also states that pottery of the "fine, thin variety, which was found in grave E2"[220] was present in Cemetery YS. The pottery from grave E2 is now known to be Kerma, but Bourriau could not locate any other Kerma pottery among the finds from Cemetery Y/YS.[221]

---

215 BOURRIAU 1981, p. 37.
216 PETRIE 1901, pp. 45, 47.
217 WILLIAMS 1975, pp. 215-216.
218 PETRIE 1901, pp. 39-41, 44, 50-53. Bourriau has compiled a detailed overview of the finds from this cemetery, including the most complete list of finds and their contexts (BOURRIAU 2009, pp. 39-94). Williams makes no reference to Pan-Grave evidence from Cemetery YS (WILLIAMS 1975, pp. 214-215).
219 BOURRIAU 2009, p. 50.
220 PETRIE 1901, p. 51.
221 BOURRIAU 2009, p. 50.

A unique but important bowl was found in Grave Y344 (**Plate 20a**).[222] The bowl is handmade and in a black-topped coated ware with a well-defined black-top that denotes a Pan-Grave association.[223] However, the bowl is carinated with a ring base, which is an Egyptian shape, *not* a Pan-Grave one. Bourriau has suggested that the bowl may be Kerma in origin, but the current author prefers a Pan-Grave association based on the distinctive surface treatment and defined black-top technique, which is identified as a later development for the Pan-Grave culture.[224] Egyptian pottery found in the same grave can be dated to the 17th Dynasty. Based on this sort of evidence, and the rectangular graves containing extended burials, the Pan-Grave activity at Cemetery Y/YS could be dated to the later stages of the Second Intermediate Period, and possibly into the early 18th Dynasty. The location of these Pan-Grave burials in a mixed cemetery further points toward the increasing integration of Pan-Grave people into Egyptian society.

3.7.6 Hierakonpolis

The two Pan-Grave cemeteries at Hierakonpolis HK47 and HK21A have, to date, only been partially studied (**Plate 6a-b**).[225] The distribution of Pan-Grave material on the surface suggests that the cemeteries are extensive, covering an area of approximately 50 x 100m.[226] The two cemeteries are situated at opposite ends of the concession and both are quite different in nature, which may be due to chronological, geological, or intra-cultural differences. A 10 x 7.5 m test square has been excavated at HK47, while only surface survey has been conducted at HK21A. The graves excavated thus far at HK47A are of the shallow circular form known from Hu,[227] however the tumuli are highly unusual in that they are composed of piles of amassed sand filled with Predynastic Egyptian sherds and lithic material. Site HK21A has not been excavated to the same extent, but circular structures made of roughly lain flat stones are comparable with those at Lower Nubian cemeteries.[228]

The Pan-Grave ceramic assemblages from both localities are very different from one another, suggesting further cultural or temporal differences. The Pan-Grave pottery from HK47 (**Plate 20b**) is noticeably coarser than that from HK21A, which is finer and more carefully finished (**Plate 21b**). Horned bowls are absent from the assemblage at HK21A whereas they are

---

222 This context is discussed further in Section 10.2.2a.
223 Petrie Museum UC19021.
224 Defined black-tops are thought to develop later in the Second Intermediate Period. See Section 6.2.4.
225 FRIEDMAN, 2001a, pp. 29-38.
226 FRIEDMAN 2001a, p. 34. Surface surveys conducted in 2015 and 2016 reconfirmed the volume of Pan-Grave material on the surface.
227 FRIEDMAN 2001a, pp. 33-36.
228 FRIEDMAN 2001a, p. 35.

numerous at HK47. The Egyptian pottery from both sites can be dated to the late Middle Kingdom and possibly into the early Second Intermediate Period (**Plate 21a**)[229] before the break from Middle Kingdom traditions occurred. Based on Egyptian finds and grave types, both cemeteries at Hierakonpolis may be dated to the late Middle Kingdom and early Second Intermediate Period. The discrepancies between the sites may therefore be interpreted as social rather than chronological differences.

3.7.7 Gharb Aswan: Wadi Kubbaniya and Sheikh Mohammed

Like Hierakonpolis, the cemeteries in the Aswan - Kom Ombo region are yet to be fully excavated (**Plate 7a-b**). The graves at Nag el Qarmila cemetery WK11 are circular and surmounted by loosely built stone tumuli, similar in form to those at the Lower Nubian site of Sayala.[230] The Egyptian pottery suggests a date between the early to mid 13th Dynasty, before the break from Middle Kingdom traditions, which would place this locality among the earliest archaeological evidence of Pan-Grave activity in Egypt (**Plate 23a**).[231] Such an early date in this region would make sense given the proximity to the First Cataract, the political boundary between Egypt and Nubia. In the same area, the Egyptian pottery from cemetery SM14 at Sheikh Mohammed suggests a later date in the 17th Dynasty, but this site has not been excavated.[232]

For the Pan-Grave pottery (**Plate 22**), differences in ware and decoration between the various cemeteries in the area have been identified,[233] but overall, the Pan-Grave pottery from the AKAP concession does not display characteristics seen at sites further north, lending additional support to an earlier date.[234] Therefore, the cemeteries in the Gharb Aswan region, in particular WK11, are likely to be among the earliest evidence for Pan-Grave activity in the Nile Valley, and almost certainly the earliest evidence in Egypt.

3.7.8 Ginari

Bietak identified Cemetery 58:100 at Ginari (**Plate 8a**) as indicative of the transition from the Second Intermediate Period to the early New Kingdom, with the likely date being the very beginning of the 18th Dynasty. He observed two clear groups of burials, some Nubian in character and some Egyptian, and he interpreted this as evidence of the rapid Egyptianisation

229 GIULIANI 2001a, pp. 42-43.
230 GATTO ET AL., 2009, p. 33.
231 GATTO 2014, pp. 18-20.
232 GATTO 2014, pp. 20-21.
233 GATTO 2014, pp. 22-24.
234 GATTO 2014, p. 22.

of the local Nubian population.[235] More recent research suggests that the assemblage should instead be interpreted as two discrete but contemporary cemetery populations – one Nubian, one Egyptian.[236] Firth's descriptions of the Nubian finds suggest a Pan-Grave association.[237] Egyptian pottery is virtually absent from the 'Nubian' half of the cemetery, and the evidence from the 'Egyptian' half of 58:100 supports the date put forward by Bietak.[238] A date in the early 18th Dynasty would make this some of the latest evidence of confirmed Pan-Grave activity in the Nile Valley.

3.7.9 Sayala

Two Pan-Grave cemeteries, designated B and G, were identified at Sayala by Bietak. The low quantities of dateable Egyptian pottery make it difficult to assign a relative date to this site, however the circular grave structures at Sayala Cemetery B show close affinities with some of the earliest Pan-Grave cemeteries in Upper Egypt (**Plate 8b**).[239] Cemetery B is also quite isolated in the low desert (**Plate 9**). The cemeteries may therefore be dated to the 13th Dynasty on comparison with sites in Egypt, but it is equally possible that Pan-Grave sites in Nubia may not have followed the same developmental trajectory as sites in Egypt. The date for Sayala Cemeteries B and G is unclear, but the late Middle Kingdom or early Second Intermediate Period seems most likely based on the available evidence.

3.7.10 Aniba

The small Pan-Grave Cemetery C at Aniba can be dated to the late Middle Kingdom based on the associated Egyptian pottery (**Plate 10**).[240] The small size of the cemetery and the ceramic assemblage are also comparable to those of nearby Sayala and also to the small cemeteries in the AKAP concession. The Egyptian vessel types suggest an early date in the late Middle Kingdom (**Plate 24a**), which corresponds to the circular pits for all graves.

Aniba Cemetery N is one of the largest known C-Group cemeteries, but a small number of Pan-Grave burials (21, according to Bietak)[241] are located in a limited area at the northeastern edge of the cemetery. Accepting Bietak's analysis of the spatial distribution of grave types and

---

235 BIETAK 1968, pp. 45-46.
236 DE SOUZA, in press.
237 FIRTH 1912, p. 81, fig. 29. The sherd from grave 58:108 appears to be Pan-Grave in style. See also the large pot from grave 58:114 decorated with "feather" design that is suggestive of a Pan-Grave association (FIRTH 1912, p. 57, fig. 15).
238 FIRTH 1912, figs. 22.1, 22.2.
239 BIETAK 1966, pl. 20-24; GATTO ET AL. 2009, p. 33.
240 STEINDORFF 1935, pp. 193-196, pl. 81.
241 BIETAK 1966, p. 69.

ceramics, the Pan-Grave burials are located near C-Group graves dating to C-Group Phase IIB[242] (≈ Second Intermediate Period) and are situated at a considerable distance from the earliest C-Group graves located at the centre of the cemetery.[243]

Based on the assumption that the Pan-Grave culture and C-Group Phases IIA/B are roughly contemporary, it may be suggested that the Pan-Grave cemetery was established during C-Group Phase IIA. At that time, the northeastern part of Cemetery N was most likely unpopulated and, as such, the Pan-Grave cemetery would have been separated from the main body of the C-Group cemetery. Over time, the space between Cemetery N and the small Pan-Grave cluster would have been filled by graves dating to C-Group Phase IIB, creating the illusion of a single, large cemetery. Egyptian finds associated with the Pan-Grave contexts are minimal, limiting opportunities for a relative date. The Pan-Grave vessels likewise do not suggest any particular date (**Plate 24b**), but the forms with upright inflect walls could suggest the early Second Intermediate Period,[244] that is, slightly later than the graves at Aniba C.

3.7.11 Adindan

A small cluster of Pan-Grave burials is situated to the southeast of Adindan Cemetery K (**Map 11**), which is otherwise populated by C-Group burials.[245] Dateable Egyptian finds from these graves are lacking, and it is therefore near impossible to establish a reliable relative date. Based on the relationship between the Pan-Grave cluster and the main cemetery of C-Group burials, Williams has dated the Pan-Grave contexts to the period between Bietak's C-Group Phases IIB-III, corresponding roughly to 17th and early 18th Dynasty. The inflected Pan-Grave vessel forms and possibly well-defined black-tops suggest a later date **(Plate 25**).

3.7.12 Serra East

Cemetery C at Serra East consists of only six graves that are similar to those of Sayala B in terms of grave and superstructure types.[246] There is a distinct separation between the Pan-Grave and C-Group burials, which may reflect a corresponding social distinction. Four of the graves have circular pits while two have extended oval pits. Only five complete Nubian vessels are published and only one Egyptian vessel was found in the extended oval pit of Grave C4. This vessel is simply described as a "brownware cup"[247] and its profile resembles that of a

242 BIETAK 1968, pp. 23-34.
243 Bietak (1966, p. 69) described the graves as being "etwas abgesondert" from the C-Group cemetery.
244 STEINDORFF 1935, pl. 58.
245 WILLIAMS 1993, pl. 3.
246 WILLIAMS 1993, pp. 124-132, fig. 83b.
247 WILLIAMS 1993, pp. 131-132.

well-known Middle Kingdom hemispherical cup. Gatto has noted the similarities between the cemeteries around Wadi Kubbaniya and Serra C, suggesting an early date.[248] The black-tops on the Pan-Grave pottery are all irregular, which also suggests an early date according to the current author's research.[249] Based on these similarities, and in spite of the lack of evidence, this small group of graves may tentatively be dated to the late Middle Kingdom or early Second Intermediate Period.

3.7.13 Debeira East

SJE Site 47 at Debeira East is the largest known Pan-Grave cemetery with 159 recorded graves, and the scale of the cemetery suggests an extended period of activity (**Plate 13**).[250] Superstructures (where present) comprise loosely constructed stone tumuli comparable to other sites in Lower Nubia. The graves vary from circular pits at the centre of the cemetery to rectangular pits at the fringes, reflecting the change in grave shape over time due to Egyptian influence. The Egyptian pottery from the Site 47 reflects a broad date range from the early Second Intermediate Period up until the early 18th Dynasty (**Plate 26b**). The Pan-Grave assemblage equally shows a high level of variety in terms of form, quality, and style (**Plate 26a**).[251] This long span of time may have allowed for a localised Egyptian influence on the Pan-Grave community buried in this cemetery.

Also at Debeira East is SJE Site 35, dated by Säve-Söderbergh to the so-called "Transitional Period", corresponding to the beginning of the 18th Dynasty.[252] This date is supported by the predominance of Egyptian pottery dating from the late 17th Dynasty to the early 18th Dynasty,[253] as well as scarabs inscribed with the names of Amenhotep I and Tuthmosis III.[254] The graves types and mode of burial are emphatically Nubian and it was therefore suggested that the population buried here represents Egyptianised Nubians.[255] Assuming that this site is actually a Pan-Grave cemetery, which the current author believes is unlikely, it would suggest that Pan-Grave activity in Lower Nubia continued well into the early New Kingdom, albeit in modified form. A similar argument may be made for SJE Site 176, also dated by Säve-Söderbergh to the Transitional Period, however more recent research suggests that the non-

---

248 GATTO ET AL. 2009, p. 33.
249 See Section 6.2.4.a.
250 SÄVE-SÖDERBERGH 1989, pp. 166-174 (vol. 1), pls. 80-87 (vol. 2).
251 The significance of variety in Pan-Grave assemblages is discussed in Section 11.3.
252 SÄVE-SÖDERBERGH 1989, pp. 161-162 (vol. 1).
253 SÄVE-SÖDERBERGH 1989, pl. 39 (vol. 2)
254 SÄVE-SÖDERBERGH 1989, pl. 41 (vol. 2).
255 For photographs of the cemetery showing the distinctly un-Egyptian graves with stone tumuli see SÄVE-SÖDERBERGH 1989, pls. 78-79 (vol. 2).

Egyptian pottery from this site should instead be assigned to the much later Napatan Period.[256]

3.7.14 Linking cemetery distribution to chronology

Based on those sites for which sufficient data is available, the impression is that the Pan-Grave cemeteries in the southern part of Upper Egypt are earlier than sites further north, with only a few exceptions. The chronological sequence in Lower Nubia is less clear, with both early and late assemblages. A key indicator is the Egyptian pottery associated with the Pan-Grave contexts, the distribution of which supports the chronological differences identified between sites. Besides the pottery, the grave types may be used as a chronological indicator. Rectangular graves, assumed to have appeared later in the sequence, are absent from the southern part of Upper Egypt and at most sites in Lower Nubia, further supporting an earlier date for the more southern sites. A tentative relative chronology is depicted in **Figure 3.1**, and forms a starting point for chronological observations made throughout this study.

[256] For references related to the date of SJE Site 176, see Chapter 1, Note 21.

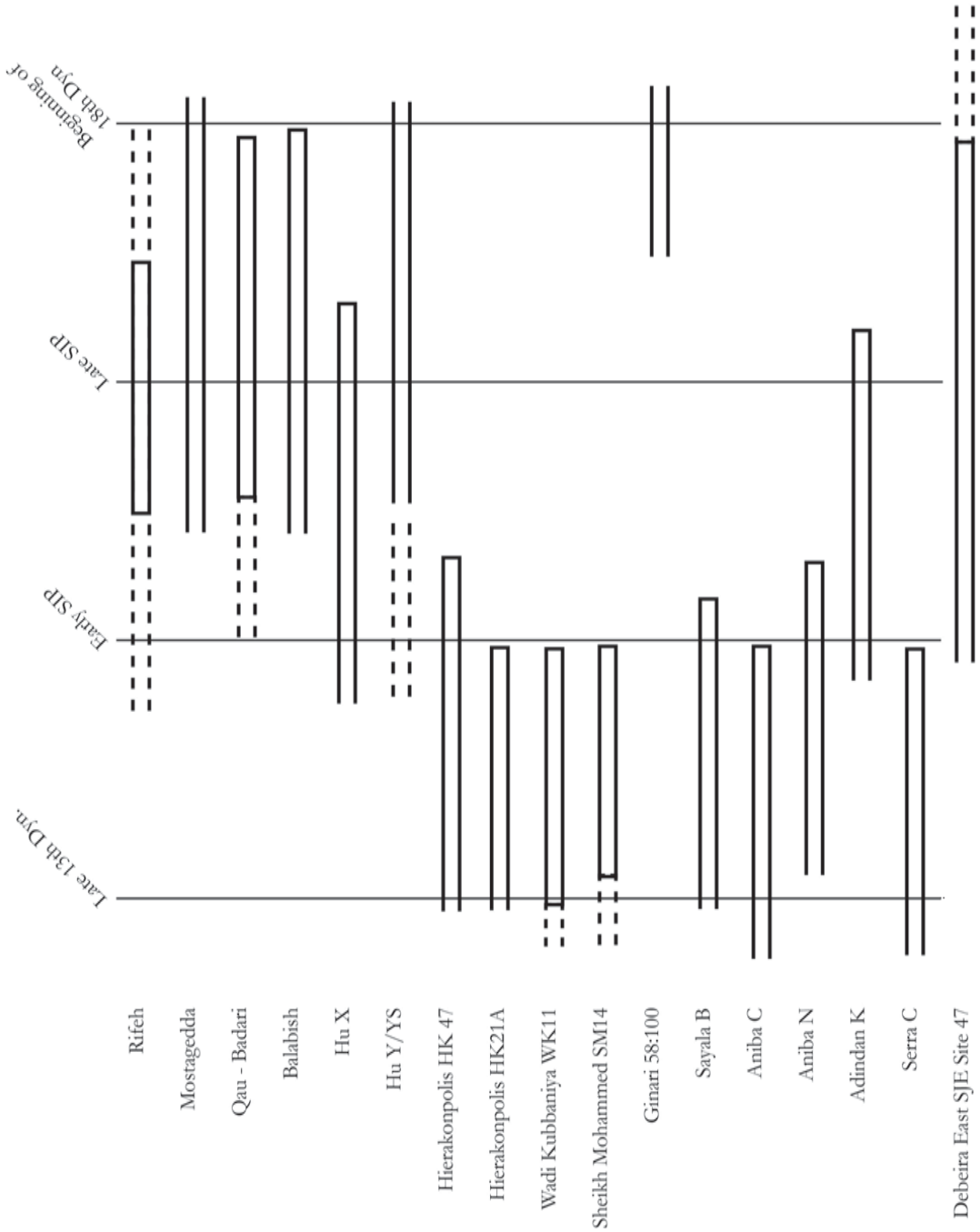


Fig. 3.1: *A relative chronological table of sites described in Section 3.7.*

PART TWO

DEFINING THE PAN-GRAVE CERAMIC TRADITION

Chapter 4

Vessel Form

4.1 Approaching Pan-Grave vessel form

The typologies devised for Egyptian pottery form the 'backbone' of Egyptian relative chronology. It was produced on what may be considered an industrial scale, and the repertoire of forms and styles followed trends and developments that are indicative of a particular period or location. By contrast, Pan-Grave pottery was handmade in small quantities and overall does not appear to change or evolve. Typological sequences have been identified for other Nubian pottery traditions. Nordström compiled a scientifically rigorous and broadly applicable typology of vessel shape for A-Group pottery based on material from the SJE Concession area.[257] Bietak's typology of C-Group pottery was utilised to develop his widely accepted chronological sequence for that culture.[258] Gratien's extensive studies of Kerma pottery have established the range of Kerma forms and subsequently also a well-founded chronological sequence.[259]

By contrast, no reliable and broadly applicable system of description and classification of vessel shape has been devised for Pan-Grave pottery. Bietak did identify a series of Pan-Grave types based on the pottery from Sayala, but his typology does not consider different vessel characteristics individually (e.g. shape) nor is his system easily applicable to pottery from other sites. The closest that Pan-Grave pottery has come to a shape typology is the system devised for C-Group pottery from the SJE Concession, which was expanded to incorporate Pan-Grave pottery.[260]

An underlying reason why no single classification has yet been devised is the small amount of Pan-Grave pottery when compared to its Middle Nubian contemporaries. Typologies are most reliable when based on substantial amounts of data, but Pan-Grave cemeteries are typically small – much smaller than C-Group and Kerma sites – and what pottery there is usually in a very fragmentary state. This low quantity of material and incomplete preservation makes it difficult to identify vessel forms or any variations thereof. Additionally, Pan-Grave sites are

[257] NORDSTRÖM 1972, pp. 80-94 (vol. 1), pls. 7-23 (vol. 2).
[258] BIETAK 1968, pp. 92-117, Tab. 1-12. See also WILLIAMS 1983, pp. 25-63.
[259] GRATIEN 1978, pp. 143-156, 172-179, 204-216; GRATIEN 1986, pp. 402-437.
[260] SÄVE-SÖDERBERGH 1989, pp. 42-43, 53-56 (vol. 1), pl. 20-22 (vol. 2).

scattered across a vast area, and it has not yet been possible to correlate the various assemblages.

In theory, such small-scale production could lead to high variation, with each individual potter free to produce their own wares. In reality, however, there is surprising consistency in terms of Pan-Grave vessel shape, suggesting that there was a standard repertoire of forms from which Pan-Grave potters drew. This consistency in the pottery and other material items may also reflect a strong cultural identity that unified bearers of the Pan-Grave tradition. Variations in vessel shape were therefore most likely due to differing skill levels of individual potters. Ethno-archaeological parallels from modern African cultures reflect similar patterns. Hodder's study of Njemps pottery found that each potter produced a limited range of forms that were sold and distributed across an equally limited region.[261] Grillo's analysis of Samburu pottery found that production and distribution was so limited that potters from a particular tribe or locality often did not recognise Samburu pots produced by a different tribe within the same region.[262] It may be argued that this inability to recognise pots from other tribes reflects a discrepancy between the internal (emic) and external (etic) perspectives, namely that the Samburu people's own opinion of their pottery differs from that of an external viewer. Nevertheless, it is an important factor when considering the apparently small-scale production and limited distribution, but overall consistency of Pan-Grave pottery shapes.

A further factor in relation to the seeming lack of variation in vessel shape is the relatively short timespan for which Pan-Grave material culture is visible in the archaeological record. The culture is only archaeologically attested in the Nile Valley for a period of no more than 250 years, from the late Middle Kingdom until the beginning of the 18th Dynasty. This span of time seems long and would cover ten generations, if a generation is taken to be approximately 25 years. However, viewed from a different perspective, the duration of the Pan-Grave culture's archaeological presence is not much greater than each of the phases that comprise the C-Group and Kerma cultures (**Table 1.1**). The apparently small-scale production discussed above would mean that evolution, if any occurred, would be slow, further explaining the lack of variety in vessel form.

[261] HODDER 1982, pp. 37-44.
[262] GRILLO 2013, pp. 172-179.

4.2 Existing studies of Pan-Grave vessel shape

4.2.1 The SJE Classification of Nubian vessel shape

The shape classification system devised by Nordström for Early Nubian pottery in the SJE Concession is based on the proportional relationship between what are called the characteristic points of a vessel's contour.[263] These points are the major point/maximum diameter, base point, rim point, vertical tangent point, tangent point, inflection point, and corner point.[264] These points were mathematically plotted in order to establish the range of shapes that occurred within the SJE assemblage. The method was extended to the Middle Nubian pottery from the SJE Concession, including Pan-Grave.

The forms identified in the SJE Concession were organised into a series of shape groups based on the following shapes and contours:[265]

Shape:

- *Unrestricted vessels (U):* rim diameter is equal to the maximum diameter.
- *Restricted vessels (R):* rim diameter is less than the maximum diameter of the vessel.
- *Restricted, necked vessels (RN):* restricted vessels with an inflection point or corner point marking the transition between the vessel body and neck.

Contour:

- *simple contour (S)*: vessels with a continuous, uninterrupted contour
- *inflected contour (I):* vessels with an inflected contour
- *composite contour (C):* vessels with corner or carination point(s)
- *complex contours (X):* vessels with two or more contours, e.g. inflection *and* corner points.

The SJE vessel shape groups and contours can be combined to describe and define the individual shape types. For example: a US type vessel is an unrestricted shape (U) with a simple contour (S); a RC type vessel is a restricted shape (R) with a composite contour (C); and a RNI type vessel is a restricted shape (R) with a neck (N) that has an inflected contour (I). Using this system, a series of types was identified within each of the Early and Middle Nubian traditions.

---

263 NORDSTRÖM 1972, pp. 69-70 (vol. 1).
264 NORDSTRÖM 1972, pp. 69-70 (vol. 1), pl. 7 (vol. 2). See also SÄVE-SÖDERBERGH 1989, pp. 30-31 (vol. 1).
265 NORDSTRÖM 1972, pp. 71-73 (vol. 1); SÄVE-SÖDERBERGH 1989, pp. 30-32 (vol. 1).

The vessel shapes included in the SJE classification are:

- cups, bowls, and large bowls[266]
- necked jars
- neckless bottles
- necked bottles
- saucers
- miscellaneous

The SJE system is flexible and can be applied to other assemblages. Its only real drawback where Pan-Grave pottery is concerned is that it was modified from a system developed for another ceramic tradition, namely that of the C-Group. While this means it can be used to detect differences and commonalities between these traditions, it also means that the system potentially carries over some concepts that are not applicable to the Pan-Grave tradition. Nevertheless, the SJE system offers a solid model from which to develop a system specifically for the Pan-Grave ceramic tradition.

4.2.2 Giuliani rethinks Pan-Grave vessel shape

Giuliani emphatically stated that shape should *not* be considered a defining characteristic of Pan-Grave pottery for two reasons:[267] she first argued that the pottery is entirely handmade and is therefore inherently asymmetrical and unevenly formed, making shape an unreliable tool for classification. Her second reason is that the Pan-Grave repertoire consists only of open forms such as cups, bowls and dishes, with closed forms such as jars being entirely absent and thus limiting the usefulness of shape classification.

Her first statement regarding the handmade nature of Pan-Grave pottery is sound, and individual vessels can and do show broad inconsistencies in all characteristics, particularly shape. However, this should not be considered a reason to exclude shape as a defining character and it will be demonstrated that there are certain shapes that are unique to the Pan-Grave tradition. Her second statement, that the Pan-Grave ceramic repertoire consists only of open forms, is less secure. It is true that open forms dominate the Pan-Grave repertoire, but examples of closed vessel forms that can be attributed to the Pan-Grave tradition are attested at sites in Lower Nubia.[268] The C-Group and Kerma ceramic traditions both include well-

[266] Cups, bowls, and large bowls are differentiated by rim diameter as follows: less than 12 cm for cups, 12-20 cm for bowls, and over 20 cm for large bowls. See SÄVE-SÖDERBERGH 1989, pp. 53-56.
[267] GIULIANI 2006, p. 648.
[268] See Section 4.5.3.

known closed forms among their respective repertoires.[269] These cultures appear to have been more sedentary, or rather, less mobile than the Pan-Grave culture and as such may have had greater need to gather and store goods. This does not mean that the Pan-Grave culture had no need for closed vessels.

Overall, Giuliani is justified in stating that shape on its own cannot reliably be employed as a means of cultural identification, but it is important to recognise that certain vessel shapes are specific to the Pan-Grave repertoire and are not represented in the C-Group or Kerma traditions. For example, horned dishes are unique to the Pan-Grave culture, and certain other bowl forms have distinctive inflected contours. However, in order to be truly culturally indicative, shape must always be considered in conjunction with other characteristics such as ware, surface treatment, and decoration.

4.3 An Integrative System for Pan-Grave Shape Classification

The following is an overview of the system of shape classification for Pan-Grave pottery that will be employed throughout the present study. The intention is to propose a system that may be applied to Pan-Grave pottery wherever it is identified and to act as a general point-of-reference that will aid in the identification and interpretation of regional variation, which is currently not possible using site-specific systems.

The proposed shape classification system builds upon the method devised by Nordström for the SJE Concession. His contour descriptions will first be used to organise vessels into general shape groups, which will subsequently be broken down into a series of types based on size. The system devised for this study also uses a modified version of the SJE's characteristic points of a vessel, shown on **Plate 27**.

4.3.1 Methods of calculating shape and contour

It has already been noted that the Pan-Grave pottery is almost exclusively bowl forms that vary between unrestricted, restricted, and inflected shapes. It is important to note here that 'restricted' does not mean 'closed', rather the term 'restricted' describes a vessel with a rim diameter that is less than the maximum body diameter. The term 'closed' is an expression of the proportional relationship between the opening of the vessel and the maximum diameter. In order to identify if a vessel is closed or open, the *Aperture Index* (AI) is often employed. The

[269] See WILLIAMS 1983, pl. 58-73; GRATIEN 1985b, p. 424, 433; SÄVE-SÖDERBERGH 1989, pl. 19, 24.

AI of a vessel is calculated by dividing the rim diameter by the maximum body diameter and multiplying the result by 100.

Following the method employed by Aston,[270] a closed vessel should have an AI of less than 85. By this measure, closed Pan-Grave vessels *do* occur, although they are exceedingly rare. Once again, the handmade and highly variable nature of Pan-Grave pottery makes it difficult to apply such mathematically rigorous methods, and the AI will therefore only be utilised to verify cases where the identification of closed or open form is ambiguous.

Commonly used for Egyptian pottery types, the *Vessel Index* (VI) is an indicator of the proportional relationship between the diameter and depth of a vessel. The measure was famously employed by Dorothea Arnold for her analysis of Middle Kingdom hemispherical cups,[271] and has since been applied to other vessel types. The application and interpretation of VI measurements is problematic, and the difficulties in applying VI measurement have been expressed by others.[272] The VI can only be reliably calculated from complete vessels and is only statistically informative in large quantities, therefore making it inapplicable for Pan-Grave pottery. Additionally, the handmade and often asymmetric forms mean that any measurements obtained from printed sources are unreliable as illustrations only offer one perspective of a vessel. In many cases, the rim diameter of an individual Pan-Grave vessel may vary by as much as 5 – 10 cm depending on the point from which the measurement is taken, and hence any single measurement may be misleading. It has been decided for this study, and for Pan-Grave pottery in general, that the VI is an inappropriate method of analysis and will hence *not* be utilised in the present analysis.

4.4 Pan-Grave vessel contour

Four vessel contours have been identified for the Pan-Grave repertoire that describe the curvature of the vessel wall between the orifice plane and the base plane (**Plate 27**):

- US – Unrestricted Simple
- RS – Restricted Simple
- RI – Restricted Inflected
- RNI – Restricted Necked Inflected (Closed forms)

[270] ASTON 1998, pp. 42-43.
[271] DO. ARNOLD 1982, pp. 60-62; ASTON 1998, p. 43; SCHIESTL, SEILER 2012, pp. 37-38.
[272] SCHIESTL, SEILER 2012, pp. 34-35.

Contour descriptions refer to the overall contour of the vessel body and do not account for the rim band, for which a separate classification system is proposed below.[273]

4.5 Pan-Grave vessel shape types

The following sections outline the vessel shapes that have been identified in the core dataset. The shapes have been sorted into three broad categories: unrestricted, restricted, and closed.

4.5.1 Unrestricted Forms

Unrestricted or open vessels with simple contour (US type) are those for which the rim diameter is equal to the maximum diameter. Vessels in this group vary from shallow bowls, to hemispherical bowls, to deep bowls with vertical sides. Size may vary considerably from small cups to bowls and large pots.

a. Unrestricted Simple (US) Cups, Bowls, and Large Bowls.

Size divisions – based on rim diameter:

- Cups: < 12 cm
- Bowls: 12 – 20 cm
- Large Bowls: > 20 cm

Cups, bowls and large bowls are by far the most common vessel form in the Pan-Grave repertoire occurring at all sites in Upper Egypt and Lower Nubia. Three variant forms of US vessel are attested in each size category:

A. Shallow: Wide, round based vessels with low, upright walls (**Plate 28**).
B. Rounded: Round-based vessels with a smooth and continuous curve from base to rim. The vessels are noticeably deeper than shallow forms, walls of the upper body are taller and the bases more rounded (**Plates 29, 30c-d**).
C. Deep: Round based vessels with a continuous contour and tall, vertical walls (**Plate 30a-b**).

Vessels of comparable forms also occur in C-Group Phase II, *Kerma moyen* and *Kerma classique* assemblages. In all cases, surface treatment and associated small finds are the necessary defining factors for cultural identification.

[273] See Section 4.7.

b. Horned Bowls

The defining feature of horned bowls is an uneven rim usually with four distinct high-points or corner points – the so-called 'horns' (**Plates 31-34**). This type of vessel is often called a 'four-horned plate/bowl' in existing literature, however a more neutral title without the numerical reference is used here. Giuliani presented a discussion of horned bowls based on examples from HK47 and HK21A at Hierakonpolis,[274] and the current study represents a renewal of her findings based on a wider dataset.

Each individual horned bowl is entirely unique, having a different form, profile, and rim. All are characteristically shallow and open in form. In most examples, the 'horns' or corner points are equally spaced, giving the vessel a distinctly four-sided, rectangular shape when viewed from above (**Plate 32**). In other examples, the horns are closely spaced in pairs at the narrow ends of the vessel, creating a more oval, boat-shaped form (**Plate 31a**).

The shape of the horns themselves also varies considerably. The most common type are high-points formed where the curved rim line of the four sides meet. If one imagines that these vessels were composed of a flat rectangular sheet of clay, it almost appears that the sheet had been picked up by the four corners to create this distinctive shape. On other examples, the rim edge is mostly level but with gently curving 'bumps' rising from the rim edge, as in the examples from Rifeh (**Plate 31d**), Hierakonpolis (**Plates 31c, 34c-e**), and the AKAP concession.[275] Two examples from Serra and Debeira East are of a boat-shaped form with pointed ends into which a deep notch has been removed to create two pairs of horns (**Plates 31a**). A unique example from Debeira East has small rectangular tabs extending from the rim edge, only two of which are preserved (**Plate 31b**).

Two unusual examples occur at Masmas Cemetery 201 (**Plate 34f-g**). The bowls are of similar form to the examples from Debeira East and Serra with pointed ends and deep notches, however these two examples from Masmas are remarkable for having four feet extending from the base.[276] Giuliani compared the feet of these examples to the development of pedestal bases on later C-Group bowls,[277] but drawing such a comparison between two different vessel forms from two different cultures is inadvisable. Moreover, horned bowls with feet are only attested at this one locality, and it possible that they were made only at this place and perhaps

[274] GIULIANI 2006b, pp. 224-226. The same horned bowls were analysed by the author at Hierakonpolis in February 2016.
[275] GATTO 2012, fig. 9.8, 10.2.
[276] EMERY, KIRWAN 1935, pp. 316, 327.
[277] GIULIANI 2006b, p. 225.

even by the same potter. Both of the footed horned bowls were found with Egyptian pottery that can be dated to the early New Kingdom,[278] showing that the Pan-Grave ceramic tradition continued into the 18th Dynasty, at least in this region of Lower Nubia.

Occurrences: Rifeh Cemetery S;[279] Mostagedda Cemetery 3100;[280] Hierakonpolis HK 47;[281] Wadi Kubbaniya WK11;[282] Sheikh Mohammed SM14;[283] Serra Cemetery C;[284] Masmas Cemetery 201 (footed);[285] Aniba Cemetery N[286] and Cemetery C;[287] Debeira SJE47.[288]

c. Scoops

Only four examples of this vessel type have been identified (**Plates 35 and 68a**). All are oval, boat-shaped bowls with curving rims that are highest at the narrow ends. A tab-like handle extends approximately 1-2 cm above the rim line at one end of the vessel. The handle of the example from Qau 1989 (**Plates 35a and 63a**) is unique in that it has a curved top edge and notches where it joins the rim of the bowl. The surface treatments applied to each of the scoops are also different. The examples from Qau 1989 and Mostagedda 3271 (**Plate 35b**) are in black burnished ware, while that from Mostagedda 3241 is in red burnished ware (**Plate 68a**). These examples are all finished with the so-called "Pan-Grave fine burnish".[289] An unusual example comes from Mostagedda 3158 and is unpolished with simple incised decoration (**Plate 35c**).

Interestingly, vessels of a comparable shape are attested in much earlier Badarian contexts at Mostagedda,[290] but these earlier examples are not burnished, and one example includes a hole in the tab, presumably for suspension when not in use. A further Early Dynastic example was found in grave 73 at Cemetery 40, located at Siali in Lower Nubia.[291] This bowl is described as made in a hard, pink (marl?) pebble-burnished ware. Excluding that example, the occurrence of scoops at Pan-Grave sites in Middle Egypt suggests that Pan-Grave potters may have

278 EMERY, KIRWAN 1935, p. 316. Of note is the Egyptian jar with black painted decoration.
279 PETRIE 1907, pl. XXV.41-44.
280 BRUNTON 1937 pl. LXXII.52-53.
281 GIULIANI 2001a, p. 43.
282 GATTO 2014, fig. 11.8.
283 GATTO 2014 fig 12.2.
284 WILLIAMS 1993, p. 129, fig. 81.b.
285 EMERY, KIRWAN 1935, pp. 316, 327.
286 STEINDORFF 1935, Taf. 58.6.
287 STEINDORFF 1935, Taf. 81.13.
288 SÄVE-SÖDERBERGH 1989, vol. 2, pl. 21.
289 See Section 6.2.3.
290 BRUNTON 1937, pl. XVIII.36-38
291 REISNER 1910, p. 240-1, pl. 61.a.15.

encountered Badarian and Early Dynastic Egyptian examples in the area, which they then imitated in their own wares.

The possibility that the scoops may actually be Badarian vessels that were appropriated by Pan-Grave people for inclusion in their own graves should also be considered. The re-deposition of early Egyptian vessels in Pan-Grave contexts is known to occur at Balabish, where Predynastic D-ware jars have been found in Pan-Grave contexts.[292] At Hierakonpolis, the tumuli at the Pan-Grave cemetery HK47 were constructed from sand and debris that included Predynastic Egyptian sherds and lithics, but it is unclear if the inclusion of earlier material was deliberate or incidental.

Scoops are not known in the C-Group or Kerma repertoire.

Occurrences: Qau Grave 1989;[293] Mostagedda Graves 3241,[294] 3271,[295] and 3158.[296]

4.5.2 Restricted Forms

Restricted vessels occur in both simple (RS) and inflected (RI) contours, and their forms vary more widely than unrestricted vessels. RS Type vessels range from over-hemispherical or globular forms, to bag-shaped forms that are characterised by a converging upper-body and a tapered or rounded lower body. RI Type vessels generally have a deeper profile with more upright sides than RS forms,

a. Restricted Simple (RS) Cups, Bowl, Large Bowls.

RS cups and bowls are defined by a rim diameter that is smaller than the maximum diameter of the vessel. The size categories for RS cups and bowls follow that of US types, although it must be stressed that the measurements refer to the rim diameter and *not* the maximum vessel diameter. The size categories are:

- Cups: < 12 cm rim diam.
- Bowls: 12 – 20 cm rim diam.
- Large Bowls: > 20 cm rim diam.

[292] WAINWRIGHT 1920, p. 21, pl. 14.
[293] BRUNTON 1930, pl. 9.11. Petrie Museum, London UC17888.
[294] BRUNTON 1937, pl. LXXII.54; British Museum, London 1930.7.1160.
[295] BRUNTON 1937, pl. LXXII.54.
[296] BRUNTON 1937, pl. LXXII.57.

Two variants can be identified in the repertoire:

- Rounded: The walls of rounded RS vessels have a smooth and continuous curve. Forms include: over-hemispherical and globular forms with maximum point at approximately half the height of the vessel (**Plate 36**), and forms with a slightly tapered base on which the maximum point is situated in the upper half of the vessel (**Plate 37**).
- Bag-Shaped: An upper-body and lower-body can be clearly distinguished. Upper body walls are straight and angle inward from the maximum point to the rim. A marked change in curvature leads toward the base, which can be either rounded (**Plates 38b-c, 39b-d**) or slightly tapered (**Plates 38a-39a**).

A large asymmetric example was found at Mostagedda, Grave 1810A (**Plate 40**).[297] This vessel is very coarse, roughly made, and shows evidence of burning, suggesting that it was used a cooking pot before being deposited with a burial. Its fabric, ware, surface treatment, and shape are comparable to supposedly domestic Nubian pottery found in Egyptian settlement contexts. The inclusion of such a vessel in a cemetery context is therefore noteworthy.

RS forms are also attested in C-Group Phase II, *Kerma Moyen* and *Kerma Classique* contexts. The distinguishing factors for each cultural group are fabric, surface treatment, and decoration. Globular vessels in the C-Group are closer to being truly over-hemispherical than Pan-Grave examples, which tend toward being bottom-heavy.

b. Restricted Inflected (RI) Bowls

Restricted inflected (RI) type bowls are characterised by upright and slightly concave walls (**Plates 41-42**). They are classified as restricted because the inflection of the vessel walls creates an aperture that is narrower than the maximum point, even though the rim diameter may be equal to the maximum diameter. The base is usually rounded, but slightly tapered variants are also known.

Occurrences: Qau Cemetery 1300; Mostagedda Cemetery 3100; SJE Site 47; Hu Cemetery X; Adindan Cemetery K;[298] Aniba Cemetery N;[299] and Aniba Cemetery C.[300]

[297] BRUNTON 1937, p. 114, pl. LXXV.2. Note that this vessel was not found in either of the large Pan-Grave cemeteries 3100 or 3200. The bowl formed part of a deposit in a reused First Intermediate Period tomb that included Egyptian storage jars. Brunton described the vessels as being so clean that they appear to have never been used.

[298] WILLIAMS 1983, pl. 93.F-G, I-J and M. See also Pl. 54.B-C and E, which have been assigned by Williams to the C-Group.

Three examples from Adindan Cemetery K were attributed to C-Group Phase III. They could, however, equally be associated with the Pan-Grave tradition based on the incised line below the vessel rim.[301] This author has previously questioned the validity of C-Group Phase III,[302] and it is possible that the graves in which these three bowls were found are in fact Pan-Grave burials.[303]

c. Restricted Inflected (RI) Squat Bowls

Morphologically, squat bowls fall somewhere between bowls and jars and are characterised by an inflected profile with a rim diameter that is considerably smaller than their maximum diameter (**Plate 43a-e**). They are bottom-heavy with a bulbous, bag-shaped lower body that curves sharply inward toward the rim creating what may be considered a short neck with either a direct or set-off rim. Using the Aperture Index (AI) measurement, three examples from SJE Site 47, for which the rim and maximum diameter are preserved would be considered 'closed' and therefore should be described as jars.[304] However, the AI of these vessels makes them close to being open forms. In order to differentiate these vessels from truly closed forms, they are here classified as restricted bowls.

Occurrences: SJE Site 47;[305] Adindan Cemetery K;[306] Hierakonpolis HK47.

d. Spouted Bowls

The only known example of a Pan-Grave spouted bowl comes from Mostagedda grave 3118 (**Plate 43f**). This vessel is unique and was also the only vessel found in this grave. A goat skull found in the grave, together with the nature of the vessel itself makes a Pan-Grave identification quite secure. The bowl is produced in black burnished ware with a fine, streaky burnish typical for the Pan-Grave tradition. The bowl is deep, slightly restricted and has a short cylindrical spout placed 1 cm below the rim edge. The maximum point is high on the vessel body, from which it curves down toward the rounded base.

---

299 STEINDORFF 1935, Taf. 58.1-2.
300 STEINDORFF 1935, Taf. 81.3.
301 WILLIAMS 1983: pl. 54.A-C.
302 DE SOUZA, in press.
303 Grave K40 (WILLIAMS 1983: 210); Grave K86 (WILLIAMS 1983: 224); and Grave K94 (WILLIAMS 1983: 226-227).
304 The three vessels are: 47/3:3 (AI = 76); 47/109:3 (AI = 75); and 47/122:1 (AI = 75.6). Following Aston's classification, a closed vessel has an AI of less than 85.
305 SÄVE-SÖDERBERGH 1989, pl. 22 (vol. 2). Vessel 47/109:3.
306 WILLIAMS 1983, pl. 93.M.

A comparable vessel has been found on Sai Island at cemetery SKC2, dated to the *Kerma Classique* period.[307] This date corresponds well with the assumption that the large cemetery at Mostagedda was in active use until the very end of the Second Intermediate Period and possibly into the earliest stages of the 18th Dynasty. A spouted bowl attributed to the C-Group culture was found at SJE Site 170.[308] The bowl is uncoated, black-topped, and its shape is somewhat shallower and broader than the Mostagedda example. Fragments of spouted vessels were also found in settlement contexts at Aniba,[309] but the associated material appears to be mostly C-Group[310] with some Kerma pottery also present.[311]

4.5.3 Closed Forms

Closed vessels that can be confidently associated with Pan-Grave tradition are rare, and they can be identified as such on the basis of their distinctive ware types. To date, the current author has identified 16 examples in the SJE Concession (**Plates 44-46**) and only one example from Egypt at Hierakonpolis HK47 (**Plate 47**). All of these examples were found in association with pottery and other artefacts that support a Pan-Grave identification. Two other examples are included in Brunton's Pan-Grave corpora for Mostagedda and Qau-Badari, but both of these are surface finds and their cultural association is therefore uncertain (**Plate 44a-b**).

Even within this limited corpus, the range of forms is highly varied and in many cases the forms are entirely unique. This high variability, low quantity, and uncertain cultural origin does not warrant a dedicated shape classification for closed forms at this stage. Nevertheless, three categories could be identified based on contour:

- RS: restricted simple (**Plate 46b-c**)
- RI: restricted inflected (**Plates 48-49**)
- RNI: restricted necked inflected (**Plates 44-47**)

All of the closed vessels identified as being of the Pan-Grave tradition are listed in **Appendix 2**.

---

307 GRATIEN 1985b, pp. 315 (fig. 256c).
308 SÄVE-SÖDERBERGH 1989, vol. 2, pl. 31.2.
309 STEINDORFF 1935, Taf. 94.
310 STEINDORFF 1935, Taf. 91-94.
311 STEINDORFF 1935, Taf. 91.170.

4.6 Rim Shape

4.6.1 Earlier attempts at classifying rim shapes

The SJE system was the first to offer a comprehensive typology of Nubian vessel rim profiles, devised by Nordström for the Early Nubian pottery,[312] and subsequently revised by Säve-Söderbergh for the Middle Nubian pottery.[313]

The SJE typology comprised three main categories of rim profile for Early and Middle Nubian pottery:

A. Direct rims (with 8 variants)
B. Reverted rims (with 2 variants)
C. Everted rims (with 10 variants)

Of the numerous variants, only a handful is attested in the Pan-Grave repertoire and one type in particular – Type A8 – was identified as diagnostic of Pan-Grave pottery.[314] Säve-Söderbergh's revision added two new types of rim, Types B1 and B2.[315] Somewhat confusingly, Säve-Söderbergh's additions do not correspond morphologically with existing types in Nordström's system that were also designated B1 and B2.[316] Furthermore, Säve-Söderbergh's types do not meet his own written criteria that Type B rims should be internally modelled or curve inwards. In fact, Säve-Söderbergh's rim types B1 and B2 do the opposite and are inflected outwards.

Giuliani followed Säve-Söderbergh's typology, including his later version of types B1 and B2.[317] Giuliani stressed the importance of what she called the "set-off rim", characterised by an incised line that runs parallel to the rim edge separating the rim band from the vessel body. Giuliani added an additional rim profile to the typology that she identified as diagnostic of Pan-Grave pottery, namely her "recessed rim", characterised by the thinning of the rim zone above the set-off line.[318] This type did *not* appear in the SJE typology, implying that such rim types did not occur in the SJE Concession. It has since been verified by the current author that at least one recessed rim is present in the Pan-Grave assemblage from SJE Site 95.[319]

---

312 NORDSTRÖM 1972, pp. 73-74 (vol. 1), pl. 23 (vol. 2).
313 SÄVE-SÖDERBERGH 1989, pp. 33
314 NORDSTRÖM 1972, p. 74 (vol. 1). The type corresponds to Type D3 in the newly proposed system.
315 SÄVE-SÖDERBERGH 1989, p. 32-33 (vol. 1). Säve-Söderbergh's types B1 and B2 correspond to type M4 in the newly proposed system.
316 NORDSTRÖM 1972, pl. 23 (vol. 2).
317 GIULIANI 2006a, p. 650.
318 GIULIANI 2006a, p. 651.
319 One vessel with a recessed rim was identified in assemblage from SJE Site 95. Museum Gustavianum SJE95/156:1.

4.7 Revised Typology of Pan-Grave Rim Profiles.

An updated typology of rim profiles is proposed here that takes into account all assemblages included in the core dataset. In total, three categories of rim type have been identified, each with its own range of variants: direct rims, externally modelled rims, and recessed rims. All rim types are depicted on **Plate 50**.

4.7.1 Direct Rims (D)

Direct rims are defined as a continuation of the vessel wall with no change in angle or thickness. Four variants have been identified as follows:

- D1. Direct – rounded
- D2. Direct – flattened
- D3. Direct – set-off
- D4. Direct – inflected

Direct rims most frequently have a rounded edge, although flattened rim edges occur usually on coarser, thick-walled vessels. Type D3 set-off rims appear to be specific to the Pan-Grave tradition. They are characterised by the incised line that separates the rim band from the vessel body but are classified as direct rims as there is no change in thickness of the vessel wall.[320] A unique example of a type D3 set-off rim from Hierakonpolis HK47 must be highlighted owing to its uniquely wavy rim edge (**Plate 36d**), presumably in imitation of Egyptian pottery.[321] Type D4 inflected rims are identified by their distinct s-curve, again without any thickening to the vessel wall.

4.7.2 Externally Modelled Rims (M)

Externally modelled rims are characterised by a thickening or modelling of the rim on the outside of the vessel. In some cases, the modelling may be accompanied by a change in angle or an inflection. The different shapes listed below describe the appearance of the rim profile when viewed in cross section. Five variants are as follows:

- M1. Modelled – rounded
- M2. Modelled – rectangular
- M3. Modelled – triangular
- M4. Modelled – inflected triangle

[320] D3 rim types are equivalent to the SJE type A8 and Giuliani's set-off rim.
[321] HK47A Pot 26.

- M5. Modelled – complex

Type M3 and M4 require further definition: Type M3 triangular rims are characterised by a profile that tapers toward the rim edge in a straight line, creating a wedge-shaped profile. Type M4 inflected triangular rims also have a wedge-shaped profile, but the rim band is inflected outwards. Complex modelled rims of type M5 are uncommon and are most often associated with deep US cups decorated with deeply incised spiralling grooves (**Plate 30a-b**).[322]

Externally modelled rims are rare for both C-Group and Kerma pottery. It may therefore be proposed that modelled rims are more indicative of Pan-Grave pottery traditions.

4.7.3 Recessed rims (R)

As noted by Giuliani, recessed rims appear to be diagnostic of Pan-Grave pottery and do not have equivalents in C-Group or Kerma assemblages. Rims of this type are characterised by a thinning of the vessel wall confined to the rim band only, creating a distinct 'step' at the rim. The neat and careful execution of recessed rims suggests that they were formed on a leather-hard vessel while it was rotated on a turning device,[323] either by pinching or by shaving away excess clay.[324] The recessed section of R1 type rims is usually rectangular in profile with a flattened rim edge, although tapered variants are also known.

[322] See Section 7.5.1.i.
[323] "Turning device" here refers to a base upon which the vessel could be rotated as it is being formed - not a wheel. See ARNOLD, BOURRIAU 1993, p. 36.
[324] GIULIANI 2006a, p. 651.

Chapter 5

Pan-Grave Pottery Fabric

5.1 Approaches to Nubian pottery fabrics

The Vienna System of Egyptian pottery fabric classification has been in use for over three decades and, though by no means a perfect system, it has proven to be a robust and reliable point of reference for Egyptian ceramic studies.[325] By contrast, no such classification system exists for Nubian pottery fabrics, but given some of the issues associated with the Vienna System, it may be asked if such a system is desirable.[326] Site-specific systems are widely used, but a system applicable to the full regional, cultural, and chronological breadth of the various Nubian ceramic traditions is yet to be developed.

One of the biggest hurdles is the very nature of Middle Nubian pottery production, and in particular that of the Pan-Grave culture. Egyptian pottery during the pharaonic period was produced by workshops in large quantities, whereas Pan-Grave pottery was produced on a much smaller scale for use within a local community or for distribution across a limited area. This fundamental difference demonstrates that Pan-Grave pottery, and Nubian pottery in general, cannot and should not be approached as if it were pharaonic Egyptian pottery. Nubian pottery studies are often complicated by the imposition of Egyptian models onto non-Egyptian material. At many sites, Nubian pottery is processed by a specialist in Egyptian pottery, and the impression is that the same methodology and approach is applied to *both* sets of material. The ceramic ecologies of the two traditions are fundamentally different, and as such should be considered on their own terms.

In relation to pottery fabric specifically, if one accepts that the Pan-Grave culture comprised mobile or partially-mobile communities spread over a vast area, it may then be argued that Pan-Grave potters would have used whatever materials were available to them at their given location, resulting in wide variation in fabric composition. At a theoretical level, Dean Arnold has discussed the issue of accessibility to raw materials and its impact on pottery production.[327] He observed that partially mobile communities are less limited by the constraints of living at a fixed location and could move into areas with new and different resources, requiring communities to adapt to the new environment in order for ceramic production to remain

[325] NORDSTRÖM, BOURRIAU 1993, pp. 168-182.
[326] BOURRIAU 2007, pp. 137-144.
[327] DE. ARNOLD 1985, pp. 32-35.

viable.[328] Such adaptations are visible in the Pan-Grave tradition in the use of locally sourced materials that were manipulated accordingly to achieve a particular outcome. Gatto has observed that white particles present in pottery from the AKAP concession are peculiar to that area, and are also attested in Predynastic Nubian pottery from the same site.[329] Manassa has similarly reported that Nubian pottery from Umm Mawagir (Kharga Oasis) is made from locally sourced oasis silt,[330] and it is also possible that the Nubian pottery from Ayn Asil (Dakhla Oasis) is made from local materials.[331]

Fabric composition in the Pan-Grave tradition may also have been dependant on personal preferences of an individual potter. A modern comparison may be sought in the ceramic traditions of Samburu people of northern Kenya, where each tribe uses a different clay source, and each considers the clay of other potters to be inferior to their own.[332] This apparently deliberate variation over a relatively confined region can also be noticed in the Pan-Grave tradition, which is spread across a much larger expanse.

Viewed from a different perspective, the same variation may offer insights into the possible cognitive and technological processes involved in Pan-Grave ceramic production. Different types of fabrics were clearly favoured for different types of pots, each presumably serving a different function. Fine textured fabrics were used predominately for thin walled bowls with well compacted and carefully burnished surfaces, presumably with the intention of decreasing permeability and transpiration.[333] Coarse, porous, chaff-tempered fabrics were favoured for cooking vessels, presumably because the open structure reduced thermal shock.[334] Sand-tempered fabrics appear to have been favoured for the production of horned bowls, although it is not clear if this vessel type served a particular function. Overall, it seems clear that Pan-Grave potters considered their materials and manipulated them to suit their requirements.

5.2 Existing Fabric Classifications

Pottery fabric has only become a topic of discussion in recent decades. In general, reports on Pan-Grave pottery from the period leading up to Bietak's typology made only the most general reference to pots being fine or coarse with no detail regarding the composition of the fabrics themselves. Early excavators such as Brunton and Wainwright classified Pan-Grave

[328] DE. ARNOLD 1985, p. 120.
[329] GATTO 2014, p. 23.
[330] MANASSA 2012, pp. 140-141, fig. 9d-e.
[331] MARCHAND, SOUKIASSIAN 2010, p. 154; MANASSA 2012, p. 141.
[332] GRILLO 2012, pp. 165-166.
[333] SHEPARD 1968, pp. 125-126.
[334] SHEPARD 1968, pp. 125-127; RICE 1987, pp. 367-368.

pottery based on surface treatment and decorative styles rather than vessel fabric.[335] Likewise, Bietak's typologies sorted the pottery based on surface treatment and decoration with virtually no consideration of fabric.[336]

Three key examples of Pan-Grave pottery fabric classification stand out: two are site-specific systems devised for the SJE and AKAP concessions. The third is not a classification system, but instead constitutes extensive discussions as part of the Austrian Archaeological Institute's Nubian pottery workshop. Each has its strengths and weaknesses, but all have moved closer to a system that best manages the varied character of Pan-Grave pottery. Each will be briefly outlined and discussed, followed by a newly proposed system intended to be applicable to Pan-Grave pottery across regions.

5.2.1 The SJE System of Fabric Classification

The first comprehensive study of Nubian pottery fabrics was devised by Nordström for the Early Nubian pottery from the SJE Concession,[337] which was subsequently adapted for Middle Nubian pottery by Säve-Söderbergh.[338] Four fabric types were identified as being present in the Pan-Grave tradition, summarised as follows:

- *SJE Fabric ID:* Low to medium grade fabric; coarse sandy paste; porous and heterogeneous; significant inclusions of angular quartz and feldspar; loose structure; dusky-grey-brown to wholly black colour.

- *SJE Fabric IIA:* Low to medium grade fabric; ash-tempered paste; porous and relatively silty; minor inclusions of quartz and feldspar; usually black or dusky grey in colour.

- *SJE Fabric IIB:* Low to medium grade fabric; dung-tempered (organic particles smaller than 2 mm); similar texture to IIA; black to dusky grey in colour.

- *SJE Fabric IIE:* Low to medium grade fabric; chaff tempered paste; texture similar to IIA/IIB; black in colour with distinct oxidization zones at the surface.

---

335 BRUNTON 1937, p. 124; WAINWRIGHT 1920, pp. 35-41.
336 BIETAK 1966, pp. 53-55.
337 NORDSTRÖM 1972, pp. 48-68 (vol. 1).
338 SÄVE-SÖDERBERGH 1989, pp. 25-30 (vol. 1).

The SJE system gives an overall sense of the nature of Pan-Grave pottery fabrics without complicated divisions based on detailed observation of minute differences. Each class is differentiated on the basis of temper – sand, ash, dung, and chaff – making the system concise and straightforward. The system is, however, specific to the SJE assemblage and, as such, does not account for different fabrics that may be found at other localities. It therefore serves as a solid foundation from which to develop an all-encompassing system.

5.2.2 The Austrian Archaeological Institute workshop

Middle Nubian pottery fabrics were discussed at length as part of the workshop organised by the Austrian Archaeological Institute in 2010.[339] In relation to pottery fabric, site-specific classification systems were presented for most of the assemblages included in the workshop, all of which used different divisions and terminologies. While this allows for a detailed analysis of the material from each locality, it complicates comparative studies and consideration of regional variation.

Some of the fabric classifications were overly detailed and too specific. One such example is Forstner-Müller and Rose's study of the Nubian pottery from Tell el Daba.[340] In total, sixteen fabric groups were identified from only 92 sherds, which seems excessive. As an example, the only difference between their Fabric Groups II and X appears to be the presence of mica, which may be naturally occurring in the silt. This type of overly detailed classification is an example of handmade Nubian pottery being approached as if it were Egyptian pottery. Issues aside, the pottery from Tell el Daba presents a clear illustration of the high variability of Nubian pottery fabrics even at a single site, and the difficulties involved in devising a suitable classification system for Pan-Grave pottery fabrics.

5.2.3 The Aswan-Kom Ombo Archaeological Project (AKAP)

The most recent attempt at classifying Pan-Grave pottery fabrics is that devised by Gatto for the Pan-Grave material from the AKAP survey.[341] Gatto's simple system divides the material into three types and, like the SJE system, the fabrics are defined based on temper. The three fabric types identified by Gatto are as follows:

---

[339] See Section 2.2.5.
[340] FORSTNER-MÜLLER, ROSE 2012, pp. 184-187.
[341] GATTO 2014, pp. 23.

- *PG.I:* Dung-tempered fabric, with or without sandy matrix. Fine (PG.Ia) and coarse (PG.Ib) variants are determined based on the quantity of the inclusions/temper in the fabric. Straw, sand, mica, ash and white inclusions are reported but are most likely naturally occurring. This is the most common fabric in the AKAP assemblage and is equivalent to Nordström's Type IIB.

- *PG.II:* Straw-tempered fabric; mostly coarse, sometimes with dung inclusions. Common for cooking pots.

- *PG.III:* Sand tempered fabrics; mostly coarse, sometimes with organic inclusions; silty groundmass with sand grains up to half a millimeter; typically associated with four-horned plates.

Gatto's system is neat and easy to use, however there is still room for subjectivity, in particular with regard to defining what differentiates the fine and coarse variants of type PG.I. A similar approach was taken by Forstner-Müller for Nubian pottery found in Egyptian settlement remains at Aswan (Syene).[342] Like Gatto, Forstner-Müller also identified three fabric groups that are defined by temper – inorganic, dung, or chaff.

5.3 A New System for Pan-Grave Fabric Classification

Overall, the current author questions the validity and necessity of an overly detailed classification of Pan-Grave pottery fabrics, primarily due to the small-scale production and use of locally-sourced materials in different regions. At the same time, there is enough continuity in fabric types between sites and assemblages to warrant the creation of a basic system by which to sort vessels into broad fabric groups.

The systems devised for the SJE, AKAP, and Aswan assemblages all share one common feature, namely that they are divided based on temper. This is by far the easiest way to identify the different types of Pan-Grave pottery fabric, and hence the same approach is taken for the current study. There is no further division between silt and other types because, with the exception of oasis fabrics, all Pan-Grave pottery is produced from alluvial Nile silt. Despite being made from what is ostensibly the same material, the naturally occurring inclusions can vary from site to site. Sorting the fabrics on the basis of artificially added temper circumvents the issue of naturally occurring variations and avoids over-classification such as that seen at

[342] FORSTNER-MÜLLER 2012, p. 63.

Tell el Daba. It also permits a consideration of the cognitive processes involved in Pan-Grave pottery production.

5.3.1 Five Pan-Grave fabric types

Analysis of the core dataset has identified *five* fabric types, each defined by the predominant tempering material, or the apparent absence of any temper. Visual analysis was conducted using a 10x hand lens, as this is the most accessible and widely used method for fabric analysis in the field. As much as possible, fresh breaks were analysed, so museum collections were therefore of limited use. An exception here is the SJE Collection, where recent but not fresh breaks could be observed among the sherds. It must also be noted that the proposed fabric analysis is based only on pottery which has been sighted first-hand by the author or, where that was not possible, by studying high-resolution colour photographs.

- *PG.1: No visible temper*

  Plate 51

Very fine-textured fabric with a dense, silty groundmass. There is nothing visible in the section or on the vessel surface that can be identified as artificially added temper. It is possible that dung was added to the paste, but this is not obviously visible in the fired vessel. Mica particles and sparse very fine sand (< 1 mm) may be present, and the low quantities suggest that these are natural inclusions. The section is black and porosity is very low.

This fabric is most frequently associated with fine wares with thin walls (4-6 mm thick). Such bowls often have a slipped and well-burnished exterior. The interior surface may be either well compacted or burnished. Sparse small white particles may be present, and these appear to be natural inclusions at some sites (**Plate 51a**). This fabric type is not included in the SJE, AKAP, or Aswan systems, although the fabric itself is present in the SJE Collection.

- *PG.2: Dung temper*

  Plate 52

Fine textured fabric with a dense, silty groundmass similar to PG.1. Some organic temper, probably dung, is visible in the section as fine fibrous particles that resemble short hairs (1-2 mm long). The fibrous particles can be easily identified on the vessel surfaces as exceptionally fine hair-like impressions. Inorganic particles such as mica and fine sand may be present as natural inclusions. The section is black and porosity is very low. Some examples have a light

grey section with black patches and were possibly over-fired (**Plate 52a, c**). This fabric is also most often associated with fine, thin walled vessels as for fabric PG.1.

This fabric type corresponds to: AKAP type PG.Ia; SJE type IIB; and Aswan Fabric II.

- *PG.3: Chaff temper*

  Plate 53

Fine to medium textured fabric with a noticeably less homogeneous consistency than PG.1 and PG.2. Organic temper in the form of small and finely divided chaff particles (2-3 mm) is clearly visible in the section as rectangular voids or as carbonised skeletons. The chaff temper is also visible as rectangular impressions on the interior and exterior surfaces. Sparse and naturally occurring mineral inclusions including mica and fine sand may be present. The section is black. This fabric is used mainly for cups and bowls with wall thickness ranging from 5-7 mm. Surfaces may be wet-smoothed or coated and burnished.

This fabric type corresponds to: AKAP type PG.Ib; and falls somewhere between SJE types IIB/IIE.

- *PG.4: Straw temper*

  Plate 54

Medium to coarse textured and porous fabric in which large straw particles (3-5 mm) are clearly visible in the section as voids or carbonised skeletons. Voids left by burnt out straw may also be visible on the vessel surfaces, but these are usually obscured by a slip or by burnishing. The straw particles are not uniformly aligned, indicating that the vessel was not turned on a wheel. The groundmass is dense and silty, with sparse rounded sand, mica, and white particles occurring as natural inclusions. The section is black to dark grey-brown. This fabric is used mainly for larger pots with thicker walls (6-9 mm). This fabric type is also commonly used for Nubian cooking pots found in Egyptian settlement contexts, as the straw temper and high porosity improves the thermal properties of the vessel.

This fabric type corresponds to: AKAP type PG.II; SJE type IIE; and Aswan Fabric III.

- *PG.5: Sand temper*

  Plate 55

Medium-coarse textured and gritty fabric in which the dominant temper is angular or rounded sand particles in a dense silty groundmass. The sand is visible in the section and may also be

visible on the surfaces. The fabric is gritty to the touch and is harder than the organic tempered fabrics. Some organic particles may be present in low quantities. The colour of the section varies from black to grey-brown depending on firing conditions. Porosity is low. This fabric is mostly associated with horned bowls, but is also attested as thick walled bowls and cups.

This fabric type corresponds to: AKAP type PG.III; SJE type ID; and Aswan Fabric I.

Chapter 6

Surface Treatment and Ware

6.1 Overview of existing classification systems

Ware and surface treatment forms the basis of classification for the majority of sites at which Pan-Grave pottery has been found. Early 20th century excavators such as Brunton and Wainwright grouped their assemblages into broad ware groups such as black-top red ware, hatched ware, and even the frustratingly vague "drab" ware. More recent systems such as that employed by the AKAP survey also sort pottery primarily on the basis of ware. The site-specific classifications that have been published to date do not always correspond well to one another, hindering cross-regional comparative studies. Each system has strengths and weaknesses that should be assessed before introducing the new system that applies to Pan-Grave pottery in general.

6.1.1 Pre-1966: Wainwright and Brunton

The first attempt at ware classification was presented by Wainwright, who divided the Pan-Grave pottery from Balabish into three very broad categories: red polished, black-top, and "hatched" (i.e. decorated) wares.[343] An important issue is the separation of decorated vessels from the other two groups, which prioritises decoration over other aspects and implies that decoration is not itself a form of surface treatment. Moreover, the divisions identified by Wainwright do not account for the variety of ware types present, in particular that both black-top and red wares might also be decorated. There is also no accounting for coated and uncoated wares beyond Wainwright's statement that incised wares were often "painted" red.[344] Wainwright described the colour of the burnished surface of his black-top pottery as being a "good red",[345] which is subject to interpretation.

Brunton identified eleven ware types at Mostagedda, where pottery was first sorted by the presence or absence of decoration and subsequently by the surface treatment.[346] These eleven classes are listed below exactly as presented by Brunton. Each type is based on a three-tiered system, accounting for decoration, colour, and rim type.

- Incised: brown or black: plain rim band

[343] WAINWRIGHT 1920, pp. 35-41, pl. XIV.
[344] WAINWRIGHT 1920, p. 86.
[345] WAINWRIGHT 1920, p. 86.
[346] BRUNTON 1935, pp. 124-125.

- Incised: red: no rim band
- Incised: red: plain rim band
- Incised: red: nicked rim band
- Incised: red: black rim band
- Plain: red: black rim band
- Plain: red: plain rim band
- Plain: red: no rim band
- Plain: red or black: fancy forms
- Plain: black: no rim band
- Plain: black: plain rim band

Brunton's approach demonstrates that he considered decoration to be an aspect of ware, and expresses much more clearly than Wainwright's system that decoration could be applied to vessels of various surface treatments. Brunton's types also take the rim band into account. The main drawback of Brunton's system is that surface *texture* is not included and there is no clear distinction between rough, smooth, or burnished wares. Direct analysis of the pottery by the present author has shown that the pottery from Mostagedda ranges from wet-smoothed to highly burnished, including some examples that are the most finely burnished examples of all Pan-Grave pottery currently known.

6.1.2 1966-1968: Bietak at Sayala

Both of Bietak's Pan-Grave pottery typologies were based primarily on ware. The first iteration related directly to the excavations at Sayala.[347] Six ware types were identified, each of which was a combination of surface colour, texture, and specific types of decoration. This system was soon superseded by the ware types published in his 1968 treatise on the C-Group, which also included aspects of Pan-Grave and Kerma material culture (**Plate 56**).[348] Bietak's 1968 typology includes eight ware types, which are listed below with a brief description as given by Bietak:[349]

- *P/7 Bowls of black-top or black polished ware with a thickened strip at the rim:* The rim-band may be decorated with incised triangles. The body may also be decorated with incised hatching or cross-hatching.

[347] BIETAK 1966, pp. 53-55.
[348] BIETAK 1968, pp. 119-121.
[349] Translated from German by the current author.

- *P/8 Bowls of brown-grey ware with incised cross-hatching:* This type is characteristic for the Pan-Grave culture.
- *P/9 Bowls of brown-grey ware with opposing fields of incised hatching.*
- *P/10 Bowls of brown-grey ware with incised hatched fields, mostly triangular:* Similar pots in a coarser ware have been found in C-Group settlements.
- *P/11 Bowls of brown-grey ware with rows of incised lines.*
- *P/12 Bowls of red to red-brown ware with incised herringbone pattern.*
- *P/13 Bowls of black ware with deeply incised grooves:* This type is also found in C-Group settlements.
- *P/14 Four-horned bowls in brown-grey ware with incised decoration.*

Bietak's revised typology divides the pottery by grouping together particular surface treatments and colours with specific decorative motifs. Moreover, black-top ware forms its own category (P/7),[350] under which decorated and undecorated vessels are merged and surface treatment/texture is not considered. In sum, the ware types identified by Bietak are overly prescriptive and in some ways misleading. His typology implies that certain types of surface treatment only occur with specific decorative motifs, but these fixed combinations do not accurately reflect the variability present in Pan-Grave pottery.

6.1.3 The SJE System

Nordström devised a detailed ware classification system for Early Nubian pottery from the SJE Concession,[351] which was subsequently adapted by Säve-Söderbergh to cover the Middle Nubian assemblages.[352] The SJE system is complex, and pottery is sorted following a three-tiered system. First, the pottery is divided into 'type groups', which consist of a single ware type or a group of related wares that occur in a given area at a defined time. The second level comprises the ware types that make up each type group. The final level further divides the wares into 'form groups', which refer to a particular form in a given ware, shape, and size.[353]

In all, the SJE typology consists of four type groups, nine ware types, and fourteen form groups (**Table 6.1**). The system is rigorous and thorough, but it is also flexible. Unlike Bietak's overly-prescriptive typology, the SJE system allows for the combination of different surface

[350] Type P/XX (BIETAK 1968, pp. 119).
[351] NORDSTRÖM 1972, pp. 57-68 (vol. 1).
[352] SÄVE-SÖDERBERGH 1989, pp. 53-56 (vol. 1).
[353] For a more detailed explanation of the SJE system, see NORDSTRÖM 1972, pp. 57-68 (vol. 1). For concise definitions of type groups, wares, and form groups, see SÄVE-SÖDERBERGH 1989, p. 42 (vol. 1).

treatments, different shapes, and decorative motifs. Decoration is only explicitly identified in one ware type – Black-incised wares (Pan-Grave Type PIII / Ware Type H3.03).[354] The system instead details the occurrence and types of decorative motifs within each form group as and when it occurs.

Type Group	Ware	Form Groups
PI	H1: Drab, coarse or smooth wares (DC) H2: Drab, plain polished wares H4.0: Drab-and-black, plain polished wares (DP)	Cups (PIa) Bowls (PIb) Large bowls (PIc) Undecorated necked jars (PIe2) Saucers (P1l) Miscellaneous (PIm)
PII	H3.01: Plain polished black ware (B)	Bowls (PIIb)
PIII	H3.03: Black incised wares (BI)	Undecorated necked jars (PIIIe2)
PIV	H4.11: Polished red-and-black wares (BMRP)[355] - H4.11d, H4.11e: also occurs in C-Group (BTRP)[356] - H4.11f: exclusively Pan-Grave (BTRP)	Cups (PIVa) Bowls (PIVb) Large bowls (PIVc) Undecorated neckless bottles (PIVd0) Undecorated necked bottles (PIVd2) Undecorated necked jars (PIVe2)

Table 6.1: *The SJE typology of Pan-Grave pottery*
(Adapted from SÄVE-SÖDERBERGH 1989, p. 53 [vol. 1]).

The SJE system allows some flexibility and expresses the variety that may be present within each group and the assemblage as a whole. There are, however, some important omissions. Black-top wares are only included as polished (PI, Ware type H4.0), but the current author has confirmed that unpolished and uncoated (i.e. 'drab') black-top vessels do occur in the assemblage.[357] Red burnished wares are also not accounted for in the SJE ware classification, but one almost complete example survives in the assemblage from SJE Site 47 (**Plate 67b**).[358] The complexity of the SJE system is ultimately its biggest drawback, but the flexibility that the system allows is an important feature that is carried through to a revised classification system presented here.

6.1.4 Giuliani's Revision

As part of her PhD research, Giuliani revised the SJE system for her analysis and presented a modified ware typology with five groups:[359]

[354] SÄVE-SÖDERBERGH 1989, p. 55 (vol. 1).
[355] BMRP = Black-mouthed, red-polished.
[356] BTRP = Black-top, red polished.
[357] SJE 47/106:2, SJE 47/A, SJE 47/136:2. All at the Museum Gustavianum, Uppsala University.
[358] SJE 47/21:5. Museum Gustavianum, Uppsala University.
[359] GIULIANI 2006a, pp. 648-650.

- Group I: Uncoated ware
- Group II: Uncoated black-top ware
- Group III: Red coated black-top ware
- Group IV: Red coated ware
- Group V: Black coated ware

Neither decoration nor surface texture is included in Giuliani's ware typology, and her groups are instead based on the type and colour of slip applied to the vessels. These are certainly important aspects, but a combination of features beyond just colour must be considered. Giuliani made two further observations that need to be corrected. First, she observed that Nordström's black-incised ware (SJE Type Group PIII) does not occur outside the SJE Concession,[360] and second, that red-coated ware (Giuliani's Group IV) is absent from the SJE Concession.[361] A renewed examination of these assemblages by the current author has identified that this is not the case. Black-incised vessels are attested, although rarely, outside the SJE Concession at Mostagedda,[362] Qau,[363] Hierakonpolis (**Plate 63b**), and in the Wadi Kubbaniya,[364] and the presence of red-coated vessels in the SJE Concession has already been noted above. Overall, Giuliani's ware typology is over-simplified and does not adequately express the variety and complexity present in the Pan-Grave tradition. A middle-ground between the SJE's and Giuliani's systems is therefore the aim of the proposed ware classification system.

6.1.5 The AKAP System

Most recently, Gatto devised a site-specific classification system for the Pan-Grave pottery ware types present in the AKAP Concession. Six ware types were identified:[365]

- SC: Smooth coarse wares
- BlB: Black burnished wares
- RCB: Red coated and burnished wares
- RCBBT: Red coated and burnished black-top wares
- BBBT: Brown burnished black-top
- DEC: Decorated wares

---

360 GIULIANI 2006a, p. 648.
361 GIULIANI 2006a, p. 650.
362 BRUNTON, Mostagedda, pl. LXXII.54-56. The spouted bowl (pl. LXXII.55) is housed at the British Museum, London, EA63024.
363 BRUNTON 1930, pl. IX.11. Petrie Museum, London, UC 17888.
364 GATTO 2014, p. 23, fig. 10.12.
365 GATTO 2014, pp. 23-24.

Although site-specific, Gatto's ware typology is the first to incorporate coatings *and* surface textures, representing an important step forward. Decorated vessels are separated from other ware types and form their own category. Gatto gives two reasons for this approach: First she argued that decoration is an added element that is applied to the surface treatment rather than being itself a form of surface treatment. Second, from an anthropological perspective, Gatto argued that the possible meanings associated with the decoration dictates that it cannot be treated in the same way as other surface treatments.[366] Both points are generally valid, however this does not deny the fact that incised decoration is in itself a deliberate and conscious manipulation of the vessel surface and therefore can be considered surface treatment.

Whether or not there is any anthropological or cultural significance behind the decoration is open to debate, but this does not make it any less useful for the classification of ware and surface treatment. Moreover, treating decorated vessels separately results in the loss of information pertaining to the surface treatment onto which the decoration was applied. For example, 69% of vessels at site SM14 are decorated. However, if these vessels were categorised by their overall surface treatment, three examples could be placed into Gatto's ware type RCBBT, while another three could be placed into her ware type SC. By collapsing the vessels into the decorated (DEC) ware category, information relating to other aspects of ware type such as colour and texture has been statistically lost.

6.2 Re-thinking the aspects of ware and surface treatment

6.2.1 Colour

Surface colour, as defined in the SJE typology, is the colour of the uncoated vessel surface – in other words, the colour of the fired clay itself.[367] To some extent, colour is of limited value as it is heavily influenced by the firing process and can vary broadly depending on factors including the chemical composition of the raw materials, and the temperature, duration, and method of firing.[368] Furthermore, Pan-Grave pottery is very often coated with a thick slip that obscures the underlying matrix of the vessel. Therefore, contrary to Nordström's definition, it is often the colour of the coating that is being described rather than the colour of the clay itself.

[366] GATTO 2014, p. 23.
[367] NORDSTRÖM 1972, p. 44 (vol. 1).
[368] SHEPARD 1968 , pp. 102-107.

In classifying the colour of Pan-Grave pottery, there is a fundamental issue that needs to be considered: Pan-Grave pottery is produced exclusively from alluvial silt,[369] meaning that the colours range from black, through brown, to light red. The uncontrolled firing technology that Pan-Grave potters are thought to have used would have resulted in an almost infinite spectrum of shades within that range. An oxidising atmosphere produces shades of red, orange, or brown, and a reducing atmosphere produces black and dark grey. Therefore, only two categories based on technological processes have been identified to describe colour:

- *Oxidised*

Oxidised describes instances where all or part of a vessel was fired in an oxidizing atmosphere, resulting in a surface colour that varies from light red to brown. In effect, the term oxidised applies to any vessel that is *not* black all-over.

- *Reduced*

Reduced describes instances where a vessel was fired in a reducing atmosphere, resulting in a black or dark grey surface colour.

Simplifying the description of colour into two categories with a technological basis makes the system more easily applicable to Pan-Grave pottery from all sites. The term "oxidised" also avoids subjective descriptions of colour (e.g. red vs. red-brown), making the approach more user-friendly for quick classification in the field or where a Munsell Chart is not available.

6.2.2 Coatings

As with colour, coatings of Pan-Grave pottery can simply be divided into two broad groups: coated or uncoated. The most common type of coating is a fine textured slip that is applied to the vessel's exterior before firing. Slip coatings may also be applied to the interior of open forms, but this is rare. The colour of the slip varies from light orange-red through to a dark red-brown, the most common colour being a deep red, roughly equivalent to Munsell 2.5YR 3/6 or 10R 3/6 (**Plates 57a, 60b-c**). It should be reiterated that colour is highly variable and dependent on firing conditions and mineral composition. The surface of slipped vessels is often burnished, producing a smooth and reflective surface (see below). For this system, the two broad groups (i.e. coated and uncoated) have been combined with technological aspects to form the following three categories:

[369] The term "alluvial" has been used here to encompass Nile river silt, oasis silt, and silts from other rivers in desert regions.

- *Uncoated oxidised*

This category groups together vessels with no coating that have been fired in an oxidising atmosphere producing shades of red and brown. The surface of such vessels is rarely burnished but is often wet-smoothed or lightly compacted.

- *Coated oxidised*

This category describes vessels with a slip applied to the exterior that has been fired in an oxidising atmosphere, varying in colour depending on the firing conditions. Coated vessels are generally burnished to varying degrees. Coatings can be seen most clearly in cross-section as a thin oxidised layer on top of the underlying matrix, which is almost invariably black in colour. The margin between the coating and the vessel matrix is abrupt and it appears as though the coating could be removed in flakes. There is no gradual transition of colour that one would expect for an uncoated vessel with oxidised surfaces. On intact vessels, coatings can be easily identified by their smooth surface texture, but they are also easily visible on worn vessels where the coating has partially abraded or flaked away to reveal the underlying clay surface.

- *Black*

This category denotes any vessel that is uniformly black on all surfaces as a result of being fired in a reducing atmosphere. The presence of a coating is not considered for black vessels, as a black coating would be indistinguishable against the black groundmass of the fabric.

6.2.3 Surface Texture

Surface texture is a product of the finishing techniques employed by the potter to manipulate the tactile qualities of a vessel. In the context of this classification system, texture refers specifically to the *exterior* surface of a vessel for the reason that the vessel exterior is more diagnostic than the interior for purposes of classification. Observations relating to interior surface texture will be made on a case-by-case basis wherever there is a distinctive quality or feature. Two broad groups have been devised for the system applied to the current study:

- *Smoothed / Wet-smoothed*

Smoothed vessels have had their surfaces evened out by the use of a wet-hand, cloth, or other soft tool while the vessel was still wet. The resulting surface is smooth and even, but not compacted, non-reflective, and gritty to the touch depending on the qualities of the fabric. The surface may be with covered a slip, which further refines the finished surface. Smoothed

surfaces occur on plain, black-top, and decorated vessels. The interior surfaces of Pan-Grave bowls are mostly smoothed, with wiping or scrape marks often visible.

The tactile properties of a smoothed vessel are largely dependant on the type and quality of fabric used. Vessels in fabric types PG.1, PG.2, and PG.3 inevitably have smoother surfaces than vessels made in the straw tempered PG.4. In the latter case, the surface appears less smooth due to voids left by burnt out straw particles. Vessels with this kind of surface are uncommon in the Pan-Grave repertoire, but are fairly frequent in the C-Group where it occurs on large jars.[370] Sand tempered vessels made of fabric PG.5 are gritty and sandy to the touch. Depending on the finishing methods employed, the sand particles may be clearly visible on the surface where they have been dragged through the still wet clay (**Plate 55c**). Vessels that may be considered 'rough' are virtually unknown in Pan-Grave ceramics *from cemetery contexts*. Roughly finished cooking pots found in Egyptian settlement contexts may be identified as Pan-Grave, but their cultural association is uncertain.[371]

- *Burnished*

Burnished surfaces on Pan-Grave pottery are well-compacted, reflective, and smooth to the touch. In the case of Pan-Grave pottery, burnishing is a more accurate term than polishing, as in all cases the process has left visible streaks or facets across the vessel surface.[372] This is especially noticeable when compared with the highly polished surfaces of Classic Kerma beakers, where the vessel surface has been refined to a highly reflective and almost metallic sheen, with all burnishing strokes carefully polished away.

According to Giuliani, burnishing marks on Pan-Grave pottery are broader and more roughly executed than those found on C-Group pottery, which she claims are more compact and refined. Giuliani has also observed that burnishing marks on Pan-Grave vessels tend to be oblique between rim and base.[373] Both of these statements require review. Regarding the first point, that Pan-Grave burnishing is more roughly executed than C-group burnishing, one only needs to consider the carefully burnished surfaces of Pan-Grave pottery from sites in Middle Egypt. Examples of bowls from Mostagedda and Qau have been burnished to an exceptionally high sheen that could justifiably be described as polished (**Plates 59d, 63a, 68**).

---

370 SÄVE-SÖDERBERGH 1989, pl. 29.1-4 (vol. 2); WILLIAMS 1983, pl. 68-70.
371 At Elephantine (RAUE 2012, fig. 12) and Tell Edfu (AYERS, MOELLER 2012, fig. 4b, f). See also Chapter 9 of the current study.
372 GIULIANI 2006a, p. 648.
373 GIULIANI 2006a, pp. 653-657.

Of course this is not the case for all Pan-Grave pottery, but to say that Pan-Grave burnishing is less refined than C-Group is an over-simplification.

The second point, that Pan-Grave pottery burnishing is done with oblique strokes, is also a generalisation. Oblique burnishing does occur in the Pan-Grave tradition, but so does horizontal and vertical burnishing. The direction of burnishing may also be related to the part of the vessel to which the technique was applied, and multiple burnishing directions may be present on a single vessel (**Plate 57a**). Horizontal burnishing was generally used for the area immediately below the rim band; vertical, horizontal or oblique burnishing could be used for the upper body; and the base of Pan-Grave bowls could be burnished using strokes radiating from the base point (**Plate 57b**). Giuliani's statement that oblique burnishing is an important element in distinguishing the Pan-Grave tradition from others is therefore incorrect. Instead, there is wide variation in burnishing technique in the Pan-Grave tradition.

- *Pan-Grave fine burnish*

The surface texture of some Pan-Grave pottery from Middle and Upper Egypt is very distinctive, characterised by an exceptionally smooth and highly reflective surface that will here be called *Pan-Grave fine burnish* (**Plates 59d, 60b, 63a, 63c, 69**). The exterior surface of these vessels has a distinctive streaky appearance, resulting from a redistribution of the slip coating by the burnishing tool. This is especially noticeable on red-coated examples, where the slip coating has been partially rubbed away, creating a variegated and streaky appearance (**Plate 68b**).

Pan-Grave fine burnish is so far only attested at Mostagedda and Qau, where it is applied to red slipped vessels, black vessels, and black-top ware. There is one example of an uncoated vessel from Mostagedda that carries the same type of fine burnishing marks but does not have the same highly lustrous surface (**Plate 66b**).[374] The limited distribution of vessels with Pan-Grave fine burnish may also be related to the raw materials or different processing methods. Vessels with Pan-Grave fine burnish are invariably produced in fabric type PG.1 with no visible temper of any kind. It is also worth noting that this technique is best attested at sites associated with the Badarian culture, which also produced exceptionally finely polished pottery. It may therefore be suggested that there is a link between the fine polish of this pottery and the raw materials available in this region.

[374] The British Museum EA63046.

6.2.4 Black-Top Treatments

Black-top vessels are common to all three Middle Nubian cultures, although distinct differences in the technique are identifiable between each tradition. According to Giuliani, Pan-Grave black-tops are mostly well defined and do not extend far below the rim edge.[375] Giuliani further stated that the black zone is confined to the rim band on vessels with a set-off or recessed rims. She adds that the black colouring never extends far below the rim edge, even on vessels with simple direct rims. Giuliani contrasts these types of Pan-Grave black-top with C-Group pottery, where the black zone is not defined and may cover an extensive area of the vessel exterior.

Giuliani is not incorrect in stating that well-defined black-tops are diagnostic of Pan-Grave pottery, however they are by no means *characteristic* of the Pan-Grave tradition as a whole. Gatto has noted that such well-defined black-tops are almost entirely absent from the cemeteries in the AKAP Concession.[376] The black-tops on vessels from WK11 (**Plate 58a**) are irregular and extend well beyond the rim zone.[377] An example from WT1 has been described as 'black-mouthed', and the black zone does not extend beyond the rim edge, which Gatto compares to A-Group pottery with the same feature.[378]

Based on the associated Egyptian pottery dated to the 13th Dynasty, Gatto suggests that the difference in black-top types may be chronologically indicative and that irregular black-tops are earlier than well-defined examples. Renewed analysis of the pottery has shown that the irregular black tops even occur on vessels with set-off, modelled, or recessed rims (**Plate 59b-d**), which is contrary to Giuliani's observations. Defined black-tops do indeed appear to be specific to Pan-Grave pottery, but in reality they are in the minority and are far outnumbered by irregular black-tops. This distinction suggests that defined black-tops could be of useful for identifying regional and chronological variation.

Three different types of black-top are included in the system applied to this study – irregular, defined, and applied. The last of these types is further divided into two variants, pre-firing and post-firing. Each type is presented below.

---

375 GIULIANI 2006a, p. 652.
376 GATTO 2014, p. 22.
377 GATTO 2014, fig. 7.4, 7.7 & 9a.
378 GATTO 2014, fig. 7.6 & p. 22.

a. Irregular black-top

Irregular black-tops are characterised by an undefined black zone with a lower margin that is *not* parallel to the rim edge (**Plates 58-59**). They can be applied to any vessel form with any rim type. The black colouration is most dense closest to the rim edge and fades into the red vessel body as it extends away from the rim, demonstrating that this type of black-top was created through a firing process. Irregular black-tops on Pan-Grave vessels generally do not extend far below the maximum point of the vessel, but broad examples do occur (**Plate 59a-b**).

b. Defined black-top

Defined black-tops are carefully executed and confined to a restricted area below the rim (**Plates 60, 61a**). The black colouring does *not* extend beyond the rim band on vessels with set-off, modelled, or recessed rims. For vessels with direct rims, the black-top forms a well-defined band ranging between 1 – 2 cm in width with a lower boundary that runs parallel to the rim edge.

c. Applied Black top

Applied black-tops resemble defined black-tops in that they are well defined with a lower edge that is parallel to the rim but, in this case, the black-top has been *artificially* applied to the vessel with pigment (**Plates 60-61**). Two types of applied black-top may be identified – pre-firing and post-firing. While applied black-tops are easily recognisable, it can be difficult to differentiate between the two types based solely on visual analysis, and mechanical tests using distilled water should be conducted to test for solubility. It is assumed that pre-firing applied black-tops will not be soluble in water, whereas post-firing black-tops can be removed. Of course such tests is not always practical, especially with museum objects, but it is important to acknowledge the occurrence of both types as they may be indicative of regional, chronological, and technological variation. The following descriptions outline the characteristics of the two types and how they can be recognised.

- *Pre-firing applied black-tops*

This type of black-top is extremely well-defined and is solid and opaque in appearance. The black zone is so solid and sharply defined that they cannot reasonably have been applied through any means other than by being painted onto the vessel before it was fired. This is clearly evident on some examples where brush marks are visible at the lower edge of the black zone (**Plate 57a, 59c**). Examples from sites in Upper Egypt have black-tops that are narrow

and crisply defined with a glossy, almost metallic sheen, exemplified by a bowl from Mostagedda (**Plate 60b**). An isolated example from the Northern Dongola Reach has a similar rim but has been identified as *Kerma Moyen* (**Plate 92b**).[379]

Numerous examples from sites in Upper Egypt and Lower Nubia show a narrow line of the uncoated, oxidised vessel surface between the red-coated body and the black rim (**Plate 61a**), suggesting that the rim zone was deliberately left uncoated in order that the black pigment could be applied directly onto the vessel surface. Other examples show that the black pigment was burnished after application, which is visible in black streaks below the rim zone that correspond to the direction of the burnishing marks on the vessel body (**Plate 60c**). This technique is especially common in the assemblage from SJE Site 47.

Pre-firing applied black tops return a *negative* result for solubility in distilled water and acetone, that is, the black pigment cannot be removed.

- *'Post-firing' applied black-tops*

The term 'post-firing' is used here with some caution. It denotes the fact that this type of black rim is soluble in distilled water, suggesting that it has not been permanently fixed to the vessel through firing. However, it is also possible that the black-pigment was applied to the vessel before firing, but that the firing conditions were insufficient to make the black permanent and insoluble. This type of black-top was first noticed by the author when examining the assemblage from SJE Site 47. It was observed that the black-top on some vessels had worn away to reveal the underlying uncoated vessel surface. Other examples have a rim band that is completely uncoated, while the vessel body was coated in a red slip (**Plate 61b-d**).[380] Solubility tests using distilled water were conducted on pots where the black rim zone had partially worn and, in many cases the remaining black colour could be easily removed. This led to the conclusion that this type of black-top was applied to the vessel *after* firing.[381]

There are also unusual cases where it appears that the black pigment was applied over the top of an existing black-top that was created through the firing process. The black-top in most of these instances was of the irregular type. Solubility tests were conducted on examples with a set-off rim, and it was found that the black *above* the incised set-off rim line was soluble, while

[379] British Museum EA81928. See Section 8.5.2.
[380] This same feature has been identified on a single sherd at Tell Edfu, which is described as having a "tan rim" (AYERS, MOELLER 2012, p. 109, fig. 4e).
[381] Gait made the same observation regarding post-firing application of black pigment (GAIT 2001, pp. 123-125).

the black *below* the incised line was not. The reasons for this are unclear, but it is suggested that the original black top created by firing may not have been sufficiently black and the potter chose to augment it through the addition of black pigment. To date, this phenomenon has only been positively confirmed at SJE Site 47.

Of course it is impossible to confirm if an applied black-top is pre-firing or post-firing without conducting solubility tests, which effectively causes minor damage to the pot. Such tests are therefore undesirable for pottery kept in museum collections and, to date, permission to conduct solubility tests has only been granted for pottery from the SJE Concession.[382] A total of 12 vessels from SJE Site 47 were tested. Of these, 6 samples yielded positive results for post-firing applied black-tops, equating to 50% of the sample. The results are summarised in **Table 6.2.**

Object Number	Results
47/7:2	Positive
47/29:2b	Positive
47/30:1a	Positive above *and* below set-off line
47/47:3	Negative
47/69:6a	Negative
47/77:6a	Positive above set-off line. Negative below set-off line
47/82:3c	Negative
47/91:7a	Negative
47/106:2a	Negative
47/109:3h	Positive above set-off line. Negative below set-off line
47/133:1a	Positive
47/143:1b	Negative

Table 6.2: *Results of solubility tests on pottery from SJE Site 47. A positive result denotes soluble black pigment and probable post-firing application.*

Three examples should be discussed in further detail. 47/109:3(h) and 47/77:6a are bowls with set-off rims marked by incised lines. The rim band is black above the set-off line and there are visible brush marks below the set-off line, clearly demonstrating that a pigment was applied. The black colouring *above* the set-off line is soluble in distilled water, while the black colouring *below* the set-off line is not. These may be examples of bowls with an existing black-top produced by firing that was later 'augmented' by the addition of black pigment post-firing. 47/30:1(a) also has a set-off rim, but in this case the incised set-off line has been almost entirely obliterated by the burnishing process. Oblique black streaks below the set-off line

[382] The author expresses sincere thanks to Isabel Mendoza, Ludmila Werkström, and Dr Anne Ingvarsson-Sundström at the Museum Gustavianum, Uppsala, for their permission to conduct these tests and for their assistance.

suggest that the black pigment was burnished and dragged onto the vessel body. Solubility tests yielded a positive result both above *and* below the set-off line, suggesting that the black pigment was applied after firing. This result does not seem to follow the appearance of the vessel, as burnishing is usually executed before firing. This is difficult to explain, but it may be that the black pigment was not fired at a high enough temperature to make it permanent.

The phenomenon of 'post-firing' applied black-tops warrants further research using scientific methods such as XRF analysis to establish the chemical composition of the black colouring. Initial XRF analyses have been conducted by the current author on a set of samples from the SJE concession, and the preliminary results suggest that the composition of the applied black-top is chemically different to that of the red slipped exterior.[383]

6.2.5 Decoration

In relation to ware classification, decoration will be considered only as being absent or present. The specific techniques and motifs of Pan-Grave pottery decoration are discussed in detail in Chapter 7. The inclusion of decoration in the ware classification system permits observations of how decoration is combined with other elements of surface treatments. Most existing systems have generally treated decorated vessels as a separate ware type, and it has already been argued that this is statistically unsound.

6.3 A Revised Ware Typology for Pan-Grave Pottery

6.3.1 Defining ware aspects and types

The basic unit of the ware classification employed in this study are the *ware aspects*. In total, six aspects are considered:

1. Black-top
2. Coating
3. Exterior colour
4. Interior colour
5. Surface texture
6. Decoration

[383] The author was granted permission to bring a selection of sherds from the SJE Collection to Macquarie University (on loan) for non-destructive analysis. Sincere thanks to Prof. Damian Gore (Dept. of Environmental Sciences, Macquarie University) for his assistance with these ongoing XRF tests. Sincere thanks also to Ludmila Werkström and Dr Marika Hedin for permission to bring the sherds to Australia.

Each ware aspect has its own set of variants that are designated by a number from 0 to 2, as summarised in **Table 6.3**.

In order to progress from ware aspects to *ware types*, each aspect is observed in the order as listed, and the appropriate variant numbers are recorded to form a six-digit code. The resulting six-digit code denotes the ware type and contains the information required for higher-level classification.

ASPECT	Black-Top	Coating	Ext. colour	Int. colour	Surface texture	Decoration
VARIANT	0. Absent 1. Present	0. Uncoated 1. Coated 2. Unknown[384]	0. Oxidised 1. Reduced	0. Oxidised 1. Reduced	0. Smoothed 1. Burnished	0. Absent 1. Present

Table 6.3: *The six ware aspects and their associated variants*

6.3.2 Defining ware groups and families

The ware types are then collated into nine *ware groups*. In this study, the defining aspects for each ware group are the absence or presence of a coating and the surface texture of the vessel. Each ware group includes decorated and undecorated variants, ensuring that this feature is remains statistically meaningful.

The ware groups are then collated into four *ware families*. In this context of this study, ware families are defined by the absence or presence of a black-top and by overall surface colour. These two aspects were identified as the most visually distinctive and hence constitute the defining features for each of the ware families. Descriptions of each of the ware families are presented below with their associated groups and types. The system is summarised in **Table 6.4**.

6.4 Ware Family BT - Black-top ware (Plates 58-61)

Ware family BT is defined by the presence of a black-top of any of the variants as described in Section 6.2.4. Interiors are invariably reduced (black) and may be burnished to varying extents. The BT ware family comprises two groups and a total of seven variants:

6.4.1 Black-top uncoated ware - BT.u

- *100100*: Black-top; uncoated oxidised ext; reduced int; smoothed ext; undecorated

[384] "Unknown" has been included primarily for black wares, where it is not possible to tell if a coating has been applied or not. See Section 6.2.2.

- *100101*: Black-top; uncoated oxidised ext; reduced int; smoothed ext; decorated
- *100111*: Black-top; uncoated oxidised ext; reduced int; burnished ext; decorated

6.4.2 Black-top coated ware - BT.c

- *110100*: Black-top; coated oxidised ext; reduced int; smoothed ext; undecorated
- *110101*: Black-top; coated oxidised ext; reduced int; smoothed ext; decorated
- *110110*: Black-top; coated oxidised ext; reduced int; burnished int; undecorated
- *110111*: Black-top; coated oxidised ext; reduced int; burnished ext; decorated

6.5 Ware Family B - Black wares (Plates 62-63)

Black wares are characterised by a uniformly black colouring on both the exterior and interior surfaces, produced by firing in a reducing atmosphere. Ware family B is divided into two groups defined by surface texture, each group comprising two types.

6.5.1 Black smoothed ware - B.s

- *121100*: Black-top; black ext; reduced int; smoothed ext; undecorated
- *121101*: Black top; black ext; reduced int; smoothed ext; decorated

6.5.2 Black burnished ware - B.b

- *121110*: Black-top; black ext; reduced int; burnished ext; undecorated
- *121111*: Black-top; black ext; reduced int; burnished ext; decorated

6.6 Ware Family RB – Red-and-Black wares (Plates 64-65)

Red-and-Black wares are characterised by an oxidised (red) exterior and a reduced (black) interior but *without* a black-top. Ware family RB comprises two ware groups and a total of five variants:

6.6.1 Red-and-black uncoated ware - RB.u

- *000100:* Plain top; uncoated oxidised ext; reduced int; smoothed ext; undecorated
- *000101:* Plain top; uncoated oxidised ext; reduced int; smoothed ext; decorated

6.6.2 Red-and-black coated ware - RB.c

- *010100*: Plain top; coated oxidised ext; reduced int; smoothed ext; undecorated
- *010101*: Plain top; coated oxidised ext; reduced int; smoothed ext; decorated
- *010110*: Plain top; coated oxidised ext; reduced int; burnished ext; undecorated

6.7 Ware Family R - Red wares (Plates 66-68)

Red Wares are defined by oxidised exterior and interior surfaces. All identified examples of burnished red ware (R.b) are finished using the Pan-Grave fine burnish technique. Ware family R comprises three groups and a total of six variants, as follows:

6.7.1 Red uncoated ware - R.u

- *000000*: Plain top; uncoated oxidised ext; oxidised int; smoothed ext; undecorated
- *000001*: Plain top; uncoated oxidised ext; oxidised int; smoothed ext; decorated

6.7.2 Red coated ware - R.c

- *010000*: Plain top; coated oxidised ext; oxidised int; smooth ext; undecorated
- *010001*: Plain top; coated oxidised ext; oxidised int; smooth ext; decorated

6.7.2 Red burnished ware - R.b

- *010010:* Plain top; coated oxidised ext; oxidised int; burnished ext; undecorated
- *010001:* Plain top; coated oxidised ext; oxidised int; burnished ext; decorated

WARE FAMILY	WARE GROUP	WARE TYPE
BT: Black-Top wares	BT.u – Black-top uncoated ware	100100
		100101
		100111
	BT.r - Black-top red-coated ware	110100
		110101
		110110
		110111
B: Black wares	B.s – Black smoothed ware	121100
		121101
	B.b - Black burnished ware	121110
		121111
RB: Red-and-Black wares	RB.u - Red-and-black uncoated ware	000100
		000101
	RB.c – Red-and-black coated ware	010100
		010101
		010110
R: Red wares	R.u - Red uncoated ware	000000
		000001
	R.c - Red coated ware	010000
		010001
	R.b - Red burnished ware	010010
		010011

Table 6.4: *The ware code system employed in the current study.*

Chapter 7

Decoration

Decoration is arguably the most recognisable aspect of Pan-Grave pottery and for this reason is central to the present study. However, not all Pan-Grave vessels are decorated, nor is decoration always the most diagnostic characteristic of Pan-Grave pottery. In saying this, decoration is still one of the key factors that differentiates Pan-Grave pottery from that of the C-Group, Kerma, or any other culture, but it should always be considered in association with other morphological aspects.

To date, no dedicated system of description or classification exists for Pan-Grave pottery decoration. As for other aspects, site-specific systems do exist, but these vary in approach and complexity from overly simple to exceedingly complex, making it difficult to correlate material across sites using published reports. The aim of this chapter is therefore to identify the decorative elements and motifs that occur within the Pan-Grave tradition and to present a typology that can be applied to Pan-Grave pottery wherever it is found.

7.1 Previous attempts at classifying decoration

7.1.1 Bietak at Sayala

As has already been discussed, Bietak's typology groups together specific decorative motifs with specific shapes and specific wares.[385] Bietak's approach has proven to be too rigid and presumes that certain decorative motifs only occur on particular shapes and ware types. His system may have been applicable for Sayala, but it cannot be easily applied to other sites and does not fully reflect the variability within the dataset.

7.1.2 The SJE System

Nordström's classification of pottery decoration for Early Nubian pottery was later adapted for Middle Nubian pottery by Säve-Söderbergh. In the SJE system, decorative motifs are sorted based on three aspects: the arrangement of the design elements, the techniques and methods used to execute the decoration, and the shape of the individual elements.[386] The following seven categories were identified to cover the arrangement and method of decoration in the Early and Middle Nubian assemblages:

[385] BIETAK 1966, pp. 53-55; BIETAK 1968, pp. 119-121.
[386] NORDSTRÖM 1972, pp. 74-77 (vol. 1), pls. 24-26 (vol. 2); SÄVE-SÖDERBERGH 1989, pp. 34-37 (vol. 1).

T:	Rim top decoration
RB:	Rim bands and borders
Group 1:	Impressed patterns
Group 2:	Incised patterns
Group 3:	Impressed and incised patterns
Group 4:	Painted patterns
Group 5:	Complex patterns

Within these seven categories, fifteen decorative motifs were identified as occurring in the Pan-Grave tradition:[387]

- Herring bone
- Irregular herring bone
- Herring bone, thick lines
- Horizontal panels of close herring bone
- Vertical panels of close herring bone
- Horizontal parallel lines in zones
- Broad criss-cross pattern covering the body around the major diameter
- Open criss-cross pattern of three to four parallel lines
- Vertical zig-zag lines (also in C-Group)
- Hanging lozenges (also in C-Group)
- Hanging triangles beneath rim (also in C-Group)
- Basketry pattern of combined filled triangles or squares
- Feather or branch pattern
- Triangles on background of horizontal or crossing lines
- Deeply incised parallel lines covering the body, sometimes in fields

Three of these motifs were identified as also occurring in the C-Group pottery tradition, namely vertical zig-zags, hanging lozenges, and hanging triangles beneath the rim. Following the current author's research, the vessels on which these motifs occur are in fact *not* Pan-Grave vessels at all. In fact, these three motifs have not been attested at any of the Pan-Grave sites in the core dataset and are best attributed to the C-Group. This error may be a result of the SJE's imposition of a system devised for the A-Group and C-Group traditions onto Pan-Grave pottery.

[387] SÄVE-SÖDERBERGH 1989, pp. 39-40 (vol. 1).

There is also some over-classification in the SJE categories, best illustrated by the five types of herringbone motif that have been identified. The differences between each are based on the thickness or spacing of the lines, which may have more to do with the tool used, the wetness of the clay, or the skill and aesthetic sensibilities of the individual potters than with any deliberate or meaningful stylistic variation.

Overall, however, the SJE system is useful for considering pottery decoration for the Early and Middle Nubian cultures in a broad sense, but this breadth and complexity may be the system's greatest weakness. By attempting to bring *all* of the Middle Nubian ceramic traditions under a single classification, the features that define the various traditions have become confused. At the same time, however, the complexity of the SJE system is one of its key strengths in that it goes some way toward illustrating the shared characteristics and, subsequently, the shared heritage of the various ceramic traditions from the Neolithic through to the Middle Nubian periods.

7.1.3 Giuliani's typology

Giuliani's analysis of the Pan-Grave tradition included a typology for decoration, of which only a brief outline has been published. She identified the following motifs:[388]

- Incised herringbone
- Incised criss-cross
- Rows of incised lines
- Incised panel
- Incised/Impressed band filled with incised criss-cross or others
- Irregular geometrical incised pattern filled with incised lines
- Incised spiral
- Dotted / rope impressed lines
- Quadrant filled with incised / impressed lines or others

The strength of Giuliani's approach is that is simplifies the SJE system, for example by condensing the herringbone motif into one category. In spite of having fewer types, Giuliani's system better reflects the range of decorative motifs that are actually present in the Pan-Grave tradition. In some ways, however, the decorative motifs identified by Giuliani are can be somewhat vague and open to subjectivity. Terms such as 'incised panel' and 'quadrant' are

[388] GIULIANI 2006a, pp. 651-653.

open to interpretation, although it is possible that more complete descriptions were provided in her full dissertation.

From the perspective of inter-cultural comparisons, Giuliani identified some differences between Pan-Grave, Kerma, and C-Group decoration, however her conclusions now require revision. For example, Giuliani noted that Pan-Grave herringbone differs from C-Group and Kerma herringbone because it includes a central line from which the oblique lines stem (e.g. **Plate 79a**).[389] This is now known to be incorrect, and examples of Pan-Grave bowls decorated with the herringbone motif but *without* a central line are well attested (e.g. **Plate 79b-c**). Giuliani also claimed that there is limited scope for decoration to provide chronological information given the short timespan of Pan-Grave activity, and instead proposed that any differences in decoration are more likely to be indicative of regional variation rather than chronological developments.[390] Renewed research by the current author has shown that both regional *and* chronological signals can be detected in some Pan-Grave pottery decorative motifs. This point will be discussed further in Chapter 11 of this study.

7.1.4 Gratien's analysis of Middle Nubian pottery decoration

Gratien conducted a survey of Nubian cooking pots (*pots de cuissons nubiens*) and decorated Nubian pottery from the first half of the second millennium BC.[391] Her analysis incorporated pottery attributed to the Pan-Grave, C-Group and Kerma cultures from sites in Upper Egypt to Kerma in the south. As a result of this broad reach, Gratien's work provides a solid foundation upon which to develop a cross-regional and cross-cultural comparison of decoration applied to Nubian pottery. There are, however, some important limitations that should be addressed by any new classification system.

Gratien analysed cooking pots from settlement contexts and decorated pottery from cemeteries, but the problems with comparing assemblages from such different contexts were acknowledged even by Gratien herself.[392] Cultural identification can be difficult to establish in settlement contexts, and in some cases it may not even be possible or appropriate to assign pottery to any particular culture at all. Moreover, many of the examples cited by Gratien are taken from illustrations published in early excavation reports, including Weigall's 1907 survey of Lower Nubia. The accuracy of these reports in terms of the information provided and the

[389] GIULIANI 2006a, p. 653.
[390] GIULIANI 2006a, p. 653.
[391] GRATIEN 2000, pp. 113-148.
[392] GRATIEN 2000, pp. 123-125.

quality of the illustrations means that they should be approached with caution. In general, however, Gratien's analysis presents an important and useful comparative study of Middle Nubian ceramic traditions, offering a broad overview of Nubian pottery styles. While Gratien's study is not Pan-Grave specific, many of the categories that she identified have informed the classification devised for the present analysis.

7.2 A Revised Approach to Pan-Grave Pottery Decoration

Using previous attempts as a starting point, the aim of this chapter to devise a comprehensive classification system that best represents the range and diversity of decorative motifs present in the Pan-Grave tradition as a whole. One of the main problems with existing systems is over-classification. Variations such as line thickness and line spacing are more likely to be the result of individual skills, personal taste, the tool used, and other incidental factors. Such minor variations are therefore deemed meaningless for purposes of classification and attempting to define such superficial differences would place undue importance where none was intended. The system proposed below avoids such over-classification by identifying recurring motifs without being distracted by the minor variations that occur within them. Motifs that occur multiple times at multiple sites can therefore be considered indicative of the Pan-Grave tradition. Unique motifs will also be considered not for purposes of classification, but with the intention of considering the full breadth of styles and motifs that occur within Pan-Grave pottery.

7.3 Placement of decoration

In comparison to C-Group pottery, which is characterised by complex geometric arrangements of incised and impressed motifs that often cover the entire vessel,[393] Pan-Grave pottery decoration is simple, linear, and mostly restricted to horizontal bands around the upper body of the vessel. For Pan-Grave pottery, with the exception of horned bowls, decoration may be organised into the following arrangements (**Plate 69a**):

- Rim-band only
- Upper-body only
- Rim-band and upper body
- Upper-body and base
- All-over

[393] SÄVE-SÖDERBERGH 1989, pp. 34-37 (vol. 1); WILLIAMS 1983, pp. 40-45.

These arrangements are the most frequently attested, although further variations and combinations do occur, for example a completely decorated body with an undecorated rim-band. The decorated zones may or may not be demarcated by an incised line, a row of impressed dots, or a string impression.

Decoration may also be applied to the rim edge, and this usually occurs in association with other decorative motifs elsewhere on the vessel. It is also most common on specific vessel types, especially horned bowls.

Base decoration refers specifically to a separate motif applied to the base of a vessel that is different to that applied to the vessel body. It does *not* refer to vessels with all-over decoration. As the vast majority of the Pan-Grave pottery is identified using diagnostic rim and body sherds, it is possible that base decoration is under-represented in the available data.

Decoration is occasionally applied to the interior surface of a vessel (**Plate 80**). This is especially common for horned bowls where both the exterior *and* interior surfaces are usually, but not always, decorated with corresponding designs. The decorative elements applied to horned dishes are frequently arranged into radial patterns originating at the base point of the vessel and extending out to the rim edge. Rare examples of other vessel forms with decorated interior surfaces are also known, however this appears to be unique to the SJE Concession.[394]

7.4 Decorative techniques

Two decorative techniques dominate the Pan-Grave ceramic tradition – incised decoration and impressed decoration. Painted decoration is all but absent except for one unique and unfortunately unprovenanced sherd in the Petrie Museum that has red and white painted decoration as well incised *and* impressed decoration (**Plate 69b**).[395] The use of red, white, and yellow pigments is attested in pottery of the late C-Group, and this may represent an inter-cultural crossover.[396]

7.4.1 Incised decoration

Incised decoration is by far the dominant form of decoration in the Pan-Grave tradition. The motifs created using this technique comprise straight, usually parallel lines drawn in various

[394] Interior decoration was included as a separate feature in the SJE system (SÄVE-SÖDERBERGH 1989, pp. 41-42 (vol. 1)).
[395] Petrie Museum UC43309.
[396] Coloured decoration is assigned to Phase IIB of the C-Group. See SÄVE-SÖDERBERGH 1989, pp. 36 (vol. 1); WILLIAMS 1983, p. 36; WEIGALL 1907, pl. A.

directions and arrangements to produce a range of motifs. Curved[397] and wavy lines[398] occur but are rare, and there are also examples on which a single continuous line spirals up and around vessels from the base point to the rim (**Plates 84d**).[399]

In most cases, the decoration was executed using a single pointed tool or stylus, which is clearly evident by the often irregular spacing between incised lines. Giuliani proposed that the bone points found in Pan-Grave burials may have been used to execute the incised decoration.[400] Giuliani's idea has merit, but such an assumption is difficult to demonstrate based on the available evidence. Using Mostagedda as an example, bone points were found in seventeen graves, nine of which contained female burials, four males, and the remainder are undetermined.[401] The points cannot therefore be assigned to a particular gender or function, and their use for decorating pottery should remain speculative.

Incised lines vary in thickness from extremely fine scratches to broad, deep grooves. Finer lines are generally used for more complex decoration, while thicker lines appear to have been applied quickly and sketchily. Line thickness is also related to how wet or dry the vessel was when the decorative motifs were incised. Examples have been identified in which the tool has pushed the still very wet clay along the surface, creating a ridge of clay at one end of the line and indicating the direction in which the line was drawn. In other examples, the lines are ragged with small lumps of clay attached to the edges of the line, demonstrating that the clay was still quite wet when the decoration was applied.

It is also possible to deduce the order in which the lines were drawn by observing the way in which the lines cross and intersect. There does not appear to be any consistency in the order of execution, and this variation may be likened to the different order of strokes in the handwriting of different individuals. As an example, the 'feather' motif[402] could be drawn in one of two ways: the central line could be drawn first, followed by the radiating oblique lines, or vice versa. Both methods can be observed, sometimes on a single vessel, demonstrating that there was no set method and suggesting that the final appearance of the motif was more important than the process.

---

397 MANASSA 2012, fig. 6a; BRUNTON 1937, pl. LXXII.6.
398 Museum Gustavianum SJE 47/82:4.
399 See section 7.5.1.i.
400 GIULIANI 2006a, p. 652.
401 Sexing of human remains in early reports is problematic, however Brunton does appear to draw a distinction between male and female pelvises in graves 3251 and 3245 respectively (BRUNTON 1937, p. 120). Gender identification in Brunton's reports can therefore be considered to be fairly accurate.
402 See Section 7.5.1.d

7.4.2 Combed decoration

There is limited evidence for the use of multi-toothed implements (i.e. combs), however this is mostly attested as impressed decoration or as combed scraping on coarse utilitarian cooking-pots (**Plate 40**).[403] The rim band of a bowl from Hierakonpolis HK 47 shows very fine and closely spaced lines that can only have been applied by dragging a comb or brush along the surface of the vessel (**Plate 82c**). The use of combs in the Pan-Grave tradition has been disputed by Giuliani, who has stated that combed decoration is unknown in the Pan-Grave tradition, and that no combs had been found in Pan-Grave burials.[404] The latter statement is so far true, but this does not mean that combs were not used by Pan-Grave potters and it may simply be that they were not deposited in graves. The evidence from the pottery itself shows that multi-toothed implements were certainly used for the decoration of Pan-Grave pottery.

7.4.3 Impressed decoration

Impressed decoration occurs infrequently in Pan-Grave pottery, setting it apart from C-Group pottery, where impressed marks were used extensively. Impressed decoration in the Pan-Grave tradition is most frequently used to create boundary lines that demarcate a band of incised decoration. The most common type of impressed mark is a simple roughly circular dot, created by pressing the tip of a single-pointed tool into the wet clay, presumably the same tool used to create the incised lines. Occasionally, the tool was pressed into the clay at an oblique angle, creating a drop-shaped impression.[405] A horned bowl from Rifeh is decorated with concentric rows of short, straight marks that at first glance appear to be incised but are in fact impressed.[406] Each mark has a raised area in the centre at one end, demonstrating that the tool was thin and hollow, possibly a reed or a small hollow bone (**Plate 72b**).

Two unusual vessels carry decoration that appears to have been created using a stamp of some kind. These vessels are highly unusual for the Pan-Grave tradition as a whole, but are very similar to one another. Both vessels are of US form with vertical walls and complex rims. One is the unprovenanced bowl with red and white painted decoration described above, and the other is said to come from Abydos.[407] The decoration consists of a continuous spiralling groove, within which are shallow, wedge shaped impressions (**Plates 69b, 85b,f**) The striking similarities in shape and decoration could suggested that these vessels come from the same

[403] For example a large cooking pot from Mostagedda Grave 1810A, now at the British Museum (BRUNTON 1937, pl. LXXIV.2).
[404] GIULIANI 2006a, p. 652.
[405] GIULIANI 2006a, p. 652.
[406] Petrie Museum UC17913.
[407] See Section 7.5.1.i.

location, and perhaps were even produced by the same potter. Another unusual bowl also decorated with similar impressed grooves is also known, but this is supposedly from an A-Group context near Sayala.[408]

Comb impressed decoration is rare. This technique is most commonly used to decorate small areas such as rim-bands or rim edges. The toothed implement was pressed into the wet vessel surface to create lines of impressed marks. This is most clear on two sherds from Hierakonpolis HK21A (**Plate 72a**). The rims of both sherds are decorated with very fine comb-impressed decoration. The profiles of both sherds are completely different and they are clearly two different vessels, but the impressions on both sherds are virtually identical and appear to have been produced by the same potter using the same tool. A further example from Rifeh has a rim band showing unusual impressed decoration (**Plate 72c**). In this case, the impressions do not appear to have been produced with a toothed implement or comb, but rather the impression shows a rippled edge that may have been produced using the edge of a shell.

String-impressed decoration is also attested in the Pan-Grave tradition, but occurs only rarely. String impressions are attested on Egyptian pottery but are almost always traces of the manufacturing processes where strings were used to support large vessel forms during the drying process. For Pan-Grave pottery, string impressions are used primarily as a means of demarcating the upper and/or lower limits of a band of incised decoration (**Plate 86c**). Given this apparently deliberate and careful placement, string impressions on Pan-Grave pots may truly be considered decorative elements rather than traces of the manufacturing process. However, it should also be considered that the two string lines may have first been wound around the vessel to support the walls while drying and then incised decoration applied between them, but the generally small size of Pan-Grave bowls suggests that string supports would have been unnecessary.

Mat or basket-impressed wares have not been positively identified among Pan-Grave pottery, whereas the technique is well attested in the Kerma tradition, in particular for pottery found in settlement contexts.[409] Mat impressions are not, strictly speaking, decoration. The mat-impressed surface is instead result of the manufacturing process whereby the pot was built on a woven reed mat.[410]

---

[408] FIRTH 1927, pl. 19.e.
[409] GRATIEN 2000, p. 122-123, fig. 19; ROSE 2012, pp. 18-21; FORSTNER-MÜLLER 2012, p. 66, fig. 13.27; AYERS, MOELLER 2012, p. 111, fig. 4d, fig. 9.
[410] ROSE 2012, p. 18.

7.5 Typology of decorative motifs

The typology of decorative motifs devised for this study is divided into three categories according to the placement of decoration on the vessel: body and rim-band decoration, rim edge decoration, and border line decoration, each with its own range of motifs and variants.

7.5.1 Body and Rim-Band Decoration

Ten main decorative motif types have been identified in the Pan-Grave tradition:

- Hatched decoration (motif H)
- Cross-hatched decoration (motif C)
- Herringbone decoration (motif HB)
- Feather decoration (motif F)
- Lattice decoration (motif L)
- Quadrilateral decoration (motif Q)
- Braid decoration (motif B)
- Zig-zag decoration (motif Z)
- Spiral decoration (motif S)
- Complex / Unique decorative motifs (motif X)

These motifs are primarily used to decorate the upper body of a vessel, but they can also be used on a smaller scale to decorate the rim band. The "Motif X" group acts as a supplementary category for any rare or unique designs that do not fit into other categories.

The ten motif types are listed below with brief descriptions. Schematic illustrations of all motifs and their variants are presented on **Plates 70 and 71**. The schematic representations illustrate the general sense of the motif without the complication of minor variations. Actual examples of each motif are presented on **Plates 73-87.**

a. Motif H: Hatched decoration

Hatched motifs consist of incised, parallel lines drawn in one direction only. The lines do not cross, and spacing between the lines varies from vessel to vessel. Hatched decoration occurs in all Middle Nubian traditions but is used in different ways. In the Pan-Grave tradition, hatched decoration is arranged in bands around the upper body of a vessel.[411] In the C-Group

[411] GRATIEN 2000, pp. 119-120, fig. 16.

and Kerma tradition, hatched decoration is commonly used to fill triangles descending from the vessel rim.[412]

Three variants of H-type motifs have been identified in the Pan-Grave tradition:

- H.o *Oblique hatch* (**Plate 73**)

Incised lines that are drawn at an angle to the rim. The angle of the lines varies from vessel to vessel. This is the most common variant of motif type H.

- H.v *Vertical hatch* (**Plate 74a**)

Incised lines drawn perpendicular to the rim. This variant is rare and usually occurs on vessels with thicker walls and wet-smoothed surfaces.

- H.h *Horizontal hatch* (**Plate 74b**)

Horizontal lines running around the vessel body, parallel to the rim. This motif is very rare in the Pan-Grave tradition but occurs more frequently in the C-Group repertoire.[413]

b. Motif C: Cross-hatched decoration

Cross-hatched motifs are by far the most common type of decoration attested in the Pan-Grave tradition. The motif consists of two or more sets of hatched incised lines, each set running in different directions, one crossing over the other. Spacing between the lines in each set may be the same or different. Cross-hatched decoration also occurs in the C-Group and Kerma traditions where it is usually used as fill for triangles below the vessel rim.[414] Some examples of pottery with cross-hatched decoration around the upper body have been identified as Kerma pots, but these examples could equally be Pan-Grave.[415]

Four variants of cross-hatched decoration are identified for Pan-Grave pottery:

- C.r *Regular cross-hatch* (**Plate 75**)

Two sets of crossing oblique lines; the line spacing is the same in both sets.

- C.i *Irregular cross-hatch* (**Plate 76**)

Two set of crossing oblique lines; line spacing of each set is different.

- C.b *Banded cross-hatch* (**Plate 77**)

Two sets of opposing oblique lines in which one set of lines is evenly spaced, while the lines of the opposing set are drawn in groups forming bands. The bands can consist of anywhere

412 GRATIEN 2000, pp. 116-117, fig. 4-6.
413 GRATIEN 2000 fig. 17.
414 GRATIEN 2000, pp. 117-118, fig. 7
415 GRATIEN 2000, fig. 14/1.B. Examples from Wadi el Khowi Site P37 are discussed in Section 8.5 of the present study, and the current author prefers a Pan-Grave identification for these vessel.

between two and seven lines, sometimes more. The number of lines in each band is not necessarily consistent on one vessel.

- C.x *Complex cross-hatch* (**Plate 78**)

Complex cross-hatch describes all other kinds of cross-hatched motifs that do not fit into one of the above variants. Two main kinds of Motif C.x have been identified in the Pan-Grave tradition. One is decoration consisting of *three* sets of crossing lines, e.g. two sets of oblique lines and one set of vertical lines. The other consists of two sets of incised lines that are not in corresponding opposite directions, e.g. one set of oblique hatching crossed by one set of vertical hatching.

c. Motif HB: Herringbone decoration

Bands of parallel, oblique incised lines arranged into horizontal registers. The lines in each register are drawn in the opposite direction to those above and below creating a broken zig-zag arrangement. The motif may be compared to the weave pattern seen in nets used for suspending ceramic vessels, examples of which were found in the well-known rishi burial found by Petrie at Qurneh (**Plate 79d**). HB motifs may or may not be further defined by an incised line running through the point at which the oblique lines intersect. HB-type motifs are also attested in the C-Group and Kerma traditions, where it is used to either decorate the vessel body[416] or as fill decoration in triangles descending from the vessel rim.[417]

Two variants of herringbone decoration are included in this classification system:

- HB.b *Banded herringbone* (**Plate 79a**)

This motif is defined by an incised line drawn through the point at which the oblique lines intersect.

- HB.f *Free herringbone* (**Plate 79b-c**)

The same motif as HB.b but *without* the incised line at the points of intersection. This motif is especially common on the exterior of horned bowls, and it presence is contrary to Giuliani's statement that this type of herringbone motif not present in the Pan-Grave ceramic tradition.[418] Its frequency on horned bowls shows that it is indeed present and appears primarily on a vessel form unique to the Pan-Grave tradition.

[416] GRATIEN 2000, pp. 114-115, fig. 1B-E.
[417] GRATIEN 2000, p. 116 fig. 3.
[418] See Section 7.1.3.

d. Motif F: Feather decoration

This motif consists of two sets of short, incised oblique lines radiating at an angle from a central incised line. The motif is comparable to type HB.b, but feather motifs are used as standalone elements that 'float' on the surface of the vessel. Like the herringbone motifs, feather motifs also occur most frequently on horned bowls, and only two examples of a restricted bowl decorated with feather motifs are known from the SJE Concession (**Plate 80d-e**).

Two variants have been identified:

- F.l *Long feather* (**Plate 80a-c**)

The short oblique lines are evenly distributed along the length of the central line. These motifs are usually arranged radially on the vessel interior or exterior, crossing at the base point and extending out to the rim edge.

- F.e *End feather* (**Plate 80c-e**)

The short oblique lines are grouped at one or both ends of the central line. The oblique lines of the motif are graduated to create a triangular 'feather'. This motif is attested both as a floating element that is not attached to the overall decoration, or can be arranged radially, crossing through the base point and extending to the rim edge with the 'feather' occurring at each end. This variant is similar to decorative elements attested on C-Group and Kerma cooking pots.[419] In this case they resemble triangles descending from the vessel rim, each triangle filled with concentric V-shaped lines, with a central line drawn through the vertices and extending from the apex of the triangle.

e. Motif L: Lattice decoration

Incised oblique lines are drawn in groups forming bands that cross over one another creating diamond-shaped zones (**Plate 81**). This type of decoration may be interpreted as a representation of string nets that were used to suspend vessels, such as those found still intact on the Kerma beakers from the well-known rishi burial at Qurna (**Plate 81d**). There are no variant groups for lattice decoration, but the motif varies in terms of the number of lines that make up each band, which usually ranges between 3 – 7 lines. The number of lines in each band varies from vessel to vessel, but the number of lines in the bands on a single vessel is almost invariably the same. L-Type motifs appear to be unique to the Pan-Grave tradition.

[419] GRATIEN 2000, p. 116, pl. 4B.

f. Motif Q: Quadrilateral zones

This complex motif is easily identified through incised hatching arranged into quadrilateral zones covering the entire exterior surface of a vessel (**Plate 82**).[420] This motif may be interpreted as a representation of woven matting or basketry, however actual samples of matting from Pan-Grave burials shows a different weave pattern.[421]

g. Motif B: Braid decoration

Braid motifs are composed of oblique hatching arranged into zones that intersect but do not fully cross over one another, creating the impression of bands that are woven or 'braided' over and under one another (**Plate 83**). The zones vary in shape from triangular to rhomboid, but the defining factor is that the zones interlock. Some crossing may occur, but the lines in each zone do not *fully* cross one another (**Plate 83b**).

The zones in braid decoration are not clearly delineated, and instead the hatched lines are graduated in such a way that they naturally form zones. Gratien made this same observation and identified two variants of this motif that are culturally indicative: The first type, which she assigns to the C-Group and Kerma traditions, has clearly delineated triangular zones and is called *les triangles imbriqués.*[422] The second type has undefined triangular zones as described above, is called *les hachures contraries,*[423] which she assigns to the Pan-Grave tradition. Gratien's second variant corresponds to the braid motif as it is defined here.

Two types of braid design are included in the classification applied to this study:

- B.h *Horizontal braid* (**Plate 83a-c**)

The braid motif is placed in a horizontal band around the upper body of a vessel. Minor variations in this motif occur in the extent to which the zones interlock and overlap.

- B.b *Banded braid* (**Plate 83d**)

The vessel surface is divided into narrow bands delineated by incised lines. Each band is then filled with the braid motif.

h. Motif Z: Zig-Zag decoration

Bands of incised parallel lines are arranged into a zig-zag pattern running horizontally around the vessel. The number of lines in each band varies, usually from three to seven lines.

[420] For comparison see: GRATIEN 2000, p. 120, fig. 15A.
[421] For examples of Pan-Grave matting from Moalla, see MANASSA 2012a, p. 121, fig. 4.
[422] GRATIEN 2000, p. 118, fig. 10
[423] GRATIEN 2000, p. 119, fig. 12

Comparable motifs are attested on Nubian cooking pots that may be assigned to the C-Group and Kerma traditions.[424]

In the Pan-Grave tradition, this motif is found mostly on fine wares and occurs in two variants:

- Z.f *Filled zig-zag* (**Plate 84a-b**)

This motif is composed of two elements: the zig-zag itself consists of oblique bands of parallel lines arranged in opposing directions to create a zig-zag motif that runs horizontally around the vessel body. The triangular zones in between the zig-zag bands are filled with hatching, usually horizontal.

- Z.p *Plain zig-zag* (**Plate 84c**)

This motif consists of the zig-zag bands of parallel lines as described above, but without the hatching fill in the triangular interstitial zones.

i. Motif S: Spiral decoration

This motif consists of deep incised grooves that spiral around a vessel from the base point to the rim (**Plate 84d-e, 85**). This type is rare and occurs mainly in Upper Egypt. All known examples are made in the same ware type (R.u) and have comparable surface treatments to both the exterior and interior surfaces. Moreover, all examples have a hole at the very base of the vessel, the function of which remains unknown.[425] A unique example from Site 24-I-4 at Faras West is decorated with a single continuous groove that spirals all the way from the base point to the rim (**Plate 84d**).[426] This vessel is dated to the so-called 'Transitional Period' in Lower Nubia, marking the transition from the late Second Intermediate Period into the early 18th Dynasty.[427] Spiral decoration and its distribution is discussed in further detail in Chapter 11.

j. Motif X: Complex/unique motifs

The designs in this category are unique and hence are largely uninformative for an analysis of decoration or for any subsequent analysis of chronological sequences and regional variation. However, the unique decorative motifs demonstrate the range of variation that is present in

[424] GRATIEN 2000, pp. 115-116, fig. 2.

[425] Two examples in the Boston MFA, said to come from Abydos, have holes that were created before the vessel was fired. The holes are small and there is evidence that the still wet clay was pushed inwards (Susan Allen, personal communication). The hole in the example from Mostagedda is much larger and appears to have been created after firing.

[426] NORDSTRÖM 2014, pl. 24c.

[427] SÄVE-SÖDERBERGH 1989, p. 23 (vol. 1).

the Pan-Grave repertoire, and also the extent to which Pan-Grave potters could deviate from the set repertoire of decorative motifs. Despite such variations in terms of decoration, the vessels are still recognisable as Pan-Grave owing to other features such as shape and surface treatment, demonstrating the remarkable continuity in the tradition.

7.5.2 Rim Edge Decoration

Decorative motifs applied to vessel rim edges are limited in range and occur almost invariably on horned bowls. Three variants have been identified in the Pan-Grave tradition. As with body decoration, these types include minor variations that vary between individuals. Minor variations are not considered in the classification as it would over-complicate an otherwise simply classified and uncommon characteristic.

The three types of rim edge decoration are:

- *Notched*

Notched rim decoration comprises short but deep incisions on the rim edge that are perpendicular to the direction of the vessel rim. The depth and fineness of these notches varies from vessel to vessel, ranging from small fine dashes to deep notches that give the rim edge a crenelated appearance. This type of rim edge decoration is almost exclusive to horned bowls (**Plates 79c, 80b-c**) but is also infrequently attested on other forms (**Plate 79b**).

- *Incised*

Incised decoration on rim edges is infrequent. As such, no distinction is made between hatching, cross hatching, zig-zag or any other arrangement or variant thereof. In most cases, the incised rim edge decoration consists of single incised lines (**Plate 79a**) or X-like crosses around the rim that may be likened to cross-hatching (**Plate 83a**).

- *Impressed*

To date, impressed rim edge decoration has only been attested at one site – HK21A. On both of these vessels, the impressed marks were created using the same toothed implement used to decorate rim bands of the same vessels (**Plate 72a**).

7.5.3 Border Lines

A border line is a linear element that demarcates a decorated zone. In the context of decoration, border lines refer only to something other than a simple continuous incised line (**Plate 86**). Therefore, this *does not* include the incised lines that define the set-off rim that is diagnostic for Pan-Grave pottery (rim type D3). Two types of border line that are considered

decoration are included in the current study, each defined by the technique used to produce them:

- *Dotted Line (D)*

A row of impressed dots arranged in a line (**Plate 86a-b**). The marks are created by pressing a single pointed tool into the wet surface of a vessel. The dots may be circular or 'drop-shaped'. Circular dots are created by pressing the tool at a perpendicular angle into the surface, and 'drop-shaped' impressions result from applying the tool at an oblique angle.

- *String Impression (S)*

An impressed mark made by pressing a string or cord into the surface of the wet clay (**Plate 86c**). This technique is rare and is attested mainly in Upper Egypt. Examples from Lower Nubia have not yet been identified.

7.5.4 Base Decoration

Base decoration in the Pan-Grave tradition is relatively rare, although this may be a product of fragmentary preservation and over-emphasis on rim sherds. On complete examples, base decoration generally does not occur in isolation and is usually on vessels with decoration also applied to the upper body.

The decorative motifs applied to the base are limited in range and generally consist of a design that resembles a 'spider web' pattern (**Plate 87**). Incised lines cross through the base point and extend up toward the rim. This creates a series of triangular zones converging on the base point. Each of these zones is then filled with horizontal lines drawn between the radiating lines. This motif varies in the number of radiating lines employed, the minimum number being four dividing the base of the vessel into quarters.

PART THREE

PAN-GRAVE POTTERY IN CONTEXT

Chapter 8

The Pan-Grave culture beyond the Second Cataract and Nile Valley

8.1 Looking for Pan-Grave pottery in the South and the East

This chapter considers pottery found outside of the Upper Egyptian and Lower Nubian Nile Valley – that is, from areas not traditionally associated with the Pan-Grave culture. The overall aim is to investigate the extent to which evidence from these other sites might attest to the presence of Pan-Grave communities in Upper Nubia and the surrounding desert regions. The defining characteristics of the Pan-Grave tradition that were established in Part Two will now be used as a basis for comparison in order to assess the degree of similarity or difference in ceramic assemblages from sites outside of the core dataset. The expanded region extends south along the Nile Valley to the Fourth Cataract, east to the Red Sea Coast, and into the Atbai Desert of north-eastern Sudan. Much of the ceramic evidence from these areas shows clear and undeniable similarities with assemblages from sites in the core dataset, and it is these similarities that warrant the reanalysis and re-interpretation of the cultural and social interactions taking place across Egypt and Nubia. The geographic reach of the Pan-Grave tradition will also be reconsidered on the basis of the available ceramic data.

8.2 The Dataset

The importance of evidence from outside of the 'traditional' Pan-Grave sphere is directly linked to theories that connect the Pan-Grave culture with the Medjay and the Eastern Desert. Agordat, Erkowit, and Khor Arbaat were central to Bietak's concept of the *Aktionsradius* ('sphere of activity') that linked the Pan-Grave culture and its origins to the Eastern Desert.[428] However, the quantity of finds from the sites listed by Bietak is low and seems inadequate to form such significant conclusions, suggesting an unconscious manipulation of evidence in order to align with the dominant theories of the time.

Although archaeological evidence for the Pan-Grave culture is concentrated in Upper Egypt and Lower Nubia, it is now clear that pottery showing strong similarities to that of the Pan-Grave tradition can be identified beyond these regions. Finds from sites outside the Nile Valley are rarely explicitly described as being of the Pan-Grave tradition and are more tentatively identified as "Pangrave [sic.] style"[429] or as being related to the Pan-Grave

[428] BIETAK 1966, p. 71. For a detailed analysis and critique of Bietak's *Aktionsradius*, see SADR 1987, pp. 279-283.
[429] For example SÄVE-SÖDERBERGH 1989, p. 15 (vol. 1).

culture.[430] Pottery from the Eastern Desert is generally categorised as being of one or another desert culture, such as the Jebel Mokram Group,[431] in spite of irrefutable similarities to the Pan-Grave tradition. Recent excavations in the Dongola Reach and at the Fourth Cataract have uncovered further pottery bearing a striking resemblance to confirmed Pan-Grave pottery from Upper Egypt and Lower Nubia. The pottery found at these sites has been mostly assigned to the Kerma Culture on the basis of geography and the absence of other Pan-Grave artefacts. At the same time, the similarities to Pan-Grave pottery were not denied.[432]

The pottery examined in this chapter comes from the sites listed in **Table 3.3**. These sites are mostly cemetery contexts, however material found during surface surveys and from settlement remains will also be included, which admittedly deviates from the originally stated approach of using only cemetery material to ensure that cultural identification is secure. The use of only cemetery pottery was necessary for Part Two because in order to identify the defining characteristics of Pan-Grave pottery, we first needed to know with some level of certainty that the pottery being studied is actually of the Pan-Grave tradition. By contrast, the aim of this chapter is to consider the cultural identity of pottery bearing Pan-Grave characteristics that does *not* come from an obviously Pan-Grave context. The pottery discussed throughout this chapter will *not* be used to define or categorise Pan-Grave pottery - this has already been done. Instead, it is the cultural context of that pottery that is now being considered.

It is also important to recognise that surface survey material is often all that is currently available for many sites in the Eastern Desert, where extensive excavation is yet to be conducted. The same situation applies for much of the material found as part of the Northern Dongola Reach Survey (NDRS). The more inclusive approach taken in this chapter allows *all* material to be considered, does not privilege certain assemblages over others, and does not assume that current cultural identifications are correct. It is, however, important to acknowledge the limitations associated with the contexts and the difficulties involved in linking cemetery data to settlement and survey evidence.

8.3 Questions of Definition: what constitutes a Pan-Grave assemblage?

A central consideration in approaching material from outside of the traditional Pan-Grave sphere is the question of what actually constitutes a Pan-Grave context. The sites considered in this chapter are generally not classified as Pan-Grave sites, but the archaeological evidence

[430] BIETAK 1987, p. 123; WELSBY-SJÖSTRÖM 2001a, p. 253.
[431] See Section 8.9.2.
[432] See Sections 8.5 -8.10.

from Upper Egypt and Lower Nubia suggests that there is no such thing as a 'typical' Pan-Grave site in the first place.

Existing literature creates the impression that Pan-Grave cemeteries in Upper Egypt are homogeneous and that one site may easily be compared with another. This is far from true, and Pan-Grave sites and their associated assemblages cannot always be directly compared with one another. Each site has its own character, and many even show a range of internal variation, but all of the sites are united by commonalities in their material assemblages. The overall impression, therefore, is that the archaeological record of the Pan-Grave culture is characterised by broad variation within a limited range. Therefore, it is important to consider the possibility that pottery thought to be of Pan-Grave tradition found at sites that are *not* typical for the culture could still belong to the same cultural entity.

This brief excursus considers the difficulties associated with identifying a Pan-Grave cemetery or assemblage, and discusses why it is inappropriate to assume that all Pan-Grave assemblages should be the same or even comparable. In order to demonstrate this point, the focus will be shifted from ceramics to three other forms of evidence – grave shape, grave superstructure, and faunal remains – to illustrate the broad variation between and even within sites and Pan-Grave assemblages.

8.3.1 Grave Shape

Grave shape is often referenced in relation to Pan-Grave contexts. The accepted standard is that Pan-Grave burial pits are circular in plan, and that this type of grave is present at all Pan-Grave sites in Upper Egypt and Lower Nubia. This is not incorrect. Circular graves do occur at all Pan-Grave sites, but they are not the only type of grave. It is well known that oval and even deep rectangular shafts occur at some Pan-Grave sites, thought to be the result of Egyptianisation (**Plate 88**).[433] Unlike circular graves, rectangular graves do *not* occur at all sites and are mostly associated with larger cemeteries such as those at Mostagedda and Balabish in Upper Egypt, and SJE Site 47 in Lower Nubia.

Rectangular graves were not included in either of the typologies that Bietak devised for the Pan-Grave culture, creating the impression that circular graves are the only type. Subsequent researchers have mostly overlooked this omission, which is surprising considering that rectangular Pan-Graves had long been known at cemeteries in Upper and Middle Egypt. A

[433] DE SOUZA 2013, pp. 110-112, 116-118; SÄVE-SÖDERBERGH 1989, p. 18 (vol. 1); WAINWRIGHT 1920, p. 8; BRUNTON 1937, p. 122. See also Section 2.1.6.

recent re-evaluation of the distribution of grave shape conducted by the current author has identified potential links between grave shape and chronological sequences.[434] At SJE Site 47 at Debeira East, for example, the assemblages from rectangular graves show evidence of being later in date than circular graves at the same site. Variation in grave shape therefore appears to be linked as closely to chronology as it is to Egyptian influence.

Overall, the use of grave shape as a defining characteristic of Pan-Grave sites and contexts is problematic. Circular graves are not the only type of grave that occurs at Pan-Grave sites, and they are also commonplace in the C-Group and Kerma cultures, making this criteria of limited use when attempting to differentiate one culture from another in the absence of more diagnostic artefacts.

8.3.2 Grave Superstructure

The grave superstructure, or rather the lack thereof, is also often considered a useful factor in identifying a Pan-Grave burial, however this feature is equally as variable as the graves themselves. The first Pan-Grave burials to be discovered at Hu Cemetery X were not marked by any form of superstructure, however it is thought that these graves may have been heavily denuded. Likewise, no superstructures were recorded at the large Pan-Grave sites in Middle Egypt, creating the impression that superstructures are not a feature of Pan-Grave burials. An exception to this is the small cemetery at Tod, where traces of mud brick walls were preserved above the grave pits (**Plate 89a**).[435] In Lower Nubia, simple stone-ring superstructures were found atop *some* Pan-Grave burials at most sites including Aniba, Sayala, Adindan Cemetery K and Debeira East (**Plate 89b**).

More recent excavations of Pan-Grave sites in Upper Egypt have revealed remains of simple superstructures, but there is little consistency in their appearance. There is no better indication of the variation in Pan-Grave superstructures than that seen at Hierakonpolis. The graves at site HK21A are heavily plundered, but are clearly marked by rings of flat chunks of limestone (**Plate 90a**).[436] At HK47, approximately only 1.5 km away, the graves are topped by mounds of accumulated sand that was filled with Predynastic and Early Dynastic sherds and lithic material that may have been an incidental component of the surrounding debris.[437] Large fist-sized stones scattered across the site may also be remnants of stone ring superstructures

[434] DE SOUZA 2013, pp. 111-113.
[435] BARGUET 1952, p. 19, fig. 3.
[436] FRIEDMAN 2001a, p. 34.
[437] Compare FRIEDMAN (2001a, p. 36) who suggests that the Predynastic pottery was purposely collected by the Pan-Grave people. Friedman also notes that there is a lack of Predynastic black-topped pottery and suggests that this was a deliberate avoidance by the Pan-Grave people because it was too similar to their own pottery.

(**Plate 90b**). This striking difference between HK21A and HK47 is a clear indication of the broad spectrum of variation that is observable in the archaeological record for the Pan-Grave culture. It remains unclear if these variations are linked to chronology, *intra*-cultural differences, or simply availability of materials. What is clear is that the presence and type of superstructure by itself cannot be taken as an indicator of Pan-Grave identity.

8.3.3 Faunal remains

Painted animal skulls, frontal bones, and horns are also considered a defining characteristic of Pan-Grave sites, however their manifestation is not consistent between sites and across regions (**Plate 91a**).[438] The choice of animal varies from context to context. The most commonly found animals are goats and sheep, however bovid skulls, frontal bones, and horns are also found.[439] The choice of animal can most likely be connected to the subsistence strategies of a particular community and the animals that they chose to keep or sacrifice.[440] There is also variation in the types of bones that are used. Most often only the frontal portion of the animal's skull is deposited with the horns attached, and cut marks on the bones show that these were produced close to the time of deposition. In other instances, only the horn cores are deposited.

The bones may or may not be decorated with red and black paint, usually in the form of dots or linear patterns (**Plate 91a**). Examples from Mostagedda depict lotus blossoms and eyes (**Plate 15b**),[441] and the most famous example of this artefact type depicts what is thought to be a male Pan-Grave soldier next to a line of hieroglyphic text that has long been presumed to be his name (**Plate 91b**).[442] These figurative motifs appear to be specific to Egypt and are most likely evidence of Egyptian influence. Figurative decoration is *not* known from Lower Nubian sites, and instead geometric patterns or arrangements of dots are the sole form of painted decoration in this region.[443] Many other examples are undecorated.

---

438 A key text on the topic of faunal remains in Pan-Grave contexts is BANGSGAARD 2013.

439 BANGSGAARD 2013, pp. 290-291. Bangsgaard lists the following percentages of different species in Pan-Grave contexts in the SJE Concession only: 74% goat, 23% sheep, and 3% cattle. Bangsgaard also presents a list of the quantities of animal horns and skulls at cemeteries in Upper Egypt (BANGSGAARD 2013, p. 293).

440 Bangsgaard has noted the predominance of female animals which she suggests reflects a "herd-like structure" (BANGSGAARD 2013, p. 291). See also WESCHENFELDER 2014, p. 359; SÄVE-SÖDERBERGH 1989, p. 18.

441 BRUNTON pl. LXXVI.65.

442 BRUNTON 1937, pl. LXXVI.66. See also WESCHENFELDER 2014, p. 362, pl. 3; COHEN 1992, pp. 30-33; SCHNEIDER 2003, pp. 187-188. Current research sheds doubt on the traditional reading of the hieroglyphs as "Qeskanet" (Julien Cooper, personal communication), making it difficult to ascertain whether the hieroglyphs refer to the person's name or some other descriptor.

443 BANGSGAARD 2013, pp. 291-292; BANGSGAARD 2014, p. 353, pl. 4.

The way in which these animal bones were deposited also varies. Deposits of large quantities of animal skulls and horns have been found at sites in Middle Egypt, and many are not associated with any particular burial. At Mostagedda, 47 pairs of horns were found in deposit 3226 and approximately 40 pairs were found in deposit 3252.[444] In both cases, the horns were arranged in three or four rows. Also at Mostagedda, horns were found in deposits with Egyptian pots and bead jewellery.

At Debeira East SJE Site 47 a total of 418 skulls and/or horns were found across 29 contexts. Rows of skulls are placed in troughs that arc around the grave (**Plates 88c, 91c**), especially in Lower Nubia. At SJE Site 47, the number of skulls deposited in such troughs ranged from two skulls up to 65 skulls.[445] This practice may be compared to the large Kerma burials surrounded by rings of cattle skulls, although the Pan-Grave versions are on a much smaller scale. The association with large graves may denote the deceased as an individual of high rank within the community.

Once again, the broad variation in type and size of faunal deposit is not consistent across Pan-Grave sites. Moreover, this feature is not present at all Pan-Grave sites and, as such its absence cannot be interpreted as a site not being Pan-Grave.

8.3.4 Implications of variation

It is clear that the material expression of Pan-Grave culture is by no means homogeneous and differs greatly both between sites and within a single site. The variations are most likely due to a range of factors including the nature of interactions with other cultures, social structure, chronology, and geography. Availability of materials may also have been an important factor, clearly demonstrated by the use of mud brick at Tod and accumulated sherds at Hierakonpolis for the construction of superstructures. The level of variation in almost every aspect of Pan-Grave material culture is evidence that it should not be viewed as a monolithic entity. The important thing to note, however, is that the broad variation occurs within an identifiable range, enabling the variations to be connected to the same overarching culture or tradition.

In relation to the pottery discussed in this chapter, the variation seen at sites that are known to be Pan-Grave shows that the absence of one or more supposedly diagnostic features does not necessarily preclude a Pan-Grave identification. The evidence should instead be considered

[444] BRUNTON 1937, p. 131.
[445] BANGSGAARD 2013, p. 29. See also SÄVE-SÖDERBERGH 1989, pl. 82-83 (vol. 2).

within its broader context, taking into account factors such as social, chronological, and geographic context.

8.4 Approach and Methodology

The above discussion demonstrates that the varied expression of Pan-Grave material culture warrants an expansion of the framework within which to analyse the Pan-Grave ceramic tradition. The evidence from the sites in Upper Nubia and the surrounding desert regions are a long way away from what is traditionally viewed as the centre of Pan-Grave activity. If the pottery discussed in this chapter can legitimately be associated with the Pan-Grave tradition, as the current author suggests it should, then it would significantly expand the corpus in terms of quantity, but even more so in geographic reach.

The sites listed in **Table 3.3** will now be presented, describing the features of each locality and the pottery found there that shows Pan-Grave characteristics. For each location, the pottery will be analysed against the defining criteria for Pan-Grave pottery as identified in Part Two. The primary characteristics that will be considered are shape, ware, and decoration, as these features have been identified as the most diagnostic for the Pan-Grave tradition. The aim of this process is to establish the extent to which pottery from these outlying regions does or does not fit within the Pan-Grave ceramic tradition. Closer investigation clearly demonstrates the undeniable similarities with Pan-Grave assemblages in Upper Egypt and Lower Nubia. It is therefore anticipated that much of this pottery can be incorporated into the overall analysis, significantly expanding the available dataset and possibilities for identifying regional and chronological patterns.

8.5 Wadi el Khowi, Site P37

8.5.1 The Site

The most 'Pan-Grave-like' pottery from the Northern Dongola Reach Survey (NDRS) was found at Site P37 near Wadi el Khowi on the east bank of the Nile. The cemetery has been divided into two parts – a north mound[446] and south mound[447] – and a total of 53 features were recorded across both. All graves are circular or oval in form and measure up to 2.5 m in depth. Rectangular graves were not identified. There are noticeable differences between the graves in the northern and southern parts of the cemetery that may be the result of local geology. The graves in the northern part are dug into loose sand that in places was so soft that

[446] WELSBY 2001, p. 206.
[447] WELSBY 2001, p. 215.

excavation of certain features had to be abandoned. By contrast, graves in the southern part of the cemetery were cut into a firmer layer of alluvial deposit. Superstructures comprising circles of upright stones were preserved for some graves, especially in the southern part of the cemetery. The mode of burial was consistent across the entire cemetery, with the deceased being buried in a contracted position, head to the east facing north. Variability could be identified in the wealth of the individual assemblages and also in grave size, which may suggest social stratification. Pottery identified as *Kerma ancien* was collected from the northern part of the cemetery, while the pottery from southern area has been dated to *Kerma moyen*, suggesting that the differences between the two parts of the cemetery may also be linked to chronology.

The association with the Kerma culture is based primarily on the grave types, material assemblages, and the location not far to the south of Kerma itself. The cemetery does not show characteristics that can be obviously identified as Pan-Grave. Grave shape on its own cannot be considered a reliable indicator, as all Middle Nubian cultures sometimes buried their deceased in circular or oval graves. There are a handful of pottery vessels from the southern and supposedly *Kerma moyen* part of the site that bear a striking resemblance to Pan-Grave pottery from well known Pan-Grave sites, which will be discussed below. Other features are common to both the Kerma and Pan-Grave traditions. First is a row of 19 cattle bucrania arranged in an arc around grave (G3)3, a feature known from both Pan-Grave and Kerma contexts.[448] The use of cattle skulls is more common for the Kerma culture, but it is not unknown in Pan-Grave contexts.[449] Deposition of bovine skulls in an arc-shaped trough around the grave is best known from Kerma contexts, but similar curved trenches of animal skulls are also known at Pan Grave sites. Despite the differences, this is a clear example of an overlap between the two cultures.

Two pits thought to predate the burials at P37 are described as "oval, boat-shaped" features filled with burnt alluvium and a white ashy substance.[450] Similar features have been identified at Pan-Grave sites in Upper Egypt. At Hierakonpolis HK47, a layer of burnt dung was placed at the bottom of grave pits.[451] Myers also observed a similar feature in Pan-Grave contexts at Armant.[452] In the case of Site P37, the pits do not appear to have been used for burial and may simply be remains of hearths. Hearth features were also identified at Armant, and Myers

[448] WELSBY 2001, p. 217.
[449] BANGSGAARD 2013, pp. 290-291; BRUNTON 1937, p. 130. The ox skull with the painted human figure is the best known example (BRUNTON 1937, pl. LXXVI). A painted bovine horn from Mostagedda grave 3114 is held in the British Museum, accession no. EA63201.
[450] WELSBY 2001, p. 206.
[451] FRIEDMAN 2001a, p. 35.
[452] MYERS, unpublished mss. Courtesy the Lucy Gura Archive, Egypt Exploration Society. Thank you to Kate Liszka for providing scans of these documents.

likened the phenomenon to modern nomadic groups burning goat dung in cemeteries to deter wild animals from eating the newly interred human remains. Goat dung was used specifically as it burns slowly and can continue to smoulder for up to three days.[453] Besides the faunal remains and ash filled pits, there is no evidence of other Pan-Grave artefact types, for example mother-of-pearl spacer beads.

8.5.2 The Pottery

Overall, the cemetery itself shows stronger affinities with the Kerma culture, however there are also features that may be linked to the Pan-Grave tradition. Most striking are the similarities between Pan-Grave pottery from Upper Egypt and Lower Nubia when compared to some of the *Kerma moyen* pottery found in the southern part of Site P37 (**Plate 92**). The assemblages from Site P37 also show numerous C-Group characteristics, in particular the complex incised and impressed decoration on some vessels.[454] Welsby-Sjöström has rightly suggested that it is neither possible nor appropriate to assign a definite cultural affiliation to such a mixed assemblage, and further suggests that it may not be possible to draw such clear distinctions between ceramic traditions in Upper Nubia.[455] This situation may be likened to that seen at El Widay I, where pottery bearing undeniable similarities to Pan-Grave pottery from further north was found in contexts that are not typically one culture or another.[456] It is therefore possible that the ceramic assemblage at Site P37 reflects wide-reaching and varied cultural contact and exchange between Nile Valley and desert groups.

Perhaps the clearest example of pottery showing Pan-Grave characteristics is a red-slipped black-topped bowl with incised regular cross-hatch decoration from P37(F3)20 Grave 3 (**Plate 92b**), which was assigned by the excavators to the Kerma tradition.[457] The bowl is of the NDRS shape type B20.11[458] with NDRS decoration type D41.1, which is equivalent to the irregular cross-hatch motif in the system applied to the current study.[459] The most striking feature of this bowl is the well-defined black-top that appears to have been artificially applied and burnished before firing. This characteristic is uncannily similar to Pan-Grave pottery from sites as far north as Middle Egypt, linking this vessel to the Pan-Grave tradition. Therefore, the current author proposes that this vessel shows a closer affinity to the Pan-Grave tradition rather than Kerma.

---

[453] MYERS, unpublished mss. The use of goat dung also corresponds to the goat skulls associated with Pan-Grave burials.
[454] WELSBY-SJÖSTRÖM 2001a, p. 302 fig. 5.33. Bowls numbered B15.1, B15.2, and B15.3.
[455] WELSBY-SJÖSTRÖM 2001a, p. 253.
[456] See Section 8.7.
[457] The British Museum, accession no. EA81932.
[458] WELSBY-SJÖSTRÖM 2001a, p. 308 fig. 5.39; WELSBY-SJÖSTRÖM 2001b, p. 350.
[459] WELSBY-SJÖSTRÖM 2001a, p. 343 fig. 5.62.

A close parallel for this vessel in terms of shape and decoration can be identified at SJE Site 47, although that example is uncoated and the black rim band is not burnished (**Plate 75a)**.[460] A further three vessels from the same context at Site P37 also show strong similarities to Pan-Grave pottery.[461] All three are restricted bowls decorated with incised cross-hatching in varying arrangements, and all three have an undecorated black rim band. Other bowls with incised cross-hatch decoration and set-off rim bands were also found in the following contexts at Site P37:

- P37(G3)3: one bowl, NDRS form type BU5.8[462]
- P37(G3)28: one bowl, NDRS form type BO20.5[463]
- P37(G4)2: one bowl, NDRS form type BO8.5[464]
- P37(G4)8: one bowl, NDRS form type BU5.5[465]
- P37(G4)31: one bowl, NDRS form type B20.18[466]

In all of these cases, the pottery showing Pan-Grave characteristics occurs in graves where the other ceramic vessels are more similar to Kerma pottery than C-Group in terms of form and decoration. Overall, it appears that graves containing pottery showing Pan-Grave characteristics do not contain pottery showing C-Group characteristics.[467] Decorative motifs such as inverted triangles filled with incised or impressed decoration occur equally in the Kerma and C-Group repertoires[468] and, given the date and location, a Kerma association seems more likely. Welsby-Sjöström is rightly cautious in applying a fixed identification to culturally mixed assemblages, and acknowledges the presence of Kerma, C-Group and Pan-Grave elements in the assemblage at Site P37.[469] Importantly, there appears to be a connection between Pan-Grave and Kerma pottery that does not exist between Pan-Grave and C-Group pottery. This same pattern can be identified at sites in Upper Egypt and Lower Nubia, where there is almost no evidence of mixing between C-Group and Pan-Grave material in funerary contexts.

---

460 Museum Gustavianum SJE 47/A.
461 WELSBY-SJÖSTRÖM 2001b, p. 350 fig 6.2.
462 WELSBY-SJÖSTRÖM 2001b, p. 350 fig. 6.3.
463 WELSBY-SJÖSTRÖM 2001b, p. 352 fig. 6.6.
464 WELSBY-SJÖSTRÖM 2001b, p. 352 fig. 6.7.
465 WELSBY-SJÖSTRÖM 2001b, p. 354 fig. 6.9.
466 WELSBY-SJÖSTRÖM 2001b, p. 354 fig. 6.10.
467 WELSBY-SJÖSTRÖM (2001b, p. 350) describes a jar from grave P37(G3)3, NDRS form type J32.6, as bearing C-Group style decoration on the upper body. The decoration of this could equally be identified as Kerma, especially in terms of the roller stamp method used to create the impressed decoration.
468 GRATIEN 2000, pp. 116-119.
469 WELSBY-SJÖSTRÖM 2001a, p. 253.

8.6 Shemkhiya

8.6.1 The Site

The Polish Joint Archaeological Expedition to the Middle Nile Valley and the Nile Fourth Cataract Rescue Campaign identified twenty cemeteries that have been associated with the Kerma culture and that spanned all chronological phases thereof.[470] Pottery bearing Pan-Grave characteristics was found in contexts dated to the *Kerma ancien* and *Kerma moyen* phases. These cemeteries are described as being tightly clustered groups of a few dozen graves with tumulus superstructures. In some cases there was one noticeably larger tumulus around which smaller ones were grouped, suggesting social hierarchy, or a familial or clan connection between the graves at each respective site. Virtually all tumuli had been disturbed either in ancient times or more recently.

Burial pits at the *Kerma moyen* sites are circular or oval in shape and in some cases there is evidence that the deceased was covered or wrapped in a woven mat.[471] Grave goods were minimal and included only pottery, glass beads, and one stone bracelet found in a *Kerma ancien* burial. The graves themselves may therefore be tentatively compared to Pan-Grave burials from sites further north. Certain characteristics such as loosely constructed tumuli, stone rings, circular burial pits, and burial in a woven mat are present, but these could be indicative of any of the Middle Nubian cultures. Other more emphatic identifiers of Pan-Grave culture, such as painted animal skulls and particular types of jewellery, are absent.

8.6.2 The Pottery

Sherds showing Pan-Grave characteristics were found in two contexts dated to the *Kerma ancien* phase. Three rim sherds of a black ware bowl with incised decoration were found in Tomb 3 at site BTŻ2 (**Plate 93a**).[472] The decoration consists of incised parallel grooves crossed by pairs of incised oblique lines,[473] which corresponds to the filled zig-zag motif in the system applied to the present study. In terms of ware and decoration, the Shemkhiya example is comparable to a sherd from SJE Site 47 (**Plate 62a**), suggesting a connection to the Pan-Grave tradition. Comparable sherds with virtually identical decoration are also known from survey pottery gathered by Weigall at Gerf Hussein[474] and Tomas.[475] Other sherds, collected from Tomb 1 at site BTŻ18, also carry incised decoration with striking similarities to Pan-

[470] WLODARSKA 2014, p. 321. Only one of these cemeteries, MW2, was fully excavated.
[471] WLODARSKA 2014, p. 325.
[472] WLODARSKA 2014, pl. 9.
[473] Gratien calls this design 'Le décor a base de chevron en bande' (GRATIEN 2000, p. 115).
[474] WEIGALL 1907, pl. LXXX; GRATIEN 2000, p. 115.
[475] WEIGALL 1907, pl. LXXXVIII

Grave pottery from further north.[476] Those sherds are also in a black uncoated ware and the decoration consists of triangular zones filled with parallel incised lines, corresponding to the braid motif in the system applied to the current study.

Pottery from *Kerma moyen* contexts at Shemkhiya is even more striking for its unmistakable similarities to black-topped Pan-Grave pottery. The following three complete vessels are especially noteworthy:

1. BTŻ11/T3:[477] red coated and burnished black-topped bowl, black interior. Externally modelled and set-off rim. Irregular black-top. Restricted simple contour, bag-shaped form with maximum diameter at lower half of body (**Plate 93b**).

2. SH4a/T4:[478] red coated and burnished black-topped bowl, black interior. Externally modelled and set-off rim. Well defined (augmented?) black-top. Restricted complex contour with sharp carination and nearly flat base (**Plate 93d**).

3. SH4a/T2:[479] red-coated and burnished black-topped bowl, black interior. Externally modelled and set-off rim. Defined black-top. Unrestricted simple contour, vertical walls and round base. Horizontal streaky burnish to exterior (**Plate 93c**).

All of the above vessels share numerous characteristics with better-known Pan-Grave pottery from Upper Egypt and Lower Nubia. All have externally modelled and set-off rims, which has been identified as a diagnostic – but *not* characteristic! – feature of the Pan-Grave tradition. The surface treatment of the Shemkhiya examples is also recognisably Pan-Grave, being red-slipped with a streaky burnish. The black-tops are also distinctly Pan-Grave, with all but the example from BTŻ11 having the well-defined black-tops that have been identified as diagnostic for the Pan-Grave tradition. A bowl with the same type of black-top was found at the site designated El Ar 1, approximately 100 km upstream (**Plate 93e**). Of all the vessels, the most unusual is the strongly carinated and shallow form of the bowl from SH4a/T4, which has no parallel in the Pan-Grave tradition.

All of the sherds identified above could easily be identified as Pan-Grave, however the excavators have associated it with the Kerma culture. The criteria for this identification are not made explicitly clear, but the impression is that it is most likely due to geography and to

[476] WLODARSKA 2014, pl. 10.
[477] WLODARSKA 2014, pl. 16.
[478] WLODARSKA 2014, pl. 18.
[479] WLODARSKA 2014, pl. 20.

the character of the graves themselves. The site is well out of the traditional Pan-Grave zone of activity and the graves do not otherwise show Pan-Grave characteristics. The current author's opinion is that the pottery from Shemkhiya and El Ar, described above, shows greater affinity with the Pan-Grave tradition than with any other Middle Nubian culture. The shapes, wares, surface treatment, and above all the characteristically well-defined black-tops are all clear indicators of a Pan-Grave association. This type of pottery occurring in otherwise non-Pan-Grave contexts could be linked to Pan-Grave activity in the area or trade between cultures and communities in the region. This explanation has been used to interpret similar pottery at the nearby site of el Widay.

8.7 El Widay I

8.7.1 The Site

The site of el Widay I was excavated as part of the Oriental Institute Nubian Expedition (OINE) in 2007 and 2008.[480] A second site, el Widay II, was excavated at the same time but only four burials were uncovered, the date of which could not be determined.[481] A total of 112 graves were excavated at el Widay I, and the dateable evidence suggests a date range from *Kerma moyen* to *Kerma classique*, with the earlier graves located at the northern end of the cemetery, the later to the south.[482] The graves and burials are entirely Nubian in appearance, being shallow pits averaging 50 cm in depth, into which the deceased was placed on their side in a contracted position.[483] The earlier graves were circular and the later are rectangular, reflecting similar patterns in contemporary Pan-Grave burials in Upper Egypt and Lower Nubia.[484] All were surmounted by a superstructure consisting of a ring of stones filled with smaller stones creating what is described as a "cushion-shaped" structure.[485] Almost one third (28%) of the graves included a complete caprid burial,[486] and most burials were placed on leather mats sprinkled with red ochre. Palm fronds and timber, probably from funerary beds, was found in burials that are thought to be later in date. In certain cases, pottery vessels were deposited upside-down at the surface above the graves, which is a practice often associated with the C-Group.[487] Two burned areas were also found on the surface,[488] which can be compared to similar features at Armant and Wadi el Khowi Site P37.

---

480 EMBERLING, WILLIAMS 2010; EMBERLING ET AL. 2014.
481 EMBERLING, WILLIAMS 2010, p. 23.
482 EMBERLING ET AL. 2014, fig. 2.
483 EMBERLING, WILLIAMS 2010, p. 24, figs. 15-17.
484 EMBERLING AT AL. 2014, pls. 5-6.
485 EMBERLING ET AL. 2014, p. 331.
486 EMBERLING ET AL. 2014, p. 330; EMBERLING, WILLIAMS 2010, p. 25, fig. 20.
487 STEFFENSEN 2007, pp. 133-141.
488 EMBERLING ET AL. 2014, p. 329-330.

The excavators cite Bietak's definition for a Pan-Grave burial as comprising a round grave shaft with stone roofing slabs, mother-of-pearl bracelets, painted animal skulls and 'distinctive' ceramics. Virtually all of these characteristics are absent from the graves at el Widay, supporting a Kerma association, but it must be remembered that Bietak's definition of what constitutes a Pan-Grave burial is misleading. Therefore, the fact that the graves at el Widay do not correspond to Bietak's definitions should not automatically rule out a Pan-Grave connection.

8.7.2 The Pottery

Evidence of a Pan-Grave presence at the site takes the form of a small number of ceramic vessels found in graves scattered across the entire cemetery. This is in contrast to other sites, where Pan-Grave burials are usually either grouped together in their own discrete burial ground or as a group within or near larger cemeteries. It was also observed that the pottery bearing Pan-Grave characteristics was found in graves that would not otherwise be considered Pan-Grave and instead showed a closer affinity with Kerma contexts. While the graves may not appear to be distinctly Pan-Grave in character, the pottery presents a very different impression.

The published pottery from the site displays undeniable similarities to Pan-Grave pottery from sites in Upper Egypt and Lower Nubia, most noticeably in shape, ware and decoration. Any differences in shape and decoration are not outside of the range of variation that has already been identified in the existing repertoire. The mixed nature of the cemetery has been interpreted as a reflection of the connections between the Nile-based Kerma culture and desert groups, in this case the Pan-Grave.[489] The pottery showing Pan-Grave characteristics at el Widay can be divided into two groups – decorated, and black-topped. The contexts in which the pottery was found have been dated to either the *Kerma moyen* or *Kerma classique* phases because of the overall context. In this case, however, the excavators have chosen to identify this pottery directly with the Pan-Grave tradition, opening up the possibility of Pan-Grave connections with this location.[490]

A bowl from el Widay Tomb 14 (2008.207)[491] has an irregular black-top and is decorated with an incised braid motif around the upper body and a circular motif on the base, both typical for

[489] EMBERLING ET AL. 2014, pp. 333-334.
[490] EMBERLING ET AL. 2014, p. 333.
[491] EMBERLING ET AL. 2014, pl. 8C; PANER 2014, pl. 21 (top right).

the Pan-Grave tradition (**Plate 94b**). There is extensive secondary burning to the base of this vessel, suggesting that it was used over a fire. A further decorated bowl in burnished red-coated black-topped ware is decorated with the banded cross-hatched motif bounded by what appears to be string-impressed lines above and below the decorated zone (**Plate 94c**).[492] This vessel's ware seems Pan-Grave in character, with its well-defined black-top and carefully burnished exterior.

Black-topped vessels comparable to examples from sites further north are also present at el Widay I. Bowls with upright and slightly concave walls with a low maximum point and shallow convex base (**Plate 94a**) are comparable to restricted inflected forms from Pan-Grave cemeteries across Upper Egypt (**Plates 41-42**). An almost exact parallel with a similarly low maximum diameter was found at SJE Site 47 (**Plate 42a**). All examples have externally modelled rims delineated by an incised set-off line. In each case, the black rim zone is well defined and may be augmented. One vessel from Tomb 67 bears a unique painted motif of a broad black stripe extending down the vessel wall from the rim to the point where the vessel wall curves to the base (**Plate 94a, left**).[493]

The similarities with pottery from sites including Mostagedda, Rifeh, and SJE Site 47 in terms of ware, shape, and rim type suggests a date in the later part of the Second Intermediate Period, roughly corresponding with the *Kerma moyen* or *Kerma classique* dates assigned by the excavators. The well-defined and possibly augmented black-tops in particular support a date in the late Second Intermediate Period or early 18th Dynasty. Chronology aside, the Pan-Grave identity of this pottery seems clear, and the ensuing question is how this Pan-Grave pottery came to be found in a cemetery that otherwise appears to be of the Kerma culture.

The excavators proposed that the scattered occurrence of Pan-Grave pottery across the entire cemetery, and the mixed nature of the assemblages in general, reflects on-going contact between the Kerma community based at the site and the inhabitants of the surrounding desert regions, namely Pan-Grave people.[494] Similarly, Manzo has suggested that the overall distribution of pottery with Pan-Grave characteristics suggests that the culture had contact with Egypt, Lower Nubia, and Upper Nubia, and also with south-eastern Sudan.[495] He added that Pan-Grave pottery in the Kassala region could serve as a link between Pan-Grave pottery in the Upper and Lower Nubian Nile Valley. The evidence from Upper Nubia and the

[492] PANER 2014, pl. 21 (top left).
[493] EMBERLING ET AL. 2014, pl. 11b.
[494] EMBERLING AT AL. 2014, pp. 333-334.
[495] MANZO 1996, p. 18.

surrounding deserts therefore suggests that the Pan-Grave culture was widespread across Egypt *and* Sudan in both desert and riverine environments.

8.8 Hosh al Guruf

8.8.1 The Site

The site of Hosh al Guruf, located only a few kilometres upstream from el Widay, was heavily disturbed but appears to be of an industrial nature, possibly for the processing of gold ore.[496] There are also traces of settlement activity in what may be the remains of dwellings constructed of stone and mud. The site appears to have been used most extensively during the *Kerma moyen* and *Kerma classique* phases, with small-scale reuse during the Napatan Period as attested through a clay seal of a 25th Dynasty queen.[497]

8.8.2 The Pottery

More variety was identified in the pottery from Hosh al Guruf than at nearby el Widay, which is most likely due to more extended use over a longer span of time. Most of the decorated pottery is assigned to the Kerma culture, although some has been identified as Pan-Grave. These sherds are decorated with simple incised hatched or cross-hatched motifs (**Plate 95a-b**).[498] Some sherds have decoration applied only to the rim band, usually consisting of cross-hatching[499] or a banded zig-zag motif.[500] At least three decorated sherds have a set-off rim demarcated by a line of impressed dots,[501] which is a recognised feature for Pan-Grave pottery. Undecorated pottery from the site also resembles well-known Pan-Grave types with set-off modelled rims and black-tops.[502] There can therefore be little doubt that the Pan-Grave ceramic tradition is present in the assemblage, but exactly how this material ended up at the site is unclear.

8.9 The Sudanese Eastern Desert and the Southern Atbai

Extensive survey and some small-scale excavations have been conducted in the region surrounding Kassala for almost a century. Early surveys were undertaken by Crowfoot, who collected surface sherds in 1917 and 1926. More recently, the area has been surveyed by the

496 EMBERLING, WILLIAMS 2010, pp. 20-23.
497 EMBERLING, WILLIAMS 2010, pp. 20-21, fig. 6.
498 EMBERLING, WILLIAMS 2010, fig. 25, fig. 32b.
499 EMBERLING, WILLIAMS 2010, fig. 32a & d.
500 EMBERLING, WILLIAMS 2010, fig. 32c.
501 EMBERLING, WILLIAMS 2010, fig. 25d, fig. 32b & d.
502 EMBERLING, WILLIAMS 2010, fig. 32f-j.

Italian Archaeological Mission to Kassala Province between 1980-1995,[503] and was resumed in 2010 as the Italian Archaeological Mission to Sudan, Kassala (IAMS).[504] Further north, investigations were conducted by a mission of the Centro Ricerche sul Deserto Orientale (CeRDO), focussing on the gold-bearing regions of the Eastern Desert and the roads leading to them.[505] Each of these missions has discovered pottery bearing striking resemblance to the Pan-Grave tradition, which may be viewed as further evidence for a connection between that culture and the Eastern Desert.

8.9.1 Kassala

Crowfoot conducted two surveys at the town of Kassala in 1917 and 1926.[506] The sherds collected by Crowfoot were divided into two groups: Group I, which Crowfoot believed showed evidence of foreign influence, and Group II, which he considered to be more African in character. At no point does Crowfoot explicitly reference the Pan-Grave culture in his report, but even a glance at the published sherds is enough to see the clear similarities. It should be remembered at this point that Bietak cited the pottery from Kassala as evidence of the Pan-Grave culture in the Eastern Desert.[507]

The pottery bearing the most noticeable Pan-Grave characteristics was classified by Crowfoot into the second and apparently more African group because it was handmade and the fabric and ware resembled East African pottery known to him at the time.[508] Interestingly, Crowfoot also noted that there was more variation in Group II, which he interpreted as the result of small-scale production by a number of potters, some more skilled than others.[509] The pottery bearing Pan-Grave characteristics stands out from the group of sherds collected by Crowfoot for its uniformity of style and decoration.[510] All but one of the sherds shows an undecorated rim band, below which is an area decorated with incised oblique hatching or various cross-hatched motifs (**Plate 95c**). These types of decoration are present at every Pan-Grave site in the Upper Egyptian and Lower Nubian Valley, and may be evidence of a Pan-Grave presence in the Eastern Desert. The sherds are described as having a black rim and interior surface with a red exterior, which Crowfoot likened to Nilotic cultures including the C-Group and

503 FATTOVICH 1988/89, pp. 330-333.
504 See bibliography for a full listing of reports by MANZO and MANZO ET AL.
505 SADR, CASTIGLIONI, CASTIGLIONI 2004, pp. 192-193; CASTIGLIONI ET AL. 1998; MANZO (2012b, p. 80) notes that these surveys were often unsystematic.
506 CROWFOOT 1928, p. 112.
507 BIETAK 1966, p. 70.
508 CROWFOOT 1928, p. 113.
509 CROWFOOT 1928, p. 113.
510 CROWFOOT 1928, pl. XIII.1-10.

Kerma.[511] Crowfoot did not assign a relative date to the Pan-Grave type sherds, however this connection to the C-Group and Kerma cultures ties in well with the date of the Pan-Grave culture.

8.9.2 The Jebel Mokram Group

The Jebel Mokram Group was active in the Southern Atbai Desert during the second millennium BC, making it contemporary with the Pan-Grave culture in the Nile Valley. Fattovich has observed that Jebel Mokram sites rarely show any depth of occupation and may therefore represent short-lived campsites.[512] Fattovich also suggests that the scattered nature of the Mokram evidence reflects seasonal movement by the group from areas outside the Kassala region, which he proposed is likely to be in Eritrea.[513] This observation is significant in light of Sadr's theory that bearers of the Mokram tradition replaced the resident Gash Group in the southern Atbai,[514] which also advocates an external source for the Pan-Grave culture and Jebel Mokram Group in that region.

Jebel Mokram pottery from the Atbai and Pan-Grave pottery from the Nile Valley share irrefutable similarities,[515] but can this be truly be taken as evidence that they are the same tradition? Sadr is a strong proponent for a diachronic and cultural link between the Pan-Grave and Jebel Mokram ceramic traditions, proposing that both groups are associated with the Medjay of ancient Egyptian texts.[516] Sadr's theory is based on the assumption that the Jebel Mokram Group seems to appear suddenly in the Southern Atbai at around 1500 BC, after the Pan-Grave culture had supposedly disappeared *archaeologically* from the Nile Valley. The apparently sudden influx of new pottery styles into the region was interpreted by Sadr as the arrival of a new culture group, namely the Pan-Grave in the form of the Jebel Mokram Group. Sadr even suggests that the Medjay, which he identifies with the Pan-Grave/Mokram entity, conquered and overtook the area previously occupied by the Gash Group.[517]

Assessing the validity of these theories is not the aim of the present study, and the details have been comprehensively examined by Liszka.[518] What is significant in this context is Sadr's equation of the Pan-Grave culture with the Jebel Mokram Group and the possible diachronic

---

511 CROWFOOT 1928, pp. 114-115.
512 FATTOVICH ET AL. 1984, p. 182.
513 FATTOVICH ET AL 1984, p. 182.
514 See Section 2.1.8.
515 FATTOVICH ET AL. 1984; SADR 1987, pp. 269-283; Sadr 1991, p. 47.
516 SADR 1987, p. 283; LISZKA 2015, p. 46.
517 SADR 1987, esp. pp. 283-290; SADR 1991, pp. 106-108. Marks follows the immigration theory, stating that "a new people enter the area [i.e. the Southern Atbai]" around 1500 BC (MARKS 1991, p. 35).
518 LISZKA 2012; LISZKA 2015.

relationship between the two based on ceramic evidence from the Southern Atbai. It has since been identified that Jebel Mokram pottery includes elements of both Pan-Grave *and* earlier Gash Group traditions, and that Gash Group pottery continued to be produced *after* the appearance of Mokram pottery in the Southern Atbai.[519] These points challenge Sadr's theories, and it instead seems that the Pan-Grave styles entering the Southern Atbai did not entirely replace earlier traditions. A renewed consideration of the connection between the Pan-Grave and Jebel Mokram ceramic traditions is presented in Chapter 12 of the current study, where it is suggested that two traditions are closely related branches of a larger cultural entity.

8.9.3 Jebel Mokram Pottery

Jebel Mokram pottery is divided into seven types (**Plate 96**), which Sadr linked to the Pan-Grave tradition using Bietak's 1966 classification, further cementing his equation between the two.[520] A direct correlation with the ware types proposed in the current study is not possible as each of Sadr's types correspond to more than one of the newly proposed wares, often with some cross-over. The Jebel Mokram types are described below and, where possible, they are correlated to types in both Bietak's typology and that which has been devised for the current study.

Banat Fine ware denotes small, thin-walled vessels that are red-slipped and burnished.[521] Half of the known examples have a black interior and black rim band produced in a reducing atmosphere. Decoration is restricted to the rim band and consists of hatching or cord impressed decoration. Banat Fine ware corresponds to types *aa* and *bb* in Bietak's classification.[522] In the context of the current study, Banat fine ware corresponds to four of the newly proposed Pan-Grave ware types:

- red coated ware (R.c)
- red burnished ware (R.b)
- black-topped coated wares (BT.c)
- red-and-black coated ware (RB.c)

Abu Gamal Plain and *Eghid Wiped* wares[523] are coarser and thicker walled than Banat Fine ware, have wet-smoothed un-burnished surfaces, and are only occasionally red-slipped. Black-tops

[519] FATTOVICH 1991, p. 41.
[520] SADR 1987, pp. 270-279.
[521] SADR 1987, pp. 272-273.
[522] BIETAK 1966, pp. 53-54.
[523] SADR 1987, p. 273.

are rare. Like Banat Fine, these two ware types also correspond to Bietak's types *aa* and *bb*. In relation to the typology proposed in the current study, Abu Gamal Plain and Eghid Wiped ware correspond to the coarser undecorated and uncoated variants of the following ware types:

- black-topped uncoated ware (BT.u)
- black-topped coated ware (BT.c)
- red-and-black uncoated ware (RB.u)
- red-and-black coated ware (RB.c)
- red uncoated ware (R.u)

Kubdai Incised ware is identified by Sadr as one of the diagnostic types for recognising Jebel Mokram pottery.[524] He equates this ware type to Bietak's Type *cc*,[525] which is similarly diagnostic for the Pan-Grave tradition. This ware is defined by incised decoration of cross-hatching in a band around the upper body of the vessel. As this type is defined by a specific type of decoration, it cannot easily be equated to any particular ware in the system applied to the current study. Sadr's Kubdai Incised ware therefore corresponds to all ware types in the typology proposed here that are attested with cross-hatched decoration.

Gulsa Groove-Carved ware[526] is also defined by its decoration of incised parallel lines or grooves on the upper body of the vessel exterior. Sadr equates this type with Bietak's type *dd*,[527] and considers it to be diagnostic for Mokram pottery. Once again, because Gulsa Grooved ware is defined by a particular decorative motif (in this case oblique hatching) it cannot be equated with any particular ware in the system proposed in the present study.

Avitola Punctate and *Garatit Complex-Impressed* do not have any equivalent in the Pan-Grave ceramic tradition. Instead, the latter may be compared to C-Group or early Kerma pottery based on its decoration.[528]

8.9.4 Jebel Mokram Assemblages in the Southern Atbai

Jebel Mokram pottery is attested at a number of the sites recorded and surveyed by the IAMS project. Publication of this material is underway, and surveys and excavations in the region are

[524] SADR 1987, p. 273.
[525] BIETAK 1966, pp. 54-55.
[526] SADR 1987, p. 273.
[527] BIETAK 1966, p. 55. This correspondence, made by Sadr, is not entirely accurate. Bietak's type *dd* is defined by opposing fields of incised lines, while Gulsa Grooved ware also covers pottery decorated with oblique hatching.
[528] SADR (1987, p. 273) links these types to pottery in the Butana and C-Group traditions.

on-going. A final report on the pottery found during the CeRDO surveys is currently in progress.[529] It is therefore not possible at present to discuss the pottery in much detail beyond general descriptions and comparisons to Pan-Grave pottery from the Nile Valley. Following is a list of sites at which Jebel Mokram pottery has been identified. Considerations of the cultural association of each assemblage will be presented as far as is appropriate.

a. *Mahal Teglinos, Site K1*

Test excavations at Mahal Teglinos (Site K1) have uncovered settlement layers dating to both the Gash Group and Jebel Mokram phases (**Plate 97**). The contexts designated K1 VI, VII, VIII, and IX all show evidence of occupation during the Jebel Mokram Phase (c. second millennium BC)[530] and much of the pottery from these contexts has therefore been attributed to the Jebel Mokram Group.

Manzo describes the finds as representing the Nubian component of the Jebel Mokram Group, primarily based on the ceramic vessels with incised decoration applied to the upper body (**Plate 97a-b**).[531] The sherds found at K1 VI and VIII all have the distinctive set-off rim, linking them to Pan-Grave pottery known from the Nile Valley. All of the sherds are quite eroded making it difficult to identify the nature of the black-top but they appear to be irregular, extending slightly below the set-off rim zone. The sherds are uncoated and fairly coarse in texture, comparable to Middle Nubian pottery found in Egyptian settlements such as that at Tell Edfu[532] and Elephantine.[533]

The decorative motifs are comparable to material from the Nile Valley: one sherd from K1 VI has parallel oblique lines,[534] another from the same context has irregular cross-hatching,[535] and a sherd from K1 VIII appears to have banded cross-hatched decoration,[536] all of which are attested in Pan-Grave assemblages from further north.

---

529 Andrea Manzo, personal communication.
530 MANZO 2011, pp. 27-30; MANZO 2014a, pp. 376-379, fig. 10.
531 MANZO 2011, pp. 28-29.
532 AYERS/MOELLER 2012, fig. 4.
533 RAUE 2012, fig. 6-12.
534 MANZO 2011, fig. 48a. This corresponds to Motif H.o in the current system.
535 MANZO 2011, fig. 48b. This corresponds to Motif C.i in the current system.
536 This corresponds to Motif C.b in the current system.

b. *Site UA 53*

UA 53 shows activity over a long span of time extending from the Butana Group (fourth - third millennium BC) up to the Gergaf Group (15th-18th centuries AD).[537] The northeastern section of the site is characterised by eroded tumuli possibly dating to Jebel Mokram times. Jebel Mokram material was also found on floor levels and in tomb structures where it was mixed with Butana Group material, pointing to a date in the second - first millennium BC. Manzo notes that the graves themselves are comparable to Pan-Grave burials in Upper Egypt and Lower Nubia and also to Kerma graves at the Fourth Cataract, lending further support to a date in the second millennium BC.[538]

Pottery showing Pan-Grave characteristics[539] was found at the site, of which only a selection has been published (**Plate 98a**).[540] The sherds are decorated with simple incised hatched and cross-hatched motifs. One sherd has a set-off and slightly modelled rim,[541] and another has a rim zone defined by what appears to be a line of impressed dashes.[542] All sherds appear uncoated, and only two have narrow black-tops.[543] The sherds all show affinities with well-known Pan-Grave pottery from the Nile Valley. At the same time, however, the sherds could equally be compared with Middle Nubian pottery found in Egyptian settlements, for which cultural association can be problematic. At the very least, this material stands as evidence of a connection with Middle Nubian traditions. It is not yet possible to say whether or not this can be interpreted as the actual presence of these cultures based on the limited evidence.

c. *Site UA 100*

The site is mostly damaged, but a large number of sherds was collected across a large 300 x 400 m area.[544] Much of the pottery could be attributed to the Jebel Mokram Group, for which the similarities with the Pan-Grave tradition have already been discussed above (**Plate 98b-c**).[545] The Mokram sherds from UA 100 were characterised by modelled and set-off rims and incised hatched decoration around the upper body, all of which are also Pan-Grave characteristics (**Plate 98b**). Mat impressed sherds were also identified, but these are more closely linked to the Kerma tradition, weakening a potential connection with the Pan-Grave tradition.

537 MANZO ET AL 2012, pp. 6-22; MANZO 2013, p. 257; MANZO 2014a, p. 379.
538 MANZO ET AL 2012, pp. 11-12.
539 In Manzo's words, "… ceramic materials recalling the Pan-grave cultural tradition" (MANZO 2012b, p. 85).
540 MANZO 2012b, fig. 28.
541 MANZO 2012b, fig. 28b.
542 MANZO 2012b, fig. 28c.
543 MANZO 2012b, fig. 28a, c.
544 MANZO ET AL 2012, p. 34.
545 See Section 8.9.3.

Two sherds are decorated with a raised zig-zag line created by opposing rows of impressed triangles (**Plate 98c**). This motif is also attested at sites SEG 14 and Agordat,[546] and also at the small Pan-Grave cemetery at Moalla in Upper Egypt on a sherd decorated with fine cross-hatched lines.[547] Rows of interlocking impressed triangles are also a feature of C-Group and *Kerma ancien* pottery traditions,[548] which may reflect a shared cultural heritage for the various ceramic traditions in both the Nile Valley and the surrounding desert regions.

d. *Shurab el Gash, Site SEG 13*

SEG 13 is located southwest of the city of Kassala.[549] Manzo noted similarities between some of the ceramic material from this site (assigned to the Gash and Jebel Mokram Groups) and that of the Fourth Cataract.[550] Only a small number of sherds from the site have been published and they are, at best, ambiguous in terms of cultural association (**Plate 99a**). The sherds may be compared to both Pan-Grave and Kerma pottery on the basis of the coarse fabric and simple decoration of roughly executed cross-hatching. The best parallels for this material may be found in so-called domestic Middle Nubian pottery found in settlements contexts in Upper Egypt.[551] A sherd with deep horizontal grooves and oblique notches at the rim zone[552] has parallels at Elephantine[553] and Wadi es Sebua, linking this style to the C-Group culture.[554] At the same time, the horizontal groove decoration may also be compared to pottery from Jebel Moya, in particular *Kannelierte Ware*, but this has been dated to the mid first Millennium BC and hence does not correspond chronologically.[555] At best, any similarity to Jebel Moya pottery could be a reflection of the universality and wide distribution of this type of incised linear decoration.

e. *Shurab el Gash, Site SEG 14*

SEG 14 is also located to the southwest of Kassala, close to Site SEG 13. Two of the published sherds have been compared to Gash Group, Jebel Mokram Group, and Fourth

---

546 See Sections 8.9.4.e and 8.10 respectively.

547 MANASSA 2012a, p. 124, fig. 8. MANZO (2012b, pl. 78) cites a number of parallels, but in most of the cited examples the vessels show either only a single row of impressed triangles or have a different type of decoration entirely.

548 C-Group examples are known from the SJE Concession (SÄVE-SÖDERBERGH 1989, pl. 25.4-6 [vol. 1]); Kerma examples are known from Sai Island (GRATIEN 1986, fig. 308a, 309a).

549 MANZO 2014b, pp. 1150-1151.

550 MANZO 2012b, p. 77.

551 For example at Aswan (FORSTNER-MÜLLER 2012, fig. 14.29 and 14.30); Tell Edfu (AYERS, MOELLER 2012, fig. 4b); Deir el Ballas (BOURRIAU 1990, fig. 4.1.2); and Memphis, Kom Rabia (BOURRIAU 2012, figs. 4-5).

552 MANZO 2012b, fig. 10b.

553 RAUE in prep., Abb. 100.

554 GRATIEN 1985, fig. 12.

555 GERHARZ 1994, p. 140, Abb. 54; ADDISON 1949, pl. C.D1, 3.

Cataract Kerma pottery.[556] Both sherds have an undecorated set-off rim, incised oblique lines on the vessel body, and a highly distinctive raised 'zig-zag' just below the set-off line (**Plate 99b**). The same feature is attested at sites UA 100 and Agordat, and at Moalla in Upper Egypt.

f. *Site R 49*

Site R 49 is located in the Sudanese Eastern Desert and was investigated by the CeRDO mission. Only a small selection of pottery from Site R 49 is published, and only two may be confidently linked to the Pan-Grave culture (**Plate 100a**).[557] Both have a set-off rim delineated by a line of impressed dots, below which are finely incised and closely spaced oblique lines, corresponding to Motif H.o in the current study. The use of impressed dots to delineate the rim zone is well-attested at Pan-Grave sites including Debeira East SJE Site 47,[558] Hu Cemetery X,[559] and Hierakonpolis HK47,[560] among others.

g. *Site AL*

This site was investigated by the CeRDO mission and is located in deserts of northeastern Sudan, just to the south of the Sudanese-Egyptian border in the vicinity of the Wadi Allaqi. Four sherds from Site AL have been published,[561] none of which are emphatically Pan-Grave in character (**Plate 100**). One may be compared to Pan-Grave pottery from the Nile Valley on the basis of its undecorated set-off rim zone with incised vertical hatching below (**Plate 100b, sherd a**).[562] The undecorated rim zone appears to retain traces of black, suggesting it was once a black-top that has since worn away. Comparable pottery is attested at Pan-Grave sites Debeira East SJE Site 47[563] and Shellal Cemetery 7.[564]

Another sherd is more unusual in that it retains part of its undecorated black-top, a line of impressed triangles that serve as a "set-off" line, and rows of drop-shaped impressions (**Plate 100b, sherd d**).[565] Elongated impressions were noted by Giuliani as a feature of Pan-Grave decoration, and a horned-dish from Rifeh is decorated with similar elongated impressions.[566]

556 MANZO 2012b, p. 78 and fig. 11.
557 MANZO 2012b, fig. 19c and 19d.
558 SJE 47/14:10, SJE 47/3:3(b), SJE 47/20:4, and SJE 47/6:1. All examples are unpublished.
559 This vessel, from grave X52, is unpublished. A photograph is in the Lucy Gura Archive, Egypt Exploration Society (DIOS.NEG.124).
560 HK47 Pot 50. See **Plate 86b**.
561 MANZO 2012b, Fig. 16a-d.
562 MANZO 2012b, fig. 16a.
563 SJE 47/74:6 and SJE 47/106:2. Both examples are unpublished.
564 REISNER 1910, Fig. 37.10.
565 MANZO 2012b, fig. 16d.
566 GIULIANI 2006, p. 652; PETRIE 1907, pl. XXV.41. The dish from Rifeh is held in the Petrie Museum (UC17913)

The remaining two sherds are decorated with incised motifs that are not immediately identifiable as Pan-Grave in style.[567]

h. *Site ED 16*

A small group of sherds from Site ED 16 has been published,[568] three of which show strong similarities to Pan-Grave pottery from the Nile Valley (**Plate 100c**). All three have set-off undecorated rim bands, which is identified as a defining characteristic for the Pan-Grave tradition. One sherd is decorated with incised oblique lines below the rim band (**Plate 100c, sherd c**).[569] A second sherd is entirely black on the exterior surface and is decorated with regular cross-hatching (**Plate 100c, sherd d**).[570] A further sherd is more unusual in that its set-off rim is recessed but thickened at the rim edge, giving it a complex profile (**Plate 100c, sherd f**). Other examples of this rim profile have been attested at the Pan-Grave Cemetery 7 at Shellal,[571] and from settlement contexts at Aswan,[572] both of which are also decorated with incised oblique lines. It must be reiterated that the example from Shellal was originally assigned to the C-Group, an attribution that has been followed by Forstner-Müller.[573] This is now known to be incorrect, and Shellal Cemetery 7 is, in fact, a Pan-Grave cemetery.[574]

The remaining sherds from ED 16 are body sherds and hence are less informative. A coated and burnished sherd is decorated with bands of incised oblique dashes all running in the same direction (**Plate 100c, sherd a**), which is not unlike the banded herringbone motif attested in the Pan-Grave tradition (Motif HB.b). An uncoated sherd shows traces of incised parallel oblique lines arranged into opposing fields, which may be part of the braid motif (**Plate 100c, sherd b**).[575]

8.10 Agordat

8.10.1 The Site

Agordat is a town situated in the foothills of the Eritrean plateau. Surface finds collected in the area by a British officer were sent to the Khartoum Museum in 1942, where they were

567 MANZO 2012b, fig. 16b and c.
568 MANZO 2012b, fig. 17.
569 MANZO 2012b, fig. 17c.
570 MANZO 2012b, fig. 17d.
571 REISNER 1910, fig. 37.10.
572 FORSTNER-MÜLLER 2012, fig. 10.14.
573 FORSTNER-MÜLLER 2012, p. 65.
574 The cultural association of Shellal Cemetery was first corrected by Bietak (BIETAK 1966, p. 65).
575 MANZO 2012b, fig. 17b.

studied by Arkell in the same year.[576] Following the analysis of these finds, Arkell went to the site himself and conducted two days of survey and a single test excavation at the site of Kokan, after which he concluded that the area was a heavily eroded and disturbed occupation site. Arkell returned to military duties at Khartoum following this brief survey.

Although the site remained unexcavated, Bietak included the site of Agordat in his summary of the Pan-Grave culture, citing the similarities to Pan-Grave material as evidence for the origins of that culture in the Eastern Desert.[577] It was not until 1994 that the site was revisited, but work was only permitted for two days owing to security concerns.[578] A 1m^2 test trench was opened at a rock shelter in Kokan Hill, which confirmed Arkell's observation that it is a heavily disturbed occupation site.

8.10.2 The Pottery

Pottery found during both surveys presents a mixture of ceramics spanning approximately 2000 years.[579] The traditions identified include all phases of the Gash Group,[580] C-Group Phase IIB/III,[581] Pre-Aksumite, and most importantly for this study, pottery attributed to the Jebel Mokram and Pan-Grave traditions.[582] The "*Linsen-Muster*" sherds studied and published by Arkell also show traits that may be linked to the Kerma tradition.[583] Other sherds are comparable to Jebel Moya pottery,[584] demonstrating that the area had extensive links to both desert and river-based cultures.

Pottery showing Pan-Grave characteristics, especially in terms of decoration, is present in both Arkell's sample and that from the Kokan rock shelter (**Plate 101a-d**). The relevant pottery is most easily distinguished by simple incised cross-hatched decoration[585] comparable to pottery from sites in Upper Egypt and Lower Nubia. There are also more specific details that have parallels at other sites, in particular the lines of impressed opposing triangles creating a zig-zag[586] described above in relation Sites UA 100, SEG 14, and Moalla in Upper Egypt

576 ARKELL 1954, pp. 33-34.
577 BIETAK 1966, 70.
578 BRANDT ET AL. 2008, pp. 33-47.
579 BRANDT ET AL. 2008, p. 36.
580 SADR 1991, p. 45.
581 The evidence for Phase III of the C-Group has recently been reviewed by this author (DE SOUZA, in press).
582 BRANDT et al. 2008, p. 44.
583 ARKELL 1954, pl. VI.1-3. This type of decoration is also attested at Sai Island, where it is described as *"décor de pois"* (GRATIEN 1985, p. 405, fig. 303) and also in the settlement remains at Aniba (STEINDORFF 1935, pl. 91).
584 For comparisons to Jebel Moya pottery see: ADDISON 1949, pls. XCIV-CV (vol. 2).
585 ARKELL 1954, pl. VII.4, pl. IX.3, 6, and pl. X.1; BRANDT ET AL. 2008, fig. 3.9.8.
586 ARKELL 1954, pl. VII.4, p. 58.

(**Plate 101c**).[587] On the whole, the pottery from Agordat showing Pan-Grave characteristics can be broadly compared with Upper Egyptian and Lower Nubian assemblages. Aside from the parallel with Moalla, the simple cross-hatched decoration does not reveal any connection to a particular site or region.

8.11 Mersa Gawasis

A collection of one hundred "exotic" sherds was collected at Mersa Gawasis on the Red Sea coast. The term "exotic" was used by the excavators to describe non-Egyptian pottery that shows characteristics of Nubian pottery as well as pottery from further south on the Red Sea Coast.[588] This broad range reflects the far-reaching maritime contacts converging on this Middle Kingdom harbour. This same broad range of cultural contact is also evident in the archaeological record and in particular the pottery, which in many cases cannot be associated with any particular culture or tradition.

Manzo identified twelve types, all but two of which have parallels in multiple Middle Nubian and/or desert cultures (**Table 8.1**).[589] For example, Manzo's type 5 (**Plate 101f**), a brown-red ware with incised herringbone decoration,[590] could be associated equally with the Kerma, C-Group, Pan-Grave, Gash Group, Jebel Mokram Group, or another culture of the Sudanese Eastern Desert. Type 5 has parallels at the Pan-Grave cemetery SJE Site 47, and also at the C-Group settlement site Wadi es-Sebua.[591] Similarly, Manzo's type 2 is characterised by closely spaced incised cross hatching,[592] which is common to all Middle Nubian cultures as well as the Jebel Mokram tradition. All of the other types are equally ambiguous, and incised linear decoration is all that identifies it as being non-Egyptian. Interestingly, two marl sherds of Nubian style are interpreted by Manzo as imitations of Nubian wares, which may be compared with Raue's LaMNI ware at Elephantine,[593] adding a further layer of complexity to the cultural mixing that is evident in the archaeology at Mersa Gawasis.

The current author follows Manzo's conclusion that the site of Mersa Gawasis fits well into the long list of sites at which it is difficult and inappropriate to identify a specific cultural association for Nubian pottery. Only one sherd, Manzo's type 10, can be assigned to the Pan-

587 MANASSA 2012a, fig. 8.
588 MANZO 2012a, p. 213; MANZO 2012b, p. 76; MANZO 2008, pp. 439-441.
589 MANZO 2012a, pp. 214-223, p. 224, table 1.
590 MANZO 2012a, p. 219, fig. 2e.
591 GRATIEN 1985, fig. 13.
592 MANZO 2012a, fig. 2b.
593 See Section 9.3

Grave tradition with some degree of confidence (**Plate 101e**).[594] This association is based solely on the presence of what appears to be a set-off rim, possibly a defined black-top, and traces of incised cross-hatch decoration. Manzo has dated this sherd to the early 13th Dynasty on the basis of associated Egyptian material, and suggests that it may represent one of the earliest examples of Pan-Grave pottery from a dateable context.[595] The current author, however, is inclined to take a more cautious approach accounting for the fact that this is only a single, small sherd.

Type	C-Group	Pan-Grave	Kerma	Gash Group	Jebel Mokram Group	Sudanese Eastern Desert
1	X	X	X	X	X	X
2	X	X	X	X	X	X
3		X	X	X	X	X
4		X	X			X
5	X	X	X	X	X	X
6			X			
7	X					
8			X	X	X	X
9	?	X			X	X
10	X	X			X	X
11			X	X		
12	X		X			X

Table 8.1: Manzo's types and possible cultural association (adapted from Manzo 2012a, p.224).

8.12 Re-contextualising data from Upper Nubia and the Eastern Desert

It should now be clear that the Pan-Grave ceramic tradition is present at sites as far south as the Fourth Cataract and at sites in the Kassala region. Pan-Grave decorative motifs, wares, and shapes are all attested, and the similarities with pottery from Pan-Grave sites in Upper Egypt and Lower Nubia are difficult to deny. For this reason, the reach of the Pan-Grave ceramic tradition can now be extended beyond the Upper Egyptian and Lower Nubian Nile Valley to encompass Upper Nubia and a large portion of the Eastern Desert in Egypt and northeastern Sudan. Based on the striking similarities, and with the exception only of Mersa Gawasis, the current author now considers the pottery discussed in this chapter as being of the Pan-Grave tradition. This being the case, the issue then becomes not one of identification, but one of interpretation.

Expanding the reach of the Pan-Grave tradition in this way has implications for our understanding of the culture and its interactions with other cultural groups. At Wadi el-Khowi, Shemkhiya, and el Widay, the pottery showing Pan-Grave characteristics is found in graves

[594] MANZO 2012a, p. 221, fig. 3b.
[595] MANZO 2012a, p. 229.

that more closely resemble that of the Kerma culture. This mixing is in direct opposition to the situation in Upper Egypt and Lower Nubia, where it has been observed that the Pan Grave and Kerma cultures remain distinct.[596] It is, however, important to note that the studies supporting a distinction between these cultures did not consider evidence from the Fourth Cataract. Additionally, the possibility that these cultures remained archaeologically distinct *at cemeteries in Egypt* may be related to chronology, with Pan-Grave preceding Kerma.[597] It seems that there is a distinct contrast in the processes of cultural interaction and exchange between Pan-Grave communities in the north and the far south. It does appear that the two cultures remained distinct in Upper Egypt and Lower Nubia, but this is not the case in Upper Nubia.

In relation to the sites in Upper Nubia, an important question remains: if Pan-Grave people are active and present in Upper Nubia, where are their cemeteries? No obvious Pan-Grave cemetery has yet been identified in that region, but this of course does not mean that they do not exist there at all. The Eastern Desert evidence suggests that makers of the Pan-Grave pottery found in the Nile Valley did not live near the river, but in the desert, and this is where their cemeteries might be found. Moreover, our current understanding of what constitutes a Pan-Grave site is based on evidence from Upper Egypt and Lower Nubia. It should now be clear that there are significant differences in Pan-Grave assemblages from site to site, and even within a single site. Therefore, should a Pan-Grave cemetery at the Fourth Cataract or in the Atbai be expected to look a Pan-Grave cemetery in Upper Egypt? The current author suggests not.

This leads to the question of how far and in what way the Pan-Grave culture can be linked to the Eastern Desert. It has already been noted that excavation and survey work in the region is on-going, but there is already clear evidence of a link between the Pan-Grave and Jebel Mokram ceramic traditions. A central question is how these two traditions relate to one another: Is this evidence that the two traditions shared a common ancestor? Is the Jebel Mokram Group a variant form of the Pan-Grave culture in the Southern Atbai Desert? Or are the Pan-Grave and Jebel Mokram traditions actually one and the same?

Based on the remarkable similarities and the chronological relationships, the current author favours the second option, namely that Jebel Mokram pottery is a variant form of the Pan-Grave tradition, and vice versa. This model takes into account not only the similarities but

[596] WESCHENFEDLER 2014, p. 363; BOURRIAU 1981, p. 25. The current author is somewhat opposed to the theory that the Pan-Grave and Kerma culture are distinct and separate and instead believes that there is a closer connection between them than previously thought. See Section 1.4.3 for further details.
[597] RAUE 2012, pp. 53-54; RAUE 2002, pp. 22-23.

also the differences, which are likely to be the result of interactions with other cultures active in the area, such as the earlier Gash Group. As yet, there is not enough evidence to argue for or against a direct link between the Pan-Grave culture and the Eastern Desert, especially when it comes to questions of their origins and eventual 'disappearance'. What is clear is that evidence for the Pan-Grave ceramic tradition is present in some parts of the Eastern Desert, albeit in variant form. These issues, in particular an analysis of regional distribution and variation are explored in further detail in Chapters 10 and 11.

Chapter 9

Pan-Grave Pottery in Egyptian Cultural Contexts

9.1 Nubian pottery in an Egyptian world: a question of interpretation

Bourriau perfectly sums up the issue of Nubian pottery in Egyptian cultural contexts by simply stating that "a scatter of Nubian sherds in an Egyptian settlement poses questions rather than answers."[598] Nubian pottery in Egyptian cultural contexts is easy to distinguish from Egyptian pottery, but it is often difficult to establish to which, if any, of the Nubian cultures a sherd or vessel might be attributed. Cultural identification is usually based on comparisons to cemetery pottery, but it is not always easy to correlate to the two types of assemblage. Egyptian pottery sequences can be related to the existing relative chronological framework for Nubian pottery, but the complex Egyptian ceramic sequences of the Second Intermediate Period make it difficult to link assemblages from different regions.

There is strong evidence for cultural interactions between Nubians and Egyptians, Nubians and other Nubians, and all of the above with desert-based cultures. The result is a mixed and complex archaeological record in which it can be difficult to distinguish one culture from another. Manzo's work at Mersa Gawasis, discussed in the previous chapter, has already demonstrated the ambiguities of Nubian pottery in a non-Nubian context. The same sort of cultural mixing is clearly evident from Nubian pottery found in Egyptian cultural contexts, for example at Elephantine, Tell Edfu, and even as far north as the Nile Delta.[599] This study therefore aims to unravel the complex web of cultural interaction and exchange by attempting to define just one of the traditions that contributed to the complexity.

Other questions relate to *how* this Nubian pottery came to be found in Egyptian settlement contexts. Often there is little other evidence of Nubian presence at these locations which has been variously interpreted as Nubian pottery being sold or traded into Egyptian communities,[600] or as representing a servant class of Nubians cooking for Egyptians,[601] or that the pottery is diplomatic gifts or exotic curiosities.[602] At times, the cultural mixing is so pronounced that it may no longer be appropriate to speak of separate cultural groups at all,

---

598 BOURRIAU 2012, p. 149.
599 See Sections 9.3, 9.4, and 9.8.6 respectively.
600 RAUE 2002, pp. 22-23; BOURRIAU 2012, p. 149.
601 BOURRIAU 1990, p. 17.
602 ASTON 2013, p. 389.

and the archaeological record reflects the multi-cultural societies that existed in Egypt during the Second Intermediate Period.

These are exceedingly complex issues, and an in-depth analysis lies well beyond the scope of the present study. Nevertheless, a general discussion of key assemblages is essential for a more fully contextualised understanding of the Pan-Grave ceramic tradition, especially in terms of chronology and regional variation. With this in mind, this chapter has two aims: first, to establish the extent to which Nubian pottery from Egyptian cultural contexts can be linked to the Pan-Grave tradition based on the criteria set out in Part Two; and second to consider how an integrative approach that brings together cemetery and settlement data might assist in reaching a more robust understanding of the Pan-Grave culture and its ceramic tradition. The term "Nubian" will be used throughout this chapter in reference to the pottery, unless a Pan-Grave identification is assured.

The sites selected for inclusion in this chapter are discussed in order from south to north, and then out to the Western Desert oases. This south-to-north presentation is chosen to reflect this author's observation that the Pan-Grave culture appears to have developed chronologically in that direction. The chapter concludes with a synthesis of the evidence, identifying any noticeable patterns and introducing the issues that are considered in Chapters 10 to 12.

9.2 Askut

Nubian pottery found in contexts at Askut dated from the Middle Kingdom to the early New Kingdom has mostly been assigned to either the C-Group or the various phases of the Kerma culture.[603] Unlike in Egypt, there is additional non-ceramic evidence of a Nubian presence at the sites, which has been interpreted as evidence for more complex interactions between Egyptian and local Nubian communities. The extensive presence of Nubian ceramics is no surprise, given the site's location in Lower Nubia and the fact that the site was brought under the control of the ruler of Kush during the Second Intermediate Period.[604] According to Smith, the mixed assemblage reflects "peaceful" relations between Egypt and Kerma at that time.[605]

A small quantity of possible Pan-Grave sherds was found in Second Intermediate Period contexts (**Plate 102a**). All are decorated with incised motifs and have set-off rims. Three of

[603] SMITH 1995, pp. 78-80, 100-106.
[604] SMITH 1995, p. 104.
[605] SMITH 1995, p. 106.

the published examples carry either irregular or complex cross-hatching,[606] and another fragment may have been decorated with the braid motif.[607] No indication of the ware type or fabric is offered. The other pottery from Second Intermediate Period contexts is clearly Kerma in character, with fine beakers and mat-impressed wares present. This mixing of Kerma and Pan-Grave elements can be compared to similar patterns seen at Elephantine and Tell Edfu, and illustrates the difficulties associated with assigning Nubian pottery to one culture or another.

9.3 Elephantine

The stratified sequence of Nubian pottery at Elephantine is unparalleled, spanning four millennia of continuous occupation. This is one of the best sites at which to observe chronological developments in both Nubian and Egyptian pottery, and its position at the frontier between Egypt and Nubia is reflected in a complex archaeological record of cultural interaction. Pottery that can be associated with the Pan-Grave tradition is found in Raue's Phase ELE-7, which is divided into four sub-phases (7A-7D) corresponding to the period from the end of the Middle Kingdom through to the New Kingdom.[608] This phase therefore encompasses the late C-Group, Pan-Grave, *Kerma moyen* and *Kerma classique*, allowing for a consideration of cross-cultural influence and chronological developments across these Middle Nubian cultures. At the time of writing, a comprehensive catalogue of the Nubian pottery from Elephantine is in press and all comments made here should therefore be considered preliminary.[609]

Pottery that may be identified as Pan-Grave is first identified in *Bauschicht 13*, corresponding to the late 12th and early 13th Dynasty, which in turn corresponds to Raue's Phase ELE-7A.[610] In this sub-phase, Pan-Grave characteristics such as streaky burnished surfaces and rim-bands decorated with incised motifs are clearly identifiable.[611] Shapes are mostly globular or hemispherical (**Plate 103**);[612] vertical-walled forms known from Middle Egypt are not present.[613] The decorative motifs include incised regular cross-hatching and a published example has a banded zig-zag motif applied to the rim band. A large cooking pot from *Haus 84* has a circular spider-web motif applied to the base and shows clear evidence of secondary

606 SMITH 1995, p. 100, fig. 4.10A, B, G.
607 SMITH 1995, p. fig. 4.10E.
608 RAUE 2012, p. 154, fig. 10.
609 RAUE, in prep. Raue's comprehensive publication of the Nubian pottery from Elephantine was not yet available at the time of writing. Excerpts of relevant sections were kindly provided by Dietrich Raue.
610 RAUE 2012, pp. 52, 54, fig. 10; RAUE 2002, p. 22.
611 RAUE 2012, p. 53, fig. 9.
612 VON PILGRIM 1996, p. 343, fig. 152a.
613 Form type R.i in the newly proposed system. See also RAUE 2012, p. 53.

burning on the exterior surface (**Plate 102b**).[614] Interestingly, Raue has noted that both fine and coarse wares have been used as cooking pots during this phase.[615]

Phase ELE-7B sees the appearance of new forms that have been connected with regions south of the Third Cataract,[616] but earlier forms from Phase 7A are still present.[617] Other new forms appear, including inflected squat bowls similar to those found at sites near the Second Cataract (**Plate 43a-d**). Decoration still consists of incised regular and irregular cross-hatched motifs. Other Pan-Grave characteristics such as set-off [618] and recessed rims[619] are also present in this phase (**Plate 103c**). One sherd of black-topped red-coated pottery has a well-defined and burnished black-top,[620] but the black-top does not appear to be augmented and is not as crisply defined as examples from Mostagedda and Rifeh.[621] Fine Kerma beakers also first appear in this phase and serve as a chronological link to the Kerma sequence.

The complex cultural mixing that characterises the sequence from Elephantine is clearly visible in Phase ELE-7B, during which features and styles from the south continue to be present. Pottery that can be identified as being of the Pan-Grave tradition goes into decline by Phase ELE-7C and the assemblage begins to show more affinity with the Kerma culture. Nubian pottery continues to be attested into Phase ELE-7D, but in far lower quantities.

Late Middle Nubian Imitation ware (LaMNI) occurs in almost every household from the late 13th Dynasty until the early 18th Dynasty (**Plate 103d**),[622] and is a clear illustration of the complex exchanges that took place between Egyptian and Nubian communities. Similar types of hybrid Nubian-Egyptian pottery are found at Tell Edfu and at Umm Mawagir, demonstrating that this is by no means an isolated or Nile Valley-specific occurrence.

---

614 VON PILGRIM 1996, p. 342-343, fig. 152a.

615 RAUE 2012, p. 53. The same phenomenon may be seen at Tell Edfu, in which a black-topped, coated and burnished bowl with a recessed rim is covered in soot. The context from which this bowl comes (US 2754) is still being investigated at the time of writing and a potential date has not yet been reached (Natasha Ayers, personal communication).

616 RAUE 2012, pp. 53-54.

617 Residual pottery from earlier phases continues to present through all stages of Phase ELE-7. See RAUE 2012, p. 55; RAUE 2002, p. 23.

618 VON PILGRIM 1996, p. 331, fig. 146o; RAUE 2002, p. 23, pl. 7.

619 RAUE in prep., Abb. 134-I.1; VON PILGRIM 1996, p. 325, fig. 143d.

620 RAUE in prep., Abb. 134-II.13.

621 See Plates 60b and 61a.

622 RAUE 2012, p. 55.

9.4 Tell Edfu[623]

A large amount of Middle Nubian pottery has been uncovered in contexts at Tell Edfu spanning the period from the Old Kingdom to the early 18th Dynasty. Only Nubian pottery from contexts dating to the late Middle Kingdom and Second Intermediate Period will be considered in this discussion.[624] As at Elephantine, the pottery from Tell Edfu raises similar questions of cultural identification and there is noticeable evidence for cultural and technological exchange between Egyptian and Nubian traditions. Also like Elephantine, the stratified contexts at Tell Edfu allow for the observation of developmental sequences in the Nubian pottery traditions.

The pottery most relevant for this study comes from contexts closely related to a columned hall complex dated to the late Middle Kingdom and early Second Intermediate Period. This complex fell out of use by the early Second Intermediate Period, when the surrounding area shows evidence of domestic activity, possibly occupied by squatters.[625] This temporary occupation was replaced by the construction of a silo complex during the 17th Dynasty. Much of the Nubian pottery from the temporary occupation layers is of the coarse cooking-pot type seen at most Egyptian settlements. Some of the Nubian pottery from these temporary occupation layers, however, stands out for its higher quality finish and the characteristics of its ware and decoration allow for a confident association with the Pan-Grave tradition.

The earliest context in this sequence, US 2079, coincides with the abandonment of the southern part of the columned hall complex, dated to the late 12th and early 13th Dynasty by the associated Egyptian pottery.[626] A black-topped vessel with a set-off and externally modelled rim is in a typical Pan-Grave red-slipped and burnished ware. The black-top is not defined. A coarse, soot-covered sherd is decorated with what appears to be the filled zig-zag motif with a line of impressed dots that serves as a set-off rim line (**Plate 104a**). The decoration and ware are comparable to an example from Shemkhiya (**Plate 93a**). Another sherd is decorated with deeply incised and seemingly random horizontal and oblique lines.[627] The interior of both sherds is slightly oxidised, which is unusual for coarse Nubian pottery of

---

[623] This author studied the pottery at Tell Edfu during the 2012 and 2015 field seasons. Heartfelt thanks to Nadine Moeller and Natasha Ayers for their assistance and permission to include the unpublished pottery in this thesis.

[624] The Egyptian pottery from contexts dating to the late 13th - early 18th Dynasty, including the Nubian pottery, is the subject of a PhD dissertation being completed by Natasha Ayers. For focused studies of the Egyptian pottery see: MOELLER, MAROUARD, AYERS 2011, pp. 112-119; AYERS, MOELLER 2012, pp. 103-115; AYERS, in press.

[625] AYERS, MOELLER 2012, pp. 103.

[626] AYERS, in press.

[627] Sherd no. ED 2079.N3 (not pictured).

this type. The sherd decorated with the filled zig-zag motif also shows traces of red slip on the inside edge of the rim.

The following context, US 2654, marks the final abandonment of the columned hall and can be dated to the late 13th Dynasty / early Second Intermediate Period based on the associated Egyptian pottery. It is in this layer that the break with Middle Kingdom pottery traditions is first noticeable, accompanied by a corresponding decrease in the quantity of Middle Kingdom styles.[628] The bulk of the Nubian pottery from this context is quite typical of the type found in Egyptian settlements; all of the vessels are produced in coarse fabrics, are thick-walled, and their soot-covered exterior attests to their function as cooking pots. The sherds are decorated with variants of cross-hatched motifs and all have a plain undecorated rim-band. Only one sherd has a set-off and slightly recessed rim defined by an incised line (**Plate 104b**). At least three further sherds may be likened to the LaMNI ware at Elephantine, which would fit with Raue's date range for this type.[629] These sherds appear to be wheel-made and are decorated with cross-hatched motifs typical for Middle Nubian pottery, but all have oxidised exterior *and* interior surfaces, which are uncoated. The section shows narrow oxidisation zones at the surfaces with a black core, suggesting short firing at a high temperature. The fabric resembles a poorly sorted Nile B2.

US 2543 and US 2548 are roughly contemporary and both correspond to the period shortly after the abandonment of the columned hall. Successive mud floors and hearths suggest that these are temporary, short-lived occupation phases. Both contexts were in use for a very limited period of time, and the associated Egyptian pottery dates to the early Second Intermediate Period. The Nubian pottery from these levels displays the most obviously Pan-Grave characteristics in the assemblage, in particular the recessed rims with very well defined and burnished black-tops (**Plate 104c**).[630] A rim sherd from a black-topped bowl with a recessed rim was found US 2548, but the black zone is not well defined. Decorated body sherds from US 2548 carry typically Pan-Grave motifs including the braid and lattice patterns. Two sherds that may be described as LaMNI ware were found in US 2543, both with set-off rims and decorated with incised cross-hatched motifs. All surfaces are fully oxidised and the core is black.

[628] AYERS, in press.
[629] Sherd nos. ED 2654.N1, 2654.N2, and 2654.N3.
[630] Sherd no. US 2543.N1 and US 2543.N1.

The Egyptian pottery found in context US 2659 dates to a period *after* the break from Middle Kingdom traditions; that is, the late Second Intermediate Period.[631] This layer also yielded pottery that can also be associated with the Pan-Grave tradition, but all examples are cooking pots with soot-covered exterior surfaces. A near-complete example of the wide basin-shaped type, comparable to those from Phase ELE-7B at Elephantine, has a set-off rim and incised lattice decoration that is well attested at Pan-Grave sites across Upper Egypt and Lower Nubia.[632] The same pot also has a separate base decoration comprising closely spaced cross-hatching in a random arrangement.[633] A rim sherd of a thick-walled cooking pot with a recessed rim and deeply incised oblique grooves[634] has a direct parallel at Debeira East SJE Site 47 (**Plate 73d**). All of these features point toward a Pan-Grave identification.

Pottery that can be associated with the Pan-Grave tradition becomes less frequent in later contexts, and pottery showing Kerma characteristics begins to dominate the assemblages.[635] Cooking pots become more culturally ambiguous, being coarse, thick-walled and decorated with roughly incised hatching or combed scraping that is attested in all utilitarian forms across Middle Nubian traditions. One fine-ware sherd stands out from these cooking pots as being particularly Pan-Grave in character owing to its slipped exterior and visible oblique burnishing strokes. Significantly, the rim zone has been left uncoated but there are traces of what may be black pigment at the rim edge.[636] This sherd may therefore be compared to examples from Debeira East that also have red-slipped bodies and uncoated rim zones (**Plate 61b-d**). It is possible that the Edfu example once had an applied black-top that has since worn away. This probable Pan-Grave vessel in a late context could be residual, but it could also be evidence that Pan-Grave activity at Edfu continued up until the transition to the 18th Dynasty. The decline and seeming disappearance of Pan-Grave pottery from the Tell Edfu sequence at that time corresponds to the same patterns seen at other sites along the Nile Valley.

Much of the pottery described above is so visually distinct from the bulk of the Nubian cooking pots at Tell Edfu, and the parallels from Pan-Grave cemeteries are so close that it is difficult to argue against a direct association with that tradition. The presence of Pan-Grave pottery in temporary occupation layers at Tell Edfu has significant implications for the interpretation of this context. The short-lived domestic activity together with such obviously Pan-Grave pottery suggests to the current author that Pan-Grave people may have actually

631 AYERS, in press.
632 AYERS, MOELLER 2012, p. 108, fig. 4f.
633 AYERS, MOELLER 2012, p. 108, fig. 4g.
634 AYERS, MOELLER 2012, p. 110, fig. 6. Sherd no. ED 2659.N3.
635 AYERS, MOELLER 2012, p. 111-115.
636 AYERS, MOELLER 2012, fig. 4e.

been living in a disused part of the town, namely the abandoned and dismantled columned hall. The possibility that Pan-Grave people were actually living at this location is further supported by the now lost Pan-Grave cemetery at nearby Genemiyeh, to which Weigall makes only the most fleeting of references.[637] The pottery from that cemetery, also published by Weigall, shows clear affinities with the Pan-Grave tradition in terms of shape and decoration.[638] The sum of the evidence therefore suggests that there was a Pan-Grave component to the population at Edfu from the late Middle Kingdom until the early 18th Dynasty.

9.5 Thebes

9.5.1 Karnak North: the Treasury of Tuthmosis I

Pan-Grave pottery has been identified at the Treasury of Tuthmosis I at Karnak North in contexts dating from the beginning of Second Intermediate Period until the beginning of the 18th Dynasty.[639] In total, 90 sherds were identified: 25 were found in Strata A associated with bakeries, and the remaining 65 come from Strata B, below levels dated to the reign of Hatshepsut (**Plate 104a**).

The pottery finds its closest parallels in the Pan-Grave tradition. The bowls are all restricted in form and thick-walled, suggesting a utilitarian function, and all vary in size with rim diameters ranging from 16-40 cm. The published examples are all decorated with roughly executed incised designs including the braid, lattice, banded cross-hatch, and irregular cross-hatch motifs (**Plate 105a**).[640] Other features such as set-off and externally modelled rims further support a Pan-Grave identification, and the date of the pottery fits with the current chronology for the Pan-Grave culture in Upper Egypt. The association of Nubian sherds with bakeries is also seen at South Abydos and Ayn Asil,[641] suggesting a possible link between Nubians and food preparation.

Also at Karnak, Weigall has made reference to "Pan-Grave" pottery found near a Middle Kingdom sanctuary dated to the reign of Senwosret I, which he interpreted as evidence of a Nubian garrison or a population of Nubian slaves resident at the location.[642] No images of this

[637] WEIGALL 1910, p. 348.
[638] WEIGALL 1907, pl. LXXVII-LXXVIII. This site is now unfortunately lost and is likely to now lie under a modern cemetery or a sealed road.
[639] JACQUET-GORDON 2012, pp. 83-85 (vol. 1). Pottery attributed to Kerma was found to a lesser extent in contexts of the same date (JACQUET-GORDON 2012, pp. 85-88 (vol. 1)).
[640] JACQUET-GORDON 2012, p. 39, fig. 39 (vol. 2).
[641] See Sections 9.7.1 and 9.9.2 respectively.
[642] WEIGALL 1910, p. 86. These are Weigall's own quotation marks.

pottery have been published and the current whereabouts are unknown. Further Nubian pottery and a possible Pan-Grave cemetery have recently been excavated at the Mut Temple Complex at Karnak, however this material is also yet to be published.[643]

9.5.2 Dra Abu el Naga

Three Nubian vessels were found in Tomb K01.8, Area H, to the south of the pyramid tomb assigned to Nebkheperre Intef, dated to the 17th Dynasty.[644] Seiler assigned all three vessels to the Kerma culture.[645] This is certainly the case for one of the vessels - a *Kerma classique* beaker, but the cultural identification of two small black-topped bowls is less certain (**Plate 105b**).[646] Both vessels are of a shape that is more reminiscent of Pan-Grave bowls rather than Kerma.[647] Therefore, the current author suggests that these two smaller bowls should be assigned to the Pan-Grave tradition, meaning that there would be two Nubian cultures represented in one Egyptian tomb.

It would admittedly be highly unusual for Pan-Grave and Kerma pottery to be deposited in the same grave, and Bourriau has observed that pottery of the two cultures has not been attested together.[648] It is, however, equally unusual for such vessels to be deposited in an otherwise Egyptian burial at all. Kerma and Pan-Grave pottery is well attested (separately) in apparently Egyptian graves of the same period, for example the well-known *rishi* burial at Qurneh that contained four Kerma beakers.[649] Pan-Grave pottery with well defined and augmented black-tops has also been recorded in apparently Egyptian tombs at Abydos (see below). Interpreting Nubian pottery in contexts such as this is difficult, but if these Nubian vessels in an Egyptian grave were exotic or luxury items owned by an Egyptian individual, then it may not be so unexpected to find pottery from two different Nubian cultures in the same context. There is, however a chance that the deceased is a Nubian person buried in Egyptian style, and the Nubian pots may be an indication of their cultural heritage.

---

643 Betsy Bryan presented these finds at the ARCE conference in April 2015 and kindly sent the images of the pottery to the author. Upon viewing some of these images, the current author is of the opinion that the pottery should best be described as 'Middle Nubian', as there is little to associate it with the Pan-Grave tradition specifically. Analysis of the full assemblage is on-going at the time of writing, and is being conducted by Meredith Brand and Kate Liszka.

644 SEILER 2005, pp. 4-11.

645 SEILER 2005, p. 84.

646 SEILER 2005, p. 85.

647 Compare **Plate 36b-c**.

648 BOURRIAU 1981, p. 25.

649 PETRIE 1909, pp. 6-10, pls. XXII-XXIX.

9.6 Dendara

Two sherds of Nubian pottery bearing Pan-Grave characteristics have recently been identified in two separate contexts at Dendara, both inside the temple enclosure.[650] The contexts in which these sherds were found are not secure, but the simple presence of Nubian pottery at Dendara adds a further layer of complexity to the chronology and social history of the site. It also allows a new "dot" to be added to the map of Nubian pottery attestations in Egypt. Study of this material is on-going and as such, all comments are preliminary.

A large rim sherd from a Nubian bowl was found in the fill of a sebbakhin pit near the Isis Temple, making it of limited use for chronological purposes (**Plate 106a**). The sherd is from a large black-topped, uncoated, restricted bowl made in a coarse chaff-tempered fabric. The bowl has a set-off rim marked with an incised line, strongly suggesting a Pan-Grave identification. Below the rim, it is decorated with what could be either the irregular cross-hatched or banded cross-hatched motif. There is no evidence of secondary burning, but the vessel is comparable to cooking pots found at Tell Edfu and Elephantine. Overall, this bowl shows more affinity with Pan-Grave pottery than with that of any other Middle Nubian group.

A further sherd was found amongst loose fill adjacent to the remains of an enclosure wall to the west of the Hathor Temple. This is a handmade body sherd decorated with incised lines in a randomly crossing arrangement. The exterior surface shows signs of secondary burning indicating use as a cooking pot. Unlike the example from the Isis Temple, the cultural association of this sherd is ambiguous and, at best, it can only be described as 'Middle Nubian'. Associated Egyptian pottery can be dated to a period spanning the Middle Kingdom through to the 18th Dynasty, although the wall itself may date to the Middle Kingdom. It is yet unclear how any of this pottery relates to the wall.

Evidence for the Second Intermediate Period and New Kingdom was previously thought to be extremely rare in both the temple enclosure and in the necropolis at Dendara.[651] Despite the contextual problems, the presence of these Middle Nubian sherds as well as Egyptian pottery of the Second Intermediate Period and 18th Dynasty indicates that the site was in fact occupied at that time. In terms of the Nubian pottery, the rim sherd found near the Isis Temple can confidently be assigned to the Pan-Grave tradition, suggesting that there was some form of contact between Egyptians and Pan-Grave people at Dendara, presumably

[650] The Dendara Project is a joint mission between IFAO, The Oriental Institute (University of Chicago), and Macquarie University, Sydney. The Nubian sherds were sighted by the author on-site in December 2015. The author thanks Gregory Marouard for permission to include this pottery in the present study.

[651] MARCHAND, LAISNEY 2000, pp. 267-268; MARCHAND 2012, p. 275 note 14.

during the Second Intermediate Period. No further evidence of Nubian activity has been found associated with the temple or in the Dendara necropolis. Nevertheless, a Nubian presence at this site would fit well with the evidence from nearby sites, in particular the Nubian pottery found in the Palace complex Deir el Ballas,[652] and the Pan-Grave and Kerma burials at Diospolis Parva.[653]

9.7 Abydos

9.7.1 Questionable occurrences of Pan-Grave pottery at Abydos

There are various references to Pan-Grave pottery in the cemeteries at Abydos, which have been recently collated and critiqued by Liszka.[654] Many of these attestations are unpublished or are only mentioned in passing by the excavators, who simply refer to Pan-Grave pottery or cemeteries with little or no further detail. The current author has re-examined the instances cited by Liszka and has found that many require revision. Key examples are presented below, with reasons as to why this material should not be included in this analysis.

Snape referenced what he identified as Pan-Grave pottery found during Garstang's excavations in the North Cemetery at Abydos.[655] The pottery is unpublished, and no images were included in Snape's dissertation, but he provides a written description of "a black polished bowls [sic.] with a design of white triangles and white rim" from tomb 422 A'07, which he compares to Bietak's C-Group type II.a.8.[656] The description of white decoration and the parallel in Bietak's C-Group typology strongly suggests an association with that culture rather than with the Pan-Grave tradition. This pottery should therefore not be included in an analysis of Pan-Grave pottery.

Kemp claims to have found Pan-Grave pottery as part of the Pennsylvania-Yale excavations, but the sherds have not been published beyond a footnote in his article about an incised sherd from Kahun.[657] Moreover, Kemp connects the pottery from Abydos with Pan-Grave pottery from other Egyptian settlement sites, and the problems of cultural identification in such contexts have already been addressed above. Therefore, these sherds should also not be included due to the lack of certainty regarding their cultural association.

---

652 BOURRIAU 1990, pp. 16-17.
653 PETRIE 1901, pp. 45-49; BOURRIAU 2009.
654 LISZKA 2012, pp. 440-447. See also LISZKA 2015, p. 48, fig. 2.
655 SNAPE 1986, pp. 130-131.
656 SNAPE 1986, p. 131. Snape also describes what he called a "suspiciously Nubian-looking" bowl said to come from Tomb 478 A'08. Neither of these vessels could be traced, neither by Snape nor by the current author.
657 KEMP 1977, p. 290, note 9; LISZKA 2012, p. 42.

Patch claims to have identified two possible Pan-Grave cemeteries during a survey of Abydos as part of her doctoral research.[658] The focus of Patch's research was the Predynastic and Early Dynastic evidence, therefore only one of the alleged Pan-Grave cemeteries was briefly mentioned in her dissertation.[659] This material cannot be verified and should also be excluded from an analysis of the Pan-Grave presence at Abydos in the absence of more definitive evidence.

Liszka's aim in detailing the supposed Pan-Grave evidence at Abydos was to demonstrate that Bietak's distribution map misleadingly puts all Pan-Grave attestations on an equal level without accounting for the density of finds at each location. She has clearly demonstrated this point, but in addressing Bietak's understatement of the evidence, Liszka has in some cases overstated the evidence. It should also be remembered that more evidence has come to light since Bietak's publication, but the current author's re-examination of the evidence cited by Liszka shows that the attestations are either insufficiently published, cannot be verified, or a Pan-Grave identification can be confidently ruled out. Therefore, based on the available data, the current author urges caution when approaching the alleged Pan-Grave evidence at Abydos. Nevertheless, there are a number of key pieces of evidence that *do* point towards a Pan-Grave presence at Abydos, but perhaps not one as dense as Liszka suggests.

9.7.2 The Mortuary Temple of Senwosret III

Pan-Grave pottery associated with the Mortuary Temple complex of Senwosret III was classified under Wegner's Type 32, "Pangrave Bowls/Cooking Vessels" (**Plate 106b**).[660] The vessels are distinctly Pan-Grave in appearance. All published examples have a set-off rim marked by incised lines and, in one case, circular impressions as the set off line (**Plate 106d**).[661] Most of the Pan-Grave pottery was found in the East Block refuse deposit, suggesting that it was used in the temple complex itself. The Egyptian pottery suggests a date no earlier than the late 13th Dynasty, and the pottery seems to have been deposited during the active life of the temple.[662] Such a date would not be out of the question for Pan-Grave activity in Upper Egypt.

[658] PATCH 1984, pp. 14-20; LISZKA 2012, p. 443.
[659] PATCH 1991, p. 150, note 96. It must be stressed that Patch describes the site as a "Pan-Grave cemetery?", with the question mark included.
[660] WEGNER 2007, pp. 239 and 241, fig. 101.32, fig. 124.85-88.
[661] WEGNER 2007, p. 275, fig. 124.87.
[662] WEGNER 2007, pp. 281-282.

Possible Pan-Grave pottery has also been identified in deposits associated with the so-called mayors house, near to a deposit of cattle horns, however this pottery is as yet unpublished.[663] Liszka also notes that Pan-Grave pottery was found in the debris of the tomb of Senwosret III,[664] however the published illustration of the sherd is uninformative.[665]

The presence of Pan-Grave pottery in direct association with a temple complex is unusual, even in such low quantities. Wegner notes that these vessels could either be evidence of a Pan-Grave element in the population at South Abydos, or it may represent trade or exchange.[666] The dominant Egyptian forms in the deposit are hemispherical cups, cylindrical bread moulds, small flat-based cups, and flat-based beaker jars.[667] Other storage vessels such as zirs and necked bottles (so-called 'beer jars') are frequent. Based on this, the assemblage has been interpreted as related to the storage, production, and supply of offerings – bread and beer – for the temple. The Nubian pottery could therefore be interpreted as a small resident staff of Pan-Grave people working at the temple, but the statistically low quantities suggests that the pottery was traded into the temple community for use as cooking vessels. Once again, the association with Pan-Grave vessels and food preparation is also seen at Karnak North and Ayn Asil.

9.7.3 Pyramid of Queen Tetisheri, South Abydos

Budka has noted that "indigenous Nubian" pottery, which she identified as Pan-Grave, occurs "quite regularly" in the assemblage found during the Oriental Institute Ahmose and Tetisheri Project.[668] In particular, she cites the small and worn sherds that were found mixed with the building materials of the pyramid complex of Queen Tetisheri. Only one of these sherds has been published, and it certainly appears to be Pan-Grave based on the set-off rim and incised, hatched decoration (**Plate 106c**).[669]

Unfortunately Budka does not go into any great detail about the sherds themselves other than to say that they are handmade. Instead, she cited Harvey, who believed that the Pan-Grave sherds *might* have come to the site as inclusions in mud-bricks.[670] According to Budka, Harvey also suggested that the use of these sherds in bricks reflects the presence of a Nubian

[663] LISZKA 2012, p. 446. Liszka gained this information via personal communication with Josef Wegner.
[664] LISZKA 2012, p. 446.
[665] AYRTON, CURRELY, WEIGALL 1904, pl. 40.
[666] WEGNER 2007, p. 241.
[667] WEGNER 2007, p. 271, fig. 120, p. 282.
[668] BUDKA 2006, p. 86. The published report gives no indication as to the actual quantity. See also LISZKA 2012, p. 444.
[669] BUDKA 2006, p. 85, fig. 1.1.
[670] BUDKA 2006, p. 109, note 152.

settlement on the periphery of the town, where the bricks were made. No explanation is given as to how such conclusions were reached, but it is presumably due to the small size and worn nature of the sherds. Whatever the case, the suggestion that these small sherds are evidence of a Nubian settlement in a particular part of the town is quite a leap, especially given the lack of associated evidence. Generally speaking, the occurrence of small Pan-Grave sherds in the pyramid of an Egyptian queen is a highly unusual situation, and one must exercise caution in drawing any such conclusions.

Overall, there is little published evidence to use as a basis for any kind of identification. If, however, the single published example is any indication, then this pottery can tentatively be assigned to the Pan-Grave culture. This being the case, it would stand as further evidence of a Pan-Grave element in the population at Abydos.

9.7.4 The North Cemetery, Abydos

Peet identified a scattering of Pan-Grave evidence in the North Cemetery, although it should be recognised that he appears to have used the adjective "Pan" to describe any Nubian pottery, some of which is clearly Kerma based on his descriptions.[671] An obvious example of Pan-Grave pottery was found in Grave C91, a shaft with three chambers, remains of a stucco mask, and Egyptian cosmetic items and jewellery. Peet describes a "piece of pan pottery" with a "moulded rebate of about a centimetre at the rim, and this alone was black," adding that "some special means had been employed to confine the black colour to this sunk rim."[672] This description is clearly a Pan-Grave bowl with a recessed rim and defined or applied black-top.

Peet also presented an extended description of his "Pan pottery" as it appeared at Abydos, and identified five ware types within this group:[673]

1. "Coarse thick ware, red with black-top": based on Peet's description, this pottery can best be related to black-topped coated or black-topped uncoated ware in the current system. Peet identified key Pan-Grave characteristics such as the set-off rim, indicating a likely Pan-Grave association.
2. "Fine black-topped red ware": this type is actually a conflation of *Kerma classique* beakers and Pan-Grave bowls. The example with a recessed rim and defined black-top from Tomb C91, described above, is classified into this group.

[671] The Kerma identification is most clear when Peet describes "bell-shaped bowls of fine pan pottery", which are clearly *Kerma classique* beakers (PEET 1914, p. 62).
[672] PEET 1914, p. 61.
[673] PEET 1914, pp. 66-68.

3. "Incised black-topped red ware": only one example is attested from tomb C56, and a published photograph supports a Pan-Grave association.[674]
4. "Rough pitted black ware": the description of this ware is vague and no images have been published. It cannot be confidently associated with any Nubian tradition.
5. "Smooth or polished black wares": This ware can best be associated with the C-Group. The only published example[675] finds its closest parallel in the C-Group Cemetery K at Adindan.[676]

Pan-Grave pottery from the cemeteries at Abydos is held in the collection of the Fitzwilliam Museum, Cambridge, but the context is not known for most of the examples. All of the vessels sighted by the current author have recessed rim profiles and defined and well-burnished black-tops (**Plate 107a-c**), which in some cases appears to be applied (**Plate 107c**). These characteristics suggest a late date, probably towards the end of the Second Intermediate Period. Unfortunately it is not clear if these vessels were associated with an Egyptian-style tomb, or a Pan-Grave burial.

In addition to the pottery, Peet identified a deposit of portions of ox skulls and horns, two of which showed traces of red paint and "a little pottery" in tomb W12.[677] Painted animal skulls and horns are a key indicator of Pan-Grave culture, however the tomb consisted of a shaft with three chambers, which would otherwise be considered Egyptian. Here again we see a complex mixing of cultures, and it is not clear if this is a Nubian burial in an Egyptian grave, or an Egyptian burial containing Nubian objects.

9.7.5 Re-evaluating the evidence from Abydos

Looking at the evidence anew, it is clear that there was a Pan-Grave component to the population at Abydos, but it is perhaps not as dense as Liszka's revision implies. Attestations of confirmed Pan-Grave evidence at Abydos is far more frequent than that identified by Bietak, but even then the material is scattered and occurs in small quantities. The greatest concentration of pottery that can confidently assigned to the Pan-Grave tradition is associated with the mortuary temple of Senwosret III.

674 PEET 1914, pl. XV.12.
675 PEET 1913, pl. V.16.
676 WILLIAMS 1983, pl. 64D.
677 PEET 1914, p. 63.

More perplexing are the scattered occurrences of Pan-Grave artefacts, namely pottery and painted skulls and bones, in tombs that otherwise appear to be Egyptian. As will be explained in Chapter 10, the current author believes that recessed rims and defined/applied black-tops are a later development for the Pan-Grave pottery tradition. Therefore, the occurrence of this type of vessel in an Egyptian grave could be evidence for the greater integration of Pan-Grave people into Egyptian communities as time progressed. Alternatively, the inclusion of Pan-Grave items in an Egyptian grave could be an example of Egyptians including foreign item in their tombs as luxury objects.

9.8 Pan-Grave Pottery in Lower Egypt

9.8.1 Kom Rabia (Memphis)

120 Nubian sherds identified as Pan-Grave "in character" were found in Levels VI/VII and VI, dated to the Middle Kingdom (**Plate 108**).[678] Only nine sherds identified as being of the Kerma tradition were found in later New Kingdom contexts, Levels IV and IIIb. Bourriau notes that there is a long gap in the stratigraphy between these occurrences where no Nubian pottery appears in the assemblage.[679] All of the Nubian pottery at the site originated from dumps mixed with Egyptian material, and it was therefore suggested that this pottery was discarded at one time. The highest concentration of Nubian sherds came from contexts in Level VIe, which can be dated to the mid 13th Dynasty based on the associated Egyptian pottery. This date seems early for Pan-Grave (i.e. Nubian) pottery so far north, but it must be remembered that the term 'late 13th Dynasty' means different things in Upper and Lower Egypt, with earlier pottery traditions persisting in Lower Egypt for a longer time than they did in the south.[680]

It is therefore possible that these contexts correspond to the Second Intermediate Period proper in Upper Nubia, namely the 17th Dynasty, which would better fit the current chronology for the Pan Grave culture in Egypt. It could also be argued that although the Nubian and Egyptian pottery was dumped at the same time, it does not necessarily mean that the two types of pottery are contemporary. It should also be noted that New Kingdom pottery first appears in Level V, that is, in the levels just above that containing the highest concentration of Nubian pottery (i.e. Level VIe). There is some uncertainty surrounding the

[678] BOURRIAU, GIULIANI 2016, pp. 230-240; BOURRIAU 2012, pp. 149-150.
[679] BOURRIAU 2012, p. 151.
[680] BOURRIAU 1991, p. 130; BOURRIAU 2010b, pp. 11-13.

interpretation of the sudden appearance of 18th Dynasty pottery in Level V, but it does appear that the new styles appear suddenly and replace early 13th Dynasty forms.[681]

Bourriau's Pan-Grave identification of the pottery from the Middle Kingdom contexts is based on Giuliani's typology. Three of *Giuliani's* ware types were present in the assemblage: red-coated ware, uncoated ware, and black-topped red ware. All sherds were burnished on both surfaces, and three quarters were decorated with incised cross-hatching. The decorated sherds all have undecorated rim-bands, and some have a set-off rim delineated by an incised line. Most sherds showed signs of secondary burning from use over a fire. Bourriau notes that the range of variation is small, which is true only for surface treatment and decoration.

The published examples show a broad variety of forms, ranging from the wide, basin-shaped types noted at Elephantine and Tell Edfu, to restricted, over-hemispherical forms (**Plate 108**).[682] The wide, shallow forms, as they are illustrated, are especially unusual for the Pan-Grave tradition.[683] It must be remembered that Middle Nubian pottery is handmade. Rims are rarely level, vessels are never symmetrical, and the contour and profile can differ widely on a single vessel. Reconstructing a vessel from a single sherd can therefore be troublesome. The current author urges caution when considering published reconstructions based on such fragmentary data. Overall, a Pan-Grave association for the pottery from Kom Rabia seems likely, but must remain tentative.

9.8.2 Kahun

A single body sherd of Middle Nubian pottery thought to come from Kahun has been described by Kemp as Pan-Grave (**Plate 109a**).[684] The original context is unknown, but it is thought to originate from Petrie's 1889 excavations at the site. It is a body sherd, coated, lightly burnished, and decorated with what appears to be the banded cross-hatch motif. This same sherd was examined by the current author at the British Museum and a Pan-Grave association seems likely. As an isolated sherd without contextual information, it is impossible to assign even a relative date in this case. Nevertheless, its very occurrence is significant for investigating the potential reach of the Pan-Grave tradition and its connections with Lower Egypt.

---

681 BOURRIAU 2010a, pp. 33-34. BOURRIAU 2010b, p. 13
682 BOURRIAU 2012, p. 154-155, fig. 4d and fig. 5d.
683 BOURRIAU 2012, p. 155, fig. 5b. This shape is especially unusual for its wide and shallow contour.
684 KEMP 1977, pp. 289-292.

9.8.3 Dashur

Fleeting references have been made to an allegedly Pan-Grave cemetery south-west of the Pyramid of Senwosret III. Excavations conducted by an Egyptian team are said to have uncovered a cemetery of 160 graves, which, if it could be verified, would be the largest known Pan-Grave cemetery.[685] Unfortunately, however, no more than a brief mention of this discovery has been published and its true character cannot be confirmed. Bourriau was given access to some of the pottery from this site in the late 1970s and followed the Pan-Grave identification.[686] The current author has viewed these photographs and a Pan-Grave identification can be confidently ruled out (**Plate 109b,c**).[687] The shapes and decorative styles are all unknown in the Pan-Grave tradition. In fact, the Dashur pottery finds better parallels at Kerma sites in the Dongola Reach, and possibly even among Napatan pottery.[688] If some of the Dashur pottery can be linked to one of the Middle Nubian cultures, namely Kerma, the proximity of the Nubian cemetery to a monument of Senwosret III could be significant in light of the Pan-Grave pottery found at his mortuary complex at South Abydos.[689]

9.8.4 Lisht

Nubian pottery was found in domestic contexts at Lisht village dated to the late Middle Kingdom, most likely the late 13th Dynasty. The pottery has been identified as Pan-Grave and was described as "necessary to the inhabitants as part of the household equipment."[690] This implies that Pan-Grave (i.e. Nubian) pottery was found in considerable quantity in a number of contexts, although the actual extent has not been made explicitly clear. The only published example does bear some Pan-Grave characteristics, including a set-off and externally modelled rim and what looks like incised decoration in the banded cross-hatch motif (**Plate 110a**).[691] The set-off rim line appears to be further ornamented with triangular marks that may be compared with examples from Moalla and sites in the Eastern Desert, but this detail is unclear from the illustration. The chronological issues associated with a late 13th Dynasty context in Lower Egypt have already been raised and it is possible that the sherd could be contemporary with the 17th Dynasty in Upper Egypt. Chronology aside, the published sherd from Lisht can be associated with the Pan-Grave tradition, but no conclusions can be reached without additional contextualising evidence.

---

685 LECLANT 1974, p. 185.
686 BOURRIAU 1981, pp. 27-28.
687 Sincere thanks to Janine Bourriau for sending photos of this pottery to the author. Thank you also to the Saqqara Inspectorate, who originally granted Janine access to this pottery.
688 There are shared characteristics between the Dashur pottery and that from SJE Site 176, which is now thought to be Napatan in date, at least in part. See Chapter 1, note 21 of the current study.
689 See Section 9.7.3.
690 DO. ARNOLD, F. ARNOLD, ALLEN 1995, p. 26.
691 DO. ARNOLD, F. ARNOLD, ALLEN 1995, fig. 5.10.

9.8.5 Qasr es Sagha

Middle Nubian pottery has been found in multiple domestic contexts at Qasr es Sagha.[692] A reliable date is difficult to establish, but the late Middle Kingdom or Second Intermediate Period seems likely based on associated Tell el Yahudiyeh ware.[693] All of the Nubian sherds are handmade and decorated with incised lines in varying hatched or cross-hatched motifs. Most are body sherds and as such are difficult to assign to any specific Middle Nubian group. Only one rim sherd has a set-off rim delineated by an impressed string line (**Plate 110c.1**), and part of a base is decorated with an incised spider-web motif (**Plate 110b**),[694] which are features of the Pan-Grave tradition. On the whole, the Middle Nubian sherds from Qasr es Sagha resemble cooking pots seen at other Egyptian settlements such as Kom Rabia, and even as far south as Tell Edfu, and the relative date could indicate either a Pan-Grave or Kerma association, or possibly elements of both.

9.8.6 Khatana L81 (Tell el Daba)

Nubian pottery has been found in numerous contexts around the Eastern Delta. Much of this material can be easily associated with the Kerma culture through the highly distinctive tulip-shaped beakers.[695] There is, however a small but significant assemblage from Area L81 at Khatana that has been associated with the Pan-Grave tradition on the basis of key characteristics such as set-off rims, black-topped coated wares, incised decoration in cross-hatched motifs, and what appears to be a filled zig-zag motif (**Plate 111**).[696] The author has viewed high-resolution photographs of all of the pottery from L81,[697] and although there are clearly some Pan-Grave elements, the overall impression of the assemblage is quite unusual. This is not the place for a detailed discussion of the assemblage,[698] and instead a more general discussion will be presented, highlighting any significant examples.

The assemblage is dominated by red-coated burnished ware with black interiors, which is common to all Middle Nubian traditions. There are also a number of sherds that have red slipped interiors, which is *not* characteristic for the Pan-Grave tradition. Decoration includes incised cross-hatching, banded zig-zags (**Plate 111c**), and complex designs of randomly

---

692 DI. ARNOLD, DO. ARNOLD 1979, pp. 32 and 36, fig. 21.1-3, pl. 21a-c.
693 DI. ARNOLD, DO. ARNOLD 1979, pl. 21d; SLIWA 1992, p. 30, fig. 12.
694 DI. ARNOLD, DO. ARNOLD 1979, pl. 21c.1; SLIWA 1992, fig. 12.3.
695 FUSCALDO 2002; FUSCALDO 2004; FUSCALDO 2008; ASTON 2012, 166-169.
696 ASTON 2012, pp. 164-166, 170-171, fig. 1.
697 Photographs of the pottery were kindly provided by David Aston, with permission from Manfred Bietak, and courtesy of the Austrian Academy of Sciences. Thank you also to David Aston for sending a final unpublished draft of a chapter written jointly with Manfred Bietak (ASTON, BIETAK, in press).
698 This assemblage has been prepared for publication by David Aston and Manfred Bietak (ASTON, BIETAK, in press).

arranged triangular zones filled with parallel grooves (**Plate 111d**). Black-topped vessels are also present, three of which have set-off rims (**Plate 111a**), one marked by a string-impressed line rather than the usual incised line (**Plate 111b**). Aston follows Giuliani's observation that string impressions are not 'native' to the Pan-Grave tradition, but the current author suggests that string impressions occur frequently enough that it may be considered a true, although infrequent, characteristic of the Pan-Grave tradition.

Beyond these general and somewhat ambiguous characteristics, the similarities between the L81 pottery and the Pan-Grave tradition do not go much further. Two unique forms of decoration are attested: the first type comprised narrow trapezoidal zones filled with cross-hatching that extend upward from the base (**Plate 111e**).[699] This motif is thought to be equivalent to Giuliani's "incised panel" decoration, and is not attested at any other Pan-Grave location.[700] The current author therefore questions the association of these particular sherds with the Pan-Grave tradition. The second type of decoration is an unusual impressed motif, created by pushing a pointed tool into, but not through, the wall of the vessel, creating a hole on one surface, and a corresponding bump on the other (**Plate 112a**).[701] This type of decoration finds a possible parallel in the Kerma cemetery at Mirgissa,[702] but is otherwise unattested at any known Pan-Grave context.

Loop-handles occur in the assemblage at L81 but are otherwise unknown in the Pan-Grave tradition. A red-coated sherd that appears to have been used as a cooking vessel is decorated with an incised herringbone motif that looks Nubian, but has a horizontal loop-handle applied below to rim (**Plate 112b**). A second example in an uncoated grey-coloured ware with the aforementioned trapezoidal decoration has lugs that appear to be attachment points for handles.[703] A third example is half of a handle with a thickly applied red coating. All three examples are in what otherwise appears to be a Nubian handmade ware with Nubian-looking decoration, but loop-handles are not 'native' to any Middle Nubian tradition.

The pottery from Khatana is therefore Pan-Grave in some ways, but in other ways it is not Pan-Grave at all. Indeed, in some ways it does not even seem Middle Nubian. Some of the decorative motifs on the L81 pottery are certainly Nubian, others are clearly not. The wares, broadly speaking, look Nubian, but the forms are not, and unusual features like the handles

[699] ASTON 2012, p. 171, fig. 1. Pot nos. 9014G and 9023U.
[700] ASTON, BIETAK, in press. This motif is described by Aston and Bietak as "ladder" decoration. There is no published definition for Giuliani's "incised panel" motif.
[701] FORSTNER-MÜLLER, ROSE 2012, fig. 21.1-2, p. 191.
[702] VERCOUTTER 1970, pl. XXXIII.10
[703] ASTON, BIETAK, in press. Sherd no. 9023X.

could be influences from Levantine pottery. The general impression is one of dynamic and complex cultural exchange. Envisaging such a scenario would not be unwarranted in the Eastern Delta, where multiple cultures were present and active and whose interactions were manifest in the mixed material culture.

If it is the case that these forms are not truly Nubian, then it follows that they could not have come from Nubia and are unlikely to be evidence of material trade. For this reason, the current author suggests that the pottery from L81 is a local production that incorporates elements of Nubian, Egyptian, and possibly even Levantine ceramic traditions. The Eastern Delta was under Hyksos control at the time, and the Hyksos rulers were supposedly allied with Kerma. Taking the obviously Kerma pottery from other locations in the Eastern Delta into account, it is probable that the local potters were exposed to both Levantine *and* Nubian ceramics. The Pan-Grave connection could be explained through Bourriau's theory that the Pan-Grave community buried at Rifeh had more contact with Lower Egypt (i.e. the Hyksos).[704] It would therefore not be out of the question that the multiple cultures merged in some way. This sort of cultural mixing follows patterns seen in settlement contexts in Upper Egypt, but in an arguably more complex and multi-cultural way.

9.9 The Western Desert Oases

9.9.1 Umm Mawagir, Kharga Oasis

The site of Umm Mawagir is located in the central part of the Kharga Oasis and is situated near roads connecting it to the Theban region, Lower Nubia, and also to Lower Egypt via the Western Desert oases.[705] Precise dates for the site have not been established, but there is evidence for activity spanning the period from the late 12th to the early 18th Dynasty.[706]

The majority of the Nubian pottery at the site finds its closest parallels in the Pan-Grave tradition in terms of shape, ware, and decoration (**Plate 113**).[707] Kerma pottery and Tell el Yahudiyeh ware was also found at the site, but in considerably smaller quantities than the Pan-Grave pottery.[708] A restricted, undecorated black-topped bowl corresponds in shape to the restricted rounded bowls well-known in the Pan-Grave tradition (**Plate 113k**).[709] Published examples either have a set-off rim marked by an incised line or, where the vessel is decorated,

[704] BOURRIAU 1999, pp. 45-46.
[705] MANASSA 2012b, pp. 131-131.
[706] MANASSA 2012b, pp. 132-133.
[707] The majority of the published examples are presented only as line drawings. Any comments relating to ware and surface treatment are based on published written descriptions.
[708] MANASSA 2012b, pp. 142-143.
[709] MANASSA 2012b, p. 134, fig. 4a. Compare to the vessels depicted on Pl. 3.10b-c.

the rim band is left plain (**Plate 113a-h**). Decorative motifs are also distinctly Pan-Grave, with irregular cross-hatching, braid, quadrilateral, and zig-zag motifs present.[710] Base decoration of the incised spider-web motif is also attested (**Plate 113i-j**). There is also an apparent difference between the fabrics used for certain vessel types. A finer sand-tempered fabric was used for black-topped red-burnished bowls, while the larger, thick-walled bowls are made in a coarse straw-tempered fabric and show signs of secondary burning.

There is strong evidence for local production of Nubian-style pottery, which Manassa describes as "oasis hybrid" pottery.[711] Two vessels are said to be wheel-made owing to strong rilling marks on their interior surfaces, and both are produced in an Egyptian-oasis fabric.[712] Other handmade sherds were also produced in oasis fabrics.[713] The use of locally sourced materials strongly suggests that either Nubians were present at the site and were producing their own pottery locally, or that Egyptians were using their own technology to produce pottery that looked Nubian in style. As at other sites, this raises questions about how the Nubian pottery came to be in the Egyptian settlements and who was producing and using it. Manassa suggests that the Umm Mawagir evidence reflects a relationship between Egyptians and Medjay soldiers posted at the site.[714] Her conclusion accepts the supposed link between the Pan-Grave culture and the Medjay, and also follows the "pots = people" line of reasoning. The excavations and analysis of the finds from Umm Mawagir is in its preliminary stages, and all conclusions must remain tentative, as Manassa herself also acknowledged.

9.9.2 Ayn Asil, Dakhla Oasis

The small quantities of Nubian pottery found at Ayn Asil have been identified by Marchand as *Kerma classique*. All of the contexts in which the Nubian pottery was found have been dated to ceramic phases 1 and 2, following the chronology devised for the site.[715] These phases correspond to the Second Intermediate Period, before 1600 BC, which lines up will with Pan-Grave activity. As at South Abydos and Karnak North, the Nubian pottery at Ayn Asil was found in association with bakery refuse, suggesting a link between Nubians and food production. Marchand divided the material into three subgroups: undecorated black-topped vessels, decorated cooking pots, and cooking pots with reinforced bases.[716] While Marchand

[710] MANASSA 2012b, pp. 136-137, figs. 5-6.
[711] MANASSA 2012b, p. 135.
[712] MANASSA 2012b, pp. 135-139, fig. 8.
[713] MANASSA 2012b, pp. 140-142, fig. 9d-e.
[714] MANASSA 2012b, p. 143.
[715] MARCHAND, SOUKIASSIAN 2010, pp. 141-143, 149, fig. 156.
[716] MARCHAND, SOUKIASSIAN 2012, pp. 206-207.

identifies the pottery as being produced in Nile silt, she does not rule out the possibility that some may have been produced at the oasis using local materials.[717]

It is difficult to ascertain from the published illustrations and photographs, but the surviving sherds are, at best, culturally ambiguous. The only feature that may be identified as a Pan-Grave characteristic is the set-off rim on three pots.[718] The well-defined black-rims in the illustrations of the undecorated black-topped vessels could be misleading, but the photographs show what appears to be a streaky burnish that is characteristic for the Pan-Grave tradition.[719] The incised decoration does not follow any particular motif and appears to comprise random arrangements of combing marks. This type of decoration (if it can be considered decoration) is also attested on a large cooking pot found in a Pan-Grave context at Mostagedda (**Plate 40**) at suggesting a probable Pan-Grave identification.

The overall character of the Nubian pottery at Ayn Asil appears distinctly different from that seen at Umm Mawagir. In the latter case, the pottery shares more in common with the Pan Grave tradition, albeit in slightly modified form. At Ayn Asil however, there is little to link the pottery to the Pan-Grave tradition, and features such as reinforced bases on cooking pots more closely fit the *Kerma classique* tradition. This apparent difference between two neighbouring oases, if the difference is indeed real, has significant implications for interpreting the archaeology along with the historical record. If there was an alliance between Kerma and the Hyksos in the Delta, then the Nubian pottery at the oases may be evidence that the western desert was used by Kerma Nubians to bypass Theban territory.

9.10 Interpreting Pan-Grave pottery in Egyptian cultural contexts

As noted in the introduction to this chapter, the aim is not to resolve the problems associated with Pan-Grave pottery (or Middle Nubian pottery generally) when it occurs in Egyptian cultural contexts. Instead, the intention has been to describe the evidence, identify and highlight the issues, and consider how a study incorporating evidence from mortuary and non-mortuary contexts might refine the current understanding of the Pan-Grave culture, its material traditions, and its place within its broader Egyptian-Nubian world. Three separate but related issues have come to the fore: chronological implications, functional considerations, and cultural considerations. Each of these issues will be discussed below, setting the

[717] MARCHAND, SOUKIASSIAN 2010, p. 154.
[718] MARCHAND, SOUKIASSIAN 2010, p. 206, fig. 264. Pot nos. 1347-141, 1470-41, and G20 16-214.
[719] MARCHAND, SOUKIASSIAN 2010, p. 206, fig. 163, photo 458.

background for the analysis of regional and chronological patterns that are presented in Chapters 10 and 11.

9.10.1 Chronological implications

The archaeology of the Second Intermediate Period is complicated. The ceramic sequences that would ordinarily form the backbone of any relative chronology are fragmented during this period, making it difficult to correlate sites and assemblages across regions. Bourriau has argued that the ceramic traditions of the Second Intermediate Period could be divided into five regions; the Eastern Delta, Memphis/Faiyum, Middle Egypt, Upper Egypt, and Elephantine, to which the Oases and Lower Nubia might be appended.[720] Broadly speaking, a break from Egyptian Middle Kingdom ceramic traditions occurred in Upper Egypt at some point during the 13th Dynasty and was replaced by a new and distinct Upper Egyptian style. By contrast, Middle Kingdom ceramic traditions persisted in Lower Egypt with some modifications and developments until the beginning of the 18th Dynasty, when they were replaced with the Upper Egyptian types. Bourriau notes that the change seen in the stratigraphy at Memphis is sudden with little sign of any transition.[721] Similarly, the break in ceramic tradition may not have occurred at the Western Desert oases, where pottery of the 17th and early 18th Dynasty are only attested at the uppermost levels and on the surface with no associated Nubian pottery.[722]

Stratified sequences such as those at Elephantine, Tell Edfu, Kom Rabia, and in the Eastern Delta are therefore of immense significance in establishing relative sequences for respective regions, but problems arise in attempting to link the sequences. The regional divisions also have important implications for interpreting the Nubian pottery. It has already been noted above in relation to the Nubian pottery at Kom Rabia that its association with pottery of 13th Dynasty style could be misleading. However, if that date were accepted, it would mean that the supposedly Pan-Grave pottery from Memphis is contemporary with the Pan-Grave cemetery WK11 at Wadi Kubbaniya, which seems unlikely.

If texts such as the Semnah Despatches are taken into account, the Egyptians were apparently making concerted efforts to prevent desert nomads from entering Egyptian territory *in Lower Nubia* during the late Middle Kingdom.[723] In light of this, it seems unlikely that the same people would have been able to so quickly proceed to the Memphite region and for their

[720] BOURRIAU 2010b, p. 11.
[721] BOURRIAU 2010a, p. 13.
[722] MANASSA 2012b, pp. 133.
[723] SMITHER 1945, pp. 3-10.

material culture to become a fixture in Egyptian settlement contexts at such an early stage. Linking this line of reasoning to the Semnah Despatches is admittedly problematic, as it accepts that the Medjay referred to in the texts *are* Pan-Grave people. Moreover, it assumes that all desert nomads were attempting to enter Egypt the 'official' way - i.e. by asking for permission - rather than by entering unofficially via desert wadis and settling within Egyptian territory but away from Egyptian communities. Either way, such an early date for a Pan-Grave presence in Lower Egypt is difficult to support with the currently available evidence. This and other chronological considerations are addressed in further detail and in relation to cemetery pottery in the following chapters.

9.10.2 Functional Considerations

With a few exceptions, the Pan-Grave pottery found in Egyptian settlements is utilitarian and shows clear evidence of having been used as cooking pots. Such vessels are, for the most part, thick walled, made in a coarse straw-tempered fabric, not burnished, and decorated with roughly incised motifs. There is also evidence of Nubian *fine* wares being used for cooking at both Elephantine and Edfu.

The association between Pan-Grave pottery and food production areas can be observed at Ayn Asil, South Abydos, and Karnak North. Similarly, the presence of Nubian (i.e. Kerma) cooking pots at Deir el Ballas has been interpreted as possibly representing a resident Nubian community that was charged with preparing food for Egyptians.[724] That Nubians were cooking for Egyptians is possible, but this should not be the only plausible option. The dynamic, multi-cultural society that was Egypt during the Second Intermediate Period would undoubtedly have resulted in complex cultural exchanges. Egyptians could certainly have used Nubian cooking pots as much as Nubians could, and *did,* use Egyptian storage vessels. The complexities of cultural and technological exchange are perfectly illustrated by the LaMNI ware at Elephantine, and the possible Nubian-Levantine-Egyptian hybrid forms seen at Khatana.

There is also the issue of relating pottery from cemetery and settlement contexts. The overall impression of the Pan-Grave tradition is that different types of pottery served clearly different functions; rough wares were used for cooking, and fine wares were reserved for drinking or food service. In mortuary contexts, the Pan-Grave ceramic repertoire is dominated by thin-walled fine wares with varying levels of finish and decoration. The coarse utilitarian wares are

[724] BOURRIAU 1990, pp. 17.

almost, but not entirely absent. Overall, there does not appear to be any clear distinction between mortuary and non-mortuary pottery. Raue has observed that fine black-topped vessels were used for cooking in the earliest levels at Elephantine (ELE-7A).[725] Coarse cooking-pots and burnished black-topped wares were also found together in the same contexts at Tell Edfu as outlined above. Conversely, large, thick-walled cooking pots have been found in Pan-Grave burials at sites in both Egypt and Nubia. In addition, fine black-topped vessels with repair holes have been found graves at a number of sites, clearly showing that these fine wares were used in life and considered worthy of repair.

While there does not appear to be any distinction between mortuary and domestic pottery for the Pan-Grave culture, it is much easier to identify Pan-Grave pottery in a non-mortuary context if that pottery shares features with Pan-Grave pottery found in graves. This was the approach taken in the present study, namely to begin with the mortuary data and extend it to other contexts.

9.10.3 Cultural considerations

The difficulties of assigning settlement pottery to a particular Middle Nubian cultural group have been raised throughout this chapter. At times, the cultural identification of the pottery is distinct, and at others it is not. At Tell Edfu and Elephantine, for example, there is pottery that is clearly Pan Grave or clearly Kerma, but the majority of the pottery is not so easy to define. The mixing of characteristics from two or more traditions further complicates the situation, raising the question of who actually produced the pottery.

The overall impression at most sites is that at least some of the pottery was produced locally, and these could have been made by Nubians following Nubian traditions, or it could have been produced by Egyptians in imitation of Nubian styles. Once again, LaMNI ware clearly illustrates this point, and the locally produced, wheel-made pottery at Umm Mawagir could also be placed in the same category.

While it can be difficult to establish the cultural origin of Middle Nubian pottery in settlement contexts, Nubian cemetery pottery can almost always be easily associated with one culture or another. This suggests that the Middle Nubian groups were careful to ensure that their cultural and social identity was clearly expressed *in death* in spite of any external influence. It has been argued by the current author that Egyptianisation was not as detrimental to Pan-Grave

[725] RAUE 2012, p. 53.

identity as once thought, and that the material expression of their culture remained distinctly Pan-Grave despite adopting certain Egyptian characteristics.[726] In this way, the distinctly Pan-Grave pottery found at Elephantine and Tell Edfu - namely, the fine black-topped red-burnished wares - may be viewed as evidence of the actual presence of Pan-Grave individuals, at least for a short period of time.

[726] DE SOUZA 2013, pp. 116-118.

Chapter 10

Distribution of Pan-Grave Vessel Form and Ware

Chapters 10 and 11 both explore the distribution of three key aspects of Pan-Grave ceramic morphology: shape, ware, and decoration. When considered together, all three aspects are central to establishing how closely a vessel or assemblage corresponds to the Pan-Grave tradition according to the criteria established in Part Two. Each of the three aspects and the distribution patterns of their variants can be analysed in order to make informed observations on the Pan-Grave ceramic tradition and how this reflects regional variation, social processes, and chronology. This chapter focuses on form and ware. Decoration is treated separately in Chapter 10.

10.1 The distribution of vessel shapes

The distribution pattern of Pan-Grave vessel shapes is perhaps the least informative of the aspects considered in the current study. With only a few exceptions, the vessel forms outlined in Chapter 4 occur consistently at all sites. A comprehensive analysis of vessel shape is hampered by fragmentary preservation and also by the incomplete published record. For most sites, the true extent of the assemblage is rarely made clear, and a single vessel illustrated as a type-specimen may in fact represent any number of individuals. The distribution of the various vessel forms is summarised in **Table 10.1**, but this should be treated only as a guide as it denotes the presence of at least one specimen of each form at a given site. The available published record does not allow for any more accurate analysis of frequency or quantity. There are, however, four vessel forms that may assist in identifying regional variation and chronological sequences.

10.1.1 Restricted inflected bowls and squat bowls

Restricted inflected (RI) bowls may be identified as a diagnostic form for the Pan-Grave tradition as they occur at most Pan-Grave sites and have no equivalent among Kerma or C-Group ceramics (**Plate 41-42**). Raue has noted that Pan-Grave vessels with upright walls are rare in the Phase ELE-7A at Elephantine,[727] which suggests that they are a later development. Similarly, only one rim sherd of an RI bowl has been identified at Tell Edfu in context US 2079, which is dated to the late Middle Kingdom and thus corresponds to the sequence at Elephantine.

[727] RAUE 2012, p. 53.

By contrast, squat bowls have a very limited distribution, occurring only at three cemetery sites (**Plate 43a-e**). Three examples were identified at SJE Site 47, one at Adindan K, and one possible example at Hierakonpolis HK21A. The latter is preserved only as the rim and uppermost part of the vessel body. The full contour of the body can therefore not be established, but the curvature suggests that it is the rim from a squat bowl. All five examples are unique, with different rim forms and surface treatments, and only the one from Adindan is decorated. This variation and the small number suggests that the form is unusual in the overall Pan-Grave tradition. If one excludes the questionable example from Hierakonpolis, the attestations at two sites near the Second Cataract suggest that the form may be specific to that area.

A possible parallel from Elephantine has been dated to Phase ELE-7B,[728] placing this type around the late Middle Kingdom to the early Second Intermediate Period, which corresponds well with the examples from Lower Nubia. Generally speaking, the occurrence of at least one squat bowl at Elephantine lends weight to the argument that this is a southern form.

10.1.2 Closed vessel forms

Closed vessel forms that may be attributed to the Pan-Grave tradition are few in number and each is different from the other, limiting the usefulness in terms of classification (**Appendix 2**). This is in stark contrast to the Kerma and C-Group traditions, for which closed forms are well known and occur with relative frequency. The distribution is, however, extremely limited in range. All but three of the closed forms occur only at Debeiera SJE Site 47, and a Pan-Grave association is questionable for two of the three remaining vessels.[729] This very limited distribution may also simply be due to the intensity of analysis conducted by the current author for the assemblages from Debeiera East and Hierakonpolis.

Virtually all of the closed forms from Upper Egyptian Pan-Grave sites are of Egyptian style and manufacture. Moreover, the concentration of closed forms at Debeira East and the corresponding absence in Upper Egypt demonstrates that locally made, Nubian closed forms are specific to Nubia. It must be noted that most Pan-Grave sites in Lower Nubia were published only briefly as part of the ASN surveys, and the confusion with the late C-Group culture could mean that closed forms were assigned to a different Middle Nubian culture.

[728] RAUE in prep., Abb. 133.5.
[729] See Section 4.5.3.

		US bowls	US deep bowls	Horned bowls	Scoops	RS rounded	RS bag-shaped	RI bowls	RI squat bowls	Closed forms - handmade
Mostagedda	Cem. 3100 +3200	X	X	X	X	X	X	X		?
Rifeh	Cem. S	X	X	X		X	X	X		
Qau	Cem. 1300	X	X	X	X	X	X	X		?
Balabish	Cem. B	X				X	X			
Abydos	Cem. C and D.	X				X				
Hu	Cem. X and Y/YS	X	X	X		X	X	X		
Armant	Cem. 1900	X	X			X	X	X		
Tod	-									
Moalla	Area H3							X		
Hierakonpolis	HK47	X	X	X		X	X	X		X
Hierakonpolis	HK21A	X	X	X		X	X	X	?	
Wadi Kubbaniya	WK 11	X		X		X	X	X		
Sheikh Mohammed	SM 14									
Wadi Tawil	WT 1									
Shellal	Cem. 7	X				X		X		
Ginari	Cem. 58:1 + 58:100									
Dakka	Cem. 101									
Kubban	Cem. 110	X				X				
Qurta	Cem. 118	X	X			X				
Sayala	Cem. B & G	X	X			X	X	X		
Tumas	Cem. 189	X				X	X	X		
Aniba	Cem. N & C	X	X	X		X		X		
Masmas	Cem. 201									
Adindan	Cem. T & K					X	X	X	X	
Serra East	Cem. C			X		X	X			
Debeira East	SJE Site 47	X	X	X		X	X	X	X	X
NDRS	Site P37					X				
Shemkhiya						X		X		
El-Widay	El Widay I	X				X		X		
Hosh al Guruf										
Kassala										
Jebel Mokram K1										
Mahal Teglinos										
Agordat										

***Table 10.1**: Distribution of vessel forms. Greyed rows denote that insufficient data is available for comprehensive analysis.*

The greater frequency of closed Pan-Grave vessels in Lower Nubia, even in such limited quantities, could be related to the limited availability of Egyptian-made storage vessels. Assuming that this was the case, it follows that Pan-Grave communities would either need to

produce their own closed vessels or obtain them by other means, if they required them. It is also possible that the Egyptian pots in Pan-Grave contexts were the by-product of trade between Pan-Grave and Egyptian communities. At Balabish, marl biconical jars were found filled with or covered in scented fat,[730] and it is possible that this unguent was the traded commodity rather than the pot, which was merely a container.

10.1.3 Scoops

The distribution of scoops is extremely limited and confined to only Mostagedda and Qau. Both sites are located at the centre of Badarian activity, and it has already been established that scoop-shaped vessels are also attested in Badarian pottery.[731] Scoops do not appear to be a 'native' form for the Pan-Grave tradition and could therefore be interpreted as evidence of indirect external influence. Badarian pottery is in many ways similar to Pan-Grave pottery. It is thin walled, carefully burnished, and black-topped. It could therefore be suggested that Pan-Grave people attempted to imitate Badarian forms that encountered at Mostagedda, Qau and Badari. This type of incidental and indirect influence is, of course, difficult to prove, but the correspondence between vessel form, ware, and geographic distribution for both traditions suggests some kind of link.

10.1.4 Recessed Rims

While recessed rims are diagnostic for the Pan-Grave tradition, the low frequency and limited distribution shows that they are not *characteristic* for the Pan-Grave tradition. The distribution of recessed rims is summarised in **Table 10.2**.

In the context of mortuary evidence, the highest concentration of vessels with recessed rims is in Middle Egypt, namely at Rifeh, Mostagedda, Qau, and Balabish. All of these sites (perhaps with the exception of Qau) show evidence of extended use up to the final phases of the Pan-Grave presence in Egypt. Recessed rims are also attested on vessels found in Egyptian multi-chambered tombs at Abydos that may be dated to the early 18th Dynasty. Curiously, there is a gap in the geographic distribution for cemetery sites in Egypt, and the next occurrence is at Hierakonpolis HK21A, the date of which is unconfirmed.

730 WAINWRIGHT 1920, pp. 39-40.
731 See Section 4.5.1.c.

		Recessed rims
Mostagedda	Cem. 3100 +3200	X
Rifeh	Cem. S	X
Qau	Cem. 1300	X
Balabish	Cem. B	X
Abydos	-	X
Hu	Cem. X	
Armant	Cem. 1900	
Tod	-	
Moalla	Area H3	
Hierakonpolis	HK47	
Hierakonpolis	HK21A	X
Wadi Kubbaniya	WK 11	
Sheikh Mohammed	SM 14	
Wadi Tawil	WT 1	
Shellal	Cem. 7	X
Ginari	Cem. 58:1 + 58:100	
Dakka	Cem. 101	
Kubban	Cem. 110	X
Qurta	Cem. 118	
Sayala	Cem. B & G	
Tumas	Cem. 189	
Aniba	Cem. N & C	
Masmas	Cem. 201	
Adindan	Cem. T & K	
Serra East	Cem. C	
Debeira East	SJE Site 95	X
NDRS	Site P37	
Shemkhiya		
El-Widay	El Widay I	
Hosh al Guruf		
Kassala		
Jebel Mokram K1		
Mahal Teglinos		
Agordat		

Table 10.2: Distribution of recessed rims.

Moving further south along the Nile, recessed rims are next attested at cemetery sites in Lower Nubia with far lower frequency than in Middle Egypt. A single example from SJE Site 95 at Debeira East is difficult to place chronologically, but the assemblage for that site is likely to date to the late Second Intermediate Period.[732] The examples from Kubban Cemetery 110 occur in graves situated near *Kerma classique* burials, further suggesting a date in the late 17th or early 18th Dynasty. The overall impression is that recessed rims are a later development for the

[732] SÄVE-SÖDERBERGH 1989, p. 181.

Pan-Grave tradition, and that they are best attested in Middle Egypt during the late Second Intermediate Period.

Recessed rims occur to a lesser degree in Egyptian settlement contexts at Elephantine and Tell Edfu. At Elephantine, examples are attested in Phases ELE-7B and 7C, placing them in the Second Intermediate Period proper. At Tell Edfu, two examples were attested in context US 2543, dated to the early Second Intermediate Period. This date and the location in the south of Upper Egypt does not correspond well with patterns seen in the mortuary data, where recessed rims are associated with later assemblages. It may be the case that recessed rims first appear in settlement contexts before appearing in cemeteries, but this does not account for their apparent absence from the Upper Egyptian cemeteries. In the case of Edfu, it is possible, however, that recessed rims may have been present at the now-lost cemetery at Genemiyeh.

The rarity of recessed rims in Lower Nubia is difficult to explain, but it appears that recessed rims appear first in Upper Egypt, then spread north to Middle Egypt, and thereafter appear in Lower Nubia shortly before the transition into the 18th Dynasty. This pattern of northward and then southward movement can also be detected in the distribution patterns of other characteristics.

10.2 Distribution of Black-Top Wares

Black-top (BT) wares occur at all Pan-Grave sites included in this study, mortuary and settlement contexts alike, and the technique does not appear to be specifically associated with any particular shape or surface treatment. Based on this broad distribution across space, time, and vessel form, the BT-ware family initially appears to be uninformative for regional and chronological variation. However, there are clear patterns in the distribution of the different *types* of black-top.

The distribution of the different types of black-top technique across Upper Egypt and Lower Nubia are listed from north to south in **Table 10.3**. Irregular black-tops occur at almost all sites, while defined and applied black-tops occur only in Middle Egypt. This mirrors the distribution of circular and rectangular graves, which is believed to be chronologically significant.[733] The proportion of rectangular graves is considerably higher in the northern cemeteries such as Mostagedda and Qau, while circular graves dominate in the south at sites such as Hu Cemetery X[734] and the small cemeteries in the AKAP concession.

[733] DE SOUZA 2013, pp. 109-119.
[734] DE SOUZA 2013, pp. 111-113.

	Black-top - irregular	Black-top - defined	Black-top - applied
Mostagedda 3100	X	X	X
Mostagedda 3200	X	X	X
Rifeh S	X	X	X
Qau 1300	X	X	?
Balabish	X	X	?
Abydos ("Egyptian" graves)		X	X
Hu X	X		
Hu Y	X	?	?
Tod	?		
Moalla	X		
HK 47	X		
HK 21A	X	X	
WK11	X		
SM14	X		
WT1	X		
Shellal Cem. 7	?	?	
Dabod Cem. 29	insufficient data		
Metardul Cem 50		X	X
Ginari Cem 58:1	?	?	
Ginari Cem 58:100	?	X	
Moalla Cem 68	insufficient data		
Gerf Hussein Cem 76	insufficient data		
Dakka Cem 101	insufficient data		
Kubban Cem 110	?	X	X
Wadi Allaqi Cem 114	insufficient data		
Qurta Cem 118		X	
Sayala Cem 135	insufficient data		
Sayala B	X	X	
Sayala G	X		
Tumas Cem 189	X		
Aniba N	X	?	
Aniba C		?	
Toshke D	?	X	
Masmas Cem 201	X	X	
Adindan K	X	X	
Faras SJE 193		X	X
Serra C	X		
Debeira SJE 35		X	
Debeira SJE 47	X	X	X
Debeira SJE 65	X	X	
Debeira SJE 95	?	X	X
Debeira SJE 99	?	?	?
Debeira SJE 170	X	X	?
Shemkhiya		X	
El-Widay I		X	
El-Ar I		X	

Table 10.3: Distribution of black-top types in Upper Egypt and Lower Nubia. Sites are listed in order from north to south.

The Egyptian pottery associated with the Pan-Grave cemeteries also reflects a diachronic relationship between the south and north, the latter being slightly later in date.[735] With this underlying framework, each type of black-top will now be discussed, with primary focus given to the potential chronological and cultural implications of their distributions.

10.2.1 Irregular Black-Tops

Gatto has identified what is thus far the earliest evidence of Pan-Grave presence in the Upper Egyptian Nile Valley at cemetery WK11, dated to the 13th Dynasty.[736] Gatto noted an affinity between the grave types at these small isolated cemeteries and similar sites in Lower Nubia such as Cemetery B at Sayala[737] and Cemetery C at Serra East.[738] Based on these similarities, it was concluded that these are among the earliest of all Pan-Grave sites.[739] There are, however, some important differences in the associated ceramic assemblages. Assuming that the published illustrations are accurate, defined black-tops *are* present at Sayala Cemetery B, but are *not* attested at either WK11 or Serra C, which may suggest a temporal difference between the sites. Bietak has dated Sayala Cemetery B to the later half of the Second Intermediate Period through associated Egyptian pottery,[740] which is contrary to the early date proposed by Gatto for WK11. The early date put forward for Serra C is based largely on grave shape and the Nubian pottery types, as Egyptian pottery is all but absent.

Further comparison may be drawn with Aniba Cemetery C, however it must be noted that only a limited number of vessels from this site have been published.[741] Like WK11 and Serra C, Aniba C is small and isolated, comprising only 13 graves. The lower part of what appears to be a Tell el Yahudiyeh ware juglet was also found at this cemetery, but the date and identification are uncertain.[742] There are no defined black-tops in the published report for Aniba C, and the associated Egyptian pottery suggests an early date around the 13th Dynasty.[743] The absence of defined black-tops at Aniba C further supports the theory that the technique is a later development.

---

735 BOURRIAU 1981, pp. 27-31.
736 GATTO 2014, pp. 18-20. Two globular jars in Grave 1 at Tod may be dated to the mid 12th Dynasty, but this grave is rectangular and contained no other Pan-Grave evidence (BARGUET 1952, fig. 5; compare SCHIESTL/SEILER 2012, p. 412-413 (vol. 1)). A Pan-Grave association is therefore doubtful.
737 BIETAK 1966, pp. 43-47, pls. 25-31.
738 WILLIAMS 1993, pp. 124-132.
739 GATTO 2009, p. 33.
740 BIETAK 1966, p. 61.
741 STEINDORFF 1935, Taf. 81.
742 STEINDORFF 1935, Taf. 81.15.
743 The Egyptian pottery from Aniba Cemetery C was lost during World War II (RAUE, personal communication).

Apart from Hierakonpolis HK21A, defined black-tops appear to be entirely absent from cemetery sites in Upper Egypt south of Hu (Diospolis Parva). Bourriau's typology placed the marl biconical jars from Hu cemetery X at the earlier end of the sequence for that vessel type.[744] There is also some, though minimal, evidence of the Theban style at Hierakonpolis HK47 (**Plate 21a**). This demonstrates that although Hu X and HK47 were active for a short period after the break from Middle Kingdom pottery styles. Therefore, while they may be among the later sites in this part of Upper Egypt, they are still among the earlier sites for the Pan-Grave culture overall.

Marl C vessels are also present at Pan-Grave cemeteries in southern Upper Egypt. *Zir* sherds dated to the 13th Dynasty are attested at Hierakonpolis,[745] and although not explicitly identified as Marl C, a wine jar with ribbed neck from Hu Grave X61 is of a type commonly made in this fabric.[746] Marl C originates in the Memphite region,[747] so it seems that Pan-Grave people were settling in Upper Egypt at a time when trade and communication with Lower Egypt was still open. Giuliani has suggested that the presence of Marl C vessels may reflect what she calls "special contact" between the Pan-Grave people and the north,[748] although this seems unlikely given Hierakonpolis' location in the centre of Theban territory. Significantly, no Marl C vessels were found at the C-Group cemetery at Hierakonpolis (HK27C),[749] which could support Giuliani's theory of contact between Pan-Grave people and Lower Egypt. It is also possible that the Marl C sherds are residual and that the vessels may have had a long use life before being deposited in a Pan-Grave context.

Although irregular black-tops occur at all Pan-Grave sites, they are significant in identifying variation because they are the *only* type of black-top that occurs in *cemetery* contexts in the southern parts of Upper Egypt. In this sense, the *absence* of defined black-tops is equally as informative as is their presence at other sites. The Egyptian ceramic evidence from those sites at which only irregular black-tops occur suggests that this type of black-top is the earliest, and that it remains a common feature of the Pan-Grave tradition for the duration of the presence of that culture in Egypt.

---

744 BOURRIAU 1981, pp. 29-31.
745 GIULIANI 2001, pp. 42-44.
746 PETRIE 1901, pl. XXXIX; ASTON 2004, 96-97; SCHIESTL, SEILER 2012, pp. 614-617 (vol. 1).
747 BOURRIAU, NICHOLSON, ROSE 2000, pp. 131-132.
748 GIULIANI 2001, p 42.
749 GIULIANI 2011, p. 44.

10.2.2 Defined Black-Tops

As is now clear, defined black-tops are *not* attested at all sites and their distribution appears to be linked to chronological developments.[750]. **Table 10.3** shows that defined black-tops are best attested at sites in Middle Egypt and Lower Nubia only, and are all but absent from southern Upper Egypt. The distribution of defined black-tops is plotted on the map presented on **Plate 114**. The extent to which this distribution can be linked to chronology can be ascertained by examining the contexts themselves and their associated assemblages.

a. Middle and Upper Egypt

At Mostagedda Cemetery 3100, a total of 25 bowls with defined black-tops can be identified based on the records as published by Brunton. Of that total, fourteen were found in elongated or rectangular graves, five were found in oval graves, one was found in a circular grave, two were found in offering pits, and the remaining three were not associated with any tomb. In this particular case, there appears to be a strong association between defined black-tops and the rectangular graves that are known to be a later development for the Pan-Grave culture. At Mostagedda Cemetery 3200, only four examples of defined black-top are attested and all were found in oval graves. If it is accepted that oval graves mark a transition from circular to rectangular, it may be deduced that the defined black-top technique developed during this transitional phase.

The available data for defined black-tops from other sites is limited, and the association with particular grave types is less clear. At Balabish, a total of fourteen pots with defined black rims can be identified.[751] Of that total, only two were found in rectangular graves, two in oval graves, four were found in circular graves, one in what Wainwright called a "sundry" pit, and the remaining six were found in the surface debris. Records for Qau are lacking – three examples were published by Brunton, two of which come from the same elongated grave,[752] and the third comes from an oval grave.[753] Defined black-tops do occur at Rifeh, but field records are not known to have survived, and all information pertaining to grave shape and assemblage has been lost.[754] Two small sherds with a defined black-top have recently been found at Hierakonpolis HK21A and these currently constitute the only known examples from

[750] GATTO 2012, pp. 93-94.
[751] WAINWRIGHT 1920, pl. XIV.2, 4, 5, 6. Note: only four vessels were illustrated as type examples. The stated total of fourteen vessels assumes that the parallels provided by Wainwright all have a defined black-top as shown in the illustrations. For grave lists, see WAINWRIGHT 1920, pl. XVI-XVII.
[752] BRUNTON 1930, pl. IX.15-16.
[753] BRUNTON 1930, pl. IX.17.
[754] Vessels from Rifeh with applied black-tops are discussed in Section 9.2.3.

southern Upper Egypt.[755] The two sherds are surface finds, but the graves that have been thus far excavated at HK21A are shallow and circular. Egyptian pottery is lacking, so an informed relative date cannot be defined at present.

Two interesting cases are attested at Hu Cemetery Y, both of which may attest to exchange between Pan-Grave and Egyptian ceramic traditions. This cemetery comprises graves dated from the Middle Kingdom to the early New Kingdom,[756] and is situated adjacent to the Pan-Grave Cemetery X (**Plate 5**). Two decorated sherds with a defined (possibly applied) black-top that appear to come from the same vessel were found in Grave 257.[757] These sherds were possibly associated with a small carinated bowl with footed base that appears to be of handmade, Nubian manufacture, made in smooth black ware.[758] This is an unusual form for Nubian pottery and bears some similarity to Egyptian vessels of the late Second Intermediate Period.

Another unusual vessel comes from Grave Y344, and is a carinated bowl with ring base but produced in a distinctly Pan-Grave black-topped red-coated ware (**Plate 20a**).[759] This is not a Pan-Grave shape and instead resembles Egyptian forms of the period. This bowl was found in association with two Egyptian bowls that Bourriau has dated to the Second Intermediate Period.[760] This vessel further confirms that defined black-tops can be associated with the late Second Intermediate Period, and also stands as evidence that Pan-Grave potters were being influenced by and imitating Egyptian pottery styles.

Based on the Pan-Grave sites in Middle and Upper Egypt, defined black-tops appear to be a later development. While there does not seem to be any direct correlation between defined black-tops and grave shape, they occur most frequently in rectangular graves, which are known to develop later in the Second Intermediate Period. The occurrence of defined black-tops in circular, oval, and rectangular graves suggests that all three grave types were in use simultaneously. It must therefore be stressed that although rectangular graves are later than circular graves, they did *not* replace them. The image that emerges is one of individual agency, in which certain Pan-Grave individuals chose to bury their dead in circular graves rather than

[755] The two sherds were found by the author during a site visit in February 2016. Analysis is on-going at the time of writing.
[756] BOURRIAU 2009, pp. 39-98.
[757] BOURRIAU 2009, p. 76. The sherds are now in the Petrie Museum, London. UC17893 and UC17894.
[758] Petrie Museum, London. UC17897. The precise association of this vessel cannot be confirmed. The vessel was not included in Bourriau's finds list for Cemetery Y, but the object itself has the number "Y257" inscribed on it (Alice Stevenson, personal communication).
[759] BOURRIAU 2009, p. 78. Petrie Museum, London. UC19021.
[760] Petrie Museum, London. UC18523 and UC18525.

rectangular. The Egyptian ceramic assemblages of the sites in Middle Egypt are dominated by the Theban tradition that followed the break from Middle Kingdom traditions, which is in stark contrast to the sites further south. Bourriau's sequence for biconical jars has further demonstrated that the Pan-Grave cemeteries in Middle Egypt are generally later in the sequence.[761]

Bourriau also noticed the marked difference between the Egyptian pottery assemblages from Mostagedda and Rifeh, which are situated almost opposite one another on either side of the Nile.[762] Both sites appear to be contemporary, however the Egyptian pottery from Rifeh consists predominately of Lower Egyptian types, while that from Mostagedda is strictly Upper Egyptian. This was interpreted as a closer connection between the Pan-Grave people buried at Rifeh to Lower Egypt and the Eastern Delta than to Upper Egypt.[763] Defined and applied black-tops are definitely present at Rifeh, so the implication is that defined black-tops developed independently within the Pan-Grave culture, irrespective of Egyptian influence. Therefore if Bourriau's chronology is correct, and if defined black-tops are accepted as a later development, two scenarios could be proposed to reconcile the discrepancy.

The first is that that the Pan-Grave community buried at Rifeh was brought into their 'alliance' with the Lower Egypt later in the Second Intermediate Period, i.e. *after* defined black-tops developed. This therefore means that defined black-tops would have had to appear *before* the break from Middle Kingdom traditions. The second possible scenario is that the Pan-Grave communities at Rifeh and Mostagedda maintained contact with one another, in spite of their different allegiances, and the Pan-Grave pottery of both communities therefore developed along similar lines. Given the lack of published data, any such conclusions as to the social environment in which these Pan-Grave communities existed must remain speculative.

Defined black-tops also occur in Egyptian settlements and in Egyptian graves, which can further be used to refine a relative sequence. Defined black-tops have been identified in Phase ELE-7B at Elephantine,[764] and in US 2543 at Tell Edfu, both of which can be dated to the early Second Intermediate Period. This is probably slightly earlier than the occurrence of defined black-tops in graves in Middle Egypt, so it is suggested that defined black-tops first appeared in settlements before making their way into a funerary context. However, the

[761] BOURRIAU 1981, pp. 29-31, 37-38, fig. 3.
[762] BOURRIAU 2010, pp. 23-24, fig. 8.
[763] BOURRIAU 2010, pp. 23; BOURRIAU 1999, pp. 43-48.
[764] RAUE in prep., Abb. 134-II.21.

presence of defined black-tops in settlements in southern Upper Egypt is striking when compared to the seeming absence of this feature at cemeteries in the same region.

Bowls with defined black-tops have been found in multi-chambered tombs at Abydos that may be dated to the late 17th or early 18th Dynasty on the basis of associated Egyptian pottery, coffins, and masks.[765] The two bowls found in Tomb K01.8 at Dra Abu el Naga have defined black-tops and this context is also dated to the late 17th Dynasty. Interpreting Pan Grave artefacts found in an otherwise Egyptian mortuary context is difficult – the pottery may have been included as an exotic luxury item, but it is also possible that the deceased was connected with Nubia in some way. Ultimately, the most significant aspect of this pottery is its date, which further supports the development of defined black-tops at a later point of the Pan-Grave sequence.

b. Lower Nubia

Interpreting the distribution of defined black-tops in Lower Nubia is more difficult, and renewed investigations are hampered by the lack of published data for sites that are now lost. Defined black-tops have been positively identified at a number of Lower Nubian sites in varying quantities. Scattered examples have been identified at small cemeteries such as Sayala Cemetery B,[766] Adindan Cemetery K,[767] and Toshke Cemetery D.[768] An especially high concentration was found at sites around Debeira East.[769] The current author identified a total of 43 defined black-tops in the assemblage from SJE Site 47 alone, making up 30% of all black-topped vessels at that site.[770]

Dateable artefacts are mostly absent from Sayala B, but the limited Egyptian pottery has been dated by Bietak to the late 17th or early 18th Dynasty.[771] Egyptian artefacts are also lacking from the contexts at Adindan K, but four of the published examples of defined black-tops come from rectangular or elongated graves, further suggesting a later date for this technique. Much of the Egyptian pottery from SJE Site 47 follows the new style of the Second Intermediate Period, placing it in the late 17th Dynasty to early 18th Dynasty.[772] Moreover, the majority of

[765] PEET 1914, p. 61.
[766] BIETAK 1966, Taf. 25-31.
[767] WILLIAMS 1983, pl. 93.
[768] GATTO 2012, fig. 6b.
[769] SÄVE-SÖDERBERGH 1989, pls. 21-22, 32 (vol. 2).
[770] This number *excludes* applied black-tops, of which there are 34.
[771] BIETAK 1966, p. 61.
[772] For example, see SÄVE-SÖDERBERGH 1989, pl. 22 (vol. 2).

defined and applied black-tops from this site were mostly found in elongated graves. These points will be elaborated upon in a case study of this site presented below.[773]

c. Upper Nubia

Defined black-tops are also attested in Upper Nubia, although in far smaller quantities. Based on published data, at least five examples could be identified as follows: one at Wadi el Khowi, Site P37 (**Plate 92b**), at least one at Shemkhiya (**Plate 93d**), one from el Ar I (**Plate 93e**), and at least two examples from el Widay I (**Plate 94a**). Defined black-tops could not be positively identified at sites in the Eastern Desert.

These numbers are very low, but this may simply be the product of limited excavation and publication. Significantly, the pots from the Fourth Cataract find their closest parallels at the Pan-Grave cemeteries in Middle Egypt. If these regions can be linked through their ceramic assemblages, the pottery from Upper Nubia could therefore also be dated to the late 17th and early 18th Dynasty, which would correspond fairly well with the *Kerma moyen* and *Kerma classique* dates assigned by the excavators. The ensuing question is how pottery separated by such vast distances could show such strong similarities. A possible explanation is that the sites have a diachronic relationship, and that the sites in Middle Egypt precede those in Upper Nubia.

10.2.3 Applied black-tops

Ascertaining whether or not a black-top is applied can be difficult based on visual analysis alone. It is virtually impossible to identify this feature in published reports of early excavations for which illustrations and photographs are all black-and-white. In the context of the current study, applied black-tops have been identified either through direct analysis of the pottery itself, by viewing high-quality photographs, or through published images and descriptions. In order to ensure accuracy, the following criteria have been applied to the identification of this feature:

- the black colouring can be removed using distilled water
- the black-top is highly burnished and its lower margin is exceptionally sharp (**Plate 60b**)
- black brush-marks are visible around the rim (**Plate 57a**).
- the black-top has worn away to reveal an uncoated surface beneath, while the body of the vessel is red-coated (**Plate 61b-d**).

[773] See Section 10.2.4.

- the presence of a distinct line of uncoated vessel surface between the lower margin of the black-top and the red-coated vessel body (**Plate 61a**)
- the black-top is described in published reports as "artificial", or words to that effect.

The distribution of vessels with applied black-tops is shown in the map on **Plate 114**.

a. Middle and Upper Egypt

The distribution of applied black-tops in Egypt largely corresponds to that of defined black-tops. Applied black-tops have been positively identified in at least two examples at Rifeh (**Plate 61a**), three at Mostagedda (**Plate 60b**), and two possible examples at Balabish.[774] These figures are based only on pottery the author has examined, but the actual number is likely to be much higher. Four examples have also been identified in Egyptian graves at Abydos (**Plate 107**), only one of which can be assigned to a particular grave.[775] The bowl from grave C91 in the North Cemetery at Abydos is almost certainly an applied black-top based on Peet's description.[776]

Applied black-tops therefore occur most frequently in Middle Egypt and are effectively absent in southern Upper Egypt. This concentration at sites that can be dated to the later Second Intermediate Period suggests a similarly late date for applied black-tops. At Mostagedda, graves containing bowls with recessed rims and/or applied black-tops are mostly elongated or rectangular, also suggesting a later date. That being said, there is no data for grave types at Rifeh, so any conclusions based on grave shape must remain tentative.[777] The Egyptian pottery from Mostagedda and Balabish are predominately of the Theban style, and unpublished photographs from Balabish showing Egyptian bowls decorated with white spot decoration can be dated to the 17th Dynasty, further supporting a later date.[778] The examples from Abydos were found in Egyptian multi-chambered tombs that could be dated to the late 17th and early 18th Dynasty. Overall, applied black-tops appear to be a late development, appearing in Middle Egypt during the late Second Intermediate Period.

---

[774] Black-and-white photographs in the EES Lucy Gura Archive (Negative No.: BAL.NEG.86) show large bowls with recessed, well-defined and highly burnished black-tops.

[775] Grave D60. The four vessels are now held in the Fitzwilliam Museum, Cambridge, catalogue nos. E.73.1901, E.77.1911, E.78.1911, E.79.1911. No further information regarding the context of the other three bowls could be obtained.

[776] PEET 1914, p. 61. See Section 9.7.4.

[777] In at least one case, a vessel from Grave 3145 was drawn with a defined black-top but in reality has an irregular black-top. See BRUNTON 1937, pl. LXXII.19. The vessel is held in the British Museum, EA63028.

[778] The unpublished negatives are held in the EES Lucy Gura Archives (Negative nos. BAL.NEG.75 and BAL.NEG.76). For parallels with Dra abu el Naga, see SEILER 2005, pp. 80-81.

b. Lower and Upper Nubia

Identifying applied black-tops in Nubia is even more problematic than in Egypt. Confirmed examples could only be identified at Debeira East SJE Site 47, where the author was able confirm their presence through solubility tests using distilled water. Applied black-tops may also occur at Kubban Cemetery 110, where Firth identified black-tops that he described as having been "added artificially".[779] An example from Toshke Cemetery D also has an obviously applied black-top.[780] In terms of chronology, the Egyptian pottery from SJE Site 47 also suggests a late Second Intermediate Period to early 18th Dynasty date, which is consistent with the evidence from Egypt. No examples could be positively identified in Upper Nubia.

The use of the applied black-top technique to augment a black-top created through firing has so far only been attested at SJE Site 47.[781] It is therefore suggested that the technique was developed *after* the defined black-tops had become a part of the repertoire. In other words, a defined black-top would first have to be identified as a desired outcome before the applied black-top technique could be developed. It is therefore concluded that applied black-tops are the latest stage of development for the black-top technique.

c. Overview: Egypt v. Nubia

There are noticeable differences in the quality of applied black-tops from Upper Egypt and Lower Nubia. Generally speaking, the examples from Lower Nubia are broader, less sharply defined, and not as highly polished as the examples from Egypt. The Lower Nubian examples, in particular those from Debeira East showed traces of light burnishing that blurs the line between the red and black zones, with the black pigment being dragged into the red area.[782] One example from SJE Site 95 at Debeira East has a recessed rim to which the black zone is confined, but it is not as crisply defined or as highly polished as the examples from Upper Egypt.[783]

By contrast, applied black-tops from Egypt are more intensely black, more crisply defined, and are often highly polished. This distinctive appearance can be clearly seen on vessels from Mostagedda and Qau, most commonly on vessels with set-off or recessed rims. The black colouring is restricted very carefully to the rim band only and is often burnished to a highly lustrous and almost metallic sheen. An exceptional example from Mostagedda Grave 3143

[779] FIRTH 1927, Fig. 1.9 and 10.
[780] GATTO 2012, p. 94, fig. 6b.
[781] See Section 6.2.4.e.
[782] SJE 47/109:3(h).
[783] SJE 95/156:1.

stands out for its carefully executed and highly polished black-top (**Plate 60b**), which in parts appears to be flaking away from the surface suggesting that it was applied before firing as a coating.[784] Other examples from Rifeh are obviously painted on, leaving the tell-tale strip of uncoated surface between the black and red zones.

It therefore appears that there is variation even within the applied black-topped technique – variation within variation! – and this may be regional, chronological, or both. It certainly appears that the applied technique is the latest development in Pan-Grave black-tops due to its limited occurrence and association with sites dated to the late 17th and early 18th Dynasty.

As was the case for defined black-tops, the applied black-top technique is distinctly absent from more sites in southern Upper Egypt and this distribution may also be chronologically significant. The sites in Upper Egypt, from which applied and defined black-tops are absent, all date to the period *before* the break with Middle Kingdom Egyptian traditions. The sites at which defined and applied black-tops *are* attested all date to a period *after* the break, i.e. the later 17th and early 18th Dynasty. The challenge then is to explain how and why there is a noticeable gap in the geographic distribution of both black-top types. This issue is discussed below in Section 10.5.

10.2.4 Case Study: SJE Site 47, Debeira East

All three types of black-top are present in the assemblage at SJE Site 47, and the size of the site, its long period of active use, and the completeness of the available assemblage allows for an accurate comparative analysis of the various black-top techniques.[785] The aim of this site-specific case-study is to assess if the chronological sequence identified in the preceding sections is detectable in a complete assemblage.

Irregular black-tops are by far the most frequent type at SJE Site 47, which corresponds to the frequency and distribution seen in the full dataset. The dominance of irregular black-tops further supports the proposal that this type is the earliest and most ancestral form of the technique, and that it remains in continuous use for the entire span of time that the Pan-Grave culture is archaeologically attested.

---

[784] British Museum EA63027. Decorated sherds from Rifeh also have a similarly burnished black-top. These sherds are housed in the Petrie Museum (UC17894 and UC17932).

[785] The current author studied and recorded the entire assemblage of pottery from SJE Site 47 at the Museum Gustavianum, Uppsala University.

Defined black-tops are less frequent, occurring on only 43 individual vessels at SJE Site 47. Applied black-tops (both pre- and post-firing) occur even less frequently, and could be identified on only 26 individuals. Seven of these were confirmed through a solubility test using distilled water. The remaining 19 examples were identified through one of the other means as set out in Section 10.2.3.

The distribution of vessels and sherds with defined and applied black-tops has been plotted on the map of SJE Site 47 shown on **Plate 115**. This map includes only those examples that could be attributed to a specific tomb. Surface finds have not been included. The map clearly shows that the graves in the central area of the cemetery are mostly circular in shape, while the northern half and the southern edge of the cemetery are dominated by elongated and roughly rectangular graves. The elongated graves at the northern end of cemetery are also oriented differently to other graves at the site, further suggesting a temporal difference.

The large graves in the southern half of the site are also partially surrounded by curved troughs filled with painted animal skulls. If one compares this with the distribution of grave shapes seen in Upper Egypt, it may be deduced that the earliest graves at SJE Site 47 are located in the central part of the site, with the later graves spreading outward from there. This same outward growth from a group of earlier graves was also identified by Säve-Söderbergh by using grave shape and superstructure as his criteria.[786] It is also worth noting that the southern half of the cemetery was on higher ground than the north. The size of the graves and the fact that they are surrounded by rows of painted skulls may reflect a level of social differentiation within Pan-Grave communities.

Interestingly, the distribution of the various black-top techniques corresponds well with the different grave types. Defined black-tops, which are presumably later in date, are concentrated in the northern half of the cemetery, with an additional scattering at the southern the edge of the cemetery. Both of these areas are believed to comprise later burials on the basis of grave shape. A date in the late 17th and early 18th Dynasty could also be ascertained from the Egyptian pottery associated with these same contexts. Defined and applied black-tops are largely absent from the central-south area of the cemetery as is Egyptian pottery that can be dated to the late 17th and early 18th Dynasties. Also striking is that all but three of the graves containing applied black-tops are located in the northern half of the cemetery, and almost all were found in elongated graves.

[786] SÄVE-SÖDERBERGH 1989, pp. 166-168, fig. 48 (vol. 1).

10.2.5 The chronological sequence of the Pan-Grave black-top technique

Using the evidence from SJE Site 47 and the observations based on the distributions in Upper Egypt and Lower Nubia, the chronological development of the Pan-Grave black-top technique may therefore be summarised as follows:

Irregular black-tops are the earliest type as demonstrated by their frequency, ubiquity, and their occurrence at all Pan-Grave sites. Defined black-tops are a later development, occurring less frequently, at fewer sites, and associated mostly with elongated or rectangular graves. The Egyptian pottery at all of these sites also supports a later date, after the break from Middle Kingdom traditions. The occurrence of this type at sites in Middle Egypt suggests that it was developed after the Pan-Grave culture had spread north.

Applied black-tops are therefore the final development in the Pan-Grave black-top technique, occurring at very few sites with limited geographic distribution. The technique could only be developed after a defined black-top was established as a desired outcome. This technique is attested only at the latest Pan-Grave sites in Middle Egypt and in Lower Nubia at sites showing evidence of activity during the late 17th and early 18th Dynasty. The applied black-top technique develops further to incorporate pre- and post-firing variants, the latter seemingly associated more closely with Lower Nubia.

10.3 Distribution of black wares

Black ware vessels of the Pan-Grave tradition are rare and are scattered across a number of sites. Regional patterns can be identified, and the two types of black ware – black smooth and black burnished – both have their own distinct distributions (**Table 10.4**, **Plate 116**).

Site	B.s	B.b	Notes
Mostagedda 3100		2	All with Upper Egyptian PG Burnish
Mostagedda 3200	1	3	2 x Pan Grave Fine Burnish
Qau		3	
Hu Cem Y			
Sheikh Mohammed WK11	2		Recorded by Gatto as burnished
Wadi Tawil WT1		7?	Could not be verified by the author.
Debeira East SJE Site 47	2		

Table 10.4: Distribution of black ware types.

10.3.1 Black smoothed ware (B.s)

Black smoothed ware is limited in quantity and is attested at only three sites: Mostagedda 3200, Wadi Kubbaniya Site WK11,[787] and SJE Site 47 (**Plate 62**).[788] The examples from WK11 were described by Gatto as "black burnished", but according to the criteria applied to this study, the sherds better fit the B.s ware category. The extreme rarity but broad distribution makes this ware type largely uninformative for establishing regional or chronological variation.

10.3.2 Black burnished ware (B.b)

Black burnished wares are also rare but occur more frequently than black smoothed wares and may therefore be of greater value for identifying chronological and regional variation. Nine examples of B.b ware have been identified in the available published record, but only four of these have been sighted and verified by the author as conforming to the definition of black polished ware as set out for the current study.

Five examples in total have been identified at Mostagedda, three at Qau, and one at Hierakonpolis HK47. Seven vessels at Wadi Tawil WT1 have been classified by Gatto into her black burnished ware category. These have not been sighted by the author, and their inclusion in this discussion is tentative, given that the examples from WK11 have been re-categorised here as B.s ware (**Table 10.4**).

The B.b ware vessels that have been sighted by the author are all different from one another in terms of surface texture and finish, but all examples have similarly reflective and highly burnished black surfaces. The scoop from Qau (**Plate 63a**) is the most finely burnished of all, being finished with the Pan-Grave fine burnish technique. The black polished spouted bowl from Mostagedda (**Plate 43f**) and the bowl from Qau (**Plate 63c**) both have a more streaky and less uniform surface. The example from HK47 has a more satin-like sheen. It may be that black polished vessels were unintentionally fired in a reducing atmosphere, which could explain both their rarity and the similar surface qualities to red burnished wares. In saying this, the surface of these vessels is so uniformly black that the colouring appears to be an intentional and conscious decision by the potter.

An unusual vessel is the small, footed bowl with a sinuous profile from Mostagedda grave 3211.[789] This is not a Nubian form, and its similarities to Egyptian vessel forms apparently led

[787] GATTO 2014, p. 23.
[788] A second B.s ware sherd was found at SJE Site 47 (Sherd no. SJE 47/0:19(b)).
[789] BRUNTON, 1937, pl. LXXIII.6p.

Brunton to include it in his Egyptian corpus. A parallel for the Mostagedda bowl from Grave 3211 in terms of shape is attested at Rifeh and was dated by Petrie to the reign of Hatshepsut, placing it well into the early 18th Dynasty.[790] The fabric, ware, and surface treatment of the Mostagedda example are more akin to the finest Pan-Grave pottery. It is not clear if this vessel is handmade or wheel made, as any turning marks have been obliterated by the burnishing process. The lower half of the vessel is poorly preserved and is heavily pitted revealing a hard, fine, black and silty matrix with no visible temper. It also appears that a white coating was applied to the exterior of the lower body. White drips running from the widest point of the body toward the rim edge suggest that the vessel was deposited upside down or was at least placed rim side down while the white coating was applied. The white coating is heavily worn and was therefore likely applied post-firing, and the drip marks suggest that it was quite liquid at the time of application.

While an admittedly tenuous link, the application of a white coating to the footed bowl from Mostagedda Grave 3211 may be compared to a similar practice known from 17th Dynasty contexts at Dra Abu el Naga, in which a white coating was applied to pots at the time of deposition. According to Seiler, this white coating has some ritual significance,[791] but at Dra Abu el Naga the coating is much thicker and more chalky than the wash-like coating at Mostagedda.

The dates of the contexts in which black polished wares have been found are largely unclear. Mostagedda and Qau have already been established as being among the latest Pan-Grave cemeteries in Egypt. The shapes of the graves in which the black polished vessels were deposited is not clearly specified, but the measurements of the shafts suggests that they were elongated and, in one case, oval in form (Grave 3118). There is minimal Egyptian pottery associated with black polished wares and only Mostagedda grave 3211 could be dated to the late Second Intermediate Period based on associated finds.

10.3.3 Regional and Chronological variation in Black wares

The available data shows that black wares are almost exclusively found in Middle and Upper Egypt, although the virtual absence of these wares from Pan-Grave sites in Lower Nubia may be a product of the more limited publication of data from that region. Neither type of black ware could be identified in Upper Nubia. The generally low quantity and limited frequency of both types of black wares makes it unclear if there is any chronological significance associated

[790] PETRIE 1907, pl. XXVIIH.230.
[791] SEILER 2005, pp. 115-117.

with it. There does, however, appear to be a close association with sites that can be dated to the Second Intermediate Period proper, such as Mostagedda and Qau. The examples from Middle Egypt have more carefully burnished surfaces, which may be linked to the inherent qualities of the raw materials found in that region. Overall, the evidence is far from conclusive, but it may tentatively be suggested that black wares are associated with a later phase of the Pan-Grave tradition.

10.4 Distribution of red wares (R)

Red wares are attested at a number of locations in Upper Egypt, at scattered sites in Lower Nubia, and possibly also in Upper Nubia. It is difficult to identify red wares in published sources as interior surfaces are often either not described or not depicted, and a red interior is the defining feature of this ware family. The identification of R-wares has therefore been limited by the accessibility of reliable descriptions, photographs, or first-hand examination. Despite the limited data, some important observations may be proposed. There do appear to be distinct regional groupings in the distribution of red wares, which may in turn have chronological implications. Red wares also have the potential for providing insights into technological developments in the Pan-Grave tradition. The distribution of red wares is summarised in **Table 10.5** and plotted on the map on **Plate 117**.

	Uncoated Red		**Coated Red**		**Burnished Red**		**TOTAL**
	Undec.	Dec.	Undec	Dec.	Undec.	Dec.	
Mostagedda 3100	2	5	1	2	13	-	**23**
Mostagedda 3200	-	3	1	-	8	-	**12**
Rifeh	-	1	-	1	-	2	**4**
Balabish	-	-	-	-	3?	-	**3**
Hierakonpolis HK47	2	-	2	4	2	-	**10**
Hierakonpolis HK21A	-	-	-	1	-	1	**2**
WK11	-	-	-	4	-	-	**4**
SJE Site 47	2	5	-	-	-	-	**7**
TOTAL	**6**	**14**	**4**	**12**	**26**	**3**	**65**

Table 10.5: Distribution of red ware (R) variants.

10.4.1 Middle and Upper Egypt

Red wares are attested far more frequently at Mostagedda than at any other site with a total of 35 examples from cemeteries 3100 and 3200 alone. The evidence from Mostagedda therefore constitutes 54% of the total number of known red ware vessels across Egypt and Lower Nubia. This number may be an understatement, as Brunton only recorded complete vessels. The numbers are much lower at Rifeh and Balabish, but this may once again be a product of

selective and incomplete publication. The assemblages from Hierakonpolis HK47 and HK21 have been analysed by the current author and only twelve examples have been identified, ten at HK47, and two at HK21A. In this case, it must be remembered that only one test excavation has been conducted at HK47. This number may increase with further excavation.

In total, the number of unburnished and burnished examples is the same, with 29 examples each, but there is a noticeable difference in their distribution. Unburnished vessels are more evenly distributed across sites in Middle and Upper Egypt, while burnished red ware vessels are concentrated in Middle Egypt with 13 of the 27 known examples coming from Mostagedda 3100 alone.[792] Moreover, all known examples of red wares with *Pan-Grave fine burnish* also come from Mostagedda. The concentration of burnished wares in the northernmost sites could reflect a later date, and may be evidence that Pan-Grave potters acquired new finishing and firing techniques from Egyptian potters over a period of time.

Pottery with oxidised exterior and interior surfaces is also present at settlement contexts in Upper Egypt, most notably at Elephantine and Tell Edfu where is may be classified under Raue's Late Middle Nubian Imitation ware (LaMNI). As already noted, it is unclear if LaMNI ware was produced by Nubians or Egyptians, but its occurrence is further evidence for technological and stylistic exchanges taking place between Nubian and Egyptian potters.

10.4.2 Lower and Upper Nubia

Red wares are far less frequently attested in Nubia, as clearly illustrated by the assemblage from SJE Site 47. In terms of size and date, the site is comparable to Mostagedda, but of the 190 individual vessels studied by the author, only seven examples of red ware were identified, amounting to less than 4% of that assemblage. All examples are uncoated and not burnished. Of these vessels, two came from circular graves, four came from elongated oval or rectangular graves, and the remaining vessel was a surface find. It is therefore possible that this ware type is more closely associated with later grave forms, suggesting a later date. The lack of red burnished ware may further reflect the regionality of this ware type and a closer association with Middle Egypt.

Red wares could not be positively identified in Upper Nubia, but this is more likely due to the limitations of the published record rather than actual absence. A decorated bowl from El

[792] Three examples from Balabish are described as "red polished", however the nature of the interior surface could not be verified and their identification must therefore remain tentative. The current location of these vessels could not be ascertained.

Widay I is oxidised on both the exterior and interior surfaces, but its association with the Pan-Grave tradition is questionable.[793]

10.4.3 Comments on decoration and shape of red ware vessels

There does not appear to be any obvious correlation between red ware and vessel shape. Horned bowls are frequently attested in the coated and uncoated variants (seven examples) but the remainder are cups and bowls of varying sizes and contours. The scoop from Mostagedda grave 3241 is made in red burnished ware with the Pan-Grave fine burnish (**Plate 68a**).[794]

Decoration occurs more on red smoothed wares than burnished vessels. A total of 26 smooth decorated vessels have been identified, which far outnumbers the three burnished examples, for which the decoration is applied only to the rim band. It may be that the well-burnished surface was the desired finish and incised decoration would have 'damaged' the carefully burnished surface.

10.4.4 Regional and Chronological variation in red wares

Overall, it is difficult to link the distribution of red wares to chronology, and any observations must remain tentative owing to the incomplete published record. The concentrations at the large sites in Middle Egypt, especially at Mostagedda, support the idea that red wares are a later development. However, there is a broad scattering of red wares at sites that are supposedly early in date, such as Wadi Kubbaniya WK11. It could be that red wares were the result of unintentional oxidisation during firing, in the same way that black wares may be the product of unintentional reduction. This could explain the rarity of red wares and their occurrence at both early and late sites. In this sense, the occurrence of red wares could be entirely incidental, with no link to chronology at all.

However, for burnished red ware specifically, the limited regional variation and their distinct appearance suggests that this finish was a deliberate choice on the part of the potter. The concentration of burnished red wares at sites in Middle Egypt may therefore be more indicative of regional variation than chronological sequences. It has already been observed that the fineness of much of the pottery from the Mostagedda-Qau-Badari region is comparable to that of Predynastic Badarian pottery. Therefore, the highly burnished surfaces may be a

[793] EMBERLING AT AL. 2014, p. 330, pl. 3c.
[794] BRUNTON 1937, pl. LXXII.54. British Museum EA63040.

product of the natural properties of the raw materials available in that region that was exploited by the Pan-Grave potters.

10.5 Interpreting the distribution of form and ware

10.5.1 Identifying regional groups

Based on the distribution of shapes and ware types as outlined above, four regional groups may be identified in the Pan-Grave tradition:

1. Middle Egypt: Rifeh to Hu
2. Southern Upper Egypt: Hu to Elephantine
3. Lower Nubia: Elephantine to the Second Cataract
4. Upper Nubia: south of the Second Cataract

The assemblages from the desert and oasis regions cannot be easily incorporated into these groups owing to the limited published data that is currently available.

The four groups account for the broad trends visible in the distribution of features such as defined and applied black-tops, black wares, red wares, and closed forms. There are, however, a number of key overlaps that link the regions. Middle Egypt and Lower and Upper Nubia are connected through the presence of defined black-tops, but there are distinct differences in the technique for each region. Similarly, burnished black wares are attested to varying degree in southern Upper Egypt and Middle Egypt, but the character of this ware in both regions differs. These links not only demonstrate that the assemblages are all related in spite of their differences, but they may also be used to construct a relative chronological sequence for Pan-Grave pottery.

10.5.2 Linking regional variation and chronology

It should now be clear that the sites in Middle Egypt are later in date than sites in southern Upper Egypt, observable in the associated Egyptian pottery, as well as the elongated and rectangular graves that suggest an increasing level of Egyptian influence.[795] This distribution is mirrored by the Pan-Grave ceramic evidence, as there are certain wares and features that are attested only at sites in Middle Egypt. These features, namely defined and applied black-tops, and red burnished ware, are therefore presumed to be a later development, appearing during

[795] DE SOUZA 2013, pp. 111-113.

the Second Intermediate Period proper, after the break with Egyptian Middle Kingdom ceramic styles.

Curiously, there appears to be a closer connection between Middle Egypt and Nubia than there is between Middle and Upper Egypt. Explaining this gap in attestations is difficult, but the absence may be an archaeological illusion resulting from limitations of the published record. With that said, the Egyptian pottery from Pan-Grave cemeteries in southern Upper Egypt invariably dates to the period before the break with Middle Kingdom traditions, so a chronological link seems likely.

It is therefore concluded that the earliest evidence for the Pan-Grave tradition in the Nile Valley occurs in southern Upper Egypt and Lower Nubia, followed chronologically by Middle Egypt, and thence by a few locations in Upper Nubia. The evidence shows that the Pan-Grave tradition moved from south to north along the Nile Valley, and thereafter moved south again. This potential sequence is investigated further in Chapter 12.

10.5.3 Linking cemetery size, date, and stylistic variety

Looking at the chronological sequence proposed above, there appears to be a further link between cemetery size, cemetery date, and the type and variety of ceramic forms and wares present. Overall, smaller sites seem to show less variation than larger sites, which may be linked to both chronology and cultural exchange. It may also reflect social processes, and perhaps the people buried at the smaller sites were members of more transient communities with only a limited range of material goods that could be deposited in their graves.

The small Pan-Grave cemeteries at Aniba C, Serra C, Wadi Kubanniya WK11, Moalla, and Armant are all comparable. The graves are circular, relatively shallow, and are topped with loose stone tumuli. The Egyptian pottery places these sites in the late Middle Kingdom. The Pan-Grave pottery is similarly consistent in style and key features such as defined black-tops and recessed rims are absent. These similarities and differences could be interpreted through chronology – all sites share common characteristics, therefore all assemblages are likely to be of a similar, and in this case, early date. These sites are also quite isolated from any other cemeteries, which may reflect a corresponding social separation between these Pan-Grave communities and Egyptians. It is not clear if this spatial separation reflects social patterns and a conscious avoidance of Egyptians by the Pan-Grave people. Either way, the shared characteristics of these small sites across Egypt and Lower Nubia are striking.

By contrast, larger sites such as Mostagedda and SJE Site 47, show a broad range of variation in all aspects from grave shape to pottery forms and wares. Larger sites would presumably have been in active use for longer periods of time and would therefore inevitably display variation that reflects chronological developments. The long period of activity at these sites and the greater quantity of Egyptian ceramics reflect increased contact between Egyptian and Pan-Grave communities, which would inevitably have led to the stylistic and technological changes seen in Pan-Grave pottery.

Then there are the small sites in Lower Nubia such as Cemetery 58:100 at Ginari and Cemetery 110 at Kubban, where defined and applied black-tops are present. Unlike the other small sites listed above, Ginari and Kubban show later characteristics such as rectangular graves and Egyptian pottery dateable to the late 17th and early 18th Dynasties. These smaller cemeteries were in active use for more limited periods of time than sites such as SJE Site 47, but they appear to have been established at a time when later styles, such as defined black-tops, had already been developed. It is therefore suggested that these small sites were established *after* the cemetery sites in Middle Egypt. The discussion of these chronological sequences will be further developed in the following chapters.

10.5.4 Stylistic and technological exchange

The differences between earlier and later assemblages points to technological and stylistic developments that have not previously been identified in the Pan-Grave pottery tradition. The large cemeteries and the increasing quantities of Nubian (Pan-Grave?) pottery in Egyptian settlements points toward a more sedentary lifestyle and greater integration of Pan-Grave people into Egyptian communities during the Second Intermediate Period. This change in settlement strategy would have afforded Pan-Grave potters more time to refine their craft, leading to the finely finished pottery found exclusively at sites such as Mostagedda, Rifeh, and Qau.

Pan-Grave communities living in Egypt would inevitably have had closer contact with Egyptian goods and people, heightening the possibility of cultural exchange. The higher frequency of fully oxidised red ware vessels at sites in Middle Egypt also suggests new developments in firing technology, namely higher temperatures and manipulation of the firing atmosphere. The increasing appearance of defined and applied black-tops may also be linked to a trend in Egyptian pottery of the 17th and 18th Dynasties, namely black rims painted on to open vessel forms. The current author is of the opinion that these black-rimmed Egyptian

vessels may reflect one of two possibilities: that the style is evidence of Egyptian potters imitating Pan-Grave pottery, or that the Pan-Grave people were appropriating Egyptian wares by painting a black-top on to them.[796] Vessels such as the black-topped carinated bowl from Hu Cemetery Y – an Egyptian shape produced in a handmade Pan-Grave ware – are unmistakeable evidence of stylistic exchange and imitation (**Plate 20a**).

10.5.5 Incorporating Nubian pottery from Egyptian cultural contexts

The marked increase in quantity of Nubian pottery (including Pan-Grave) in Egyptian settlements during the Second Intermediate Period reflects the heightened level of cultural contact and exchange taking place during that time. Perhaps the clearest evidence of this is the LaMNI ware attested at Elephantine and Tell Edfu. The wheel made Nubian-style pottery from Umm Mawagir may also be added to this list. Not only does this demonstrate that Egyptian and Nubian ceramic traditions influenced one another in terms of style, but there is also clear evidence of technological developments. LaMNI ware from Elephantine and Edfu is wheel made and both the exterior and interior surfaces are oxidised red. Of course, it cannot be know for sure if this pottery was produced by Nubians or Egyptians. If it was produced by Nubians, it would be clear evidence that they had adopted Egyptian manufacturing processes, and may even have been working in cooperation with Egyptian potters.

When it comes to chronology, the difficulties in relating settlement and cemetery evidence have already been addressed, but links between the two types of assemblage may be identified. It has already been noted that defined black-tops are present in the assemblages at Elephantine and Tell Edfu, but they are almost completely absent from Pan-Grave cemeteries in southern Upper Egypt. In both cases, the defined black-topped vessels occur in contexts dated to the early Second Intermediate Period and it is therefore suggested that this feature first appears in settlement contexts before making its way into graves. The settlement evidence from Lower Egypt is even more difficult to interpret owing to the difficulties of Egyptian ceramic sequences of the Second Intermediate Period. In general however, it seems probable that Pan-Grave pottery is attested as far north as Kom Rabia by the Second Intermediate Period proper (i.e. the 17th Dynasty), although in lesser quantities.

The quantity of Nubian pottery in Egyptian settlements goes into decline by the early 18th Dynasty, corresponding to the sequence seen in the Pan-Grave cemeteries. This decline and

[796] DE SOUZA, in prep.

eventual disappearance is traditionally linked to Egyptianisation, but other possibilities should be considered in light of new evidence. The hypothesis presented in Chapter 12 explores the possibility that the Pan-Grave communities moved - or rather, *were* moved - along the length of the Nile Valley over the course of the Second Intermediate Period. Before considering this possibility, the distribution patterns of Pan-Grave pottery decoration should be considered.

Chapter 11

Distribution Analysis of Decorative Motifs

11.1 Interpreting Pan-Grave pottery decoration

11.1.1 Approach to the cross-regional analysis

Before proceeding, a few words must be said on the nature of the published record. Due to their visual properties, decorated sherds were of greater interest to early 20th century excavators and as such they were prioritised over undecorated sherds. This created the false impression that decorated pottery is more common than it actually is. Early illustrations of this decorated pottery are highly stylised, with the motifs being reduced to arrangements of solid black lines that do not reflect the actual appearance of the sherds. Recent reports are more thorough and the representations of the pottery are more accurate, but this can make it difficult to compare old and new data.

It is must be stressed at the outset that the *quantitative* aspects of this analysis (i.e. statistics and percentages) are based on the core dataset only (**Table 3.1**). The available data from the areas south of the Second Cataract, the Eastern Desert, and the Oases is too scant to contribute to any statistical analysis. Pottery from Egyptian cultural contexts is also not included in the quantitative aspects of this chapter due to the issues associated with cultural identification. For the *qualitative* analysis of pottery decoration, however, the *entire* dataset will be incorporated, in order to consider the Pan-Grave tradition in its fullest possible sense.

Unlike the previous chapter that investigated shape and ware, the discussion of decoration will not be divided according to region. Instead, this chapter is organised thematically to explore different aspects of Pan-Grave pottery decoration and the reasons for any distribution patterns. The thematic discussions will be followed by a series of case studies, focussing on certain types of decoration that may further elucidate regional variation and chronological developments. The cladistics analysis of Pan-Grave pottery decoration will follow, before the chapter concludes with an overview and broad interpretation of the themes discussed.

11.1.2 Emblemic and assertive style

Anthropological theory will also be incorporated into the analysis and interpretation of Pan-Grave pottery decoration and style. As a concept, style can serve as a tool for setting social

and cultural boundaries that enable one group to be differentiated from another.[797] Wiessner's analysis of style considered the extent to which cultural identity can be communicated through difference and variation.[798] She identified two types of variation: *emblemic* style and *assertive* style.

Emblemic style is defined as variation within a culture or group, intended to transmit a specific message to a target audience, for example a flag or coat-of-arms as an expression of national or clan identity.[799] Emblemic style constitutes a conscious decision by a group, and it is therefore consistent and uniform in order to ensure that the intended message is clearly communicated. Any changes, if they occur at all, would be minor.

By contrast, assertive style reflects *individual* identity and may arise from conscious or unconscious processes.[800] Assertive style may be the result of individual capabilities or may be a fully conscious decision by an individual wishing to stand out from a group but within the framework of that group – in other words, 'artistic licence'. Assertive style, therefore, is random and unpredictable and its products are not necessarily indicative of culture or identity.

In the context of Pan-Grave pottery, emblemic style constitutes the set of decorative styles and motifs common among Pan-Grave pottery at multiple sites – that is, the decorative set of motif types identified in Chapter 7. These emblemic motifs unite the Pan-Grave tradition while simultaneously setting it apart it from the ceramic traditions of other groups and cultures. Conversely, assertive style constitutes unique and complex decorative motifs, site-specific variations, or unique vessels without parallel in the Pan-Grave tradition. While they deviate from the core set of motifs, these assertive styles still occur within a range of what can recognisably be identified as Pan-Grave. Other factors, such as shape and surface treatment can also be incorporated to support a Pan-Grave association. Overall, these deviations and their interpretation should be considered both in their own right, but also within their broader social context.

11.2 Decorated vs. Undecorated Pottery

It has already been demonstrated that decorated vessels are far outnumbered by undecorated vessels and hence should not form the basis for cultural identification. This is clearly demonstrated in **Table 11.1**, which lists sites within the core dataset for which sufficient and statistically viable data is available. Decorated pottery forms less than 50% of the total

[797] For a general discussion of this concept, see DAVID, KRAMER 2001, pp. 168-224.
[798] WIESSNER 1983, pp. 253-276. For a critique of Wiessner's theories see SACKETT 1985, pp. 154-159.
[799] WIESSNER 1983, pp. 257-258.
[800] WIESSNER 1983, pp. 258-259.

recorded assemblage at half of the sites included in the sample. By contrast, decorated pottery makes up *more* than 60% of the assemblage at only three sites. **Graph 11.1**, however, shows that decorated vessels do outnumber undecorated vessels at eight of the sixteen of the sites in the sample, but some important factors that must be considered when observing and interpreting these results.

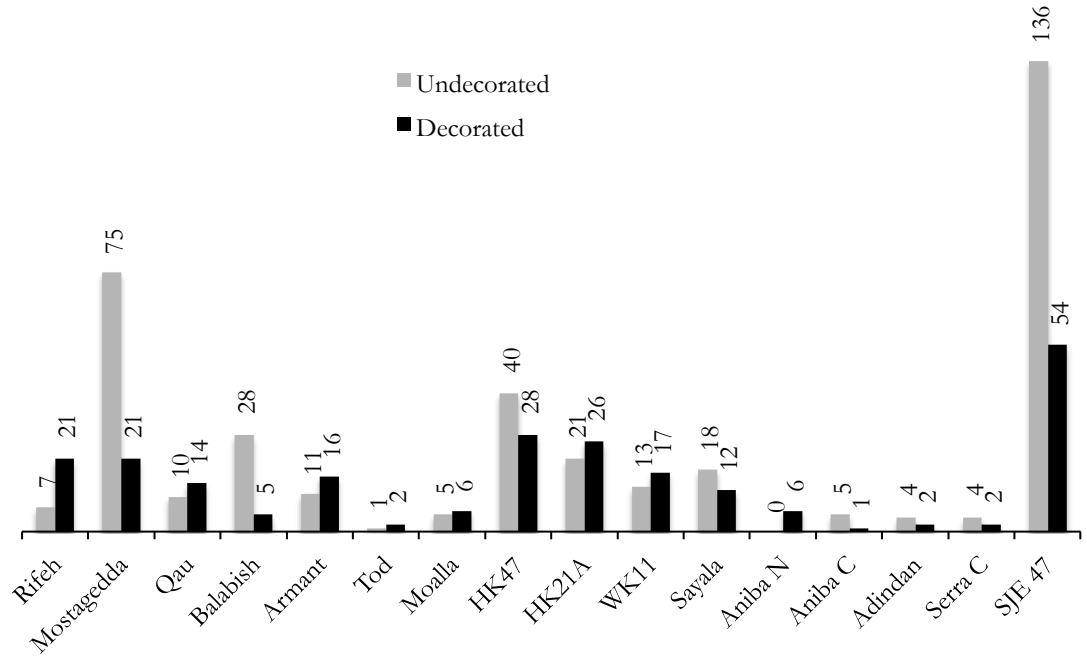
	%age of total
Balabish	15.15
Aniba C	16.67
Mostagedda	21.87
SJE 47	28.42
Adindan	33.33
Serra C	33.33
Sayala	40.00
Hierakonpolis HK47	41.18
Moalla	54.55
Hierakonpolis HK21A	55.32
Wadi Kubbaniya WK11	56.67
Qau	58.33
Armant	59.26
Tod	66.67
Rifeh	75.00
Aniba N	100.00

Table 11.1: *The proportion of decorated pottery at each site, expressed as a percentage of the total number of individuals, arranged from lowest to highest.*

The limitations of the published record and the collecting and recording strategies of the early excavators no doubt impacted upon the statistics and their subsequent interpretation. According to the available records, 75% of the pottery that was collected or recorded from Rifeh is decorated. This extremely high percentage can be easily explained by observing the recording methods employed by Petrie. Decorated pottery was fully illustrated with the motifs clearly depicted, whereas undecorated vessels are mostly drawn as simple outlines of hemispherical shapes.[801] Because of this, it is unclear if the simplified outlines represent Pan-Grave vessels or Egyptian hemispherical cups or bowls. A glance through Weigall's plates also shows a clear prioritisation of decorated over undecorated sherds.[802] By contrast, the report for Balabish shows that only five out of 33 vessels were decorated (15.15%). In this case it

[801] PETRIE 1907, pl. XXVI.
[802] WEIGALL 1907, pl. LXXVI-XCIV.

seems that the five illustrated vessels are the only decorated examples from the site.[803] Additionally, the stated aim of finding museum quality items at Balabish means that sherds may have been discarded and not recorded, and the figures for that site may not accurately reflect the archaeological reality.[804]



Graph 11.1: *Number of undecorated vs. decorated pottery at sites in Upper Egypt and Lower Nubia*

A more accurate result may be obtained from considering recently re-studied material from SJE Site 47 at Debeira East. This site has been fully excavated and the entire ceramic assemblage (i.e. sherds and complete vessels) has been recorded by the author. This makes it both the largest and also the only complete assemblage included in the analysis. Remarkably, only 28% of the vessels are decorated, clearly demonstrating that they form the minority. The cemeteries at Hierakonpolis may also reflect this pattern. Only test excavations have been conducted to date, but extensive surface collections have been conducted by the Hierakonpolis Expedition, including a survey conducted as part of the 2016 field season. Of the 68 rim sherds collected at HK47, only 28 were decorated, constituting 41% of the

[803] Wainwright (1920, pl. XIV) offers a list of attestations alongside the undecorated pottery, but each of the decorated bowls is associated with only one context. This suggests either that these are all of the decorated vessels found at Balabish, or that they were the only examples recorded.

[804] See Thomas Whittemore's preface in WAINWRIGHT, 1920, pp. v-vi.

assemblage. At HK21A, decorated sherds account for 55% of the assemblage.[805] It is therefore very likely that the high figures for sites such as Rifeh, Aniba N, Armant, and Qau, all of which were excavated in the early 20th Century, may be over-inflated as a result of selective publication and prioritisation of decorated sherds.

11.3 Variety and frequency of decorative motifs

11.3.1 Variety of decoration in relation to cemetery size and date

There appear to be some links between the size of a site and the variety of decorative motifs that occur within its assemblage. **Table 11.2** lays out the number of occurrences of each individual motif type at the sites included in the analysis, and **Graph 11.2** plots the number of individual motifs attested at each site.

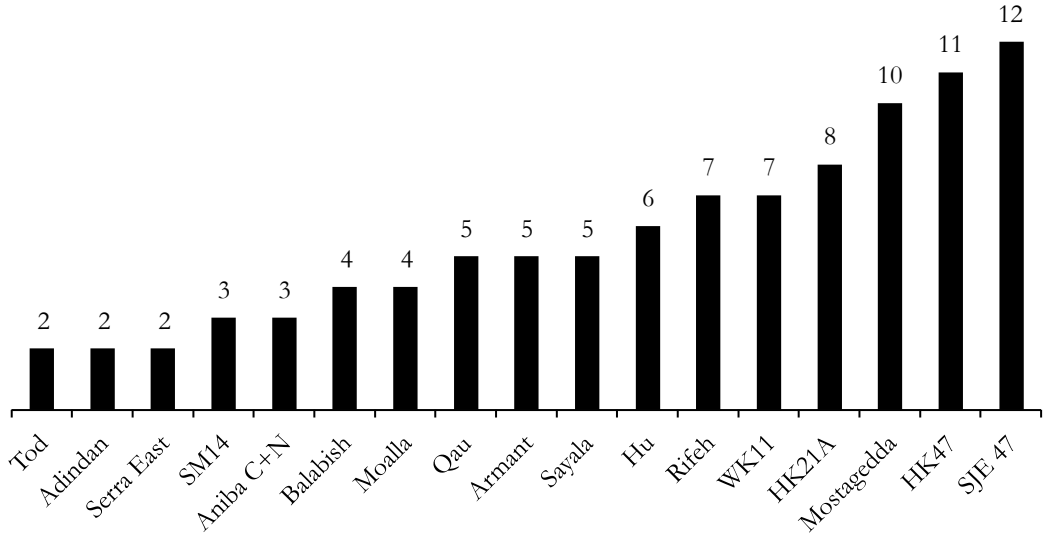
	H.o	H.v	H.h	H.z	C.r	C.i	C.g	C.x	S	HB.f	HB.b	F.l	F.e	L	B.h	B.b	Z.p	Z.f	Q	X
Rifeh				1						5		1	3		1	1				4
Mostagedda	4			1		2		1	1		1				5	1			1	1
Qau			2		3				1						1					6
Balabish	1														3	1			1	
Hu					1	2	1	1						1					1	
Armant					3	3		3										1		1
Tod					1		1													
Moalla					2			1							1					2
HK47	4			3	6	2		2		2	2	1	1						1	1
HK21A	1				2	1	1			1					1		1			2
SM14					2	1														1
WK11					1	1	5			1				1	1			1		
Sayala					3	3	1	1							3					
Aniba C+N	1	1					1													
Adindan						1						1								
Serra East						1						1								
SJE 47	4	1			3		2			3	2	9	1	9	2			1		8

Table 11.2: *Number of occurrences of each decorative motif at the sites in Upper Egypt and Lower Nubia.*

The sites with a greater variety of decorative motifs in their assemblage are, for the most part, the larger Pan-Grave cemeteries, such as SJE Site 47 and Mostagedda. This connection seems logical, and one might expect that the larger the assemblage, the higher the chances of variation. Collection and recording methods also appear to be a factor, and may explain why smaller cemeteries at Hierakonpolis and Wadi Kubbaniya also fall within the higher ranges.

[805] These figures refer only to diagnostic rim sherds. Other decorated body sherds were collected as part of the surface survey, but many bear the same types of decoration and may therefore belong to the same vessel. Limiting the calculation only to rim sherds avoids the error of artificially inflating the size of the assemblage.

These are more recent excavations with more thorough and accurate collection methodologies. At the opposite end of the spectrum, the most limited variety in decorative motifs occurs at small sites such as Tod, Adindan, and Serra East.



Graph 11.2: *Number of motifs attested at each site, from lowest to highest.*

In relation to chronology, all of the sites showing less variety (with the exception of Qau and Balabish) can be dated to an earlier phase of Pan-Grave activity in the Nile Valley. Conversely, the larger sites that are apparently later in date all show greater variety. This division may initially seem logical, however the situation is not so clear. Sites such as HK21A, HK47, and WK11 sit at the high end of the scale, but all are apparently quite early, dating to the late 13th Dynasty and early Second Intermediate Period. Once again, more thorough collection and recording strategies at these sites are likely to have played a part in this result.

Qau and Balabish fall at the lower end of the scale, but both sites can be dated to later phases of the Second Intermediate Period. Balabish can be explained through the collection strategies and limited publication (see above), but the situation for Qau is not so easy to explain. The number of Pan-Grave burials in the area is relatively low, with 37 graves identified over a number of small cemeteries.[806] When considered individually, each of the sites in the Qau-Badari region would constitute a small cemetery, which would likely show limited variation according to the observations made above. The largest of these sites would be Cemetery 5400

[806] Pan-Grave burials were identified at the following localities in the Qau-Badari region: Qau 1300, Hemamieh 1900, and Badari 3800, 3900, 4200, 4500, 5200, 5300, and 5400. For locations see BRUNTON 1927, pls. I and VII. See also DE SOUZA 2013, p. 113, table 1.

(actually at Badari), where twenty Pan-Grave burials are recorded, but curiously, no decorated sherds or vessels have been attributed to this locality. All but two of the decorated sherds come from cemetery 1300 at Qau, where only seven Pan-Grave burials were identified. Dividing the pottery from the Qau-Badari region in this way, into a group of small sites, helps to explain the limited variation seen at this location.

Overall, it may be possible to draw a link between cemetery size and variety in decorative motifs. The limitations of the published record hamper more detailed investigations of this relationship, but a general pattern may be identified and discrepancies can be explained. A chronological link is less easy to identify, although it does appear that variety increases over time.

11.3.2 Frequency of decorative motifs

The total number of attestations for each decorative motif across the sites included in the survey is charted in **Graph 11.3**. The corresponding **Graph 11.4** charts the frequency of the different motif *groups* as a percentage of the total. It is immediately apparent that cross-hatched motifs are by far the most frequent and widely attested of all decorative motifs, occurring at virtually all localities in at least one of its variants. In total, 65 out of the 192 decorated vessels included in the sample carry cross-hatched decoration. This constitutes one third of the entire sample (33.9%) and is almost three times that of the next most frequent motif, which in fact comprises the unique and complex motifs (Motif X). The only site at which cross-hatched motifs have not been attested is Rifeh, and this may once again be due to sampling and recording strategies.

Based on the data, it would be reasonable to conclude that cross-hatched decoration is a standard motif for the Pan-Grave ceramic tradition. Following Wiessner's theories on style, cross-hatched motifs may therefore be considered most emblemic for the Pan-Grave tradition.[807] It must be stressed that while it may be emblemic for the Pan-Grave culture, cross-hatched decoration is also attested in the Kerma and C-Group repertoires, albeit to a much lesser extent. Additionally, the way in which cross-hatched decoration is used differs between the cultures. Pan-Grave potters used the motif on its own, whereas C-Group and Kerma pottery primarily used it as a fill pattern for the inverted triangle motif characteristic of their utilitarian and cooking pottery.[808]

---

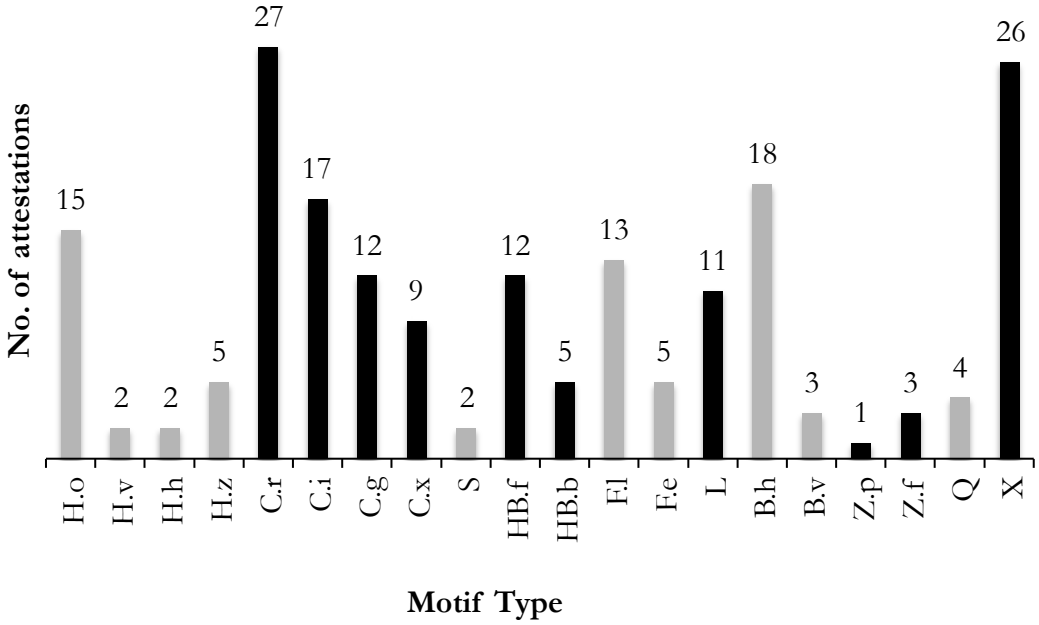
[807] WIESSNER 1983, pp. 257-258.
[808] GRATIEN 2000, pp. 117-118, fig. 7.

The high frequency of complex and unique motifs (Motif X) is also worth noting. It is the second most common category, and in this sense may suggest that a high level of creativity and 'artistic freedom' was permissible within the Pan-Grave tradition. It is important to note, however, that these complex and unique decorative styles still incorporate the more usual Pan-Grave motifs. For example, end-feather decoration may be combined with sinuous 'squiggly' lines (**Plate 31b**), or hatching could be combined with feather elements (**Plate 36a**). These unique combinations could thus be interpreted as assertive styles in that they represent individual innovations. It is important to remember that even these unique styles still fit within the bounds of what is recognisable as Pan-Grave pottery.

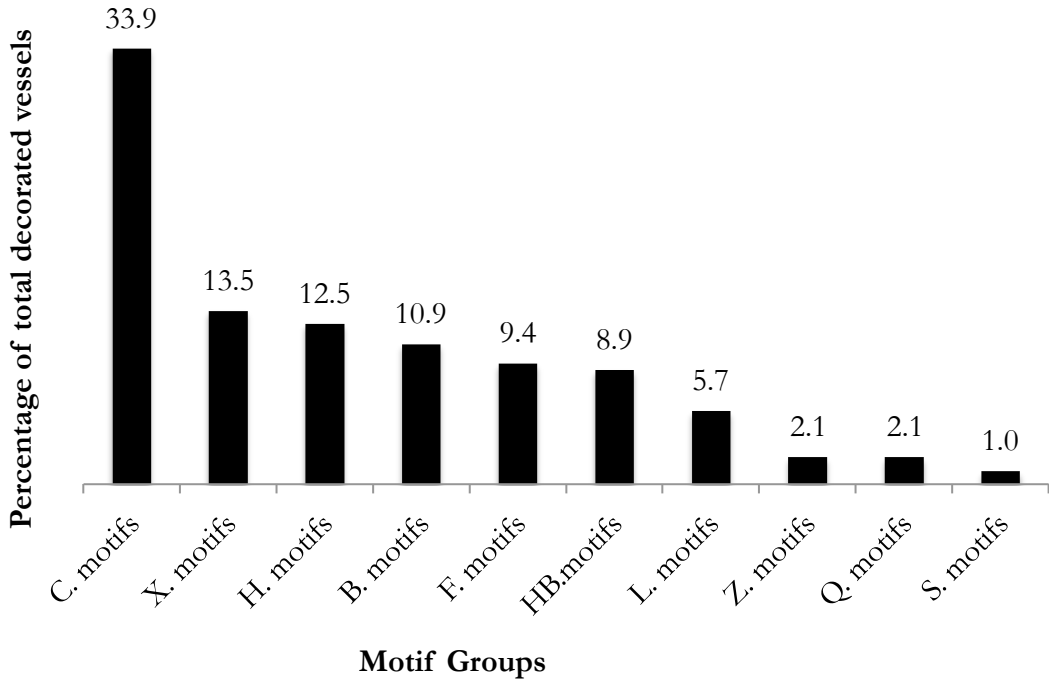
As was the case with rare ware types such as red burnished and black burnished wares, one might also expect that unusual decorative styles might reflect some regional variation, but this does not seem to be the case. The only motif that shows a connection with a particular region is the quadrilateral motif, which is only attested in in Upper Egypt and makes up only 2.1% of the total sample. Zig-zag motifs also make up only 2.1% of the total, but are attested in Upper Egypt *and* Lower Nubia and therefore do not display any obvious distribution pattern.

Spiral motifs are the least frequent of all, comprising only 1% of the total and are *securely* attested at only Mostagedda and Qau in northern Upper Egypt. Two other spiral vessels are said to be from Abydos, but this provenance is anecdotal and could not be verified.[809] Like the complex and unique motifs described above, these less frequent motifs could be viewed as assertive styles, but the occurrence of the same motifs at multiple sites and across regions suggests that they are a part of the Pan-Grave decorative repertoire, albeit less common.

[809] Boston MFA 03.1615 and 03.1616. These vessels were purchased in Luxor in 1903 by Albert M. Lythgoe from the antiquities dealer Mohammed Mohassib, who claimed that the vessels came from Abydos (Lawrence Berman and Susan Allen, personal communication).



Graph 11.3: *Vessel Body Decoration.*
The total number of attestations for each motif type across sites in Upper Egypt and Lower Nubia.



Graph 11.4: *Vessel Body Decoration.*
The frequency of the motif groups expressed as a percentage of the total decorated vessels, in order from highest to lowest.

11.4 Distribution of impressed decoration

Stylus-impressed decoration occurs infrequently, but is attested across Upper Egypt and Lower Nubia (**Table 11.3**). Circular impressions are the most common type, and are usually used to create border lines that delimit either the rim band or a band of decoration around the vessel upper body. Drop-shaped impressions are less common, attested as boundary lines only at Rifeh, Hierakonpolis, and SJE Site 47. Overall, there does not appear to be any clear pattern of distribution for stylus-impressed decoration.

Comb-impressed decoration is also infrequent and is securely attested only on Pan-Grave vessels in Middle and Upper Egypt. As noted above, it is most commonly attested as rim-band decoration on vessels with set-off or externally modelled rims. Currently known attestations come from Rifeh, Mostagedda, Balabish, and Hierakonpolis HK21A (**Plate 72a, c**). Comb impressed decoration is not yet attested on Pan-Grave pottery from Lower Nubia, although it does occur as rim-zone decoration on large handmade jars found in Kerma contexts.[810] The concentration of occurrences at sites in Middle Egypt, however small, may suggest that it is a later development.

String-impressed decoration is by far the least common type of impressed decoration. To date, the technique has only been securely attested at HK21A, HK47, and SJE Site 47, and in all cases it is used as a line to delimit a set-off rim zone.[811] The rarity of string-impressed decoration makes it difficult and inadvisable to form any observations relating to regional and chronological variation. The technique does not appear to be native to the Pan-Grave tradition, and it may be an influence from Egyptian pottery.

The use of impressed dots as boundary lines is also attested in assemblages from Upper Nubia and the Eastern Desert. Simple round dots are used to delineate rim bands at Hosh al Guruf (**Plate 95a-b**), and drop-shaped impressions are attested in the Eastern Desert at Site R49 (**Plate 100a**). A black-topped bowl from El Widay appears to have string-impressed lines bounding the decorated band around the vessel body (**Plate 94c**), and notched lines that appear to imitate string impressions can be identified at Hosh al Guruf (**Plate 95a right**).

[810] This type of comb-impressed decoration on the vessel rim is attested in all phases of the Kerma culture. *Kerma ancien* (GRATIEN 1986, fig. 303); *Kerma moyen* (GRATIEN 1986, fig. 313); *Kerma classique* (GRATIEN 1986, fig. 324). The same type of rim decoration is also attested on Nubian pottery from Egyptian cultural contexts, for example at Tell Edfu (AYERS/MOELLER 2012, fig. 8) but the cultural association cannot be securely identified.

[811] The example from SJE 47 (47/151:1a) is highly unusual in terms of fabric, ware, and shape. It is a hemispherical cup with thick walls (8-10 mm), uncoated, soft fabric of very coarse silt containing large sand grains. The grave in which it was found comprised a rectangular shaft with traces of a rectangular mud brick superstructure. The context was heavily disturbed and the only other recorded find is a small body sherd with traces of cross-hatched decoration. Its identification as a Pan-Grave vessel is questionable. Neither of these sherds were included in Säve-Söderbergh's published report.

Triangular impressions are also identified in numerous Jebel Mokram Group assemblages (**Plate 98c, 99b, 101b,c**), the closest parallels for which can be identified in the Pan-Grave cemetery at Moalla and in the C-Group tradition.

	Impressed Body deco.	Impressed Border	Comb imp. rim zone	String imp.
Rifeh	X	X	X	
Mostagedda			X	
Qau				
Balabish			X	
Hu		X		
Armant				
Tod				
Moalla				
HK47	X	X		X
HK21A		X	X	X
SM14		X		
WK11	X	X		
Sayala				
Aniba C+N				
Adindan		X		
Serra C				
SJE 47		X		X

Table 11.3: Attestations of impressed decoration by site, north to south. Grey rows denote sites at which no impressed decoration has been attested.

Overall, there do not appear to be any discernable regional groups or patterns in the distribution of impressed decoration, but rather it occurs in small quantities across Pan-Grave and Jebel Mokram sites in all regions included in the analysis. There also does not appear to be any link to cemetery size or date. Impressed decoration of any kind is absent from most of the small, early sites included in the survey with the exception of SM14 and WK11 in the Gharb Aswan region. Despite this, the distribution is too broad and the quantities too low to form any meaningful conclusions. Attestations as far south as the Fourth Cataract and out into the Eastern Desert demonstrates that impressed decoration is common to all Middle Nubian traditions and also to desert-based cultures.

11.5 Distribution of spiral decoration

11.5.1 Description of spiral decorated vessels

Five vessels with spiral decoration are attested, but only two have a secure provenance - one from Mostagedda, and one from Qau (**Plate 84e and 85a**).[812] The striking similarities between all known examples are uncanny. All are in red uncoated ware with a smoothed exterior surface and a roughly scraped interior. All but one of these vessels are deep cups with vertical walls and a rim diameter of 10-11 cm. The only exception is a restricted vessel with a tapered base, said to come from Abydos (**Plate 85c**). All have the same complex rim type composed of two rounded bands decorated with oblique notches, possibly intended to mimic the appearance of string or rope. The most unusual example is decorated with red and white pigments and the grooves themselves are impressed, and it appears that the groove was created by pressing a tool into the vessel surface along a spiralling path (**Plate 69b**). Unfortunately, this example is unprovenanced.[813] Similar impressed marks are also visible in the spiral groove on one of the examples said to come from Abydos (**Plate 85d**).

Perhaps the most striking feature of these vessels is that all of the complete examples have a single hole at the base point where the incised lines converge. The nature of these holes differs considerably; the example from Mostagedda appears to have been ritually killed, that is the vessel was deliberately broken by being struck, rendering it useless.[814] The example from Qau is described as having a hole drilled through the base.[815] The examples said to come from Abydos each have a very small 2mm hole at the exact base point. These holes were created before the vessel was fired by pushing a tool through the vessel wall from the outside, leaving a ridge of clay on the interior wall surrounding the hole.[816] This suggests that the holes were an intentional and functional feature rather than a ritual "killing" of the vessel. It is also worth noting that the example from Qau was found in the same grave (Grave 1303) as a black-topped cup that also has a hole pierced through the base.[817] The precise function of these holes is unknown, but the occurrence on all known spiral decorated vessels is striking.

---

[812] A related vessel comes from Site 24-I-4, Faras West (**Plate 84d**), and has been attributed to the SJE's Transitional Phase (NORDSTRÖM 2014, pl. 24c).
[813] Petrie Museum, London, UC43309 and UC43310.
[814] The practice of killing vessels is a well-known Egyptian custom, but extending the concept to Nubian contexts is problematic. For a detailed discussion of the killing of vessels in an Egyptian context, see SEILER 2005, pp. 161-184. For Nubian and modern African parallels see STEFFENSEN 2007, pp. 145-150.
[815] BRUNTON 1930, pl. IX.6. This vessel has not been sighted by the author.
[816] Susan Allen, personal communication.
[817] BRUNTON 1930, pl. IX.9.

11.5.2 Spiral decorated pottery and chronology

Chronological observations based on spiral decoration cannot be substantiated due to the small quantity of evidence, however some general comments can be made. The occurrence of spiral decoration at Mostagedda and Qau places it in a region with evidence of Pan-Grave activity at least until the end of the Second Intermediate Period and possibly into the early stages of the 18th Dynasty. The example from Mostagedda, however, is a surface find and is therefore of limited use for chronological purposes. The example from Qau was found in a circular grave with only one other black-topped cup. No dateable Egyptian pottery was recorded for this context, and an associated blue glazed ring stand with a band of black painted cross-hatching is difficult to date securely.[818] Although their provenance is uncertain, the two bowls said to come from Abydos could be related to the bowls with defined black-tops found in Egyptian-style tombs of the late-17th and early-18th Dynasties.[819] It can therefore be tentatively suggested that spiral decoration should be dated to the late Second Intermediate Period.

11.5.3 Interpreting the uniformity of spiral decorated pottery

The striking uniformity in terms of decoration, surface qualities, rim profile, morphology, and possibly also chronology suggests that all of these vessels are somehow related. The examples are so similar that if they were found at the same site, it would not be unreasonable to conclude that they were produced by the same individual potter. Indeed, it would not be out of the question for the examples from Mostagedda and Qau to have come from the same workshop. These sites are only approximately 20 km apart, which is an easy one-day trip along the river, and the occurrence of this style at both sites could be evidence of regional trade or exchange.

If the Abydos provenance for the other examples is correct, the idea that all of these vessels were produced by the same person becomes less plausible. The idea is not entirely unreasonable with only approximately 100 km separating Mostagedda and Abydos. If indeed they were produced by the same hand, the distribution of these vessels may reflect some kind of trade network that existed between these localities. A tentative explanation may be sought through anthropological parallels. In many modern tribal societies, women leave their family

[818] BRUNTON 1930, pl. IX.18.
[819] PEET 1914, p. 67. The vessels are now held in the Fitzwilliam Museum, Cambridge (E.73.1901, E.77.1911, E.78.1911, E.79.1911, E.101.1911).

home upon marriage and join their new husband's family group.[820] If it is assumed that women produced Pan-Grave pottery,[821] then it may in turn be assumed that they took the pottery skills and styles that they had learned from their forebears with them to their new homes. In this way, pottery styles may be seen to travel, which may explain how such distinctive pottery styles are seen at geographically unconnected sites. This scenario is based on some key assumptions, in particular that Pan-Grave pottery was produced by women, which is difficult to demonstrate archaeologically. Anthropological parallels, both modern and ancient, may offer some insights.

11.6 An anthropological approach to decoration

11.6.1 Decoration as a communicator of social and cultural identity

In practical terms, decoration is non-functional. Fabric, shape, and surface texture can be manipulated to alter a vessel's function. Reducing a vessel's aperture can minimise spillage, adding organic temper increases the porosity of the fabric and can improve thermal properties, and so on. Decoration alters the aesthetic appearance of a vessel and does not have an effect on the utilitarian function of a vessel. Particular types of decoration may have been used to denote a specific function, but the decoration itself does not impact upon that intended function. However, from a cultural perspective, decoration can serve an important non-utilitarian function, namely the communication of cultural identity and membership of a particular group.[822] Sackett has even gone as far as saying that "the analysis of ceramic stylistic variation in the archaeological record can be regarded as an analysis of social organisation itself."[823]

Decoration may have communicated cultural identity in the C-Group ceramic tradition, where comparable designs are found on pottery and as tattoos preserved on the skin of C-Group females and as decoration on female figurines found in C-Group graves.[824] Steffensen has suggested that these similarities between pots and body art may indicate that pottery was used as a representation of the body,[825] but is rightly cautious to make any conclusions based on his analysis of modern parallels.[826] Nevertheless, the use of the similar designs on pottery and on

[820] For a discussion of the role of inter-tribal marriage in blurring social and cultural boundaries see HODDER 1982, pp. 27-31. The role of marriage in stylistic development was also discussed in relation to Turkmeni textile weaving patterns (TEHRANI, COLLARD 2002, p. 457) and Iranian weaving styles (TEHRANI, COLLARD 2009, pp. 287-289).
[821] See Section 11.6.2.
[822] JONES 1997, pp. 110-116; RICE 1987, pp. 244-245.
[823] SACKETT 1977, p. 376.
[824] KEIMER 1948, pp. 37-39; STEFFENSEN 2007, p. 141-145.
[825] STEFFENSEN 2007, p. 142.
[826] STEFFENSEN 2007, p. 144.

the body supports the idea of decoration as an expression of identity. Tattoos have recently been identified on the body of a Pan-Grave male individual at Hierakonpolis HK47, but there does not appear to be any relationship between the pottery decoration and the tattoo design, which is composed of an arrangement of dots.[827]

11.6.2 Pottery and gender

Viewing ancient cultures through modern ethno-archaeological parallels is inevitably not ideal, but some examples warrant mention. In the Mesakin Qisar culture of the Nubian Mountains, pottery is produced exclusively by women and the decorative motifs applied to the pottery incorporates the same designs as those found as scarification patterns on women's bodies within this culture.[828] Women are also the potters in Samburu tribes, and the production of pottery in that tradition is even further limited in that women of childbearing age are forbidden to produce pottery.[829] A further connection between pottery and women in an African context can be found among tribes living in the Baringo district of central Kenya, where a gender-specific visual 'language' has been identified in the decorative motifs applied to calabashes.[830] In this case, the decoration is executed primarily by women and constitutes what Hodder refers to as "a silent discourse between women" not understood by the men in an otherwise male-dominated culture.[831] In this way, decoration has been used as expression of female identity within that culture.

Overall, there does not appear to be any obvious link between Pan-Grave pottery and women. Giuliani has suggested that bone points found in many Pan-Grave contexts *may* have been used to decorate pottery, but this cannot be substantiated.[832] The fragmentary evidence makes it difficult to ascertain if decorated pottery is associated more frequently with graves of a particular gender. It is also important to remember that the cases cited above are from modern (or at least recent) African cultures. The Pan-Grave culture, however, is ancient and existed between Nubia and Egypt. If Egyptian wall scenes and tomb models are to be believed, pottery in Egypt appears to have been produced exclusively by men, and this should be taken into account when considering the social environment in which the Pan-Grave tradition existed.

---

[827] Renee Friedman, personal communication.
[828] HODDER 1982, p. 146.
[829] GRILLO 2012, p. 162. Grillo outlines a range of taboos associated with women and pottery production.
[830] HODDER 1982, pp. 68-73.
[831] HODDER 1982, p. 69.
[832] GIULIANI 2006a, p. 652. For examples of the bone points, see BRUNTON 1937, pl. LXXIV.2.

11.7 Cladistics Analysis of Pan-Grave Pottery Decoration

Originally developed for use in the biological sciences, cladistics is a quantitative analytical method used to investigate evolutionary relationships between species based on shared, derived characteristics.[833] The application of cladistics to archaeological material has gained popularity in recent years, being used to analyse Iranian textile designs,[834] the transfer of weaving techniques and styles,[835] Paleoindian arrow points,[836] the decoration of Neolithic pottery from the Merzbach Valley in Germany,[837] and the evolution of Early Dynastic Egyptian pottery.[838] Cladistics has also been successfully applied to the evolution of human populations, behaviours, and language.[839] To the current author's knowledge, this is the first time that the method has been applied to Nubian archaeological material of any kind.[840]

The usefulness of cladistics in archaeology has been clearly expressed by O'Brien et al. who view "cladistics, and the phylogenies it produces, not as end products but as solid starting points from which to begin to answer some of archaeology's historical, and therefore evolutionary, questions."[841] In spite of its increasing use, the application of cladistics to archaeological material has not been immune to opposition.[842] A central criticism is that unlike biological species, artefacts do not themselves reproduce. However, the people who produced the artefacts *did* reproduce, and in doing so, they carried on and transmitted the traditions of artefact making to future generations. Just as biological species evolve over time, so too might cultural artefacts as each successive generation makes slight modifications to the manufacturing processes that they have inherited. It is these continuities and modifications in the archaeological record that can be identified and analysed using cladistics.

11.7.1 Aims of the cladistic analysis

For the present study, cladistics is applied only to the decorative motifs in the Pan-Grave ceramic tradition. In this context, cladistics is employed as a tool by which supplement or challenge conclusions reached using a more 'traditional' archaeological approach. The primary

---

833 O'BRIEN, LYMAN 2003, pp. 49-55; HOOD, VALENTINE 2012, p. 47.
834 TEHRANI, COLLARD 2002, pp. 443-463.
835 TEHRANI, COLLARD 2009, pp. 286-300.
836 O'BRIEN, DARWENT, LYMAN 2001, pp. 1115-1136.
837 COLLARD, SHENNAN 2000, pp. 89-97.
838 HOOD, VALENTINE 2012, pp. 47-59.
839 Examples include studies relating to the effects of trade and exchange on cultural evolution (COLLARD, SHENNAN, TEHRANI 2006, pp. 169-184), the development of plant economies (COWARD ET AL. 2008, pp. 42-56), and the evolution of language and basketry techniques among Californian Native Americans (JORDAN, SHENNAN 2003, pp. 42-74), among others.
840 This cladistics analysis has been a collaboration between the current author and James L. Valentine, Charles Darwin University.
841 O'BRIEN ET AL. 2002, p. 145.
842 O'BRIEN ET AL. 2002, pp. 134-136.

aim this cladistic analysis is first to identify if there is any noticeable evolution or development in the decorative motifs applied to Pan-Grave pottery. Evolution implies a chronological sequence, therefore, if evolution can be identified in the decorative motifs, then it may be used as evidence to support a chronological sequence for the Pan-Grave tradition. Identifying evolutionary relationships between sites and assemblages can also be used to identify regional groupings, which can in turn be compared with those identified through the analysis of ware and shape.

11.7.2 Identifying taxa and refining the dataset

The analytical units in cladistics are taxa (singular: taxon). In the context of the biological sciences, each taxon constitutes a single species that is analysed in relation to other taxa in the analytical sample. For archaeology, it has been argued that there is no reason why taxa should not be the equivalent of biological species and that archaeological taxa can be defined by their characteristics, which are presumed to change over time.[843] In the context of this analysis, each taxon comprises the complete assemblage from a single site. This approach was chosen in order that each site (i.e. taxon) can be compared with others included in the sample, thereby identifying the relationships between sites and assemblages and, by extension, any regional or chronological groupings.

In order for the cladistic analysis to be viable, each assemblage was based on data from complete vessels as much as possible. This ensured that the complete range of decorative motifs and all of their elements within each assemblage was correctly identified and included in the analysis. As a result, the number of sites included in the cladistic analysis is limited to eleven, which is significantly lower than the number of sites that form the core dataset. However, Pan-Grave vessels are rarely found in a complete or intact state. Therefore, rim sherds that preserve sufficient information to ensure an accurate identification of the decorative motif have also been included in the corpus.

11.7.3 Identifying characters

Each taxon is defined by a set of characters, which are the inheritable features that can be compared between taxa. The presence of shared, derived characters between two or more taxa indicates the hypothetical evolutionary relationships that are used to build groupings in cladistics. The selection of these characters is arguably a subjective weak-link in the otherwise objective cladistics process. It is therefore essential that all care is taken to devise characters

[843] O'BRIEN ET AL. 2002, pp. 144-145. See also O'BRIEN, LYMAN 2003, pp. 137-143.

that are meaningful and informative, but that will not manipulate the data to produce a desired predetermined outcome.[844]

For the present analysis, incised lines and impressed marks were selected as the characters as they are the basic elements from which all of the decorative motifs applied to Pan-Grave pottery are formed. The decorative elements were organised into three groups: the first group denotes the direction in which the line was drawn and if the lines cross over each other; the second group denotes the way in which the lines are arranged and organised to form the motifs; and the third group relates to impressed decoration, if present.

Two additional groups of characters were included in the analysis. The first is rim type and rim decoration. Treating rim decoration separately accounts for examples where only the rim is decorated, but also ensures that examples where the rim and body are decorated with different motifs are adequately incorporated. Each character is divided into a series of character states that denotes how a certain character is expressed. A total of 36 characters were defined for the current study. All but four of these characters are binary, meaning that they have only two character states, namely either absent or present. The characters and character states are listed in **Table 11.4.**

Unique decorative motifs and any motifs that occur at every site are considered cladistically uninformative and are automatically excluded from the analysis by the analytical software. Since groupings in cladistics are based on shared characters, a character that occurs in only one taxon or in every taxon cannot be used to establish relationships between taxa. As a result, 16 of the total 36 characters were removed from the analysis.

[844] O'BRIEN, LYMAN 2003, pp. 143-158.

Line direction		
Horizontal	*Oblique 2 (Descending L-R)*	*Curved lines*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present
Vertical	*Crossing Lines – regular*	*Boundary Lines*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present – continuous
Oblique 1 (Ascending L-R)	*Crossing Lines – irregular*	2. Present – broken
0. Absent	0. Absent	3. Present – string impression
1. Present	1. Present	
Line arrangement		
Herringbone	*Feather*	*Zig-Zag*
0. Absent	0. Absent	0. Absent
1. Present – horizontal	1. Present – graduated	1. Present
2. Present – vertical	2. Present – even	*Pendant Triangles*
Quadrilateral Zones	*Triangular zones*	0. Absent
0. Absent	0. Absent	1. Present
1. Present – Grid / Diamond	1. Present	*Random Distribution*
2. Present – Lattice	*Fish Scale*	0. Absent
Horizontal band, below rim	0. Absent	1. Present
0. Absent	1. Present	
1. Present		

Impressed decoration			
Circular	*Drop shaped*	*Angular*	*Oblique*
0. Absent	0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present	1. Present

Rim type		
Direct	*Recessed*	*Cross-hatched rim band*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	0. Present
Modelled – internal	*Set-off rim*	*Zig-Zag rim band*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present
Modelled – external	*Rim edge notched*	*Other incised rim band*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present
Everted	*Hatched rim band*	*Impressed rim band*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present
Vessel Profile		
Restricted	*Unrestricted*	*Open (everted)*
0. Absent	0. Absent	0. Absent
1. Present	1. Present	1. Present

Table 11.4: *The characters and character states used in the cladistic analysis of Pan-Grave pottery decoration.*

11.7.4 Identifying the outgroup

An essential part of any cladistic analysis is the selection of an *outgroup*. The role of the outgroup is to define which characters are ancestral and which are derived (i.e. changed from the ancestral condition) within the analytical sample, which is called the ingroup. The outgroup then forms a starting point from which theoretical evolutionary relationships can be hypothesised. The outgroup should be a taxon closely related to all other taxa in the ingroup, but should display characters presumed to be ancestral for that group.[845] A close ancestral relationship between the outgroup and the analytical sample will, in theory, result in a more robust determination of which characters are ancestral and which are derived. When applied to archaeology, the outgroup should be the earliest taxon included in the sample. Therefore, Wadi Kubbaniya Site WK11 was selected as the outgroup for this analysis, as there is significant evidence to suggest that it is one of the earliest confirmed Pan-Grave assemblages currently known.[846] Within the context of this cladistic analysis, the assemblage from WK11 is presumed to be ancestral to all other sites included in the analysis.

11.7.5 Results of the cladistic analysis

The analysis was run using specially developed computer software called PAUP* (Phylogenetic Analysis Using Parsimony) version 4.0 beta 10.[847] The programme processes data using the principle of parsimony, which dictates that the simplest solution is chosen from a number of competing hypotheses. Cladistics assumes that evolution should be parsimonious, therefore, the most parsimonious result is that which requires the fewest evolutionary steps or, in other words, the fewest changes from one character state to another.[848] The results of a cladistic analysis are presented as a cladogram, which visually represents the evolutionary relationships between the taxa. Each taxon sits at the end of a branch, which is connected to another by a branching point called a *node*. Each node represents a theoretical common ancestor, from which the taxa on each branch are descended. As such, nodes also represent speciation events, where one lineage evolves into two lineages.

This cladistic analysis of Pan-Grave pottery decoration produced 37 equally parsimonious cladograms. The results were summarised by PAUP into what is called a *strict consensus tree*, which is built based on groupings of taxa that occur in *all* of the of the 37 equally parsimonious cladograms. The initial results of this test are presented in **Figure 11.1**.

845 O'BRIEN, LYMAN 2003, pp. 159-164; HOOD, VALENTINE 2012, pp. 51-52; O'BRIEN ET AL. 2002, p. 141.
846 GATTO 2014, pp. 18-20.
847 SWOFFORD 2002. The test referred to in the current study was run by James L. Valentine on May 11, 2016.
848 O'BRIEN, LYMAN 2003, pp. 63-64

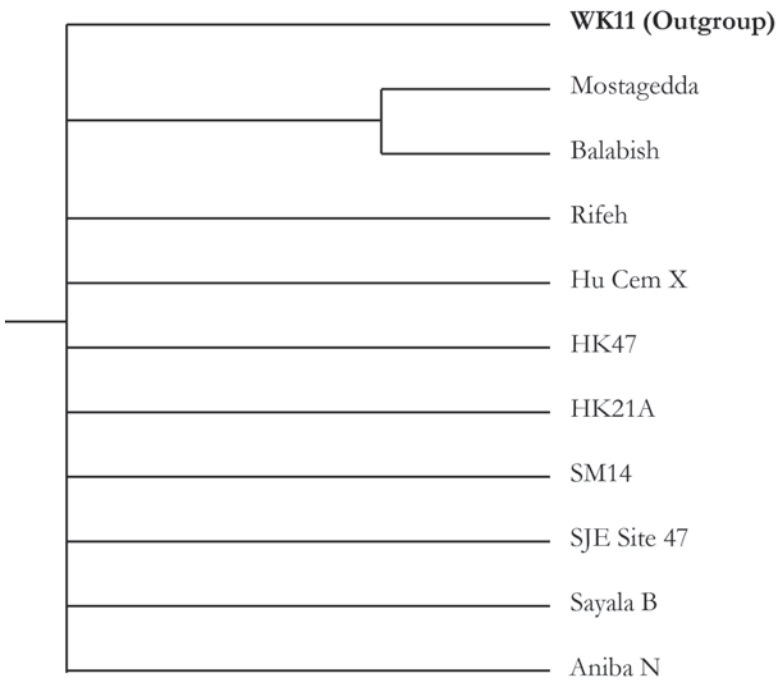


Fig. 11.1: Strict consensus tree.

The results as shown in the strict consensus tree are clearly unresolved with only one branching event connecting Mostagedda and Balabish. This was the only grouping common to all 37 equally parsimonious trees. All of the other nodes have collapsed, indicating the lack of a clear evolutionary signal between the locations included in the analysis.

In an effort to improve the cladistic results, the 37 equally parsimonious cladograms were also summarised by PAUP to produce a *50% majority rule consensus tree.* This type of consensus tree includes groupings that occur in 50% or more of the 37 equally parsimonious cladograms, the results of which are presented in **Figure 11.2**. While a 50% majority rule consensus tree is cladistically less robust than a strict consensus tree, the results gained through this approach show more defined and diverse groupings.

11.7.6 Discussion of the cladistics results

The unresolved strict consensus tree warrants little discussion, however the lack of any clear resolution is in itself a result that can be related back to the observations made through a more traditional analysis of decorative motif distribution. No clear patterns could be identified in the variety or frequency of decorative motifs between sites, and this may be the cause of the unresolved results. It is likely that the cladistics process could not detect any evolutionary relationships simply because there is little evidence of evolution to be detected in the first place. It has also been shown throughout this chapter that the distribution of the various decorative motifs is very consistent across all sites in the sample. This lack of variety would correspond to the apparent lack of evolution or change within the sample, and this is also a likely cause of such an unresolved result.

By contrast, there is a lot more to discuss in relation to the 50% majority rule consensus tree, and the results correspond well to observations made throughout the current study relating to regional variation and chronological sequences. The 50% majority rule tree can be divided into four groups:

1. Mostagedda, Balabish, and Rifeh
2. Hu X, Sheikh Mohammed SM14, Sayala B, and Aniba N/C
3. Hierakonpolis HK47 and Debeira East SJE Site 47
4. Hierakonpolis HK21A

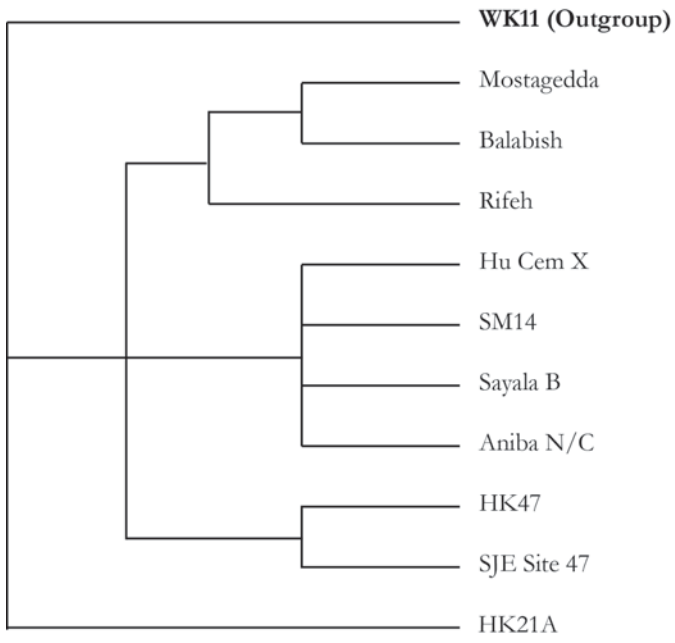


Fig. 11.2: *50% majority rule consensus tree.*

Group 1 corresponds well with the Middle Egypt group identified in Chapter 10, which was defined by specific ware types and the occurrence of rectangular graves. All three sites in Group 1 have all been dated to the later stages of the Second Intermediate Period, following the break from Middle Kingdom Egyptian ceramic traditions.

The sites in Group 2 are spread across southern Upper Egypt and Lower Nubia, but all are identified as being among the earliest Pan-Grave sites currently known. All four can be linked by similar grave types, the absence of defined black-tops, and the dominance of Egyptian Middle Kingdom pottery types. It was also noted in Chapter 10 that the Middle Egypt and southern Upper Egypt regions overlap at Hu, which is also reflected in the cladistics results.

The relationship between the two sites in Group 3, HK47 and SJE Site 47, is less obvious. On the one hand, HK47 is a small site in southern Upper Egypt and appears to date to the late Middle Kingdom and early Second Intermediate Period. On the other hand, SJE Site 47 is the largest known Pan-Grave cemetery, is located at the Second Cataract, and probably spans the period from the early Second Intermediate Period up to the early 18th Dynasty. Therefore, there is little to connect the two sites chronologically or geographically. It should, however, be remembered that the current author has studied and recorded the full assemblages from both of these sites. The available data for both sites far outweighs that from other sites in the sample, and this may have impacted upon the results.

Having had direct access to pottery from both sites, the current author notes, from a purely *subjective* perspective, that the assemblages from HK47 and SJE Site 47 are more like each other than that from any other site. The surface qualities, burnishing techniques, fabrics, and the general 'feel' of the assemblages are very similar. These features were not included in the cladistic analysis, but it is worth acknowledging these overall similarities. In terms of decoration, rare features such as string-impressed lines may be a possible link, and decorative variety was highest at both of these locations.

Group 4, consisting only of HK21A, is something of an anomaly, but this corresponds well with observations in both this chapter and the previous Chapter 10. There are a number of features in the assemblage from HK21A that are either the only attestation of its kind in southern Upper Egypt, or they are entirely unique in the dataset. Unique features such as these were excluded from the analysis as they are cladistically uninformative, and this may have impacted upon the outcome. At the same time, it is these unique qualities that set this assemblage apart from all others included in the cladistics analysis. Incised rim band

decoration occurs more frequently here than at any other site. The only known example of comb-impressed decoration in this region comes from HK21A, and in fact there are two unique examples. The only confirmed recessed rim from a *mortuary* context in southern Upper Egypt occurs at this site, as does the only defined and applied black-top attested at a cemetery in this region.

Overall, the results of the cladistic analysis as expressed in the 50% majority rule consensus tree correspond closely with conclusions that have so far been derived from a more traditional archaeological approach. The results align not only with the observations based on Pan-Grave pottery decoration, but they can also be extrapolated out to support the hypothesis proposed for regional variation and chronological sequences.

11.8 Interpreting the distribution of Pan-Grave pottery decoration

One of the key points to come from this analysis is that decorated pottery, although distinctive for the Pan-Grave tradition, is far outweighed by undecorated pottery in terms of quantity. This is contrary to the impression created by the published record, which emphasises the importance of decorated over undecorated sherds. Decoration is of course important for identifying a vessel as being of the Pan-Grave tradition, but other characteristics, including ware and surface treatment should be given equal consideration.

Regional distribution of the decorative motifs is not as distinct as that of ware and surface treatment, and the consistency of distribution across sites reflects an overall lack of development or evolution within the range of decorative motifs. This lack of decorative evolution can be linked to the role of decoration in communicating cultural identity. It may be argued that it was of great importance to Pan-Grave potters that their vessels communicate their social identity and that their products were easily identifiable as Pan-Grave pots as opposed to C-Group, Kerma, or some other culture. From a practical perspective, ware and surface treatment can evolve owing to factors such as availability of raw materials and developments in forming and firing technologies. On the other hand, decoration appears to be less susceptible to such factors and hence there is little change.

Minor variations in decorative styles and motifs may also be explained by the small-scale production of Pan-Grave pottery, and may be related to factors such as skill level or personal preference of the potter. For example, one potter may prefer the lines of the regular cross-hatched motif to be closer together than another potter. Seemingly trivial factors such as mood or time of day may also have played a role; a potter in a hurry to finish a vessel at the

end of a long day may have executed the decoration more carelessly than at the beginning of the day. Looking for patterns in such minor variations is virtually impossible and ultimately also meaningless, as one would be seeking to identify and explain patterns in random human behaviours.

The cladistic analysis of Pan-Grave pottery decoration supports these observations, and the overall lack of variation was clearly reflected in the corresponding lack of any clear evolutionary relationships in the strict consensus tree. The importance of considering other morphological factors alongside decoration, in particular ware and surface treatment, was expressed in the groupings in the 50% majority rule consensus tree. The success of the cladistics process demonstrates the usefulness of incorporating quantitative methodologies to verify conclusions made through more traditional analytical approaches.

Chapter 12

A new understanding of the Pan-Grave culture

12.1 Identifying regional variants in the Pan-Grave tradition

This study has shown that there is substantial evidence for broad variation in the Pan-Grave ceramic tradition but that, overall, this variation occurs with a narrow enough range that the pottery can still be recognised as belonging to the same tradition. Vessel ware, shape, and decorative motifs vary, but the range is ultimately quite limited and consistent across a large geographical area. In spite of this overall consistency, four main regional groups are identified based on distribution patterns seen in the ceramic assemblages:

1. Middle Egypt: Rifeh to Hu
2. Southern Upper Egypt: Hu to Elephantine
3. Lower Nubia, up to the Second Cataract
4. Upper Nubia, up to the Fourth Cataract

The Eastern Desert, the Atbai, and the Western Desert oases may also constitute regional groups, but are perhaps better interpreted as parallel variants that display characteristics seen across a number of regions. Each of the groups are defined by similarities in their Pan-Grave ceramic assemblages, although other aspects such as grave shape and associated Egyptian pottery have also been taken into account. The four regional groups are presented below with a summary of the finding from previous chapters. All regions are plotted on the map on **Plate 118**.

12.1.1 Middle Egypt: Rifeh to Hu

The Pan-Grave pottery from this region is defined by distinctive wares and surface treatments. Vessels are often carefully burnished with fine strokes creating a streaky appearance. The finest vessels from Qau-Badari and Mostagedda are characterised by the Pan-Grave fine burnish that does not occur in any other region. This exceptionally fine pottery may be likened to the thin-walled and finely burnished Badarian pottery from the same region, suggesting that Pan-Grave potters in Middle Egypt had access to the same raw materials and/or technologies specific to that region. Egyptian influence may also be evident in the red burnished wares that are attested in Middle Egypt more than in any other region.

Defined and applied black tops from this region are of a quality that is unparalleled at any other site. Applied black-tops in particular are more carefully executed, sharply defined, and more finely burnished here than anywhere else. The pinnacle of this technique is seen in examples from Mostagedda (**Plate 60b**).

There does not appear to be any specific regional pattern detectable in the decorative motifs. The cladistic analysis conducted as part of this study also supports a close relationship between the assemblages in this region.[849] Lattice and zig-zag motifs are not attested except for one example of lattice decoration at Hu Cemetery X. Spiral decoration is only attested at Mostagedda and Qau, but this does not take into account the two other examples said to come from Abydos. Mostagedda, Hu, and Rifeh are all among sites showing the broadest variety of decoration.

Besides the Pan-Grave pottery, the grave types in this region are distinct from those at sites further south. Rectangular graves are more common, often without any trace of a superstructure, which indicates a later date. Likewise, the Egyptian pottery from these sites is predominately of the Upper Egyptian style dated to the Second Intermediate Period (i.e. 17th Dynasty). Only Rifeh appears to continue Lower Egyptian traditions of the Middle Kingdom, which may indicate a closer association between that site and Lower Egypt. Overall, the sites in this region may be dated to the Second Intermediate Period proper, specifically the period following the break from Middle Kingdom ceramic traditions.

12.1.2 Southern Upper Egypt: from Hu to Elephantine

The Pan-Grave ceramic assemblages from sites in this region are noticeably different from those further north. The pottery is generally well made, thin-walled, and is often burnished, but not to the same degree as that from Middle Egypt. Pan-Grave fine burnish is absent. Defined black-tops are also virtually absent from this region apart from the two sherds at Hierakonpolis HK21A. Further excavations may change this situation. Defined black-tops *are* attested in settlement contexts at Elephantine and Tell Edfu, so the absence of this feature from cemetery sites in this region is unusual and may reflect a chronological lag between settlement and cemetery assemblages.

[849] See Section 11.7.5.

As with other regions, there does not appear to be any obvious regional groupings in the range and distribution of decorative motifs. The variety of decorative motifs present at each site in this region is much lower than in Middle Egypt, which may be due to the much smaller size of the cemeteries. Decorative variety is high at the two Hierakonpolis cemeteries, but this may be a product of more thorough collection and recording strategies.

The cemeteries themselves are generally smaller in this region when compared to those in Middle Egypt. The graves are predominately circular, and rectangular graves are almost entirely absent. The Egyptian pottery from these sites also differs from Middle Egypt, and the majority can be dated to the period before the development of the new Theban style. In general, the *cemetery* sites in Southern Upper Egypt can be dated to a phase preceding those in Middle Egypt, most likely the late Middle Kingdom and early Second Intermediate Period. The only exception is Hu Cemetery Y, for which the Pan-Grave contexts may be dated to the late 17th and early 18th Dynasty. Pan-Grave pottery in Egyptian *settlement* contexts spans the entire period from the late Middle Kingdom to the early 18th Dynasty.

12.1.3 Lower Nubia, up to the Second Cataract

The Pan-Grave pottery from Lower Nubia is of a more mixed character and shows characteristics seen in both Middle Egypt and Southern Upper Egypt. Sub-regions can be identified in Lower Nubia, but these overlap spatially and chronologically and they have therefore been subsumed into one large region. The majority of the Pan-Grave pottery in Lower Nubia is well made and fine wares dominate, but overall it does not seem to reach the same quality as examples from Egypt. Fabrics are generally coarser, and vessel walls tend toward being slightly thicker than Egyptian examples. Defined and applied black-tops are attested but only at large sites near the Second Cataract and at small cemeteries adjacent to Egyptian burial grounds that can be dated to the early 18th Dynasty. Furthermore, the defined and applied black-tops are not as refined as those from Middle Egypt and instead they are mostly un-burnished and some may have been applied after firing.

The variation in Pan-Grave pottery from Lower Nubia may be more closely linked to chronology than to regional differences. Pottery from small cemeteries such as Adindan K, Aniba C, and Serra C share many commonalities with the small cemeteries in Southern Upper Egypt. In particular, defined black-tops are entirely absent from these sites. Contrastingly, pottery from other small Pan-Grave cemeteries in Lower Nubia such as Ginari 58:100 and the cluster of graves at Kubban 110 find their best parallels in Middle Egypt. Defined and applied

black-tops are attested at both sites, suggesting a late 17th or early 18th Dynasty date. The large cemetery SJE Site 47 at Debeira East shows a mix of both early and late types, which reflects the size of the cemetery and its extended period of activity. As in Egypt, there does not appear to be any clear link between decorative motifs and regional variation. The range of motifs is more limited at the smaller cemeteries, while SJE Site 47 has the greatest variety in the entire survey.

Overall, the assemblages from Lower Nubia include some of the earliest and some of the latest evidence for Pan-Grave activity in the Nile Valley. Different sites were active at different times, and the evidence points towards a diachronic relationship between Pan-Grave sites in Egypt and Lower Nubia.

12.1.4 Upper Nubia, up to the Fourth Cataract

Despite the vast distances separating the regions, the Pan-Grave pottery from Upper Nubia finds its closest parallels in Middle Egypt. Black-topped coated wares are most frequent, and many examples have the upright and inflected walls that are so characteristic for the Pan-Grave tradition. A striking connection to Middle Egypt and the Second Cataract is the presence of well-defined and possibly also applied black-tops. These are especially well attested at el Widay and Shemkhiya, where they were found associated with graves that have been dated to the *Kerma moyen* and *Kerma classique* phases. A single example from Wadi el Khowi Site P37 shows the unmistakeably Pan-Grave characteristic of a well-defined and burnished black-top comparable to those seen at sites in Middle Egypt and at the Second Cataract. Such features are dated by the current author to the latest phase of the Second Intermediate Period at the earliest.

Published examples of decorated pottery are few, but those that are available link the pottery from Upper Nubia to the Pan-Grave tradition in Upper Egypt and Lower Nubia. This does not necessarily mean that Pan-Grave people were present in the Upper Nubian Nile Valley. The pottery may have reached these sites indirectly through trade between the desert and the river, or by some other means. The association of this Pan-Grave pottery with *Kerma moyen* and *Kerma classique* assemblages supports a date in the late Second Intermediate Period or very early 18th Dynasty.

12.1.5 The Eastern Desert and the Atbai

This is an expansive region, and it is not yet possible to divide it further due to the small amount of published data that is currently available. Pottery from this region bearing Pan-Grave characteristics has generally been associated with the Jebel Mokram Group, and the similarities between the two traditions are undeniable.

Decoration is the characteristic that most clearly connects the Pan-Grave and the Mokram traditions. Common motifs and rare characteristics (e.g. impressed triangles around the rim) may point toward a shared cultural heritage for the desert-based and river-based cultures that existed in various forms over a long span of time. Undecorated wares that can be compared with the Pan-Grave tradition are rarely attested, but this may be a product of the currently available published data and the prioritisation of decorated sherds.

12.1.6 The Western Desert Oases

To date, Pan-Grave pottery has only been positively identified in this region at Umm Mawagir, therefore the inclusion of the Western Desert oases as a regional group is tentative. Whatever the case, the presence of Pan-Grave pottery in the Kharga Oasis demonstrates the expansive reach of the Pan-Grave ceramic tradition, well beyond the Nile Valley. The use of local oasis silts suggests that Pan-Grave people themselves may have been resident in the Western Desert oases, although it could equally have been produced by Egyptians imitating Nubian styles. The wheel made wares with Nubian decoration is yet another example of technological and stylistic exchange between Pan-Grave and Egyptian traditions.

12.1.7 Re-evaluating the reach of the Pan-Grave ceramic tradition

It is now clear that the Pan-Grave ceramic tradition reached well beyond Upper Egypt and Lower Nubia and extended up the Nile to the Fourth Cataract and may also be identified in the deserts and oases to the east and west of the Nile Valley. It must be remembered that the Pan-Grave pottery found in contexts that are otherwise not Pan-Grave in character (e.g. el Widay, Umm Mawagir etc.) does not necessarily indicate the actual presence of Pan-Grave people. The pottery may have found its way to these locations through trade or imitation, or by some other indirect means. A direct Pan-Grave identification for the pottery in the Eastern Desert is also not without its problems. The similarities with Jebel Mokram Group pottery in particular are undeniable. At the very least, Jebel Mokram and Pan-Grave pottery can be interpreted as being two related variants of a larger ceramic tradition.

The map on **Plate 119** offers a representation of the hypothetical reach of the Pan-Grave ceramic tradition. The different shades of red reflect the density of Pan-Grave evidence - the deepest shade indicates the highest quantities of data, gradually fading to lighter shades as the evidence becomes less. As can be seen, the most intense Pan-Grave activity is concentrated on the Upper Egyptian and Lower Nubian Nile Valley, with subsidiary 'hot-spots' in the Memphite region and at the Fourth Cataract. Other concentrations are in the Southern Atbai and at the Western Desert Oases. At all times, however, it must be remembered that this is a hypothetical representation based only on the available evidence. Further survey and excavation, especially in the Eastern Desert, will no doubt alter the map.

12.2 Building a chronological framework for the Pan-Grave culture

12.2.1 Regional variation and chronology

The possibility that morphological variations in Pan-Grave pottery can be correlated with chronological developments has been addressed throughout this study. Based on these findings, the initial chronological framework set out in Section 3.7 can now be consolidated and expanded beyond the ceramic evidence to consider the Pan-Grave culture as a whole.

The sites in southern Upper Egypt between the First Cataract and Diospolis Parva seem to be the earliest sites in Egypt. All are small, dominated by circular graves with loose stone tumuli, and all are relatively isolated from contemporary Egyptian sites. The associated Egyptian pottery dates to a period before the break with Middle Kingdom traditions, placing them in the late 13th Dynasty to early Second Intermediate Period. By contrast, the cemeteries in Middle Egypt are larger and include deep elongated graves that reflect increasing Egyptian influence. The Egyptian pottery found at these sites follows the new Upper Egyptian style, and therefore dates to the period after the break with Middle Kingdom traditions. The distribution of certain Pan-Grave pottery characteristics such as defined and applied black-tops further highlights the contrast between southern Upper Egypt and Middle Egypt. Overall, the evidence strongly suggests a diachronic relationship between these regions, the south being earlier than the north.

The situation in Lower Nubia is more mixed. Small cemeteries may be early or late in date, evidence for which can be found by looking at the sites, their assemblages, and the spatial relationship with other cemeteries. Aniba C and Serra C are separated from neighbouring sites and the assemblages have much in common with the early cemeteries in southern Upper Egypt. By contrast, the small cemetery Ginari 58:100 is situated directly adjacent to an

Egyptian cemetery dated to the 18th Dynasty, and the Pan-Grave pottery includes later features seen at sites in Middle Egypt. The large cemetery, SJE Site 47 at Debeira East comprises circular and rectangular graves, and the Egyptian pottery shows that the site was active until the beginning of the 18th Dynasty. The Lower Nubian evidence therefore shows that Pan-Grave activity in the region spanned the entire Second Intermediate Period and continued into the early New Kingdom.

Moving further south, the connections with the later Pan-Grave sites in Middle Egypt continue, mainly in the presence of defined and applied black-tops. The cemeteries in which the pottery was found cannot be easily described as Pan-Grave, but rather appear to be of the *Kerma classique* culture. This, together with the presence of defined and possibly applied black-tops, supports a date somewhere in the late Second Intermediate Period or early 18th Dynasty.

12.2.2 Integrating data from Egyptian cultural contexts

Although it is difficult to correlate cemetery and settlement data, it is important to consider more closely the chronological implications of stratified Egyptian contexts. Once again, the inconsistency of ceramic sequences across Egypt during the Second Intermediate Period must also be taken into account when comparing material between regions.

In Upper Egypt, the earliest evidence for Pan-Grave pottery in Egyptian settlement contexts dates to the end of the 13th Dynasty at Elephantine and Tell Edfu, which corresponds to the mortuary evidence from the same region. Problems arise, however, when evidence from Lower Egypt is taken into account. Nubian pottery showing affinities with the Pan-Grave tradition at Kom Rabia is also dated to the late 13th Dynasty on the basis of associated Egyptian pottery. As yet, there is no confirmed Pan-Grave mortuary site in Lower Egypt. So, if Pan-Grave people entered Egypt at the end of the Middle Kingdom, how can their pottery occur in Upper *and* Lower Egyptian settlements at apparently the same time?

It must be remembered that "13th Dynasty" in Lower Egypt does not have the same meaning that it does in Upper Egypt as far as *archaeology* is concerned. Late Middle Kingdom ceramic styles persisted for much longer in Lower Egypt than they did in Upper Egypt, therefore the two sequences cannot be easily aligned. It is probable that the levels at Kom Rabia in which Nubian pottery was found are somewhat later in date than the Egyptian pottery suggests, and could therefore date to a period not long before the beginning of the 18th Dynasty. This could

explain the discrepancy by chronologically placing Upper Egyptian Pan-Grave sites before the Lower Egyptian evidence.

Nubian pottery continued to form a significant component of Egyptian settlement assemblages until the early 18th Dynasty, although how closely this pottery can be assigned to a particular Nubian culture is a matter for further investigation. Nubian fine wares that can be confidently assigned to the Pan-Grave tradition are largely replaced by coarse cooking pots at some point during the early Second Intermediate Period. This may reflect a shift in the nature of the Nubian presence in Egypt rather than a change in culture, and it appears that Pan-Grave people had now become more settled and integrated into Egyptian communities. Late Middle Nubian Imitation ware (LaMNI) is clear evidence of the complex integration of Egyptian and Nubian communities and traditions. Nubian pottery in Egyptian settlements declines in quantity at the beginning of the 18th Dynasty, which corresponds to the same decline seen in Pan-Grave cemeteries in Egypt, the latest of which seem to fall out of use at around the same time.

There is, however, the problem of defined black-tops in southern Upper Egypt, namely their presence in settlement contexts and their absence from mortuary sites in the same region. It is possible that there is a chronological lag between the appearance of defined black-tops in settlements and cemeteries, but the discrepancy may also reflect differing relationships between Pan-Grave and Egyptian communities at this early stage. The small, early Pan-Grave cemeteries in Upper Egypt at which defined black-tops are absent may represent Pan-Grave people who did *not* integrate into Egyptian society at this early stage. This could explain the level of conservatism and uniformity seen in their mortuary assemblages and the isolation of their cemeteries. By contrast, the occurrences of defined black-tops and LaMNI ware in late Middle Kingdom contexts in Egyptian settlements may represent a population of Pan-Grave people who *did* integrate into Egyptian society and followed a different developmental path.

Social divisions such as this could explain the dissimilarity between the settlement and mortuary evidence in southern Upper Egypt. Gatto suggested that there could have been a level of intra-cultural variability reflecting hostility between family or clan groups, or environmental constraints.[850] Cohen has also spoken of similar intra-cultural divisions that he used to explain what he saw as differing levels of Egyptianisation.[851] It could also simply be that the cemeteries along with their ceramic evidence have since been lost in this region,

[850] GATTO 2014, p. 24.
[851] COHEN 1992, pp. 38-48, 59-62.

which appears to be the case with the supposed Pan-Grave cemetery at Genemiyeh, near Edfu.[852] Future excavations at Hierakonpolis may also go on to reveal new evidence that may revise these hypotheses.

12.2.3 Proposing phases for the Pan-Grave culture and its ceramic tradition

In spite of the difficulties outlined above, a preliminary phasing system for the Pan-Grave ceramic tradition is proposed, and two broad phases based on the currently available mortuary data will now be put forward. Corresponding trends in stratified settlement sequences are integrated as much as possible to support the conclusions. The phases are shaped as much by the pottery as by the nature of the sites and contexts themselves, taking into consideration features such as grave shape, mode of burial, location, and Egyptian artefacts. The two phases cover the overall trends, but they have also been left intentionally broad to account for the gaps in the archaeological record and to allow for future adjustments that may need to be made in light of new evidence.

As outlined in Chapter 1, dynastic dates are avoided in favour of a relative chronological framework in order to circumvent the conflicting archaeological and historical sequences that complicate the Second Intermediate Period.

a. Phase 1: the late Middle Kingdom - the early Second Intermediate Period

Sites assigned to this phase are characterised by their small size, relative isolation from contemporary Egyptian and other Nubian sites, and by the dominance of circular graves with loosely constructed tumuli. The Egyptian pottery dates to the period prior to the break with Middle Kingdom Egyptian pottery traditions. A phase covering this period has been previously proposed by Gatto, spanning approximately 150 years based on the small cemeteries in the Gharb Aswan region.[853]

Phase 1 Pan-Grave pottery is characterised by the *absence* of defined or applied black-tops. Restricted, rounded bowls with simple contours appear to be dominant, but vessels with inflected walls also occur. Horned bowls are also well attested. Phase 1 pottery remains present in Pan-Grave assemblages until the culture is no longer attested in the archaeological

[852] WEIGALL 1910, p. 348.

[853] GATTO 2014, p. 24. Gatto based her calculation on the small family groups of around seven individuals referenced in the Semnah Despatches compared to the size of the Pan-Grave cemeteries in the region, usually numbering around twenty graves. She deduced that cemeteries of this size represent three generations of a family and reached a span of approximately 130-180 years for the sites in the Gharb Aswan area (i.e. WK11, SM14, and WT1).

record. This suggests that Phase 1 types are the earliest and most ancestral forms of Pan-Grave pottery and, as such, constitute the 'standard' types for this ceramic tradition.

In Egyptian settlements, the Pan-Grave ceramic tradition develops new styles and production techniques including defined black-tops and LaMNI ware, which appear in settlement contexts dated to around the late 13th Dynasty. These types are not attested in cemetery contexts until the following phase, according to the currently available evidence.

Phase 1 Pan-Grave pottery is attested at sites located mostly in Lower Nubia and in southern Upper Egypt.

Phase 1 pottery occurs at the following sites:

- In Egypt - Qau 1300(?)[854]; Hu X (in part)[855]; Armant; Tod; Mo'alla Area H3; Hierakonpolis HK47 and HK21A(?); Wadi Kubbaniya WK11; Sheikh Mohammed SM14; Wadi Tawil WT1.

- In Lower Nubia - Qurta Cem. 118; Sayala B(?); Sayala Cem. G(?); Aniba N; Aniba C; Serra C; Debeira East SJE Site 47 (in part).

b. Phase 2: The Second Intermediate Period - the early 18th Dynasty

Phase 2 corresponds to the period following the break from Middle Kingdom ceramic styles that first occurred in Upper Egypt. The new styles of Egyptian pottery were adopted at different times at different locations, therefore it is not possible to assign this change to a specific dynasty or reign. Phase 2 sites are characterised by the presence of deep oval and/or elongated graves that may or may not be marked by a superstructure. The dominant type of Egyptian pottery from Phase 2 sites is of the Theban style, in particular marl biconical jars.

Phase 2 Pan-Grave pottery is attested at sites located in Middle Egypt, Lower Nubia, and as far south as the Fourth Cataract, and is characterised primarily by the appearance of defined and applied black-tops in mortuary contexts. Deep bowls with restricted inflected (RI) contours also become more frequent. Pottery is carefully burnished on both the exterior and interior surfaces. The Pan-Grave fine burnish technique occurs during this phase in Middle Egypt only.

[854] Sites and assemblages listed with a question mark (?) are tentatively assigned to Phase 1. Further evidence may shift or extend these assemblages into the other phases.
[855] "In part" denotes a site that has evidence of multiple phases, or that it spans both Phases 1 and 2.

Phase 2 may be further divided into two sub-phases on the basis of developments in the black-top technique. The earlier phase, *Phase 2A*, is characterised by the appearance of defined black-tops, and the following *Phase 2B* is defined by the appearance of applied black-tops. This chronological sub-division is tentative and a more accurate date cannot be defined, but it seems reasonable to suggest that the two types of black-top are diachronically related. Logic dictates that defined black-tops must be identified as a desired outcome *before* applied black-tops could be developed. The fact that some of the applied black-tops at SJE Site 47 were applied over a black-top created through firing further demonstrates that this technique must have been the latest development in the black-top sequence.

It is important to stress that Phase 2 does not represent a replacement of the preceding phase. Pan-Grave pottery showing earlier characteristics from Phase 1 continues to be present right up to early 18th Dynasty. Phase 1 sites may therefore be better defined by the absence of Phase 2 characteristics.

Phase 2 Pan-Grave pottery is attested along the length of the Nile Valley from Middle Egypt to the Fourth Cataract. The greatest concentration is found at the northernmost sites in Middle Egypt and at scattered locations in Lower Nubia and Upper Nubia.

Phase 2 pottery occurs at the following sites:

- In Egypt - Mostagedda; Rifeh; Balabish; Hu X (in part); Hu Y/YS; Hierakonpolis HK21A(?).
- In Lower Nubia - Ginari 58:100; Kubban 110; Toshke D; Debeira East SJE Site 47 (in part) and SJE Site 95.
- In Upper Nubia - Wadi el Khowi; Shemkhiya; Hosh al Guruf; El Widay I; El Ar I.

At present, the sites cannot be divided between the two proposed sub-phases due to the limitations in confirming the presence of applied black-tops, which is the differentiating factor. To date, Phase 2B pottery (i.e. with applied black-tops) has only been *confirmed* at Rifeh, Mostagedda, and SJE Site 47. Other sites with Phase 2 pottery may include Balabish, Ginari 58:100, Kubban 110, and Toshke D.

12.3 A tentative history of the Pan-Grave people, told through ceramics

With the identification of regional groups and a broad chronological framework in place, it is possible to consider how the history of the Pan-Grave people may be traced through their

material remains, in particular their pottery. The possibility that Pan-Grave communities moved from south to north and then south again was introduced in Chapters 10 and 11, and this forms the basis of the hypothesis presented here.

Sadr's theory that the Pan-Grave people were displaced from the Nile Valley and moved into the southern Atbai at around 1500 BC constitutes another point of departure,[856] but the scenario proposed here differs in one significant way. Sadr's theory creates the impression that the Pan-Grave people, or at least a portion of them, were displaced from Egypt and moved into the Southern Atbai of their own accord at the end of the Second Intermediate Period. The theory proposed here suggests an external motivation, namely that the Pan-Grave people were *deliberately and purposefully moved out of Egypt* to Nubia. The basic building blocks for the theory are as follows:

- The earliest evidence for the Pan-Grave culture in the Nile Valley dates to the late Middle Kingdom in Lower Nubia and southern Upper Egypt.
- The Pan-Grave assemblages from Middle Egypt are among the latest in the sequence in Egypt, extending into the late 17th and early 18th Dynasty.
- Nubian pottery that may be associated with the Pan-Grave tradition is continuously attested in Egyptian settlements at (e.g. at Elephantine and Tell Edfu) until the early 18th Dynasty.
- Nubian pottery that may be attributed to the Pan-Grave tradition appears in Lower Egypt at Kom Rabia not long before the beginning of the 18th Dynasty.
- Activity at Pan-Grave cemeteries in Egypt seems to cease just before the beginning of the 18th Dynasty.
- Nubian pottery in Egyptian settlements, most likely associated with either the Pan-Grave or the Kerma culture, declines in quantity before effectively disappearing during the early 18th Dynasty.
- At the same time – i.e. the transition into 18th Dynasty – cemeteries such as Ginari 58:100 are still active, in this case adjacent to an Egyptian cemetery that can be dated to the early 18th Dynasty.
- The large cemetery SJE Site 47 also continues to show activity into the early 18th Dynasty. The Pan-Grave pottery found in these contexts finds its closest parallels in Middle Egypt dated to the end of the Second Intermediate Period, in particular defined and applied black-tops.

[856] SADR 1987.

- Pan-Grave pottery showing similarities to that from Middle Egypt is found sporadically at sites as far south as the Fourth Cataract, associated with *Kerma classique* assemblages.
- Jebel Mokram Group pottery with striking similarities to Pan-Grave pottery becomes more frequent in parts of the Eastern Desert at around 1500 BC - i.e. at approximately the same time that the Pan-Grave culture archaeologically disappears from Egypt.

With these key points as a foundation, the following hypothesis is proposed.

12.3.1 The Pan-Grave culture enters the Nile Valley

Bearers of the Pan-Grave tradition first appear in the Nile Valley of Lower Nubia by the late Middle Kingdom. This is reflected in the small, isolated, cemeteries such as Aniba C and Serra C that show what is here considered the earliest and 'purest' form of the Pan-Grave tradition with little evidence of external influence. At around the same time, small Pan-Grave cemeteries appear at various locations along the Nile Valley in southern Upper Egypt. This suggests that small groups of Pan-Grave people either entered the Nile Valley at various points at a similar time, or that they entered the valley somewhere in Lower Nubia and from there moved north along the river.

The small size of these cemeteries suggests that the first Pan-Grave people in the Nile Valley were small family or clan groups, which Gatto has suggested numbered around seven people following the evidence in the Semnah Despatches No. 3 and No. 5.[857] These texts tell us that small groups of desert-dwellers (Medjay) moved into the Nile Valley to seek food and employment because the desert was dying from hunger. The Semnah Despatches also tell us that the Medjay groups were turned away. At around the same time, the archaeological evidence shows that Pan-Grave communities were burying their dead at multiple sites along the Nile Valley by the end of the Middle Kingdom. It is therefore suggested that small groups of Pan-Grave people were entering the Nile Valley unofficially and unnoticed by Egyptian authorities. Other groups may have been turned away, as told in the Semnah Despatches.

The widespread distribution of Pan-Grave sites of a similar age suggests a wave of migration toward the Nile from the desert at various locations rather than from a single point such as the Wadi Allaqi, as suggested by Bietak. A wave of migration also better fits the movement that would be caused by an encroaching drought such as that referenced in the Semnah

[857] GATTO 2014, p. 24.

Despatches. This would have gradually forced people out of the desert regions toward the river, which appears to be reflected in the archaeology. In the end, the small isolated cemeteries in southern Upper Egypt such as Wadi Kubbaniya WK11, Moalla, and Tod demonstrate that groups of Pan-Grave people were living, dying, and burying their dead in Egypt by the end of the Middle Kingdom.

12.3.2 The Pan-Grave culture integrates into Egyptian society

Pan-Grave people became firmly established as part of the Egyptian social landscape by the beginning of the Second Intermediate Period in Upper Egypt. This greater integration is evident in the larger cemeteries and the increasing quantities of Nubian pottery in Egyptian settlements. It is during this time that the Pan-Grave people began to adopt certain Egyptian characteristics and customs, such as extended burials in rectangular graves. New Pan-Grave ceramic styles such as defined black-tops and recessed rims develop, and technological exchange becomes evident in both cemetery and settlement pottery.

There is some evidence to suggest that some Pan-Grave people may have entered Egyptian service as mercenary soldiers and guards, presumably assisting the Theban rulers in the wars against the Hyksos. Accepting this scenario, Ryholt has suggested that groups of Pan-Grave soldiers were stationed at strategic points along the length of the Nile Valley, The problems with his theory have been addressed in Chapter 2, but to briefly reiterate, Ryholt's theory that the Pan-Grave sites to the south of Thebes at Armant and Tod were established to defend the southern capital does not match with the timeline or with the archaeological sequence for that region.[858] It also accepts the questionable assumption that the Pan-Grave people were Medjay soldiers.

Military links aside, there is strong evidence to support progressive northward movement of Pan-Grave communities along the Nile Valley. This northward progression is evident in the increasing Egyptian influence observable in the large cemeteries at Balabish, Hu, Mostagedda, and Rifeh. The current author has previously suggested that the northward movement mirrors the same progress made by the Theban rulers as they pushed back against the Hyksos.[859] The cemeteries at Mostagedda and Rifeh in particular may be connected to the frontier between Theban and Hyksos territory being set at Cusae.[860] The size of these cemeteries also

[858] RYHOLT 1997, pp. 178-180. See also Section 2.1.9.a.
[859] DE SOUZA 2013, pp. 109-119
[860] BOURRIAU 1999, pp. 43-48; RYHOLT 1997, p. 178 ; BOURRIAU 2010b, pp. 22-23.

demonstrates that considerable populations of Pan-Grave men, women, and children were living in Egypt over a number of generations.

12.3.3 The Pan-Grave people return to the south

Once the Hyksos had been defeated and Egypt reunited, the Egyptians then turned their attention to the south in order to re-secure their southern border against Kush.[861] The Pan-Grave people, in their presumed capacity as mercenary soldiers, were deliberately moved from Egypt and taken to Nubia to support the Egyptians. By this time, after almost two centuries of living and apparently thriving in Egypt, the Pan-Grave people could easily have become loyal to their new 'homeland'.

Upon moving south, the Pan-Grave people brought with them their evolved ceramic styles and other aspects of material culture that were developed during their time in Egypt. This new style of pottery was deposited in graves at small cemeteries such as Ginari 58:100 and Kubban Cemetery 110, which are situated adjacent to Egyptian cemeteries that can be dated to the early New Kingdom. This proximity of Egyptian and Pan-Grave sites is in stark contrast to the isolation of early Pan-Grave cemeteries and may suggest that a close social connection between the cultures had developed over time.

Once Nubia was re-stabilised and colonial rule was set in place, the Pan-Grave people could have been free to leave Egyptian service. Some may have chosen to move further south along the river, where they would have had contact with Kerma Nubians as far as the Fourth Cataract. Others may have moved out into the desert toward the Gash River and Southern Atbai. Wherever they went, they would have taken their evolved form of the Pan-Grave ceramic tradition to their new locations, where it was integrated into the local assemblages.

12.3.4 Evaluating the possibilities

The model outlined above is preliminary, and admittedly becomes tenuous as the quantity of evidence for Pan-Grave activity in Nubia declines. Nevertheless, the proposed sequence goes some way to explaining two key points, namely the seeming disappearance of the Pan-Grave tradition from Egypt by the early 18th Dynasty, and the similarities between Pan-Grave pottery from Middle Egypt and Lower Nubia. However, three underlying assumptions have been made that must be acknowledged and critically assessed.

---

[861] EDWARDS 2004, pp. 101-111.

First, the proposed model accepts a link between the Medjay of the Semnah Despatches and the Pan-Grave culture, against which the author has previously argued.[862] The fact that Medjay groups were turned away according to the Semnah Despatches does not mean that they could not have entered the Nile Valley by some other route. Regardless of whether or not the Pan-Grave people are the same as the Medjay of the Semnah Despatches, it is expressly clear from the archaeological evidence that Pan-Grave communities had settled in Lower Nubia and Upper Egypt by at least the late Middle Kingdom.

Second, the model accepts (to an extent) that the Pan-Grave people served as mercenary soldiers fighting on the side of the Theban rulers against the Hyksos, which by default accepts the equation between the Pan-Grave and the Medjay. Besides the textual evidence, weapons of Egyptian manufacture are often cited in support of the Pan-Grave people serving as mercenaries in Egyptian service. This assumes that the deceased with whom the weapon was buried actually owned and used the weapon in life, but is important to recognise that weapons were often associated with female or child burials. In such cases, a military role is unlikely. It is therefore suggested that *some* Pan-Grave people performed military service, but this does not mean that all Pan-Grave cemeteries were associated with a military outpost. The location of Pan-Grave sites near Egyptian urban centres could simply have been a matter of convenience for the Pan-Grave people.

Third, the proposed scenario accepts that the Pan-Grave culture actually *does* disappear from the Egyptian archaeological record at the beginning of the New Kingdom. While archaeological attestations of the Pan-Grave culture do seem to cease by the 18th Dynasty, it is difficult to explain how a population or cultural group, who by now were spread along the Nile Valley, could effectively disappear at the same time. The scenario offers a more structured approach than Sadr's theory in that it proposes a deliberate and structured migration under Egyptian direction, which appears to be reflected in the archaeological evidence. The possibility that some Pan-Grave communities continued to exist in Egypt into the early New Kingdom is currently being investigated by the author.[863]

12.3.5 Rethinking the origins of the Pan-Grave culture

Thus far, this study has focussed on explaining the development of the Pan-Grave culture once it was already present in the Nile Valley, and how it seems to disappear archaeologically. However, there is still the question of where and how the Pan-Grave culture originated. This

[862] DE SOUZA, in prep. d
[863] LISZKA, DE SOUZA, in prep.

is a more complex question than can be answered here, but a brief discussion will help to anchor the timeline proposed above.

It has long been argued that the Pan-Grave culture originated in the Eastern Desert, and the current author does not oppose this view. Traditionally, the Eastern Desert connection is based on the association with the Medjay, and while there are strong arguments against that specific connection, there is mounting archaeological evidence that supports an Eastern Dessert origin for the Pan-Grave culture.

To explore this point, we must return to the Jebel Mokram Group, which Sadr considered to be the equivalent of the Pan-Grave culture in the Southern Atbai. Taking up his line of reasoning, if the Jebel Mokram Group is viewed as a bearer of a ceramic tradition related to the Pan-Grave, it can then be suggested that the Jebel Mokram Group was always present in that region, long before appearing in the Southern Atbai. If this is the case, it presumes the existence of a shared cultural ancestor for both the Jebel Mokram Group and the Pan-Grave culture, which in turn favours an Eastern Desert origin for the Pan-Grave tradition.

Any discussion relating to the Mokram Group must put aside the Pan-Grave/Medjay issue. The Semnah Despatches tell us that desert nomads from the Eastern Desert were seeking entry into Egypt. Although the text explicitly refers to these people as "Medjay", it does not necessarily mean that this was how those people defined themselves. The term "Medjay" is, after all, an Egyptian construct that had been in use since the Old Kingdom and may have been applied to these people simply because they had approached from the east. Viewed from this angle, the text simply tells us that desert-dwellers had moved toward the Nile Valley in Lower Nubia and around the First Cataract during the late Middle Kingdom, which is the same time and the same place that some of the earliest Pan-Grave evidence is found. It therefore seems likely that the people referred to in the Semnah Despatches are what we now know as the Pan-Grave people.

We are then left with two cultural entities: the Pan-Grave culture in the Nile Valley, and a related group in the Eastern Desert, namely the Jebel Mokram Group. Both are roughly contemporary, and both share uncannily similar ceramic traditions. If they are not the same culture, then it is clear that they are closely related, which brings us back to the idea that both groups have a shared cultural ancestor. If Egyptian texts are to be believed, a drought in the desert forced the people belonging to this ancestral cultural entity to move to new regions in search of a more suitable environment. Some may have moved toward the Nile Valley, while

others may have chosen to stay in the desert, thereby splitting the larger cultural entity into two branches, both taking different developmental paths in their newfound environments. Those who moved to the river came into contact with riverine cultures such as the C-Group, Kerma, and Egypt, and developed into what is known to us as the Pan-Grave culture. Those who stayed in the desert took a different path and developed into what is now known as the Jebel Mokram Group.

Such a scenario goes some way to explaining the striking similarities between the two traditions, but also gives new support to an Eastern Desert origin for what we now call the Pan-Grave culture. In terms of chronology, Sadr's date of c. 1500 BC for the appearance of the Mokram Group in the Southern Atbai fits conveniently with the supposed disappearance of the Pan-Grave Culture. However, this date was based on only one radiocarbon sample, which is not sufficient for dating an entire cultural entity.[864] Therefore, the current author raises the possibility that the Jebel Mokram Group could actually be dated somewhat earlier. If this could be demonstrated archaeologically, it would better fit the model proposed here of simultaneous, parallel developmental paths in the desert and the Nile Valley.

12.4 One Pan-Grave culture? or many Pan-Grave cultures?

The theories proposed above are difficult to demonstrate given the little evidence available from sites in Upper Nubia and in the desert regions. Other possibilities should therefore be considered, and one such idea is the possibility that the variation seen in the ceramic assemblages reflects a corresponding variation within the Pan-Grave culture itself. In other words, it may be more appropriate to speak of a Pan-Grave cultural complex composed of a group of variants, all of which share a common heritage that is reflected in their material culture.

12.4.1 A theoretical framework for defining culture

A key issue in archaeological and anthropological discourse is the identification of archaeological cultures based on the presence or absence of certain key diagnostic artefact types or characteristics.[865] This model proposes that cultures can be monothetic, uniform entities, and that the material expression of a culture remains uniform across space. The defining characteristics of a culture are usually based on the assemblage of a single type-site or

[864] SADR 1987, p. 283.
[865] JONES 1997, pp. 106-127.

group thereof.[866] Other assemblages are then compared to the type-site(s) in order to assign or not assign that assemblage to one or another culture. For the Pan-Grave culture, Hu Cemetery X could be considered the original type-site. It was the first Pan-Grave assemblage to be identified, and is the one against which all others were compared.

This assumed uniformity of cultures and their material expression is fundamentally flawed, and this has been long recognised in archaeological and anthropological theory. In 1968, Clarke aptly stated that "no group of cultural assemblages from a single culture ever contains, nor ever did contain, all of the cultural artefacts."[867] Childe before him, in 1956, also noted that all diagnostic types are unlikely to be present in all assemblages of a culture and instead proposed that it is the repeated occurrence of a number of diagnostic characteristics that defines the culture.[868] These concepts may have been introduced decades ago, but they still aptly express the impression of the Pan-Grave culture that is gained from their archaeological remains.

These theories, however, do little to assist the archaeologist in understanding and interpreting disturbed and partially preserved contexts and in drawing informed conclusions as to the presence or absence of a particular culture. Shennan stated that "this untidiness is, in fact, the essence of the situation, arising from the fact that *there are no such entities as 'cultures',* simply the contingent interrelations of different distributions produced by different factors."[869] In other words, rather than viewing difference and variation as complicating factors, they can instead be used to construct more complex and nuanced explanations regarding the nature of a culture and the social environment in which it existed. Clarke has also spoken of culture groups as being polythetic, that the group or groups are "defined by a range of variation between defined limits".[870] This point neatly corresponds to the observation that Pan-Grave material culture is characterised by variation within an identifiable range.

This study has been guided in part by the assumption that archaeological cultures *do* exist despite incomplete preservation and high variation within assemblages. To remedy this, the present study employed what may be considered a 'type-region', which in this case comprised a number of sites that have previously been identified as Pan-Grave. Such an approach circumvents the issue of basing cultural identification on a single assemblage and instead looks

[866] JONES 1997, p. 108.
[867] CLARKE 1968, pp. 35-36.
[868] CHILDE 1956, p. 124; JONES 1997, p. 108.
[869] SHENNAN 1989, p. 13 (emphasis added); JONES 1997, p. 109.
[870] CLARKE 1968, pp. 36-37.

for the range of commonalities and differences across numerous localities in order to establish the extent and range of variation among known Pan-Grave sites. Furthermore, the differences and variations detected in the assemblages are not viewed as a complication. Instead, they are integral to the present analysis and were necessary to identify and interpret any regional variation.

With this theoretical framework in mind, can the variation in the Pan-Grave ceramic tradition be interpreted as reflecting multiple cultural variants? There are clear regional differences in the pottery and the contexts in each of the identified regional groups, but not enough to support the existence of sub-cultural variants within the Pan-Grave culture. It is difficult to argue that Pan-Grave pottery could have simultaneously followed the same developmental path in two regions separated by considerable distance, and that those same characteristics would be absent in a large region between them. There is little evidence for long-distance trade or exchange between Pan-Grave communities, therefore the simultaneous development of applied black-tops at Mostagedda in Middle Egypt and at Debeira East at the Second Cataract seems highly improbable.

The commonalities between Middle Egypt and Lower Nubia can be better explained though the *diachronic* relationship proposed earlier, which argues that particular features developed in one place before moving *with the Pan-Grave potters* to another. This scenario lends additional support to the proposed theory that at least some Pan-Grave communities were deliberately moved from Middle Egypt to Lower Nubia at the end of the Second Intermediate Period. In this way, the regional variation seen in the pottery can be interpreted as different developmental stages of the same ceramic tradition in different places at different times.

These differences are likely to have arisen from varying levels of interaction with settled communities in Egypt and Nubia, as well as the identity of those communities with whom the Pan-Grave people interacted. In Egypt, the external influence would inevitably have come from increased contact with Egyptians over the course of the Second Intermediate Period. This then led to the changes in burial customs, subsistence strategies, and ceramic technologies that are evident in the archaeological record. Gatto also suggested that there may have been a degree of internal conflict between Pan-Grave groups in the earliest phase of their presence in the Nile Valley that may have exacerbated these different modes of interaction and hence different developmental trajectories.[871]

[871] GATTO 2014, p. 24.

The corresponding interactions and exchanges are less visible in Nubia, but it seems clear that the developments that took place in Egypt were later transported to the south. There is also evidence of close links between Pan-Grave and Kerma communities, particularly in Upper Nubia where Pan-Grave pottery is found in Kerma contexts. Arguing in favour of chronological developments rather than sub-cultural or regional variants is *not* to say that the Pan-Grave culture was monothetic. The striking similarities between the Pan-Grave and Jebel Mokram traditions allows for the possibility that these two cultures are *contemporary* variant forms of the same cultural entity *in different places at the same time.*

12.5 The Big Picture: The Pan-Grave culture in Northeast Africa

To close this study, it is worth stepping back even further to briefly consider the Pan-Grave culture and its place in the social landscape of northeast Africa during the mid Second Millennium BC. To do this, theoretical models can be employed to investigate how the Pan-Grave tradition fits with other cultures active in the region at that time. Two models are especially relevant for the Pan-Grave culture – the culture group, and the technocomplex. These models were devised by Clarke in the late 1960s, but still hold relevance for the Pan-Grave culture.

12.5.1 The Pan-Grave as part of a culture group

A culture group, as defined by Clarke, is a group of loosely related cultures sharing a range of specific artefact types.[872] Although Clarke's theory is not new, the "culture group" label could easily apply to the Pan-Grave culture and the Jebel Mokram Group and, in so doing, the two cultures would then be viewed as contemporary members of the same cultural entity. Indeed it has already been suggested that the two cultures share a common ancestor, which explains their striking similarities. Clarke's theory of the culture group also offers a mechanism for the generation of new cultural entities, whereby the expansion of a culture leads to divergence and regional isolation of populations within that group. This isolation then leads to differing developmental trajectories that result in the formation of new intra-cultural entities.[873] In this way, the divergence of populations simultaneously leads to the 'death' of the original, larger culture group and the 'birth' of new cultural entities. These new entities can then go on to form culture groups in their own right, which in turn can spawn new cultural entities, and so on.[874]

[872] CLARKE 1968, pp. 298-327.
[873] CLARKE 1968, pp. 318-324.
[874] CLARKE 1968, pp. 321-323.

This model corresponds closely to that proposed above for the development of the Pan-Grave culture and Jebel Mokram Group. The current author postulates that both originated from a larger cultural entity, which was forced to disperse by environmental factors. This led to diverging developmental trajectories resulting in the birth of two 'new' groups, one based in the river valley, the other in the desert. The various Pan-Grave groups in the Nile Valley then took their own developmental trajectories that varied depending on impacting social and environmental factors. The longer they stayed in Egyptian territory, the more their own cultural identity was altered to suit their new environment. At the same time, the Jebel Mokram Group followed its own developmental path in the desert, parallel to the Pan-Grave culture. All the while, the two groups retained key elements of their original group, which serve as evidence for their shared cultural heritage.

12.5.2 The Pan-Grave as part of a technocomplex

Taking a step even further back, the Pan-Grave culture may be seen as a member of a larger *technocomplex* encompassing the riverine *and* desert-based groups active during the period. A technocomplex can be defined as "huge, loosely interconnected systems of culture groups, cultural assemblages, and artefact-types".[875] Applying this concept provides a means by which to connect the Pan-Grave culture to the C-Group, Kerma, Jebel Mokram, Jebel Moya, and all other cultural entities that were present and active across Egypt and Sudan during the second millennium BC. It may even be valid to look for their origins in earlier members of this larger group, such as the Gash Group, the A-Group culture, and the Butana Group. This model can be linked back to Williams' observation that the Pan-Grave pottery at el Widay represents evidence for the influence of the "Pan-Grave *complex*" that he claims extends from Middle Egypt to the Ethiopian Plateau.[876]

All of the cultures active in this region share much in common. They all produce black-topped pottery and pottery with incised and/or impressed decoration. For the most part, all buried their dead in circular graves marked with tumuli of some description. Animal symbolism plays an important role in most of these groups, in particular the burial of skulls or whole sacrificial animals in or around graves. All of these customs and practices are expressed differently by each group, but their relatedness unites them all under an over-arching cultural entity - the technocomplex. In this way, the Pan-Grave culture can be understood as a member of a larger and more complex social and cultural network, in which all groups impacted upon each other in different ways, at different times, at different places. The development of the Pan-Grave

[875] CLARKE 1968, p. 339.
[876] EMBERLING, WILLIAMS 2010, p. 35 (emphasis added).

culture and the material expression of its identity therefore cannot be viewed in isolation as a single, immutable entity. Instead, the Pan-Grave culture should be approached as a single member of an extensive multi-cultural network that reached across a broad geographical and chronological expanse, and whose material expression was governed by it social, historical, and geographic context.

12.6 Concluding remarks

After more than a century, the Pan-Grave culture remains something of an enigma. Their origins and their eventual fate, how and where they lived, how they ended up in Egypt, how they connected with other peoples and cultures - all of these questions and more remain virtually unanswered.

In particular, the role of the Pan-Grave people in Egypt remains a vexed question, namely how far they can be connected to the Medjay, and whether or not they undertook military service for the Theban rulers. If they did, they arguably would have played a significant role in creating the story of Egypt as we know it today. The question of their origins, their connection with the Eastern Desert, and their eventual 'disappearance' has been addressed throughout this study, but these topics warrant deeper investigation. Current research continues to explore these debates, with strong arguments both for and against a Medjay and Eastern Desert connection. On-going excavations across Egypt and Sudan also continue to reveal new archaeological evidence relating to these and other questions, and these new discoveries will go on to elucidate our understanding of these mysterious people.

Renewed investigations of the connection between the Pan-Grave culture and its Nubian contemporaries, in particular the C-Group and Kerma cultures, should also be encouraged. The cultures were all clearly connected geographically, socially, and culturally, but the exact nature of these connections remains unclear. A deeper analysis of how these three cultural groups did or did not interact with one another will further integrate the Pan-Grave people into the broader picture of northeast African history and archaeology. Extending this analysis to the south will also further connect the Pan-Grave culture with other contemporary desert cultures active across northeast Africa.

Although they may have been a small culture with no cities or towns nor any discernable homeland, the Pan-Grave people hold an important position in the history and archaeology of the Second Intermediate Period, bridging the gap between Egypt and Nubia, and the Nile Valley and the surrounding deserts. Many of their sites are now lost under water or farmland,

and although they cannot tell us who they were in their own words, the Pan-Grave people can still speak to us through the objects they left behind, many of which are gathering dust in museum storerooms. Studies such as this ceramics-focussed analysis demonstrate the wealth of new information that can be gained from revisiting and reinterpreting old data in the light of new evidence. It is hoped that this study and others like it will encourage further work that will lead to a better understanding of the Pan-Grave people and, by extension, of the world in which they existed.

Bibliography

ADAMS, W.Y. – NORDSTRÖM, H-Å.
1963 "The Archaeological Survey on the West Bank of the Nile: Third Season, 1961-62", *Kush 11* (1963) 10-46.

ADDISON, F.
1949 *Jebel Moya*, Oxford University Press (Oxford, 1949).

ANDREAU, G.
1982 "Polizei", in W. Helck and E. Otto (eds.) *Lexikon der Ägyptologie*, Harrasowitz (Wiesbaden, 1982) 1068-1071.

ARKELL, A.
1954 "Four Occupation Sites at Agordat", *Kush 2* (1954) 33-62.

ARNOLD, DE.
1985 *Ceramic Theory and Cultural Process*, Cambridge University Press (Cambridge, 1985).

ARNOLD, DI. – ARNOLD, DO.
1979 *Der Temple Qasr el-Sagha*, Philipp von Zabern (Mainz am Rhein, 1979).

ARNOLD, DO. – ARNOLD, F. – ALLEN, S.
1995 "Canaanite Imports at Lisht, the Middle Kingdom Capital of Egypt", *Ägypten und Levante 5* (1995) 13-32.

ARNOLD, DO. – BOURRIAU, J.
1993 *An Introduction to Egyptian Pottery*, Philipp von Zabern (Mainz am Rhein, 1993).

ASTON, D.
1998 *Die Keramik des Grabungsplatzes QI. Teil 1. Corpus of Fabrics, Wares and Shapes*, Phillip von Zabern (Mainz am Rhein, 1998).
2012 "From the Deep South to the Far North: Nubian Sherds from Khatan'a and 'Ezbet Helmi (Tell el-Daba)", in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österreichischen Archäologischen Institut (Vienna, 2012) 159-180.
2013 "Mother's Best Tea Service – Pottery as diplomatic gifts in the Second Intermediate Period", in B. Bader and M. F. Ownby (eds.) *Functional Aspects of Egyptian Ceramics in their Archaeological Context. Proceedings of a conference held at the McDonald Institute for Archaeological Research, Cambridge, July 24th-July 25th, 2009*, Peeters (Leuven, 2013) 375-402.

ASTON, D. – BIETAK, M.
in press "Nubians in the Nile Delta: à propos Avaris and Peru-Nefer", in N. Spencer, A. Stevens, M. Binder (eds.), *Nubia in the New Kingdom. Lived Experience, Pharaonic Control and Indigenous Traditions*, Peeters (Leuven, in press) 10-34.

AYERS, N.
in press. "Pottery from the late Middle Kingdom through the Second Intermediate Period at Tell Edfu: The broader archaeological context of the Khayan sealings", in *The Hyksos King Khayan. New Insights on the Chronology of the 13th and 15th Dynasties. International Workshop held in Vienna, July 5-6, 2014*. Österreichischen Akademie der Wissenschaften (Vienna, in press).

AYERS, N. – MOELLER, N.
2012 "Nubian Pottery Traditions during the 2nd Millennium BC at Tell Edfu", in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 103-116.

AYRTON, E.R. – CURRELLY, C.T. – WEIGALL, E.P.
1904 *Abydos III*, Egypt Exploration Fund, Quaritch (London, 1904).

BAINES, J.
1996 "Contextualising Egyptian Representations of Society and Ethnicity", in J.S. Cooper and G. M. Schwartz (eds.) *The Study of the Ancient Near East in the Twenty-First Century*, Eisenbrauns (Winona Lake, 1996) 339-384.

BANGSGAARD, P.
2013 "Pan-Grave faunal practices – Ritual deposits at five cemeteries in Lower Nubia", *Anthropozoologica 48:2* (2013) 287-297.
2014 "Nubian Faunal Practices – Exploring the C-Group "Pastoral Ideal" at Nine Cemeteries", in J. Anderson and D. Welsby (eds.) *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 347-355.

BARGUET, P.
1952 "Quelques tombes du massif nord de la nécropole de Tôd", *Bulletin de l'Institut Français d'Archéologie Orientale 50* (1952) 17-31.

BARNARD, H.
2009a "The Identification of the Ancient Pastoral Nomads on the North-Western Red Sea Littoral", in L. Blue et al (eds.) *Connected Hinterlands. Proceedings of Red Sea Project IV. Held at the University of Southampton, September 2008,* Archaeopress (Oxford, 2009) 19-28.
2009b "The Archaeology of Pastoral Nomads between the Nile and the Red Sea" in J. Szuchman (ed.) *Nomads, Tribes, and the State in the Ancient Near East: Cross-Disciplinary Perspectives*, The Oriental Institute (Chicago, 2009) 15-42.

BELADOS, A. – HAALAND, R. – MAGID, A.
2007 "New Perspectives on the Agordat Material, Eritrea: A re-examination of the archaeological material in the National Museum, Khartoum", *Nyame Akuma 68* (2007) 4-11.

BIETAK, M.
1966 *Ausgrabungen in Sayala-Nubien 1961-1965. Denkmäler der C-Gruppe und der Pan-Gräber-Kultur*, Österrichischen Archäologischen Institut (Vienna, 1966).

1968 *Studien zur Chronologie der nubischen C-Gruppe. Ein Beitrag zur Frühgeschichte Unternubiens zwischen 2200 und 1550 vor Chr.,* Österrichischen Archäologischen Institut (Vienna, 1968).

1982 "Pfannengräber", in W. Helck and E. Otto (eds.) *Lexikon der Ägyptologie*, Harrasowitz (Wiesbaden, 1982) 999-1004.

1987 "The C-Group and the Pan Grave Culture in Nubia", in T. Hägg (ed.) *Nubian Culture Past and Present. Main papers presented at the Sixth International Conference for Nubian Studies in Uppsala, 11-16 August, 1986,* Almqvist & Wiksell (Stockholm, 1987) 113-128.

BOBROWSKI, P. – JÓRDECZKA, M. – KOBUSIEWICZ, M. – CHLODNICKI, M. – KUSIAK, J.

2013 "What forced the Prehistoric cattle-keepers to emigrate from the Red Sea Mountains?", *Studia Quaternaria 30.2* (2013) 135-142.

BOURRIAU, J.

1981 "Nubians in Egypt during the Second Intermediate Period: An interpretation based on the Egyptian ceramic evidence", in D. Arnold (ed.) *Studien zur altägyptischen Keramik*, Philipp von Zabern (Mainz am Rhein, 1981) 25-41.

1990 "The Pottery", in P. Lacovara (ed.) *Deir el-Ballas. Preliminary Report on the Deir el-Ballas Expedition, 1980-1986,* American Research Center in Egypt (Winona Lake, 1990) 15-22.

1991 "Relations between Egypt and Kerma during the Middle and New Kingdoms", in V. Davies (ed.) *Egypt and Africa. Nubia from Prehistory to Islam,* British Museum Press (London, 1991) 129-144.

1999 "Some Archaeological Notes on the Kamose Texts" in A. Leahy, J. Tait (eds.) *Studies on Ancient Egypt in Honour of H.S. Smith*, Egypt Exploration Society (London, 1999) 43-48.

2009 "Mace's Cemetery Y at Diospolis Parva" in D. Magee, J. Bourriau, and S. Quirke (eds.) *Sitting Beside Lepsius. Studies in Honour of Jaromir Malek at the Griffith Institute*, Peeters (Leuven, 2009) 39-98.

2010a *The Survey of Memphis IV. Kom Rabia: The New Kingdom Pottery*, Egypt Exploration Society (London, 2010).

2010b "The Relative Chronology of the Second Intermediate Period: Problems in linking regional archaeological sequences", in M. Marée (ed.) *The Second Intermediate Period (Thirteenth – Seventeenth Dynasties). Current Research, Future Prospects*, Peeters (Leuven, 2010) 11-38.

2012 "Nubian Pottery from Memphis, Kom Rabia', in I. Forstner-Müller and P. Rose (ed.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 149-158.

BOURRIAU, J. – GIULIANI, S.

2016 "Nubian Pottery" in J. Bourriau and C. Gallorini (eds.) *Survey of Memphis VIII. Kom Rabia: The Middle Kingdom and Second Intermediate Period Pottery*, Egypt Exploration Society (London, 2016) 239-242.

BRANDT, S. – MANZO, A. – PERLINGIERI, C.

2008 "Linking the Highlands to the Lowlands: Implications of a test excavation at Kokan rock shelter, Agordat, Eritrea", in P. Schmidt, M. Curtis and Z. Teka (eds) *The Archaeology of Ancient Eritrea*, Trenton (Asmara, 2008) 33-48.

BRUNTON, G.
1927 *Qau and Badari I*, Quaritch (London, 1927).
1930 *Qau and Badari III*, Quaritch (London, 1930).
1937 *Mostagedda and the Tasian Culture*, Quaritch (London, 1937).

BUDKA, J.
2006 "The Oriental Institute Ahmose and Tetisheri Project at Abydos 2002-2004: The New Kingdom pottery", *Ägypten und Levante 16* (2006) 83-120.

CASTIGLIONI, AL. – CASTIGLIONI, AN. – BONNET, C.
2010 "The gold mines of the Kingdom of Kerma", in W. Godlewski, A. Lajtar (eds.) *Between the Cataracts. Proceedings of the 11th Conference for Nubian Studies, Warsaw university, 27 August - 2 September 2006*, Warsaw University Press (Warsaw, 2010) 263-270.

CASTIGLIONI, AL. – CASTIGLIONI, AN. – VERCOUTTER, J.
1998 *Das Goldland der Pharaonen. Die Entdeckung von Berenike Pancrisia*, Philipp von Zabern (Mainz am Rhein, 1998).

CLARKE, D. L.
1968 *Analytical Archaeology*, 2nd edition, Methuen & Co. (London, 1968).

COHEN, E.S.
1992 *Egyptianization and the Acculturation Hypothesis: An investigation of the Pan-Grave, Kerman, and C-Group material cultures in Egypt and the Sudan during the Second Intermediate Period and Eighteenth Dynasty*, PhD Dissertation, Yale University (1992).

COLLARD, M. – SHENNAN, S.
2000 "Processes of Culture Change in Prehistory: a Case Study from the European Neolithic", in C. Renfrew, K. Boyle (eds.) *Archaeogenetics: DNA and the population prehistory of Europe*, McDonald Institute for Archaeological Research, (Cambridge, 2000) 89-97.

COLLARD, M. – SHENNAN, S. – TEHRANI, J.
2006 "Branching, blending, and the evolution of cultural similarities and differences among human populations", *Evolution and Human Behavior 27* (2006) 169-184.

COOPER, J.
2015 *Toponomy on the Periphery: Placeneames of the Eastern Desert, Red Sea, and South Sinai in Egyptian documents from the Early Dynastic to the end of the New Kingdom*, PhD Dissertation, Macquarie University (2015).

COWARD, F. – SHENNAN, S. – COLLEDGE, S. – CONNOLLY, J. – COLLARD, M.
2008 "The spread of Neolithic plant economies from the Near East to northwest Europe: a phylogenetic analysis", *Journal of Archaeological Science 35* (2008) 42-56.

CROWFOOT, J.W.
1928 "Some Potsherds from Kassala", *Journal of Egyptian Archaeology 14:1/2* (1928) 112-116.

DAVID, N. – KRAMER, C.
2001 *Ethnoarchaeology in Action*, Cambridge University Press (Cambridge, 2001).

DE SOUZA, A.
2013 "The Egyptianisation of the Pan Grave Culture: A new look at an old idea", *Bulletin of the Australian Centre for Egyptology 24* (2013) 109-126.
In press "The 'End' of an Era: a review of the phasing system for the late C-Group and Pan Grave Cultures", Proceedings of The 13th International Conference for Nubian Studies, University of Neuchatel, 1-6 September, 2014 (in press).
In prep. "Paint it Black. Egyptian and Nubian black-top techniques of the late Second Intermediate Period and early Eighteenth Dynasty", in *Cahiers de la Céramique Égyptienne*, Institut Français d'Archéologie l'Orientale (Cairo, in prep.)

EDWARDS, D.
2004 *The Nubian Past*, Routledge (Abingdon, 2004).

EDWARDS, W.I. – HOPE, C.A. – SEGNIT, E.R.
1987 *Ceramics from the Dakhleh Oasis. Preliminary Studies*, Victoria College Press (Burwood, 1987).

EHGARTNER, W. – JUNGWIRTH, J.
1966 "Anthropologische Angaben über die Skelette der C-Gruppen und Pan-Gräber aus dem Bezirk Sayala, Ägyptisch-Nubien", in M. Bietak (ed.) *Ausgrabungen in Sayala-Nubien 1961-1965. Denkmäler der C-Gruppe und der Pan-Gräber-Kultur*, Österrichischen Archäologischen Institut (Vienna, 1966), 83-88.

EMBERLING, G. – WILLIAMS, B.
2010 "The Kingdom of Kush in the 4th Cataract: Archaeological Salvage of the Oriental Institute Nubian Expedition 2007 Season. Part I. Preliminary Report on the Sites of Hosh el-Guruf and El-Widay", *Gdansk Archaeological Museum African Reports 7* (2010) 17-38.

EMBERLING, G. ET AL.
2014 "Peripheral Vision: Identity at the margins of the Early Kingdom of Kush", in J. Anderson and D. Welsby (ed.) *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 328-336.

EMERY, W.B. – KIRWAN, L.P.
1935 *The Excavations and Survey between Wadi es-Sebua and Adindan, 1929-1931*, Government Press (Cairo, 1935).

FATTOVICH, R.
1990 "The Peopling of the Northern Ethiopian-Sudanese Borderland between 7000 and 1000 BP: A Preliminary Model", in O. Scholz, C.D.G. Müller (eds.), *Nubica I/II*, Verlag Jürgen Dinter (Köln, 1990) 3-45.
1991 "At the Periphery of the Empire: The Gash Delta (Eastern Sudan)" in V. Davies (ed.) *Egypt and Africa. Nubian from Prehistory to Islam*, British Museum Press (London 1991) 40-48.
2012 "Egypt's Trade with Punt", *British Museum Studies in Ancient Egypt and Sudan 18* (2012) 1-59.

FATTOVICH, R. – MARKS, A.E. – MOHAMMED-ALI, A.
1984 "The Archaeology of the Eastern Sahel, Sudan: preliminary results", *The African Archaeology Review 2* (1984) 173-188.

FATTOVICH, R. – SADR, K. – VITAGLIANO, S.
1988/89 "Society and Territory in the Gash Delta (Kassala, Eastern Sudan), 3000 BC – AD 300/400", *Origini 14* (1988/89) 329-357.

FIRTH, C.M.
1912 *The Archaeological Survey of Nubia. Report for 1908-1909,* Government Press (Cairo, 1912).
1915 *The Archaeological Survey of Nubia. Report for 1909-1910,* Government Press (Cairo 1915).
1927 *The Archaeological Survey of Nubia. Report for 1910-1911,* Government Press (Cairo, 1927).

FORSTNER-MÜLLER, I.
2012 "Nubian Pottery in Aswan", in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 59-82.

FORSTNER-MÜLLER, I. – ROSE, P.
2012 "Nubian Pottery at Avaris in the Second Intermediate Period and the New Kingdom: Some remarks", in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 181-212.

FORSTNER-MÜLLER, I. – ROSE, P.(EDS.)
2012 *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012)

FRIEDMAN, R.F.
2001a "Nubians at Hierakonpolis. Excavations in the Nubian Cemeteries", *Sudan & Nubia 5* (2001) 29-38.
2001b "Excavating in the Nubian Cemeteries", *Nekhen News 13* (2001) 22-25.
2004 "The Nubian Cemetery at Hierakonpolis, Egypt. Results of the 2003 Season. Excavation of the C-Group Cemetery at HK27C", *Sudan & Nubia 8* (2004) 47-52

FUSCALDO, P.
2002 "The Nubian Pottery from the Palace District of Avaris at 'Ezbet Helmi, Areas H/III and H/VI. Part I: The 'Classic' Kerma Pottery from the 18th Dynasty", *Ägypten und Levante 12* (2002) 168-186.
2004 "The Nubian Pottery from the Palace District of Avaris at 'Ezbet Helmi, Areas H/III and H/VI. Part II: The 'Classic' Kerma Pottery from the Second Intermediate Period and the 18th Dynasty", *Ägypten und Levante 14* (2004) 111-119.
2008 "The Nubian Pottery from the Palace District of Avaris at 'Ezbet Helmi, Areas H/III and H/VI. Part III: The 'Classic' Kerma Pottery from the Second Intermediate Period and the 18th Dynasty", *Ägypten und Levante 18* (2008) 107-127.

GAIT, J.P.
2011 *The A-Group/C-Group Transition in Lower Nubia (Egypt and Sudan): a review of the pottery evidence*, PhD Dissertation, University of Liverpool (2011).

GALLORINI, C. – GIULIANI, S.
2012 "Egyptian Pottery from the Pan-Grave Cemetery at Nag el-Qarmila, Aswan", in R. Schiestl, A. Seiler (eds.) *Handbook of the Pottery of the Egyptian Middle Kingdom* (vol. 2), Österreichischen Akademie der Wissenschaften (Vienna, 2012) 321-328.

GATTO, M.C.
2011 "The Nubian Pastoral Culture as a Link between Egypt and Africa: A View from the Archaeological Record", in K. Exell (ed.) *Egypt in its African Context. Proceedings of the conference held at the Manchester Museum, University of Manchester, 2-4 October 2009*, Archaeopress (Oxford 2009) 21-29.
2014 "Peripatetic Nomads along the Nile: Unfolding the Nubian Pan-Grave Culture of the Second Intermediate Period", *Journal of Ancient Egyptian Interconnections 6.1* (2014) 11-28.

GATTO, M. – GIULIANI, S.
2006 "Nubians in Upper Egypt: Results of the survey in the Aswan-Kom Ombo Region (2005-2006)", *Cahier de Recherches de l'Institut de Paryrologie et d'Egyptologi*e *26* (2006) 1-11.

GATTO, M.C. ET AL.
2009 "Archaeological Investigation in the Aswan - Kom Ombo Region (2007-2008)", *Mitteilungen des Deutschen Archäologisches Instituts Abteilung Kairo 65*,(2009) 9-48.

GATTO, M. – CURCI, A. – URCIA, A.
2014 "Nubian Evidence in the Egyptian First Nome: Results of the 2013-2014 field seasons of the Aswan - Kom Ombo Archaeological Project (AKAP)", *Journal of Ancient Egyptian Interconnections 6:4* (2014) 38-41.

GATTO, M.C. – GALLORINI, C. – ROMA, S.
2012 'Pan-Grave Pottery from Nag el-Qarmila and Sheikh Mohamed Cemeteries in Gharb Aswan', in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 83-102.

GERHARZ, R.
1994 *Jebel Moya*, Akademie Verlag (Berlin, 1994).

GIDDY, L.
2012 *The Survey of Memphis VI. Kom Rabi'a: the late Middle Kingdom (Levels VI-VIII)*, Egypt Exploration Society (London, 2012).

GIULIANI, S.
2001a "Pottery from the Nubian Cemeteries", *Sudan & Nubia 5* (2001) 40-45.
2001b "Pottery from the Nubian Cemeteries", *Nekhen News 13* (2001) 26-28.
2004 "The Nubian Cemetery at Hierakonpolis, Egypt. Results of the 2003 Season. Preliminary remarks on the pottery corpus from the C-Group cemetery HK27C", *Sudan & Nubia 8* (2004) 52-55.
2006a "Defining Pan Grave Pottery", in K. Kroeper, M. Chłodnicki & M. Kobusiewicz (eds.) *Archaeology of Early Northeastern Africa: in memory of Lech Krzyzaniak*, Poznan Archaeological Museum (Poznan, 2006) 647-658.

2006b "Nubian Evidence at Hierakonpolis", in I. Caneva & A. Roccati (eds.) *Acta Nubica: Proceedings of the X International Conference Of Nubian Studies, Rome, 9-14 September 2002*, Istituto Poligrafico e Zecca dello Stato (Rome, 2006) 223-227.
2013 "C-Group and Pan-Grave between Aswan and Kom Ombo", in D. Raue, S.J. Seidlmayer, and P. Speiser (eds.) *The First Cataract of the Nile. One Region - Diverse Perspectives*, De Gruyter (Berlin, 2013) 67-75.

GRATIEN, B.
1978 *Les cultures Kerma. Essai de classification,* Publication de l'Université de Lille (Lille, 1978).
1985 "Le village fortifié du groupe C à Ouadi es-Seboua Est, typologie de la céramique", *Cahier de Recherches de l'Institut de Paryrologie et d'Egyptologie 7* (1985) 39-70.
1986 *Saï I. La necropole Kerma,* Editions du Centre National de la Recherche Scientifique (Paris, 1986).
2000 "Les pots de cuisson nubiens et les bols décorés de la première moitié di IIe millénaire avant J.-C. Problèmes d'identification", *Cahiers de la Céramique Égyptienne 6* (2000) 113-148.

GRILLO, K.M.
2012 *The Materiality of Mobile Pastoralism: Ethnoarchaeological Perspectives from Samburu, Kenya*, PhD Dissertation, Washington University in St. Louis (2012).

HAFSAAS, H.
2006 *Cattle Pastoralists in a Multicultural Setting. The C-Group People in Lower Nubia 2500-1500 BCE*, Birzeit University (Ramallah, 2006).
2006/7 "Pots and People in an Anthropological Perspective. The C-Group People of Lower Nubia as a case study", B. Gratien (ed.) *Mélanges offerts à Francis Geus, CRIPEL 26,* Université Charles de-Gaulle (Lille, 2006-2007) 163-171.

HALL, H.T.B.
1962 "Archaeological Survey on the West Bank of the Nile: A Note on the Cattle Skulls Excavated at Faras", *Kush 10* (1962) 58-61.

HODDER, I.
1982 *Symbols in Action. Ethnoarchaeological studies of material culture*, Cambridge University Press (Cambridge, 1982).

HOFFMANN, I.
1969 "Beitrag zur Herkunft der Pfannengräber Leute" in W. Voigt (ed.) *Zeitschrift der Deutschen Morgenländischen Gesellschaft: Supplementa I: XVII. Deutscher Orientalistentag,* Franz Steiner Verlag GMBH (Wiesbaden, 1969) 1113-1135.

HOOD, A.G.E. & VALENTINE, J.L.
2012 "The Application of Cladistics to Early Dynastic Egyptian Ceramics: Applying a New Method", in C.M. Knoblauch and J.C. Gill (eds.) *Egyptology in Australia and New Zealand 2009. Proceedings of the Conference held in Melbourne, September 4th-6th,* Archaeopress (Oxford, 2012) 47-59.

IRISH, J.
2004 "Physical Anthropological Study of the HK27C C-Group Sample", *Sudan & Nubia 8* (2004) 56-59.

JACQUET-GORDON, H.
2012 *Karnak-Nord X. Le Trésor de Thoutmosis Ier. La céramique*, 2 vols., Institut Français d'Archéologique Orientale (Cairo, 2012).

JONES, S.
1997 *The Archaeology of Ethnicity. Constructing identities in the past and present,* Routledge (London, 1997).

JUNKER, H.
1919 *Bericht über die Grabungen der Akademie der Wissenschaften in Wien auf den Friedhöfen von el-Kubanieh-Süd, Winter 1910-1911*, Alfred Hölder (Vienna, 1920).
1920 *Bericht über die Grabungen der Akademie der Wissenschaften in Wien auf den Friedhöfen von el-Kubanieh-Nord, Winter 1910-1911*, Alfred Hölder (Vienna, 1920).

KEIMER, L.
1948 *Remarques sur le Tatouage dans l'Egypte Ancienne,* Institut Français d'Archéologie Orientale (Cairo, 1948).

KEMP, B.
1977 "An Incised Sherd from Kahun, Egypt", *Journal of Near Eastern Studies 36*.4 (1977) 289-292.

KENDALL, T.
1999 "The Origin of the Napatan State: El Kurru and the Evidence for the Royal Ancestors", in S. Wenig (ed.) *Studien zum antiken Sudan. Akten der 7. Internationalen Tagung für meroitische Forschungen vom 14. bis 19. September 1992 in Gosen/bei Berlin. Meroitica 15,* Harrasowitz (Wiesbaden, 1999) 3-117.

KLIMASZEWSKA-DRABOT, D.
2005 'Neolithic To Napatan Pottery From Uli Island. Preliminary Report', *Polish Archaeology in the Mediterranean. Reports XVI,* University of Warsaw (Warsaw, 2005) 357-368.

KÖHLER, E. C.
2005 *Helwan I. Excavations in the Early Dynastic Cemetery. Season 1997-1998,* Heidelberger Orientverlag (Heidelberg, 2005).

LAL, B. B.
1969 "Indian Archaeological Expedition to Nubia, 1962. A Preliminary Report", *Fouilles en Nubie (1961-1963),* (1969) 97-118.

LECLANT, J.
1974 'Fouilles et travaux en Égypte at au Soudan, 1972-1973', *Orientalia 43* (1974) 171-227.

LISZKA, K.
2012 *"We have come to serve Pharaoh:" A study of the Medjay and Pangrave as an ethnic group and as mercenaries from c. 2300 BCE until c. 1050 BCE',* PhD Dissertation, University of Pennsylvania (2012).
2015 "Are the Bearers of the Pan-Grave Archaeological Culture Identical to the Medjay-People in the Egyptian Textual Record?", *Journal of Ancient Egyptian Interconnections 7.2* (2015) 42-60.

LISZKA, K. – DE SOUZA, A.
in prep. "The Pan Grave and The Medjay: Reconciling archaeology and history", in G. Emberling & B. Williams (eds.), *The Oxford Handbook of Nubian Archaeology*. Oxford University Press (Oxford, in prep.).

MACIVER, D. R. – WOOLLEY, C. L.
1909 *Areika. Eckley B. Coxe Junior Expedition to Nubia: vol. 1*, Oxford University Press (Oxford, 1909).

MANASSA, C.
2009 "Preliminary Report for the 2008-2009 Season of the Mo'alla Survey Project", *JARCE 45* (2009) 57-77.
2012a "Nubians in the Third Upper Egyptian Nome: A view from Moalla", in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 117-128.
2012b "Middle Nubian Ceramics from Umm Mawagir, Kharga Oasis", in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 129-148.

MANZO, A.
1996 "Social Complexity and Cultural Contacts in Northeastern Africa between 3000 and 1000 BC: a provisional model", in L. Krzyzaniak, K. Kroeper and M. Kobusiewicz (eds.) *Interregional Contacts in the Later Prehistory of Northeast Africa*, Poznan Archaeological Museum (Poznan, 1996) 15-27.
2008 "Exotic Ceramic Materials from Mersa Gawasis, Red Sea, Egypt" in W. Goldewski and A. Lajtar (eds.) *Between the Cataracts. Proceedings of the Eleventh International Conference of Nubian Studies (Warsaw, 27 August-2 September 2006*, Warsaw University Press (Warsaw, 2008) 439-453.
2012a "Typological, Chronological and Functional Remarks on the Ceramic Materials of Nubian Type from the Middle Kingdom Harbour of Mersa/Wadi Gawasis, Red Sea, Egypt" in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österreichischen Archäologischen Institut (Vienna, 2012) 213-232.
2012b "From the sea to the deserts and back: New research in Eastern Sudan", *British Museum Studies in Ancient Egypt and Sudan 18* (2012) 75-106.
2013 "The Italian Archaeological Expedition to the Eastern Sudan of the Università Degli Studi Di Napoli, "L'Orienatale". An Overview of the 2012 Field Season", *Newsletter di Archeologia CISA 4* (2013) 253-271.
2014a "Preliminary Report of the 2013 Field Season of the Italian Archaeological Expedition to the Eastern Sudan of the Università Degli Studi di Napoli "L'Orientale"", *Newsletter di Archeologia CISA 5* (2014) 375-412.
2014b "Beyond the Fourth Cataract. Perspectives for research in Eastern Sudan", in J. Anderson and D. Welsby (eds.) *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 1149-1157.
2015 Italian Archaeological Expedition to the Eastern Sudan of the Università Degli Studi Di Napoli "L'Orientale". Preliminary Report of the 2014 Field Season, *Newsletter di Archeologia CISA 6* (2015) 231-240.

MANZO, A. – COPPA, A. – BELADOS ALEHO, A. – ZOPPI, V.
2011 *Italian Archaeological Expedition to the Sudan of the University of Naples "L'Orientale": 2010 Field Season*, Università degli studi di Napoli "L'Orientale" (Naples, 2011).

MANZO, A. – BELADOS ALEHO, A. – CARANNATE, A. – USAI, D. – ZOPPI, V.
2012 *Italian Archaeological Expedition to the Sudan of the University of Naples "L'Orientale": Report of the 2011 Field Season*, Università degli studi di Napoli "L'Orientale" (Naples, 2012).

MARCHAND, S.
2012 "Dendara", in R. Schiestl, A. Seiler (eds.) *Handbook of the Pottery of the Egyptian Middle Kingdom* (vol. 2) Österreichischen Akademie der Wissenschaften (Vienna, 2012) 273-297.

MARCHAND, S. – SOUKIASSIAN, G.
2010 *Balat VIII. Un habitat de la XIIIe dynastie – 2e période intermédiaire à Ayn Asil*, Institut Français d'Archéologie Orientale (Cairo, 2010).

MARCHAND, S. – LAISNEY, D.
2000 "Le Survey de Dendara (1996-1997)", *Cahiers de la Céramique Égyptienne 6* (2000) 261-298.

MARKS, A.
1991 "Relationships between the Central Nile Valley and the Eastern Sudan in Later Prehistory", in V. Davies (ed.) *Egypt and Africa. Nubian from Prehistory to Islam*, British Museum Press (London, 1991) 30-39.

MEURER, G.
1996 *Nubier in Ägypten bis zum Beginn des neuen Reiches. Zur Bedeutung der Stele Berlin 14753*, Achet Verlag (Berlin, 1996).

MOELLER, N. – MAROUARD, G. – AYERS, N.
2011 Discussion of Late Middle Kingdom and Early Second Intermediate Period History and Chronology in Relation to the Khayan Sealings from Tell Edfu, *Ägypten und Levante 21* (2011) 87-122.

MYERS, O.
no date *A Pan Grave Cemetery (1900) at Armant*, unpublished manuscript.

NÄSER, C.
2012 "Nomads at the Nile: Towards an archaeology of interaction", in H. Barnard and K. Duistermaat (eds.) *The History of the Peoples of the Eastern Desert,* Cotsen Institute of Archaeology, University of California (Los Angeles, 2012) 80-89.
2013 "Die C-Gruppe. Unternubien im 3. und 2. Jahrtausend v. Chr.", in S. Wenig, K. Zibelius-Chen (eds.) *Die Kulturen Nubiens – eine afrikanisches Vermachtnis*, J.H. Röll (Dettelbach, 2013) 105-120.

NEFF, H.
1996 "Ceramics and Evolution", in M.J. O'Brien (ed.) *Evolutionary Archaeology. Theory and Application.* University of Utah Press (Salt Lake City, 1996) 244-269.

NORDSTRÖM, H.Å.
1962 "Archaeological Survey on the West Bank of the Nile: Excavations and survey between Faras, Argin and Gezira Dabarosa", *Kush 10* (1962) 34-58.
1972 *Neolithic and A-Group Sites*, Scandinavian University Books (Stockholm, 1972).
2014 *The West Bank Survey from Faras to Gemai 1. Sites of Early Nubian, Middle Nubian and Pharaonic Age*, Sudan Archaeological Research Society (London, 2014).

O'BRIEN, M.J. – DARWENT, J. – LYMAN, L.
2001 "Cladistics is Useful for Reconstructing Archaeological Phylogenies: Palaeoindian points from the Southeast United States", *Journal of Archaeological Science 28* (2001) 1115-1136.

O'BRIEN, M.J. – LYMAN R.L.
2002 "Evolutionary Archaeology: Current status and future prospects", *Evolutionary Anthropology 11* (2002) 26-36.
2003 *Cladistics and Archaeology*, University of Utah Press (Salt Lake City, 2003).

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

PANER, H.
2014 "Kerma in the Fourth Cataract of the Nile", in J. Anderson and D. Welsby (eds.) *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 53-79.

PATCH, D.C.
1991 *The origin and early development of urbanism in ancient Egypt: A regional study*, PhD Dissertation, University of Pennsylvania (1991).

PEET, T.E.
1913 *The Cemeteries of Abydos Part III. 1912-1913,* Egypt Exploration Fund (London 1913).
1914 *The Cemeteries of Abydos Part II. 1911-1912*, Egypt Exploration Fund (London, 1914).

PETRIE, W.M.F.
1901 *Diospolis Parva. The Cemeteries of Abadiyeh and Hu, 1898-9*, Quaritch (London, 1901).
1907 *Gizeh and Rifeh*, Quaritch (London, 1907)
1909 *Qurneh*, Quaritch (London, 1907)
1910 *Diospolis Parva. The Cemeteries of Abadiyeh and Hu, 1898-9*, Quaritch (London, 1901).

PRIVATI, B.
2004 "Kerma: classification céramiques de la nécropole", in T. Kendall (ed.) *Nubian Studies 1998. Proceedings of the ninth conference of the International Society of Nubian Studies. August 21-26 1998. Boston, Massachusetts*, Northeastern University (Boston, 2004) 145-157.

RAUE, D.
2002 "Nubians on Elephantine", *Sudan & Nubia 6* (2002) 20-24.
2012 'Medja vs. Kerma at the First Cataract – Terminological Problems', in I. Forstner-Müller and P. Rose (eds.) *Nubian Pottery from Egyptian Cultural Contexts of the Middle and Early New Kingdom. Proceedings of a Workshop held at the Austrian Archaeological Institute at Cairo, 1-12 December 2010,* Österrichischen Archäologischen Institut (Vienna, 2012) 49-58.

In prep. *Elephantine und Nubien vom 4. – 2. Jt. v. Chr.*, Habilitationschrift an der Fakultät für Geschichts-, Kunst- und Orientwissenschaften an der Universität Leipzig, Mai 2014, to be published in Sonderschriften des Deutschen Archäologischen Instituts Abt. Kairo (in prep.).

REISNER, G.
1910 *The Archaeological Survey of Nubia. Report for 1907-1908,* National Printing Department (Cairo, 1910).

RYHOLT, K.
1997 *The Political Situation in Egypt during the Second Intermediate Period, c. 1800-1550 BC*, Museum Tusculanum Press (Copenhagen, 1997).

RZEUSKA, T.
2010 "Zigzag, Triangle and Fish Fin. On the Relations of Egypt and C-Group during the Middle Kingdom", in W. Godlewski and A. Lajtar (eds) *'Between the Cataracts' Part two: Session Papers, Fascicle 2,* Polish Archaeology in the Mediterranean Supplement Series volume 2, Part 2.2, Warsaw University Press (Warsaw, 2010) 397-419.

SADR, K.
1987 "The Territorial Expanse of the Pan-Grave Culture", *Archéologie du Nil Moyen 2* (1987) 265-291.
1988 "Settlement Patterns and Land Use in the Late Prehistoric Southern Atbai, East Central Sudan", *Journal of Field Archaeology 15.4* (Winter 1988) 381-401.
1990 "The Medjay in the Southern Atbai", *Archéologie du Nil Moyen 4* (1990) 63-86.
1991 *The Development of Nomadism in Ancient Northeast Africa*, University of Pennsylvania Press (Philadelphia, 1991).

SADR, K. – CASTIGLIONI, AL. – CASTIGLIONI, AN.
1995 "Nubian Desert Archaeology : a Preliminary View", *Archéologie du Nil Moyen 7* (1995) 203-235.
2004 "The Archaeological Sequence in the Nubian Desert: CeRDO's Expeditions 1989-1994", *Neueste Feldforshungen im Sudan und in Eritrea: Akten des Symposiums vom 13. bis 14. Oktober 1999 in Berlin*, Harassowitz (Wiesbaden, 2004) 191-204.

SANDERS, M.
2001 "Adornment, Circa 1700 BC", *Nekhen News 13* (2001) 25-26.

SÄVE-SÖDERBERGH, T.
1941 *Ägypten und Nubien. Ein Beitrag zur Geschichte Altägyptischer Aussenpolitik*, Håkan Ohlssons Boktryckeri (Lund, 1941)
1962 "Preliminary Report of the Scandinavian Joint Expedition. Archaeological Survey between Faras and Gamai, January-March 1961", *Kush X* (1962) 76-105.
1963 "Preliminary Report of the Scandinavian Joint Expedition. Archaeological Investigations between Faras and Gamai, November 1961-March 1962", *Kush XI* (1963) 47-69.
1989 *Middle Nubian Sites*, Paul Åström Editions (Partille, 1989).

SCHIESTL, R. – SEILER, A.
2012 *Handbook of the Pottery of the Egyptian Middle Kingdom*, Österreichischen Akademie der Wissenschaften (Vienna, 2012).

SCHNEIDER, T.
2003 *Ausländer in Ägypten während des Mittleren Reiches und der Hyksoszeit. Teil 2: Die ausländische Bevölkerung*, Harrassowitz (Wiesbaden, 2003).

SEILER, A.
2005 *Tradition & Wandel. Die Keramik als Spiegel der Kulturentwicklung Thebens in der Zweiten Zwischenzeit*, Philipp von Zabern (Mainz am Rhein, 2005).
2010 "The Second Intermediate Period in Thebes: Regionalism in pottery development and its cultural implications", in M. Marée (ed.) *The Second Intermediate Period (Thirteenth – Seventeenth Dynasties). Current Research, Future Prospects*, Peeters (Leuven, 2010) 39-53.

SHEPARD, A. O.
1968 *Ceramics for the Archaeologist*, Carnegie Institution (Washington D.C., 1968).
SIMPSON, W. K.
1962 "Nubia: 1962 Excavations at Toshka and Arminna", *Expedition 4.4 (Summer 1962)* 37-46.

SLIWA, J.
1988 "Qasr es Sagha. Studies on the Middle Kingdom and Second Intermediate Period Settlements in 1979-1985", in *Fontes archaeologici Posnanienses; annles Musei Archaeologi Posnanienses 36*. Poznan Archaeological Museum (Poznan, 1988) 189-216.
1992 "The Middle Kingdom Settlement at Qasr el-Sagha, 1979-1988", *Studies in Ancient Art and Civilization 5* (1992) 19-38.

SMITH, H.S.
1962 *UNESCO's International Campaign to Save the Monuments of Nubia. Preliminary Reports of the Egypt Exploration Society's Nubian Survey*, Government Printing Office (Cairo, 1962).
1966 "The Nubian B-Group", *Kush 14* (1966) 69-124.

SMITH, S.T.
1995 *Askut in Nubia*. Keegan Paul International (London, 1995).

SMITH, S.T. – BUZON, M.
2014 "Colonial Entanglements: 'Egyptianization' in Egypt's Nubian Empire and the Nubian Dynasty", in J. Anderson and D. Welsby (eds.) *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 431-442.

SMITHER, P.C.
1945 "The Semnah Despatches", *JEA 31* (1945) 3-10.

SNAPE, S.
1986 "Mortuary Assemblages from Abydos", PhD Dissertation, University of Liverpool (1986).

STEFFENSEN, U.
2007 "The Ritual Use of Mortuary Pottery in Ancient Nubia. Some interpretational thoughts on the rituals and symbolism behind the mortuary ceramics of the Ancient Nubian C-Group", *ArchéoNil 17* (2007), 133-152.

STEINDORFF, G.
1935 *Aniba I*, J.J. Augustin (Gluckstadt and Hamburg, 1935).

STROUHAL, E.
1982 "Anthropological Analysis of the Pan-Grave Culture of Nubia and Egypt", in J. Jelinek (ed.) *Man and his Origins*, Anthropological Institute of Charles University (Prague, 1982) 321-326.

STROUHAL, E. – JUNGWIRTH, J.
1984 *Die anthropologische Untersuching der C-Gruppen und Pan-Gräber Skelette aus Sayala, Ägyptisch-Nubien*, Österreichischen Akademie der Wissenschaften (Vienna, 1984).

TEHRANI, J. – COLLARD, M.
2002 "Investigating cultural evolution through biological phylogenetic analyses of Turkmen textiles", *Journal of Anthropological Archaeology 21* (2002) 443-463.
2009 "On the relationship between interindividual cultural transmission and population-level cultural diversity: a case study of weaving in Iranian tribal populations", *Evolution and Human Behavior 30* (2009) 286-300.

TÖRÖK, L.
1999 "The Origin of the Napatan State: The Long Chronology of the El Kurru Cemetery", in S. Wenig (ed.) *Studien zum antiken Sudan. Akten der 7. Internationalen Tagung für meroitistische Forschungen vom 14. bis 19. September 1992 in Gosen/bei Berlin. Meroitica 15,* Harrasowitz (Wiesbaden, 1999) 149-159.

VAN PELT, W. P.
2013 "Revising Egypto-Nubian Relations in New Kingdom Lower Nubia: From Egyptianisation to Cultural Entanglement", *Cambridge Archaeological Journal 23.3* (2013) 523-550.

VERCOUTTER, J.
1966 "Le Cimetiére 'Kerma' de Mirgissa", in M.L. Bernhard (ed.) *Mélanges offerts à K. Michalowski*, Panstwowe Wydawnictwo Naukowe (Warsaw, 1966) 205-226.
1970 *Mirgissa I*. Librarie Orientaliste Paul Geuthner (Paris, 1970).

WAINWRIGHT, G.
1920 *Balabish*, George Allen & Unwin (London, 1920).

WEGNER, J.
2007 *The Mortuary Temple of Senwosret III at Abydos,* New Haven (Connecticut, 2007).

WEIGALL, A.E.P.
1907 *A Report on the Antiquities of Lower Nubia (The First Cataract to the Sudan Frontier) and their condition in 1906-7,* Oxford University Press (Oxford, 1907).
1910 *A Guide to Antiquities of Upper Egypt from Abydos to the Sudan Frontier*, The MacMillan Company (New York, 1910).

WELSBY, D.A.
2000 "The Amri-Kirbekan Survey 1999", *Sudan & Nubia 4* (2000) 51-57.
2001 *Life on the Desert Edge. Seven thousand years of settlement in the Northern Dongola Reach,* Archaeopress (Oxford, 2001).
2003 *Survey above the Fourth Nile Cataract*, Archaeopress (Oxford, 2003).

WELSBY-SJÖSTRÖM, I.
2001a "The Pottery from the Survey", in D.A. Welsby, *Life on the Desert Edge. Seven thousand years of settlement in the Northern Dongola Reach*, Archaeopress (Oxford, 2001) 230-348
2001b "Pottery from the Kerma Moyen graves at Site P37', in D.A. Welsby, *Life on the Desert Edge. Seven thousand years of settlement in the Northern Dongola Reach,* 2 vols., Archaeopress (Oxford, 2001) 349-354

WESCHENFELDER, P.
2014 "Linking the Eastern Desert and the Nile Valley: Pan-Grave people from the Late Middle Kingdom to the Early New Kingdom", in J. Anderson and D. Welsby (eds.) *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 357-366.

WIESSNER, P.
1983 "Style and Social Information in Kalahari San Projectile Points", *American Antiquity 48.2* (1983) 253-276.

WILLIAMS, B.
1975 *Archaeology and Historical Problems of the Second Intermediate Period*, PhD Thesis, The University of Chicago (1975).
1983 *C-Group, Pan Grave, and Kerma Remains at Adindan Cemetery T, K, U, and J,* The Oriental Institute of the University of Chicago (Chicago, 1983).
1993 *Excavations at Serra East. A-Group, C-Group, Pan Grave, New Kingdom, and X-Group Remains from Cemeteries A-G and Rock Shelters*, The Oriental Institute of the University of Chicago (Chicago, 1993).

WLODARSKA, M.
2014 "Kerma Burials in the Fourth Cataract Region – Three seasons of excavations at Shemkhiya", in J. Anderson and D. Welsby (eds)., *The Fourth Cataract and Beyond. Proceeding of the 12th International Conference for Nubian Studies,* Peeters (Leuven, 2014) 320-328.
2016 "Preliminary Report on the Excavations of the Kerma Horizon Cemeteries at Shemkhiya (2008/2009 Season)", *Gdansk Archaeological Museum African Reports 8* (2016) 99-105.

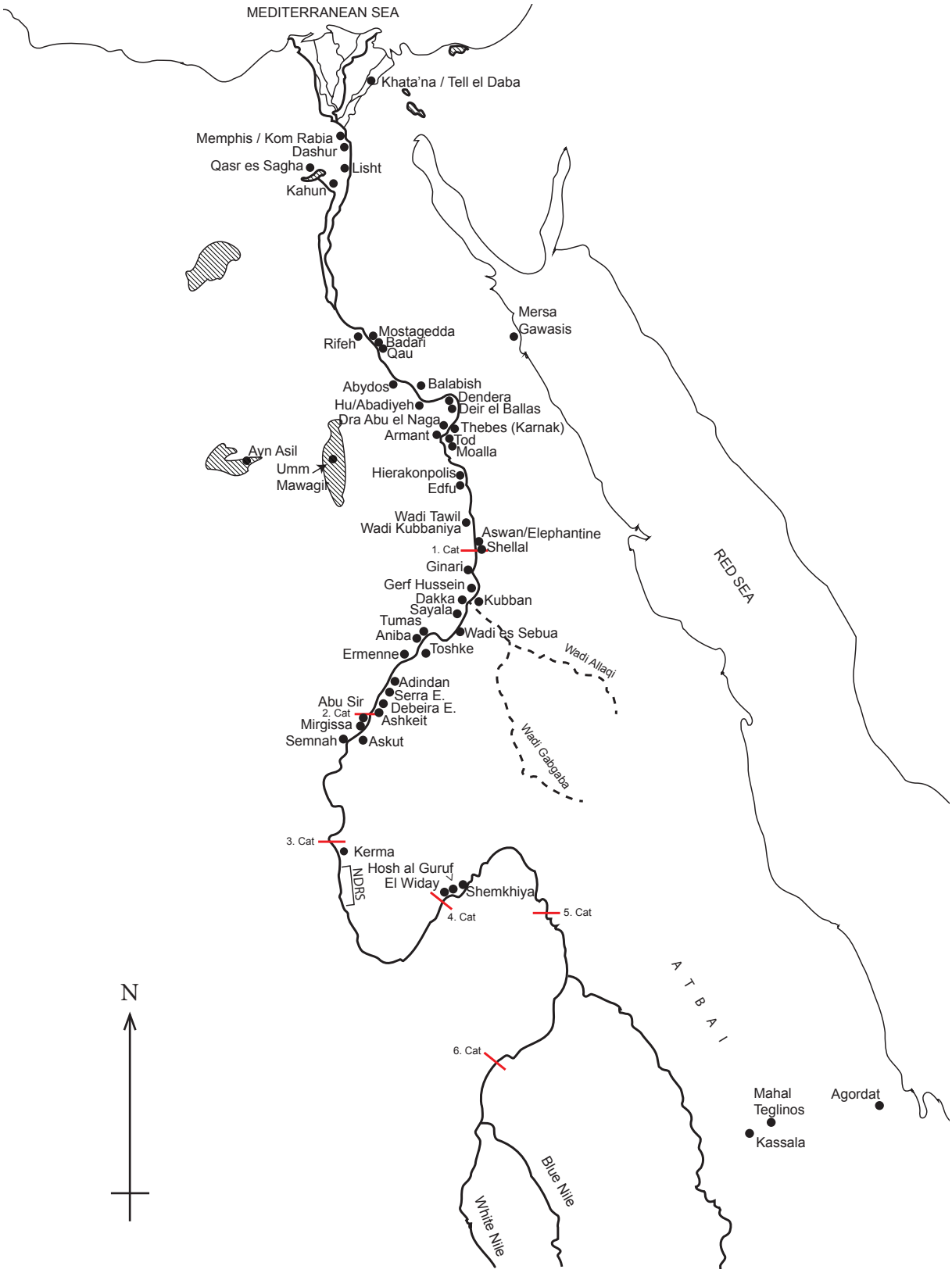
WLODARSKA, M. – ORZECHOWSKA, M.
2014 "Preliminary Report on the Excavations of the Kerma Horizon Cemeteries at Shemkhiya (2007/2008 Season)", *Gdansk Archaeological Museum African Reports 11* (2014) 113-118.

YAMAMOTO, K.
2009 *A Middle Kingdom Pottery Assemblage from North Abydos*, PhD Dissertation, University of Toronto (2009).

Plates and Appendices

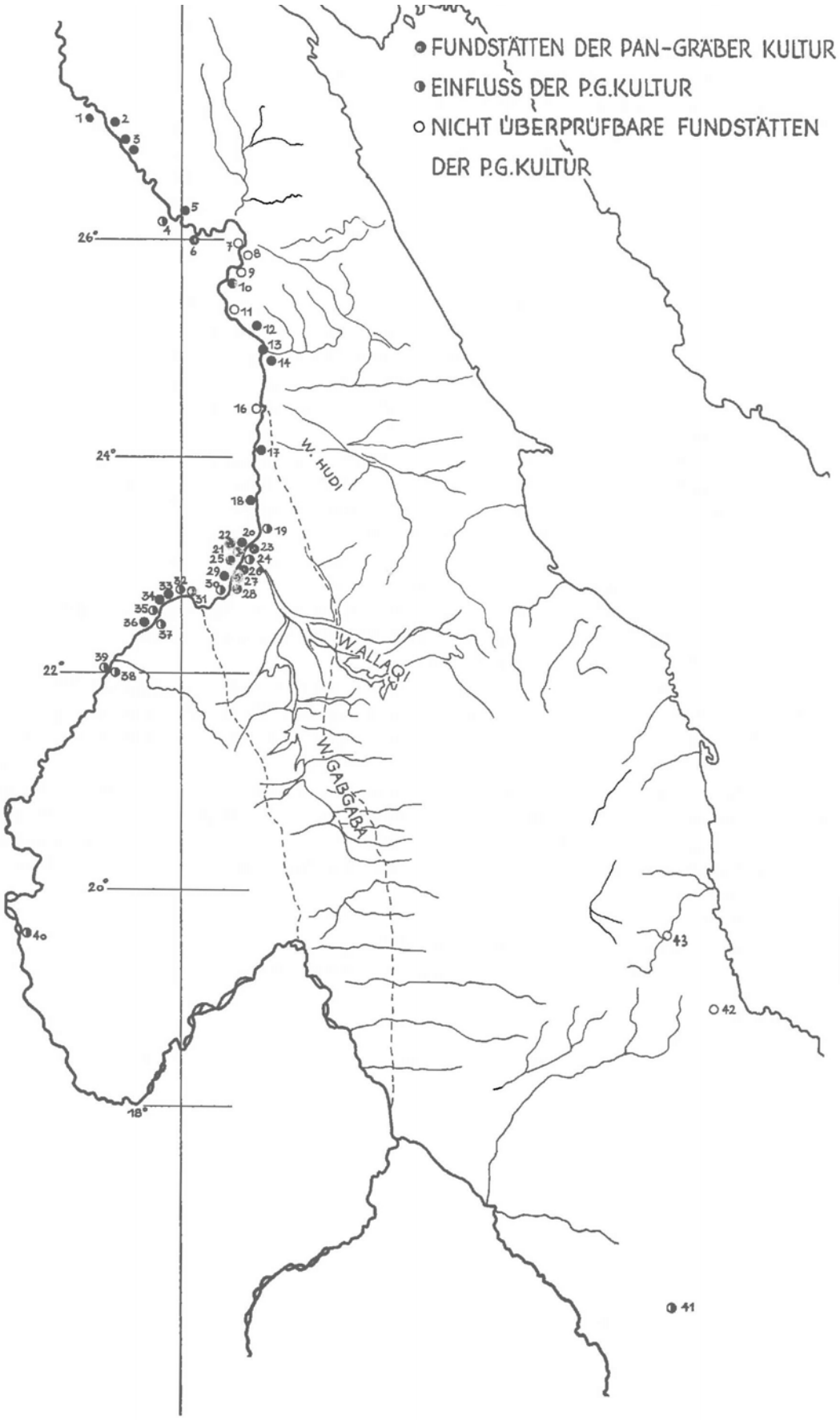
List of plates

All illustrations and photographs are by the current author, unless otherwise specified.
The scale of photographs and illustrations is as indicated on each plate.

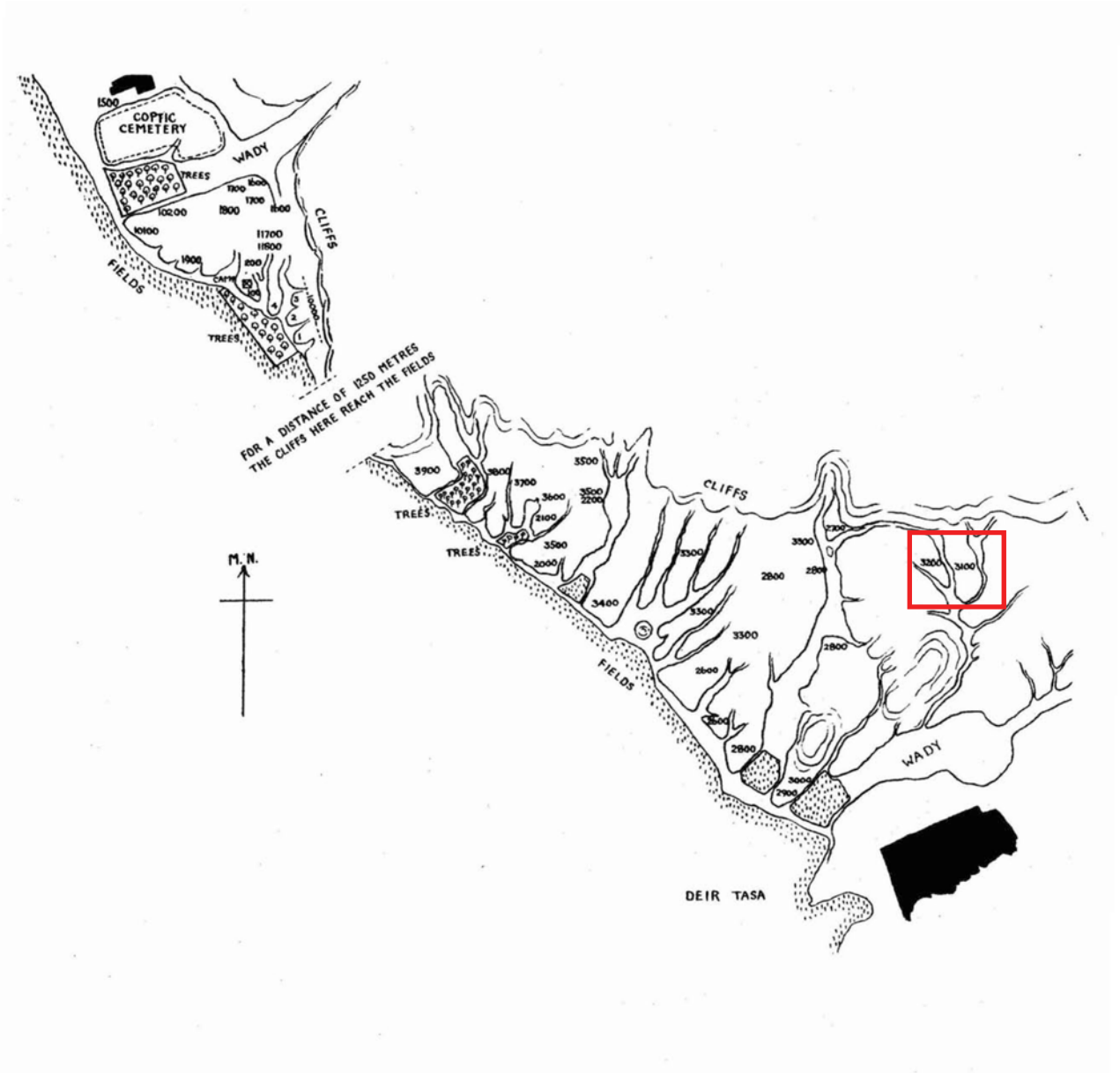


Map of Egypt and Nubia, showing sites referenced in the text. (Drawn by A. de Souza)

PLATE 2

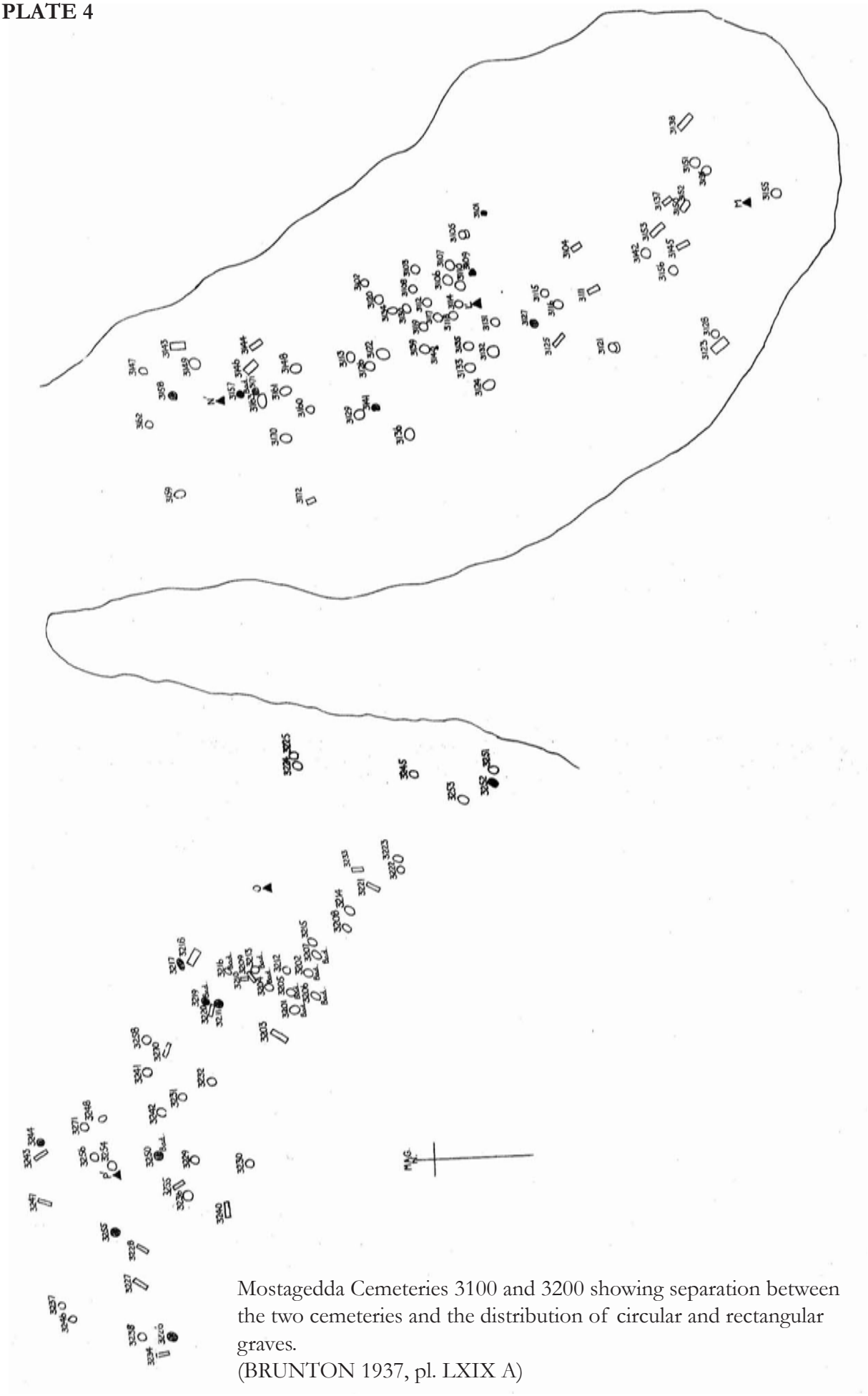


Distribution map compiled by Bietak showing Pan-Grave sites included in his study. Note the concentration of sites around the mouth of the Wadi Allaqi.
(BIETAK 1966, p. 66).

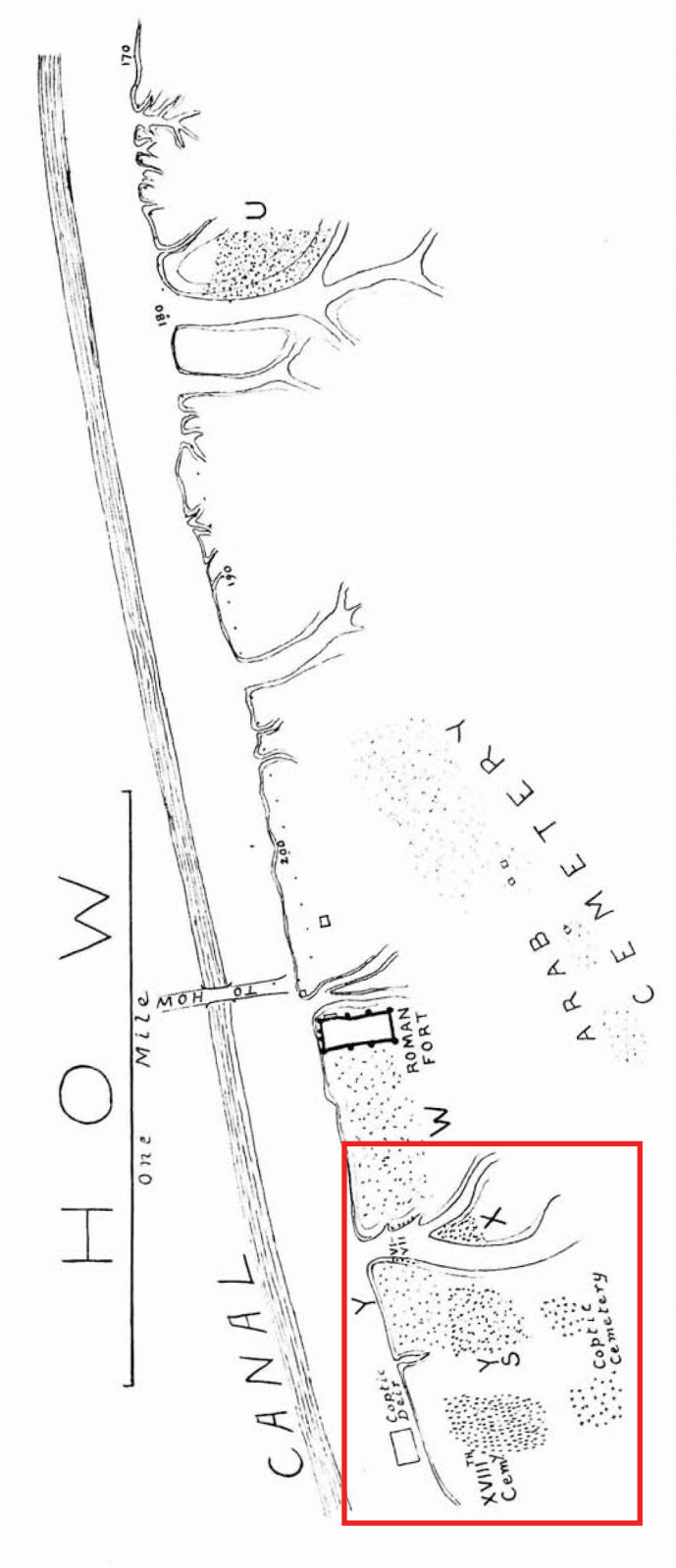


Mostagedda and surrounds. Pan-Grave cemeteries 3100 and 3200 are indicated by the red box. (BRUNTON 1937, Plan 2)

PLATE 4

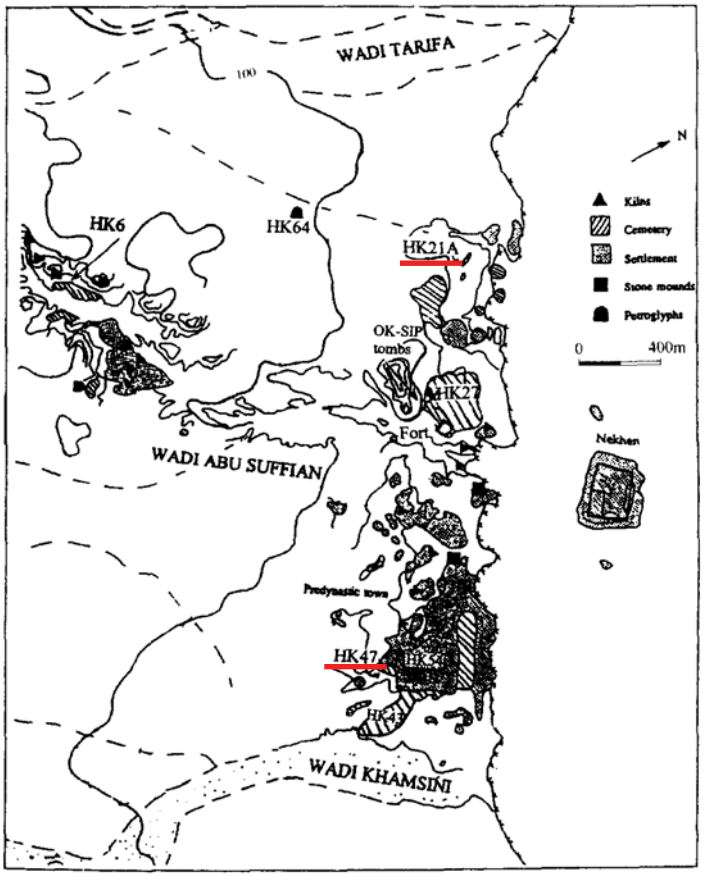


Mostagedda Cemeteries 3100 and 3200 showing separation between the two cemeteries and the distribution of circular and rectangular graves.
(BRUNTON 1937, pl. LXIX A)

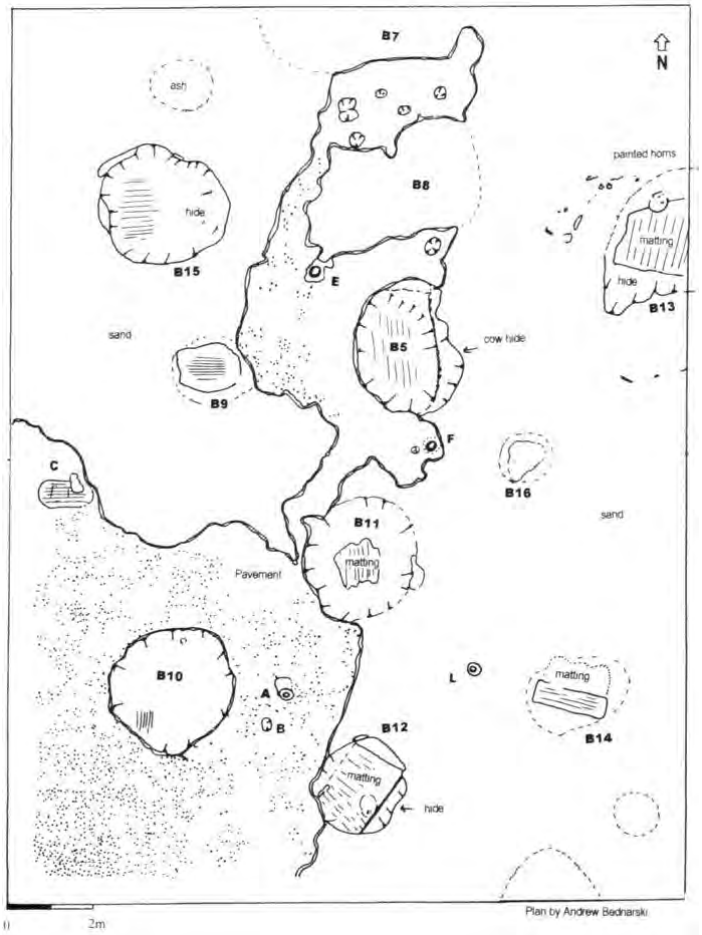


The cemeteies at Hu. The locations of Pan Grave Cemeteries X and Y/YS are indicated by the red box. Note the proximity of Cemetery Y/YS to the 18th Dynasty area.
(PETRIE 1901, pl. 1)

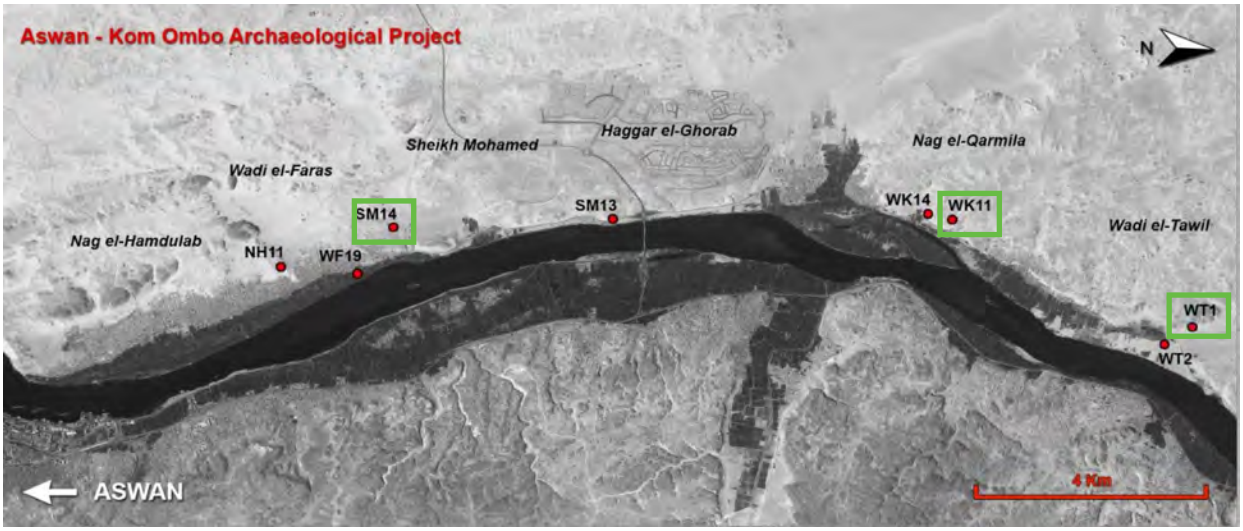
PLATE 6



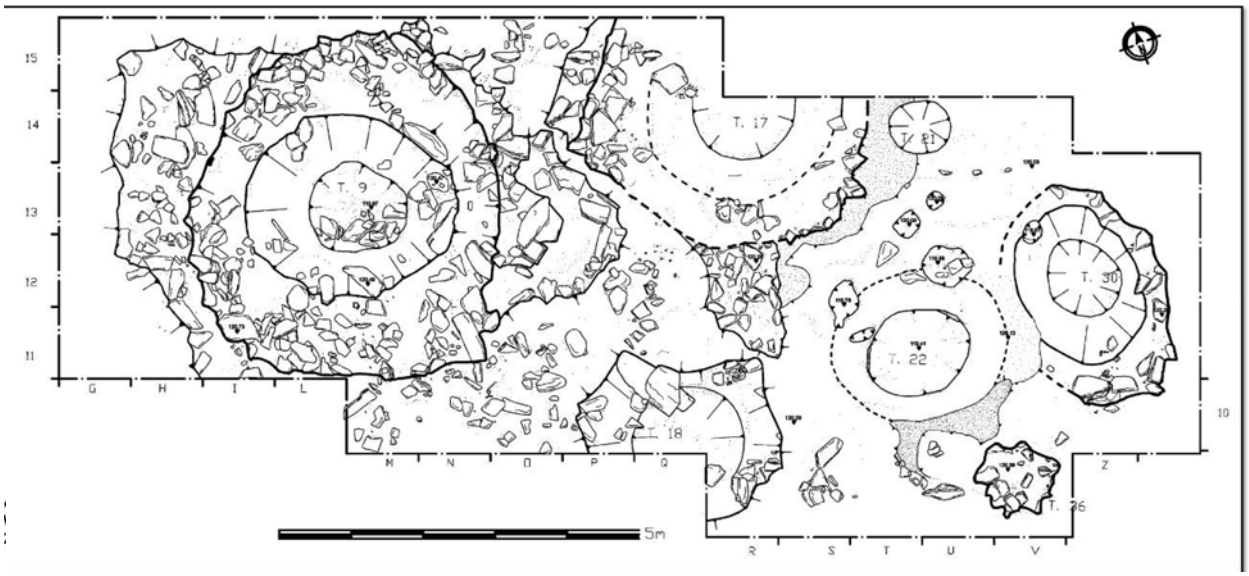
(a)
The Hierakonpolis concession showing the relative locations of HK21A and HK47.
(FRIEDMAN 2001a, p. 29)



(a)
Map of test excavations conducted at HK47, showing the mud pavement, circular grave depressions, and offering places.
(FRIEDMAN 2001a, p. 34)

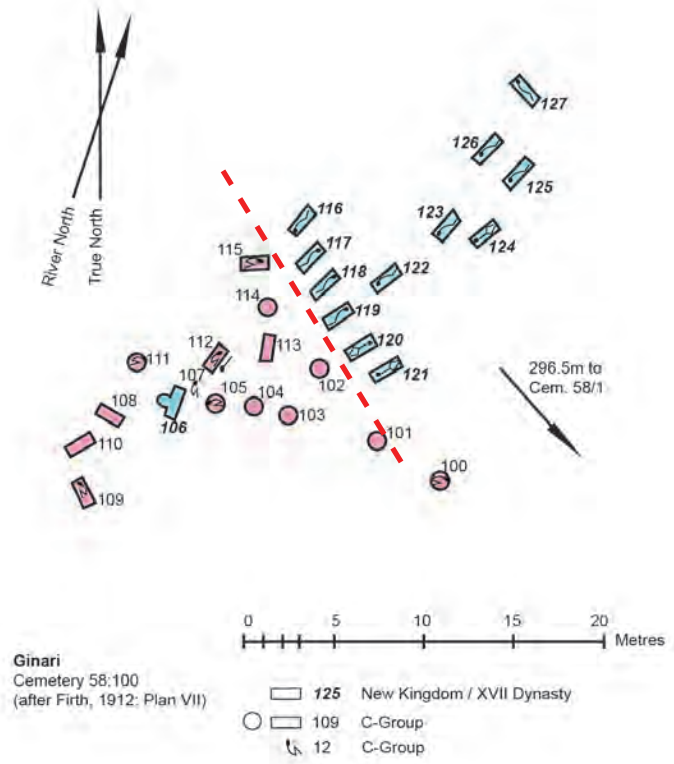


(a)
The AKAP Concession. Sites WK11, SM 14 and WT1 are marked with green squares.
(GATTO 2014, p. 11)

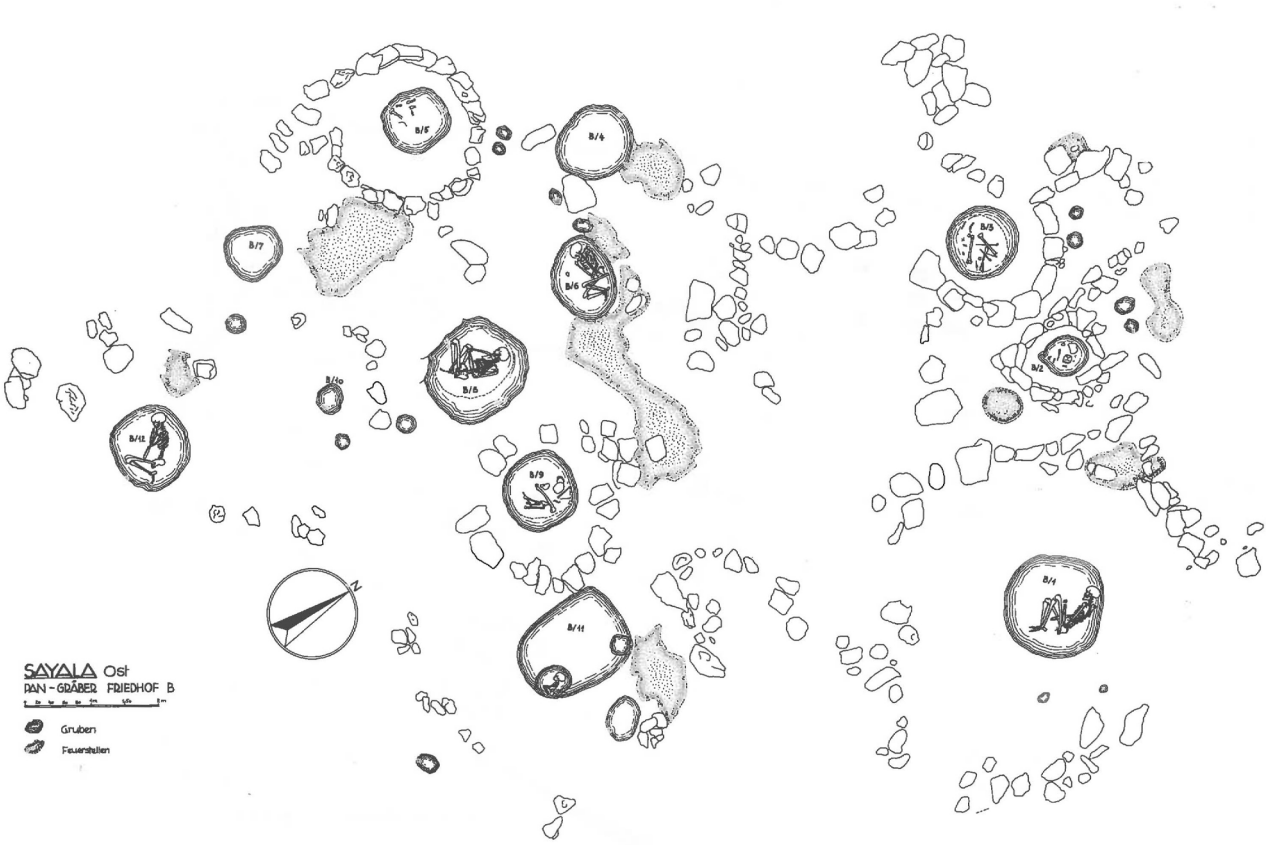


(b)
Map of test excavation area at WK11. Note the circular grave structures and rings of stone.
(GATTO 2014, p. 12)

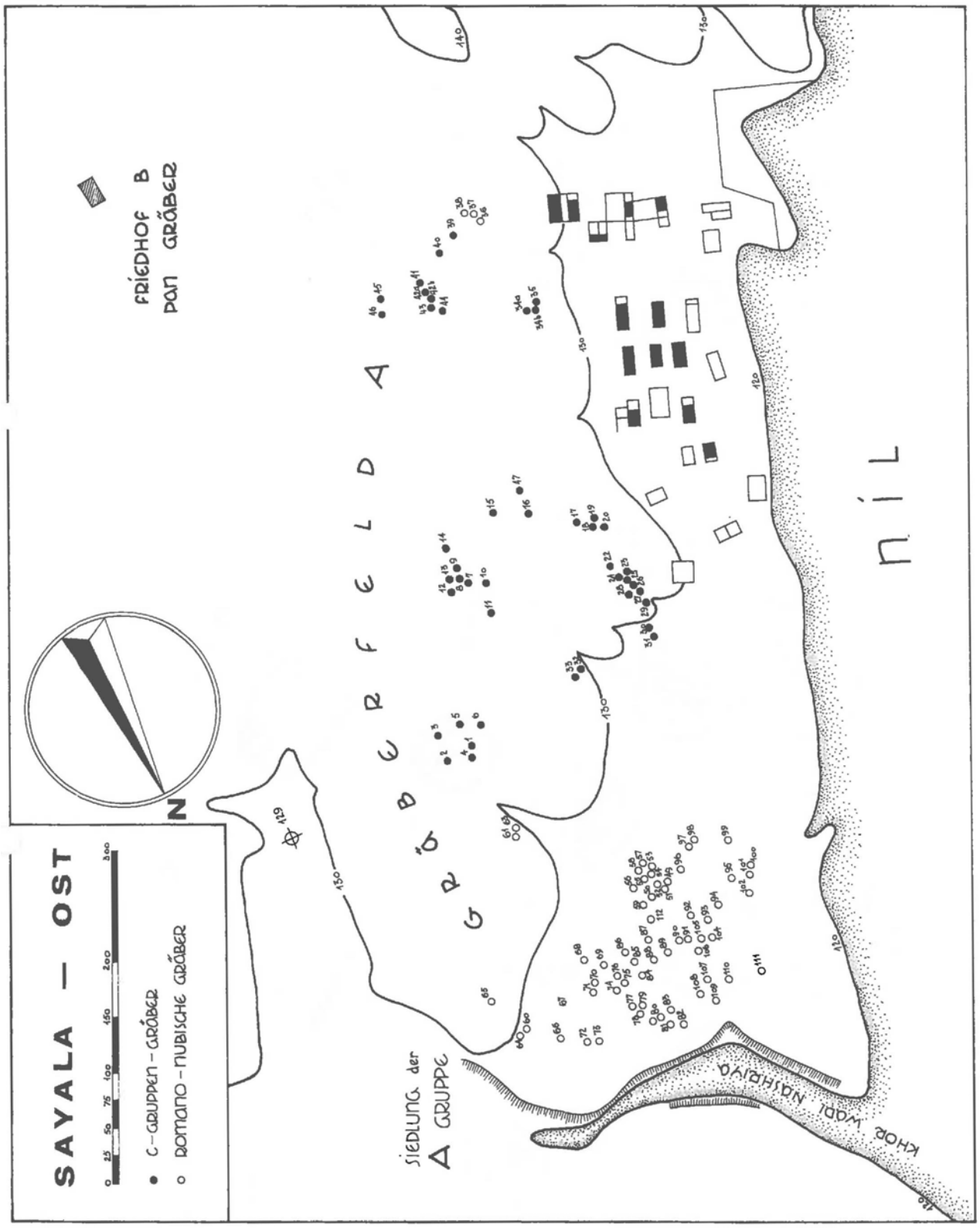
PLATE 8



(a)
Ginari Cemetery 58:100. Nubian graves are marked in pink, Egyptian graves are marked in blue. The red dashed line indicates the possible division between the two cemetery populations.
(Drawn by A. de Souza after FIRTH 1912, pl. VII)

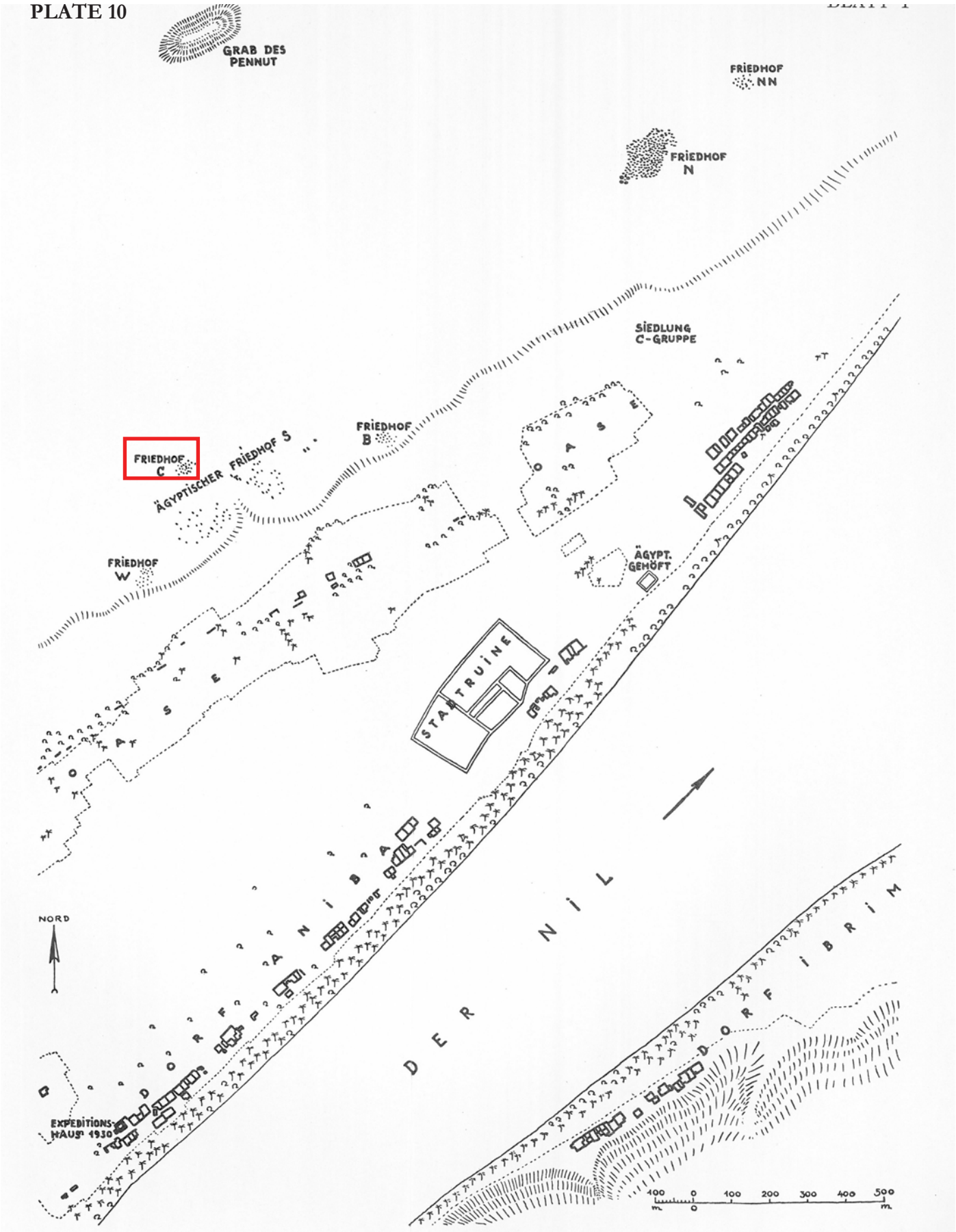


(b)
Sayala Cemetery B. Notice the circular grave structures and rings of stone around each grave.
(BIETAK 1966, pl. 19)

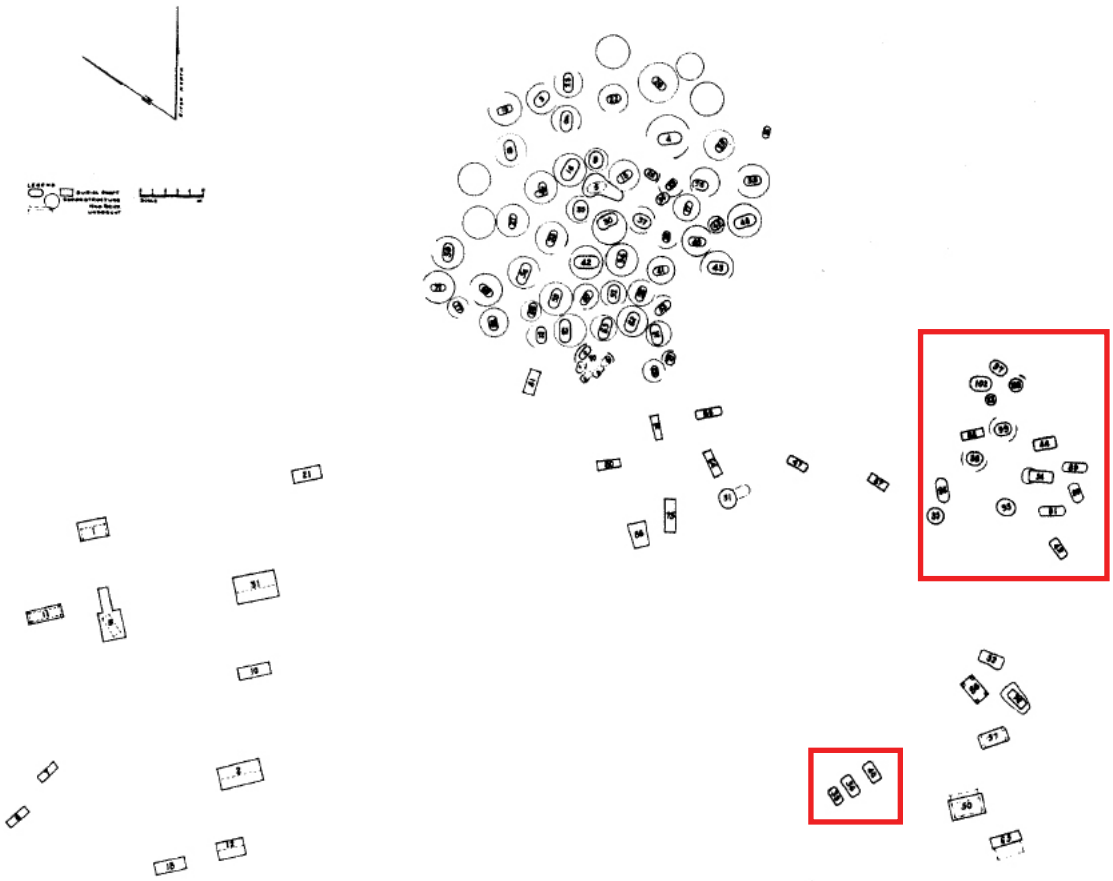


Sayala East showing isolated location of Pan Grave Cemetery B.
(BIETAK 1966, pl. 19)

PLATE 10



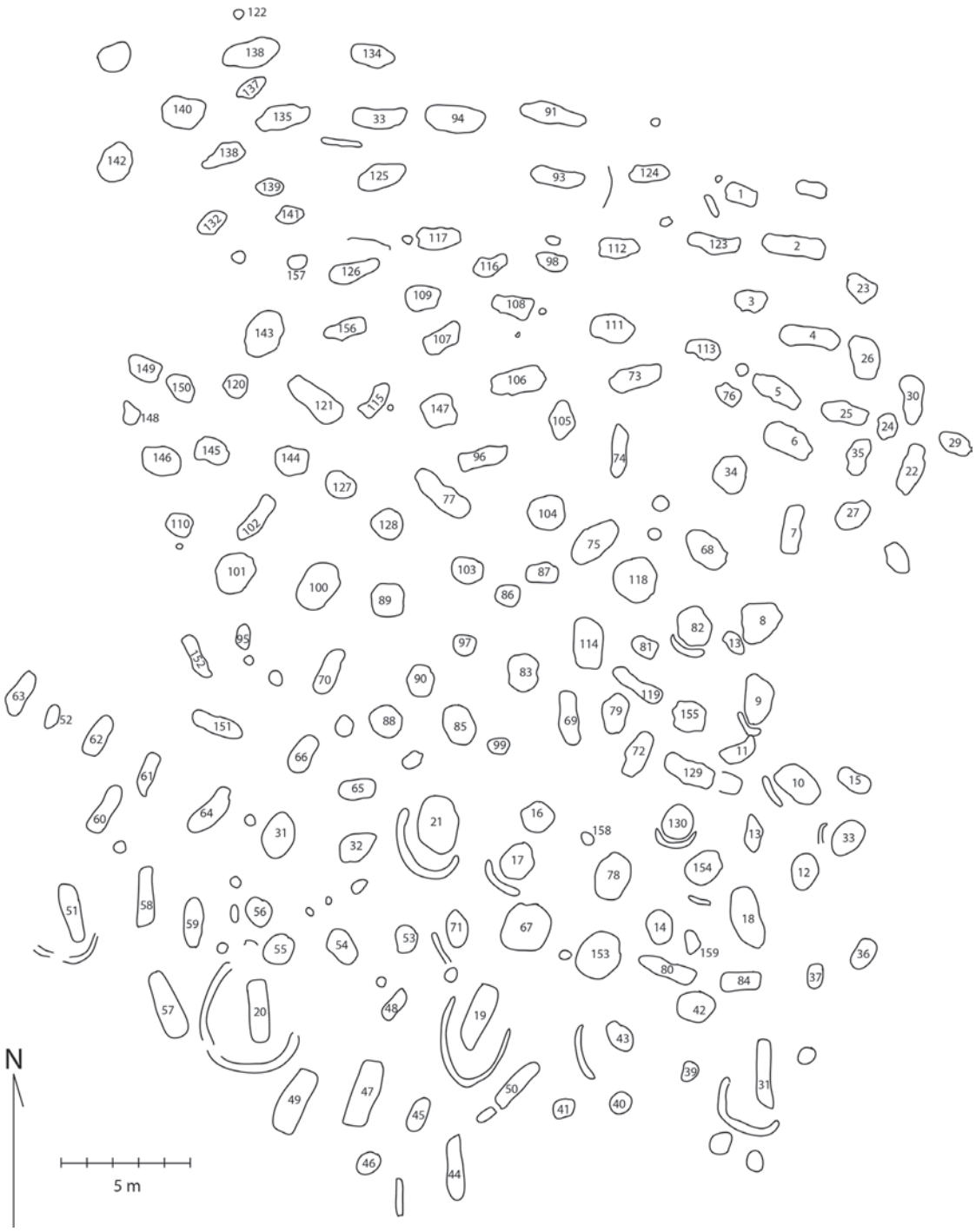
Aniba.
The small Pan Grave Cemetery C is indicated by a red square. Notice the proximity to the Egyptian Cemetery S and also the distance from the C-Group Cemetery N (top right).
(STEINDORFF 1935, Map 1)



Adindan Cemetery K.
Clusters of Pan Grave burials are indicated by red squares. Note the distance bteween these groups and the larger cluster of C-Group graves (centre).
(WILLIAMS 1983, pl. 3)

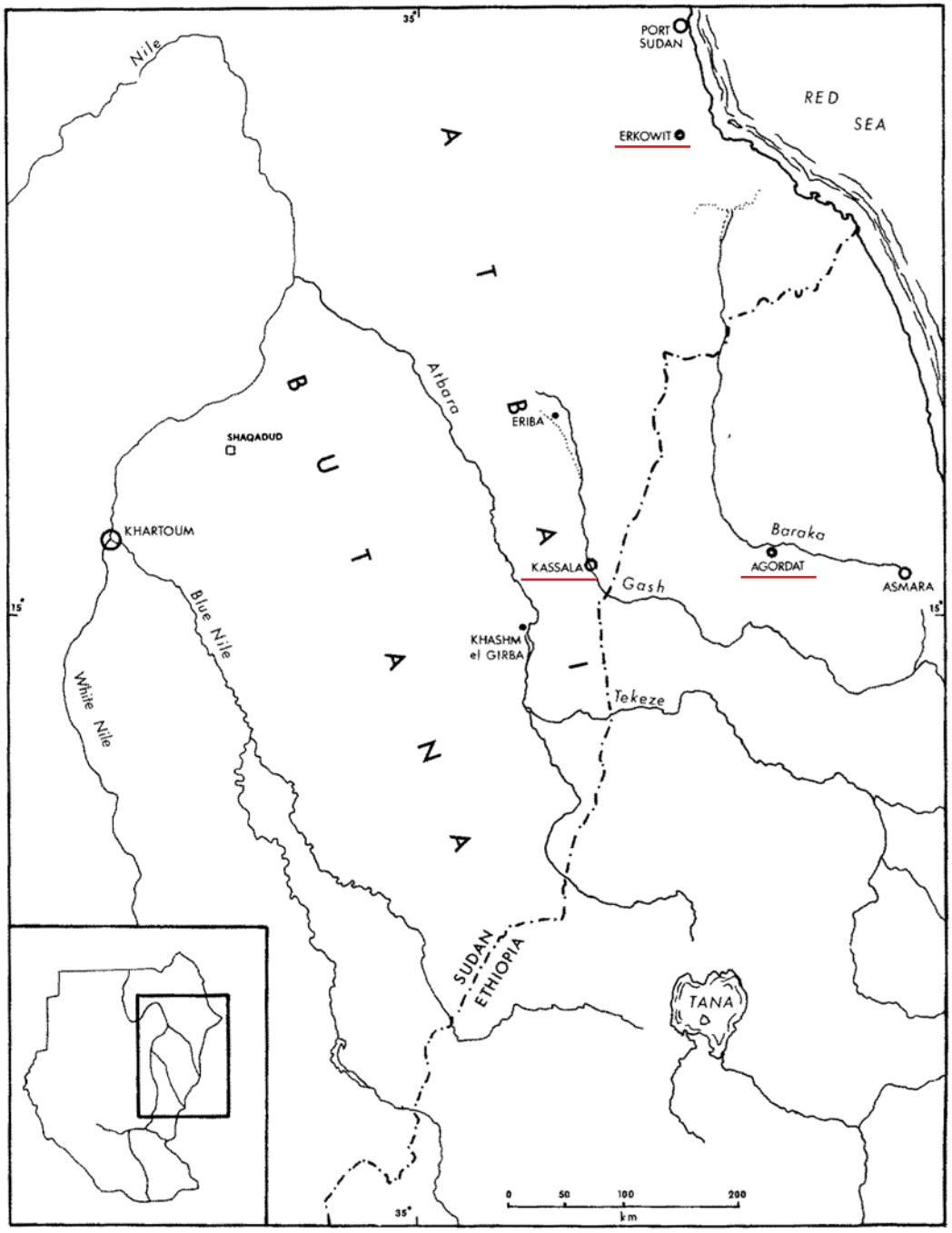
PLATE 12

Kubban Cemetery 110.
The cluster of Pan-Grave burials is marked by the red box.
(FIRTH 1927, Plan V.)

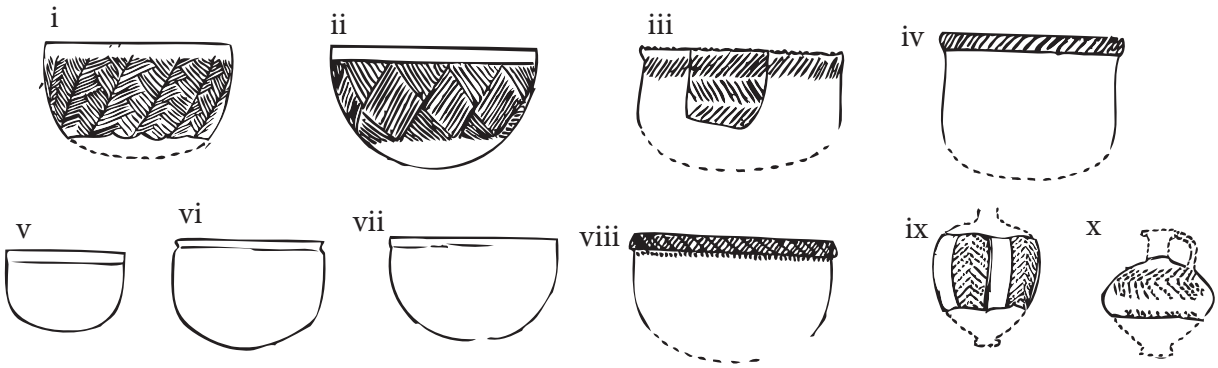


SJE Site 47, Debeira East.
Note the extent of the cemetery and the proportion of elongated/rectangular graves compared to round graves.
(Drawn by A. de Souza following the original site map in the Museum Gustavianum archives, 2015)

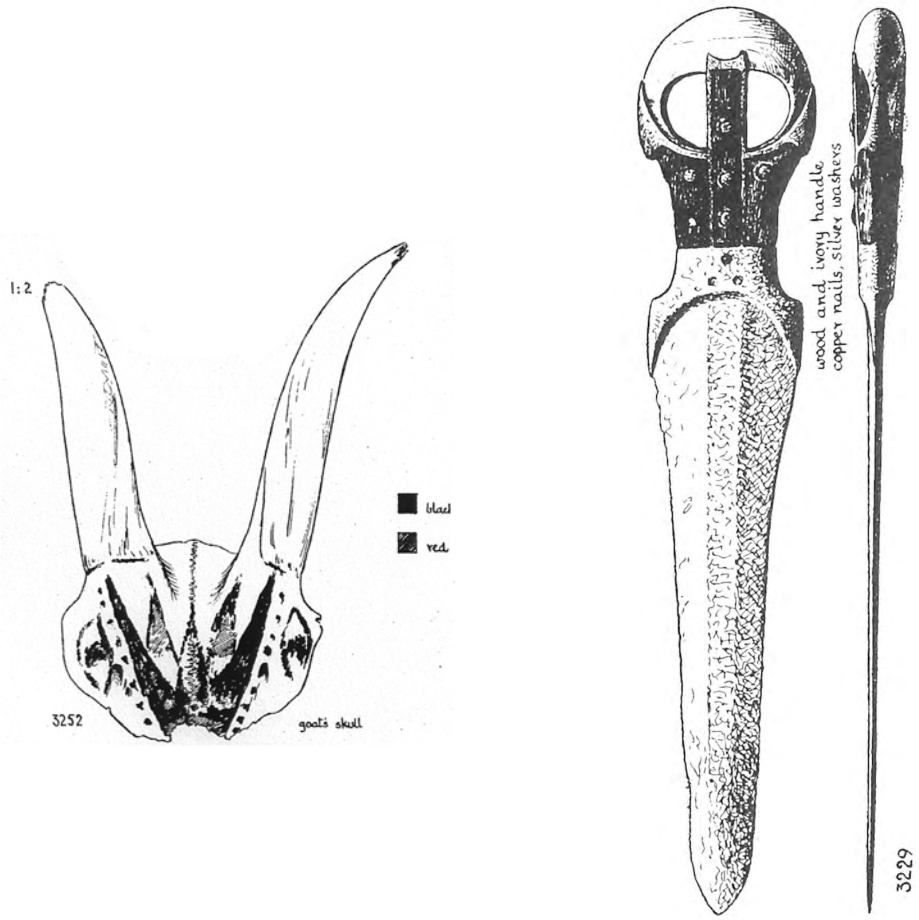
PLATE 14



The Southern Atbai showling locations of Kassala, Agordat, and Erkowit in relation to surrounding waterways.
(FATTOVICH, MARKS, MOHAMMED-ALI 1984, p. 175 fig. 1)

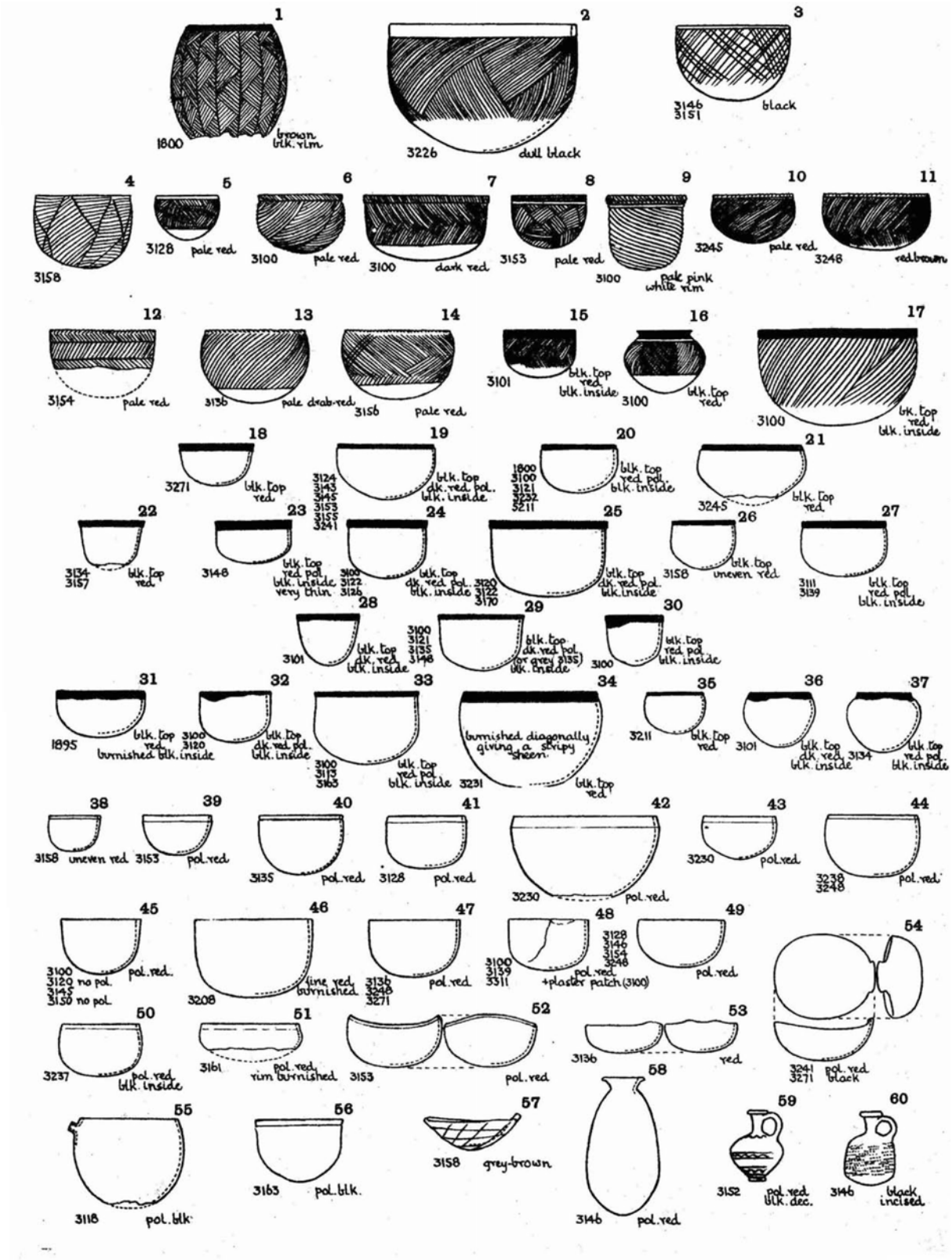


(a) Rifeh.
i-viii: Selection of Pan-Grave pottery. (PETRIE 1907, pl. xxvi)
ix-x: Tell el Yahudiyeh juglets (PETRIE 1907, pl. xxvi)
Scale 1:6 (approx.)

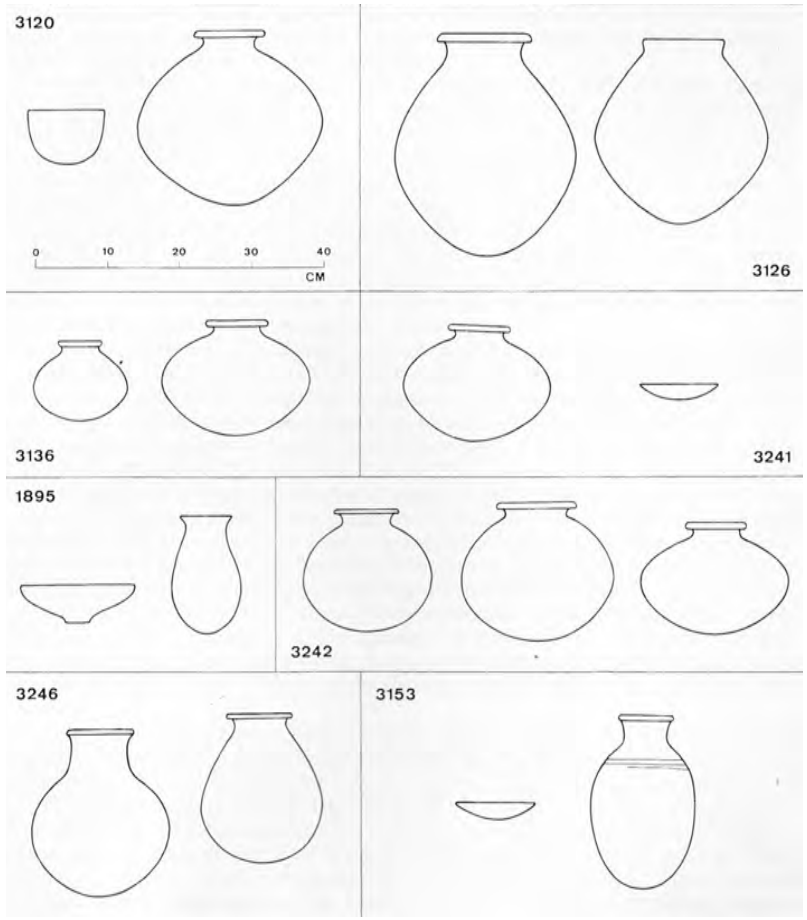


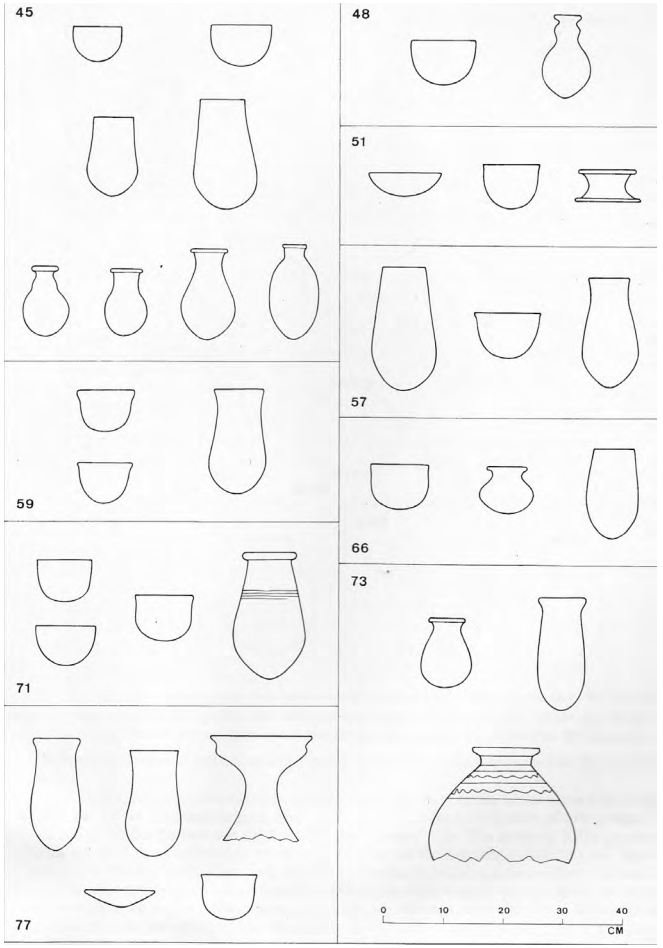
(b) Mostagedda.
Left: Decorated goat-skull. Grave 3252 (BRUNTON 1937, pl. LXXVI).
Right: Egyptian(?) dagger, Grave 3229 (BRUNTON 1937, pl. LXXVII).
Scale 1:2 (approx.)

PLATE 16



Mostagedda
Pan-Grave pottery (BRUNTON 1937, pl. LXXII). Representative only - not to scale.

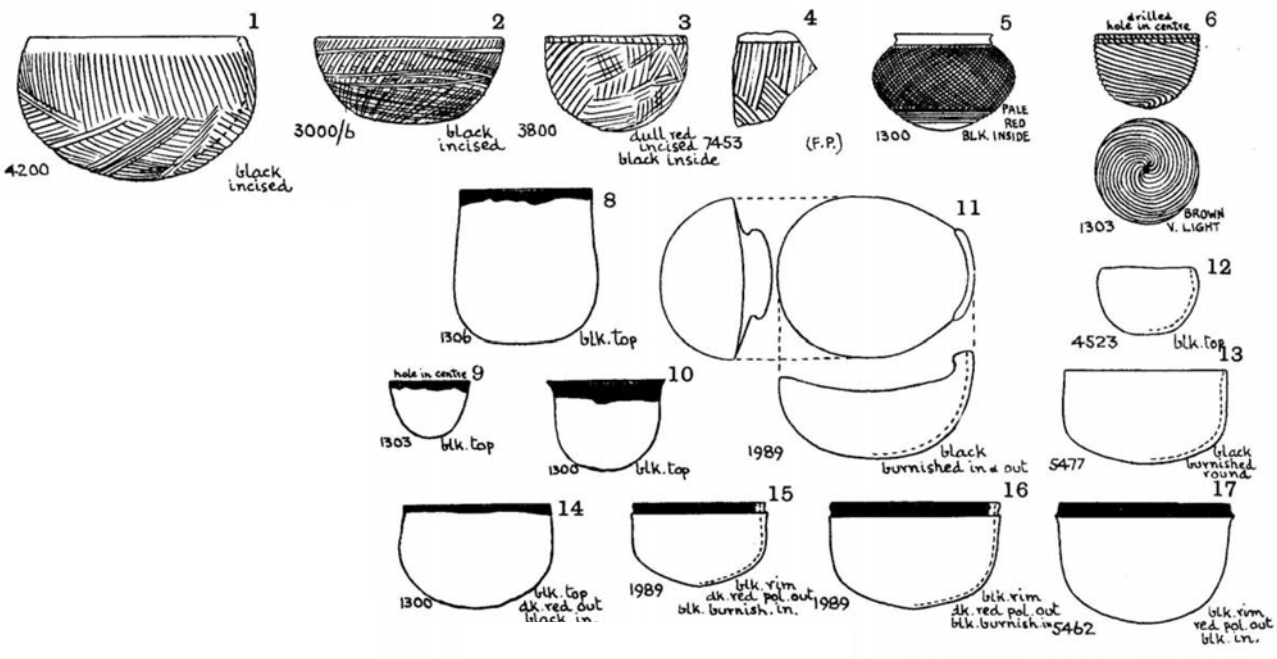




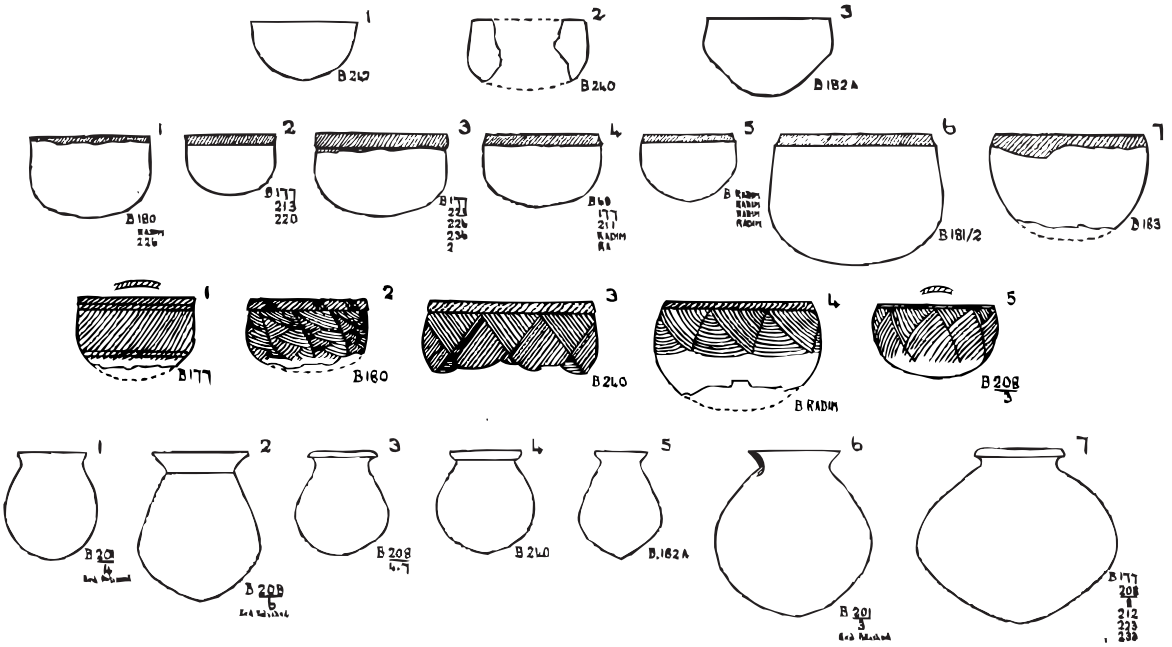
Comparison of the Egyptian pottery from Mostagedda (right) and Rifeh (left) showing different styles (BOURRIAU 1999, pp. 45-45).

PLATE 17

PLATE 18



(a) Qau - Badari
Pan-Grave pottery (BRUNTON 1930, pl. IX).

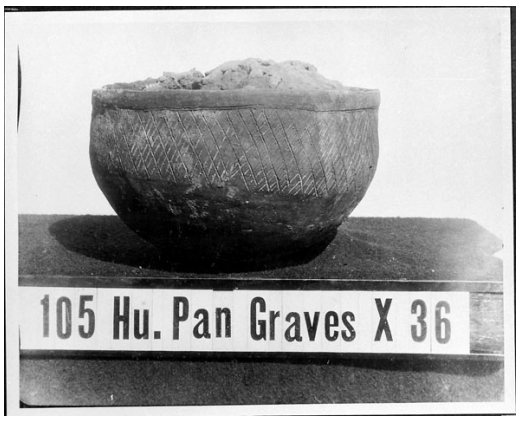


(b) Balabish
Pottery from Balabish. Top: Red polished pottery. 2nd row: Black-topped pottery. 3rd row: decorated pottery. Bottom: Egyptian pottery. (WAINWRIGHT 1920, pl. XIV). Representative only - not to scale.

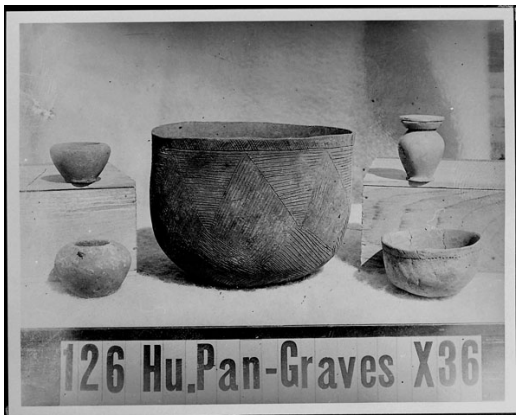
a

b

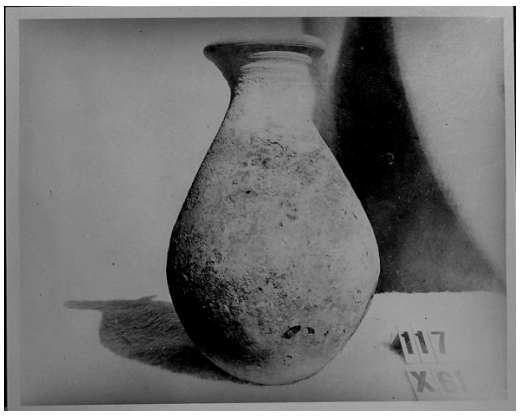
c



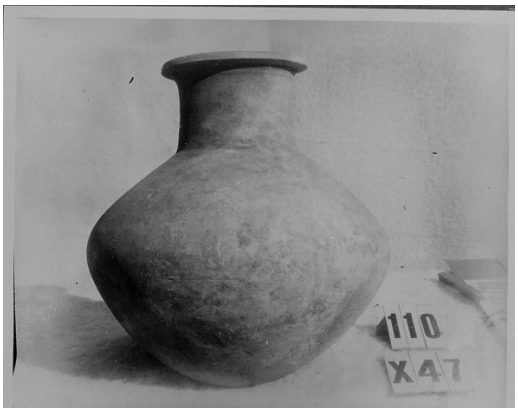
d



e



f



g

h

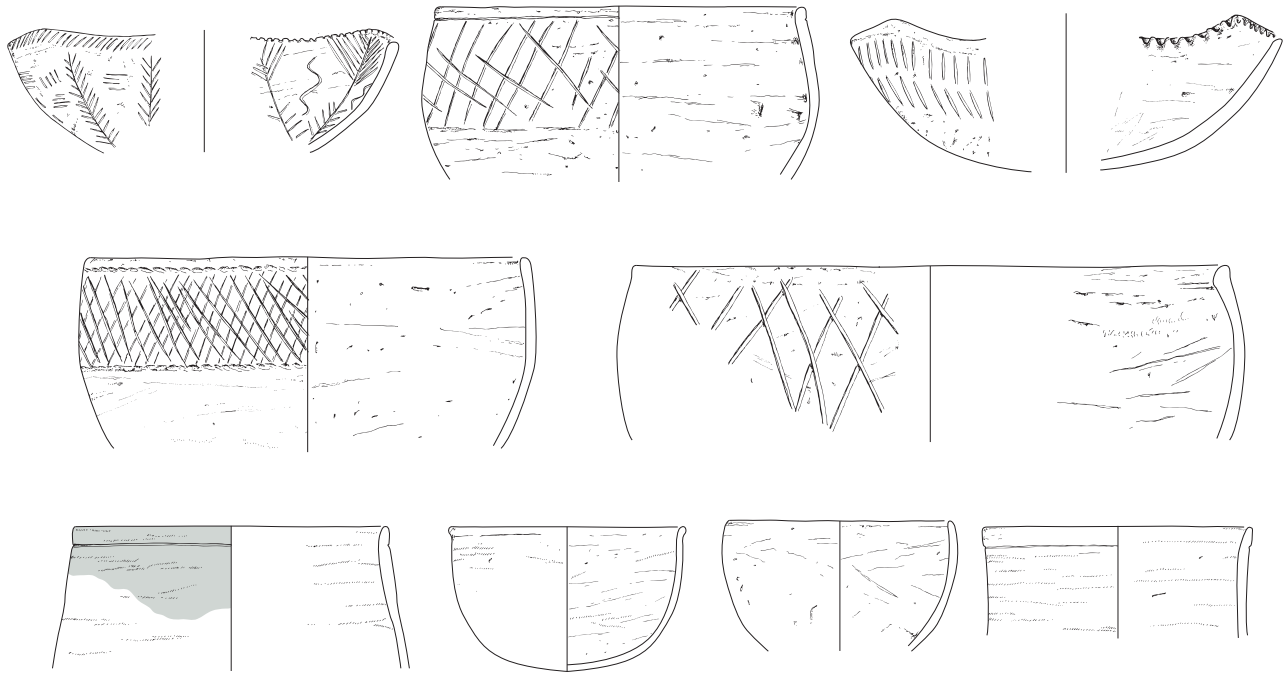
Hu Cemetery X

(a-d): Pan-Grave pottery. (e-h) Egyptian pottery.

PLATE 20

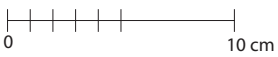
(a) Hu Cemetery Y/YS

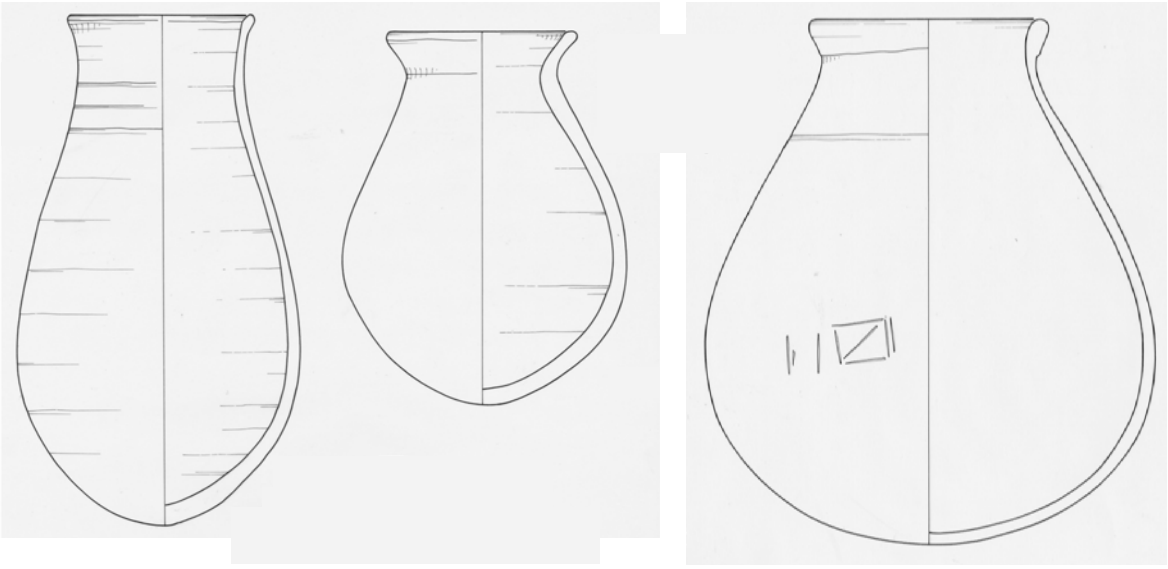
Carinated bowl made in Pan-Grave black-tooped red-coated ware. Hu Cemetery Y, Grave 344.
© Petrie Museum, UCL. UC.19021



(b) Hierakonpolis HK47

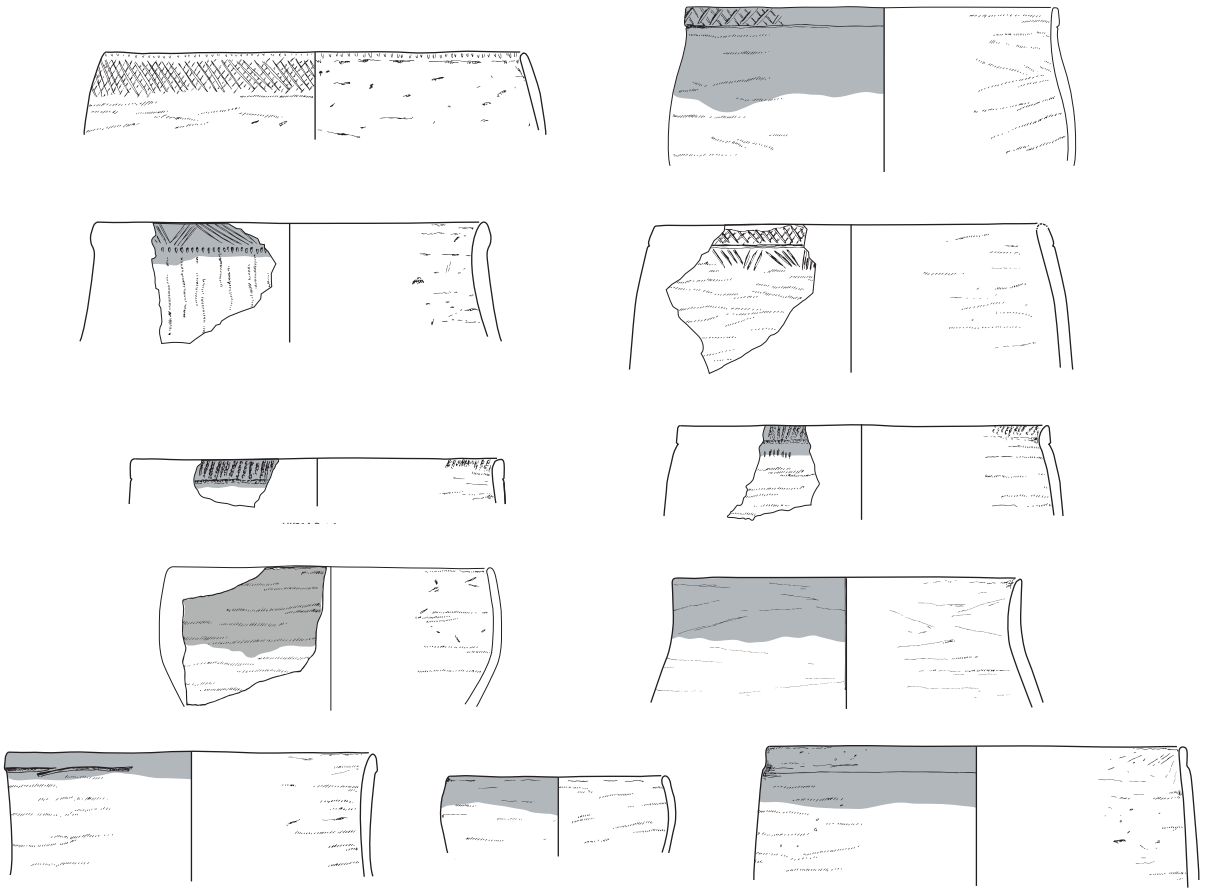
Examples Pan-Grave pottery (Drawn by A. de Souza)





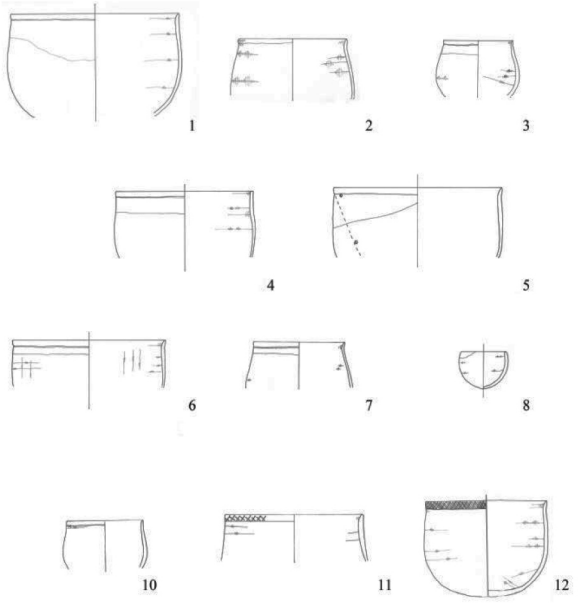
0 10 cm

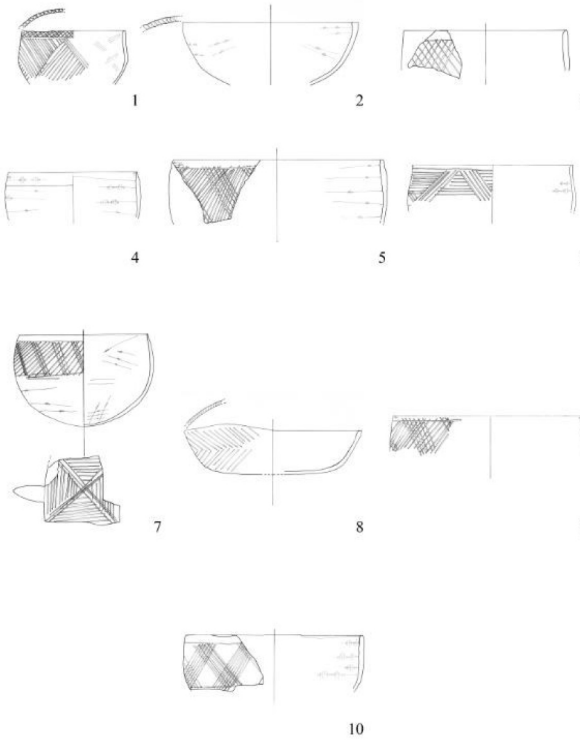
(a) Hierakonpolis HK47
Selection of Egyptian pottery (Drawn by W. Schenk. Courtesy the Hierakonpolis Expedition).

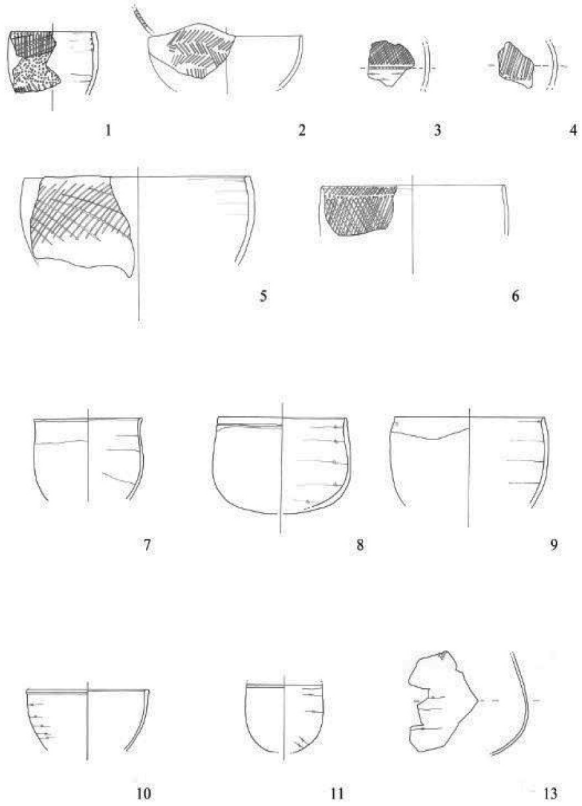


(b) Hierakonpolis HK21A
Examples of Pan-Grave pottery (Drawn by A. de Souza)

0 10 cm

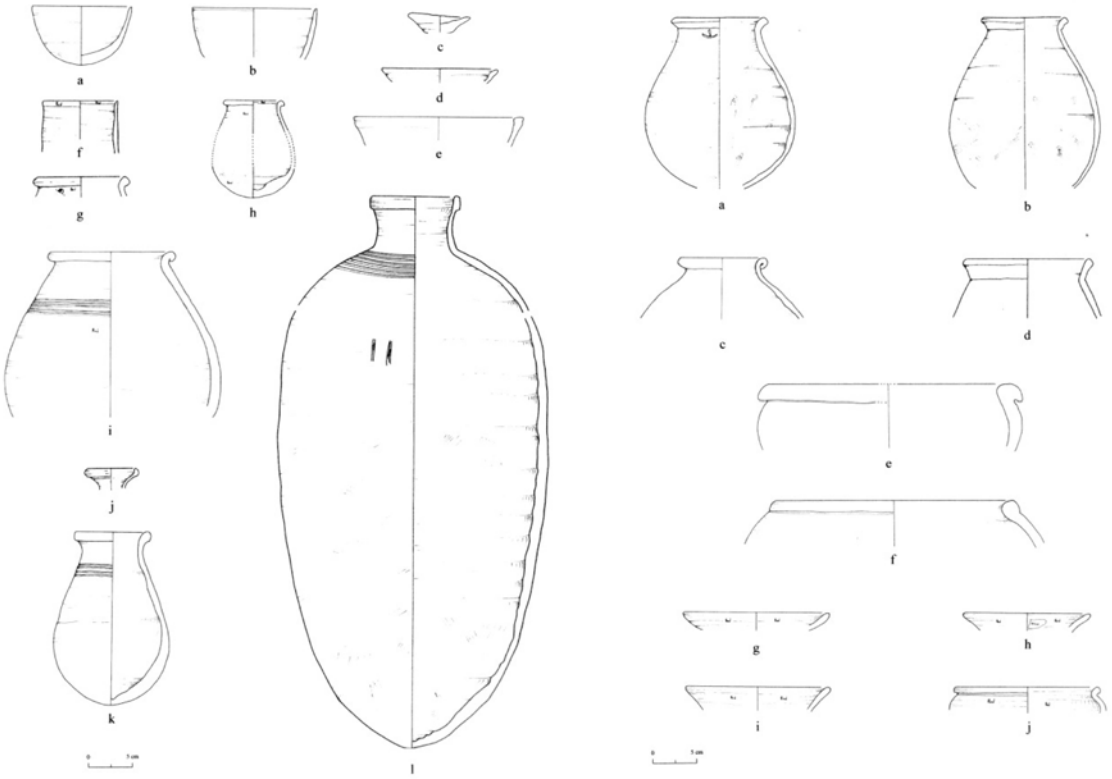




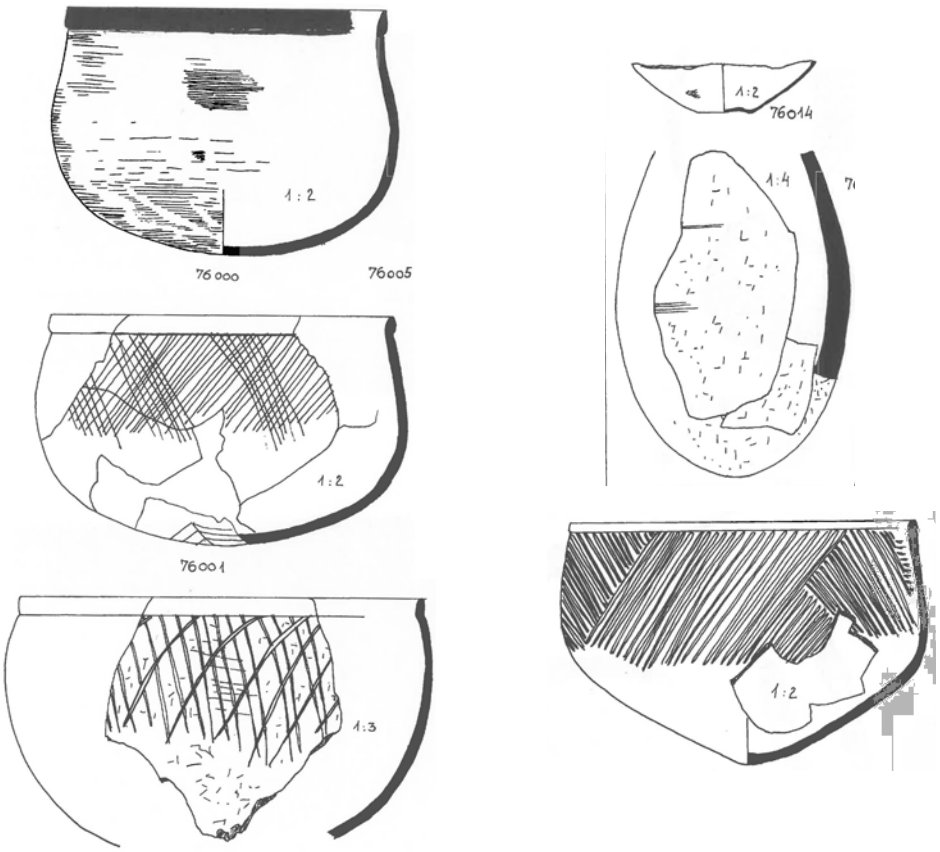


Gharb Aswan
Left: Pan-Grave pottery from Wadi Kubbaniya WK11 (GATTO 2014, p. 22)
Right: Pan-Grave pottery from Sheikh Mohammed SM14 (GATTO 2014, p. 23)
Representative only - not to scale.

PLATE 22

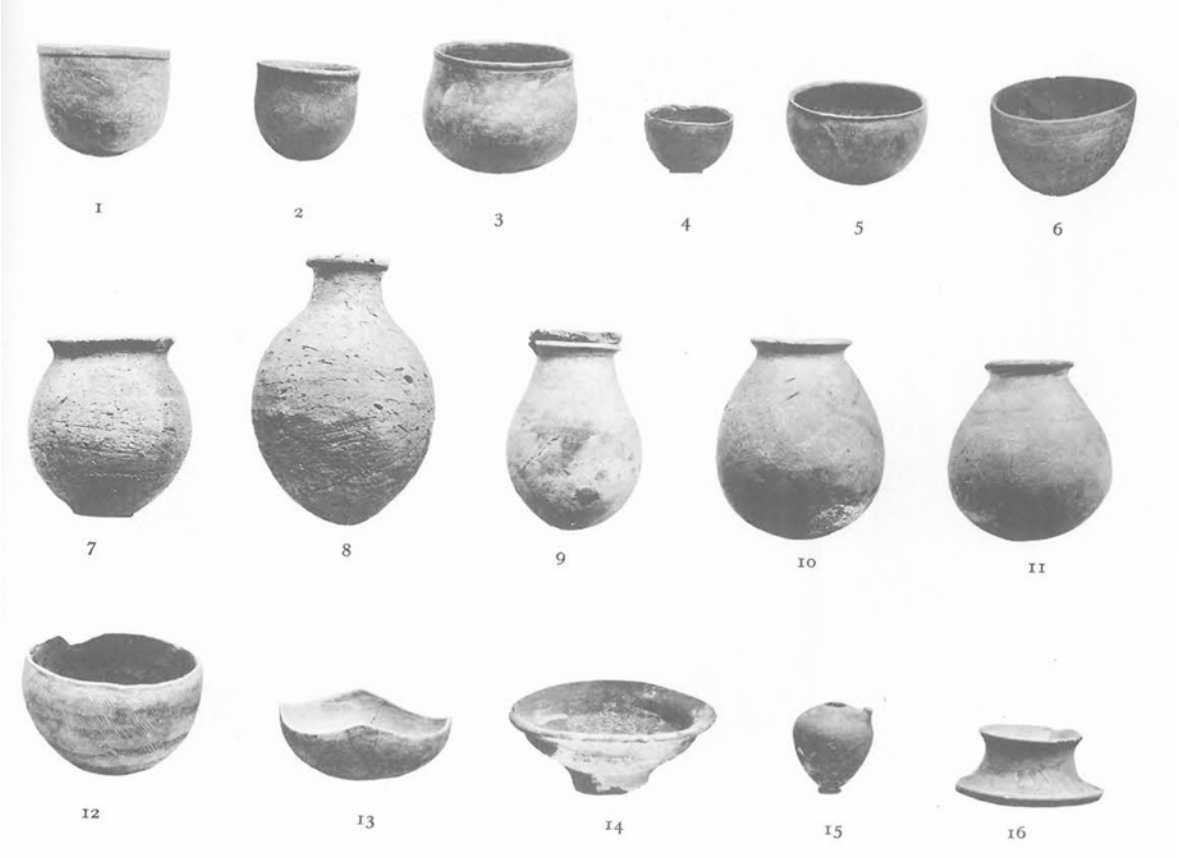


(a) Gharb Aswan
Egyptian pottery from WK11 and SM14 (GATTO 2014, p. 14). Representative only - not to scale.

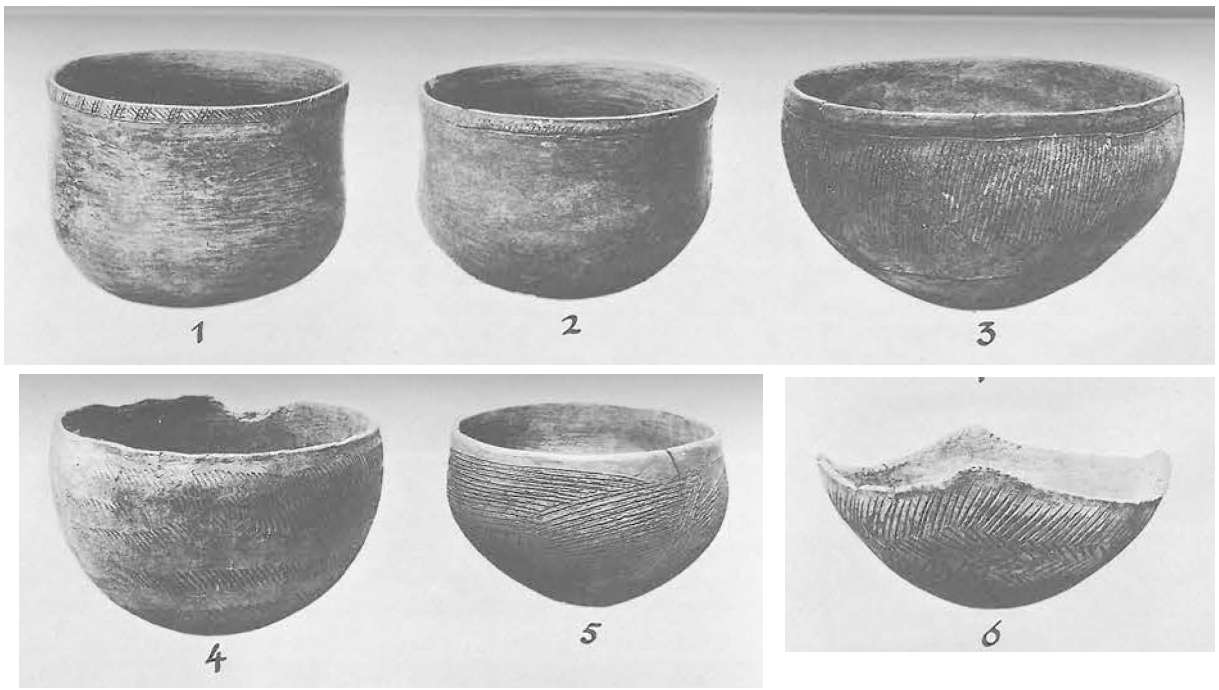


(b) Sayala B
Pan-Grave and Egyptian pottery from Sayala Cemetery B (BIETAK 1966, pl. 25 and 27).
Representative only - not to scale.

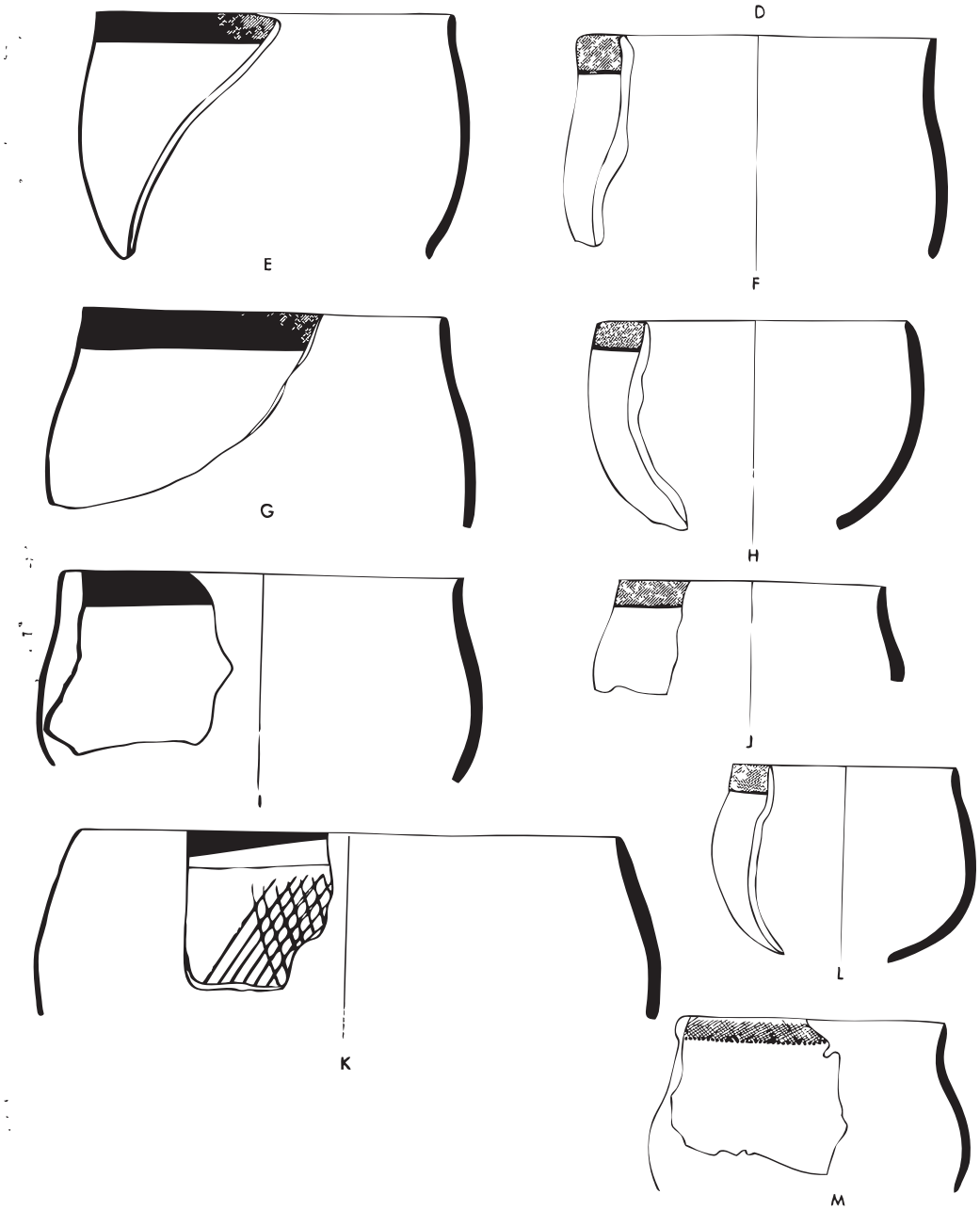
PLATE 24



(a) Aniba C
Pan-Grave and Egyptian pottery (STEINDORFF 1935, pl. 81). Representative only - not to scale.

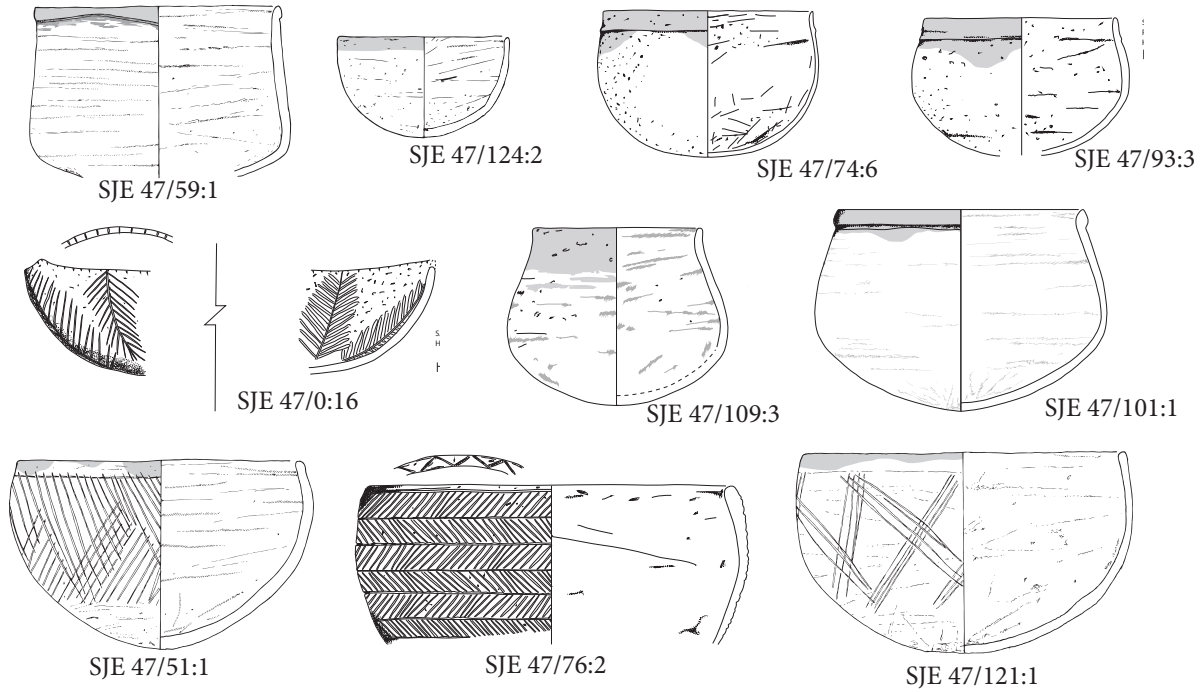


(b) Aniba N
Pan Grave pottery (STEINDORFF 1935, pl. 58). Representative only - not to scale.

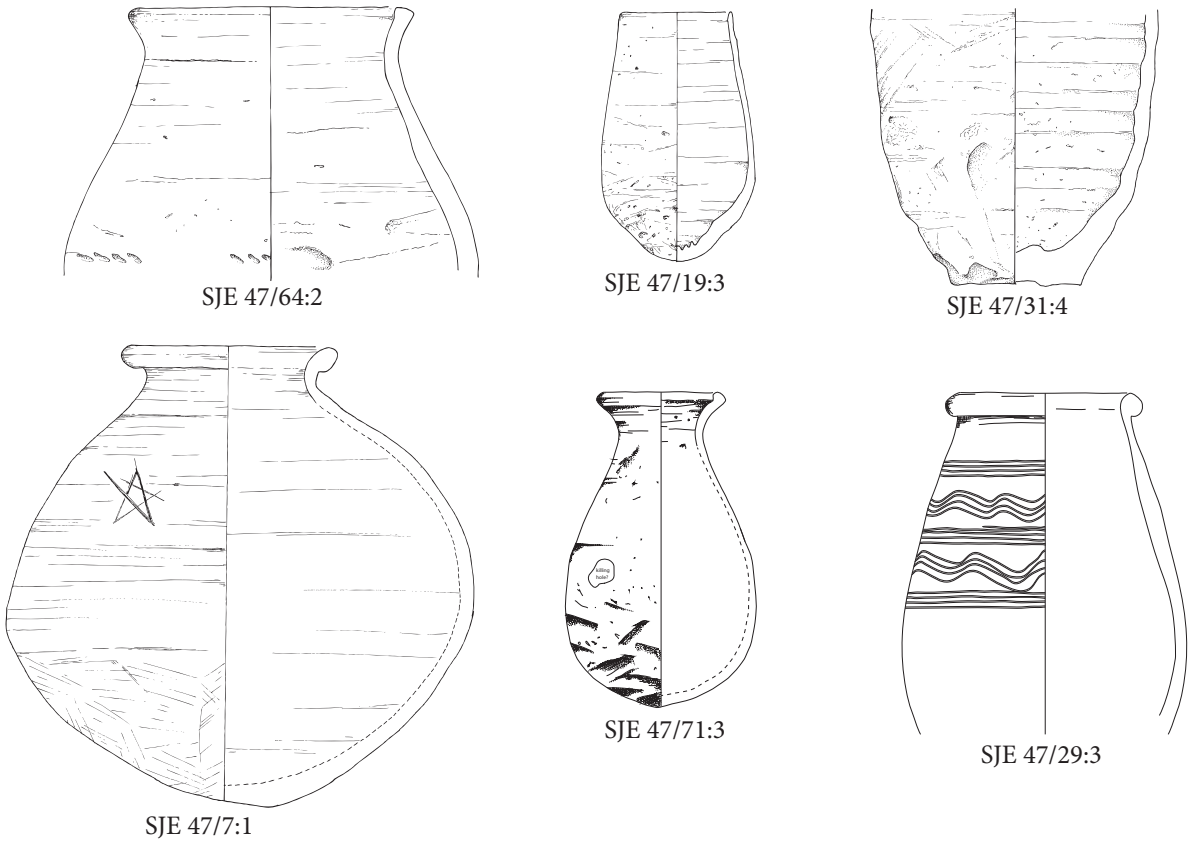


Adindan K
Pan Grave pottery (WILLIAMS 1989, pl. 93). Representative only - not to scale.

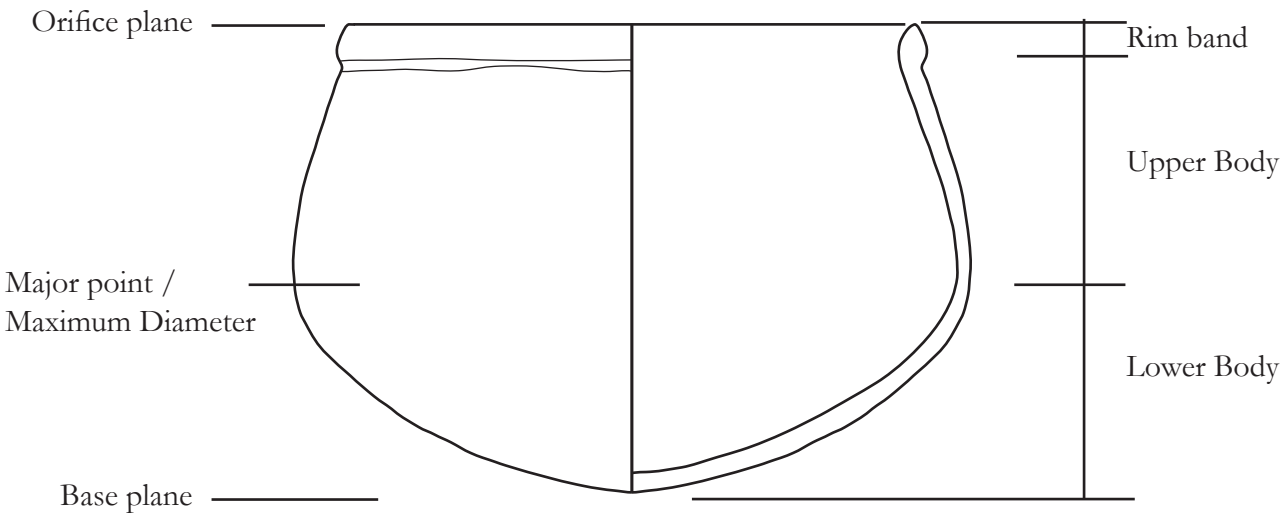
PLATE 26

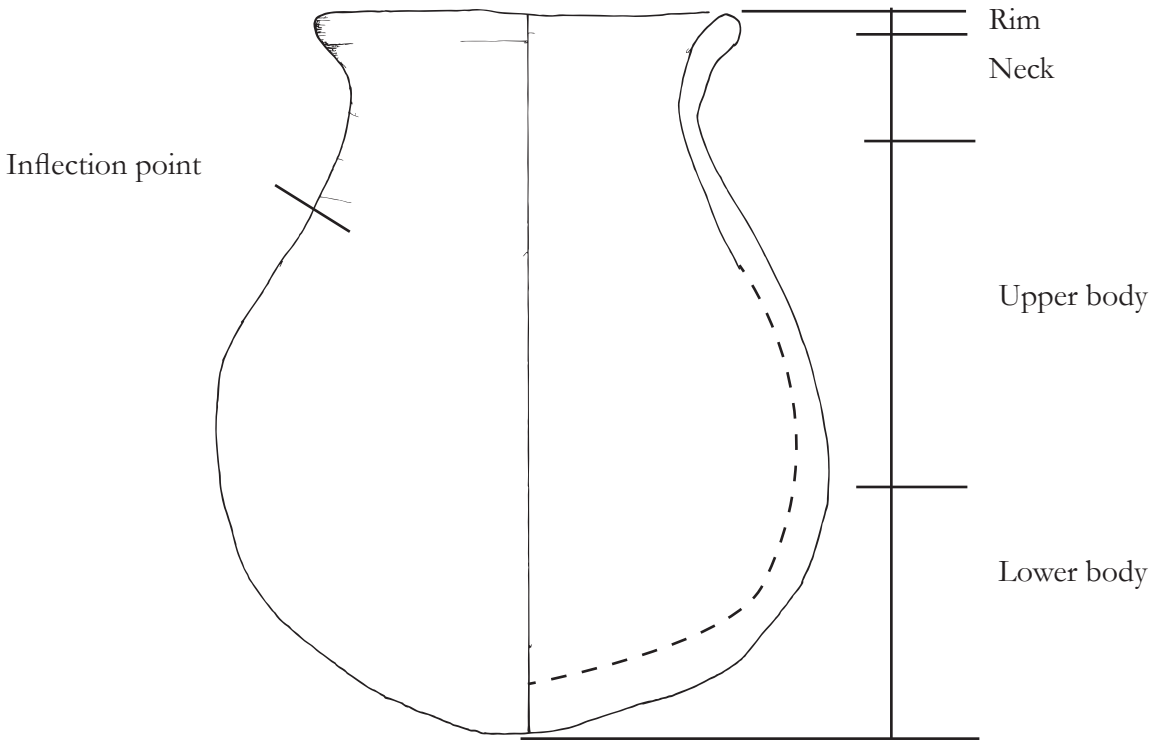


(a) SJE Site 47
Selected Pan-Grave pottery (representative only - not to scale)



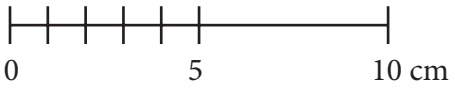
(b) Debeira East SJE Site 47
Selected Egyptian pottery (representative only - not to scale)





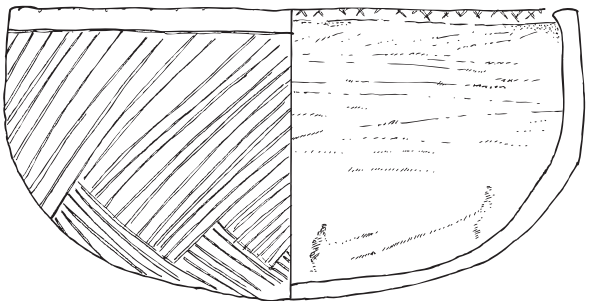
Characteristic points and parts of a vessel.

PLATE 28

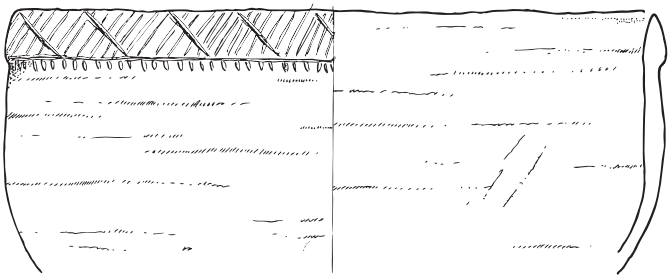


UNRESTRICTED SIMPLE (US)

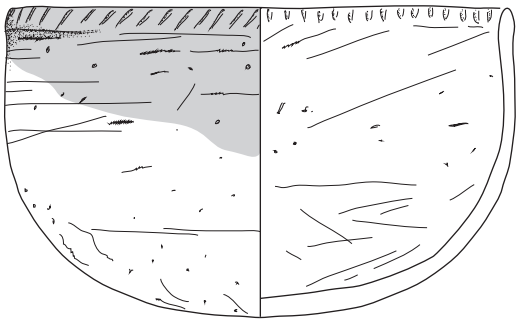
Bowls - shallow.



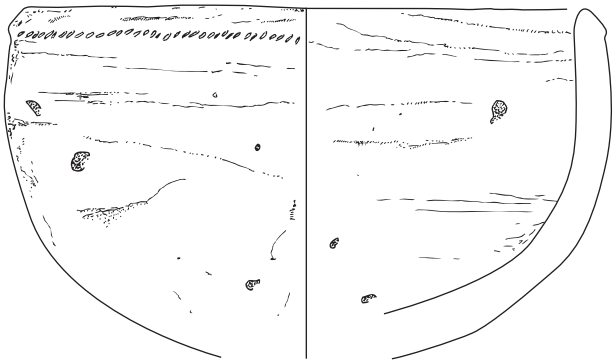
(a) Mostagedda 3248 (BM EA63044)



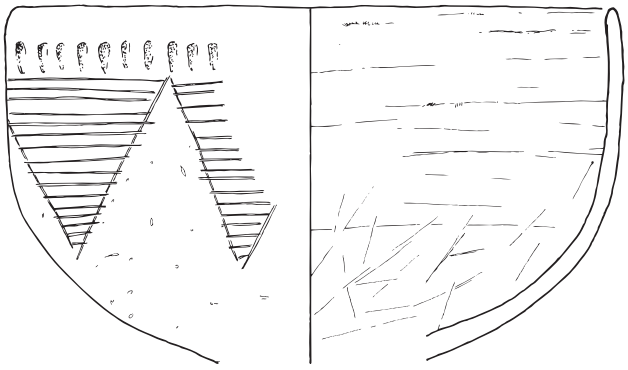
(b) Rifeh (Pet. Mus. UC17907)



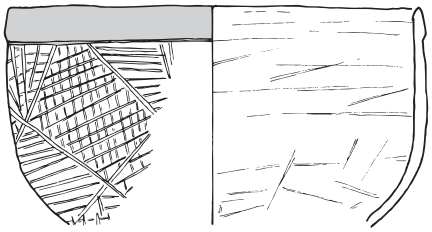
(c) Debeira East (SJE 47/74:6 ß)



(d) Debeira East (SJE 47/151:1a)



(e) Rifeh (Pet. Mus. UC17907)

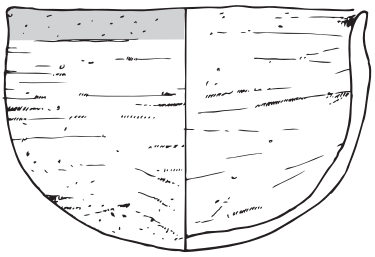


(f) Rifeh (Pet. Mus. UC17932)

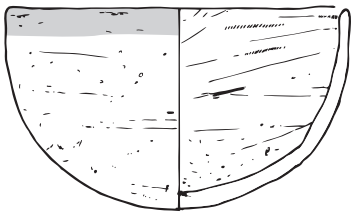
0 5 10 cm

UNRESTRICTED SIMPLE (US)

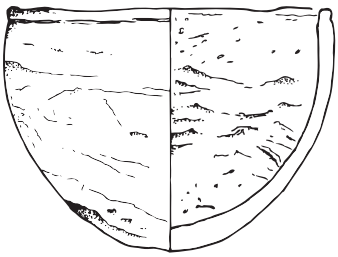
Cups (a-f), Bowls (g-i)



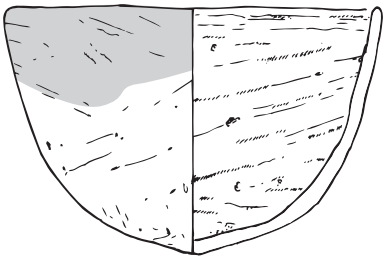
(a) Debeira East (SJE 47/7:7)



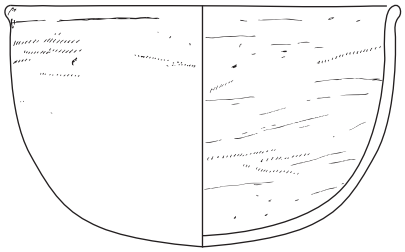
(b) Debeira East (SJE 47/124:2)



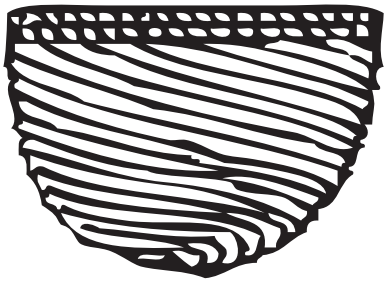
(c) Debeira East (SJE 47/72:3)



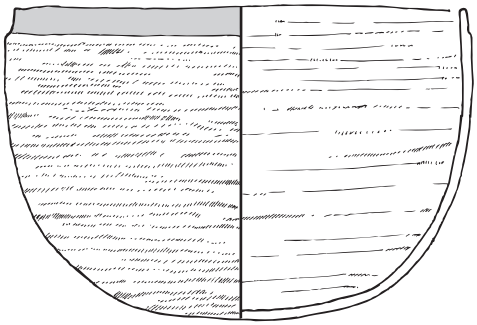
(d) Debeira East (SJE 47/125:1)



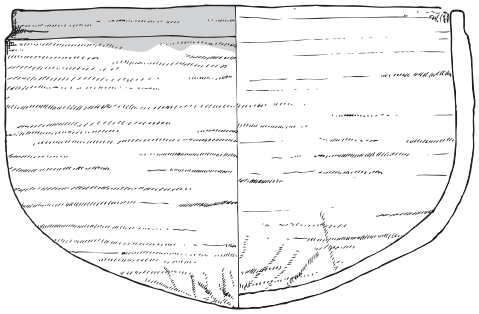
(e) Hierakonpolis HK47 Pot 2



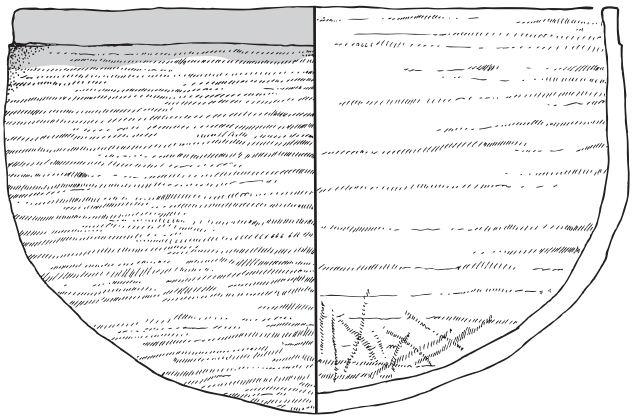
(f) Qau 1303
BRUNTON 1930, pl. IX.6



(g) Mostagedda 3143 (BM EA63027)

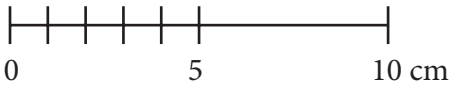


(h) Qau 1989 (Pet. Mus. UC17889)



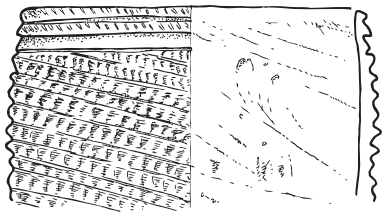
(i) Mostagedda 3145 (BM EA63028)

PLATE 30

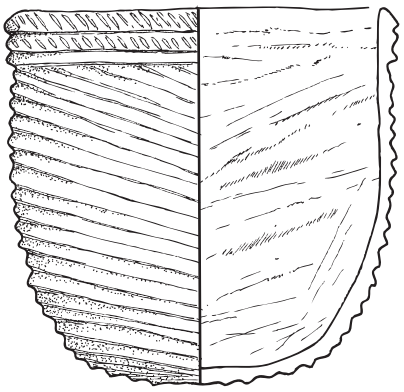


UNRESTRICTED SIMPLE (US)

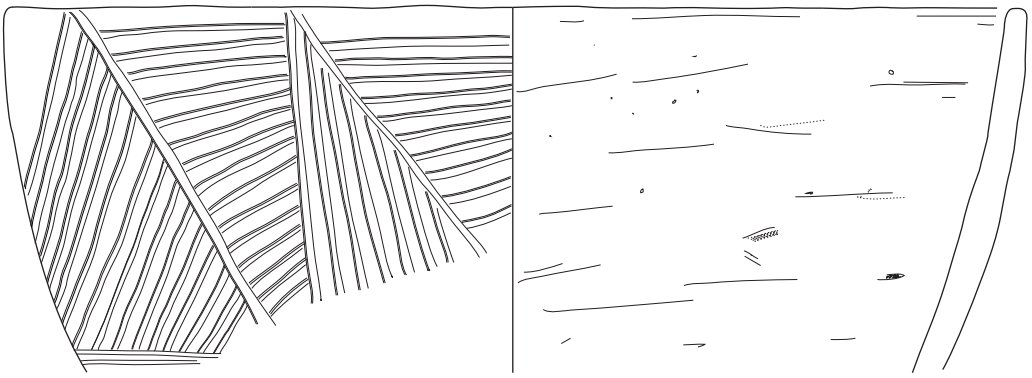
Bowls - deep (a-b), Large Bowls (c-d).



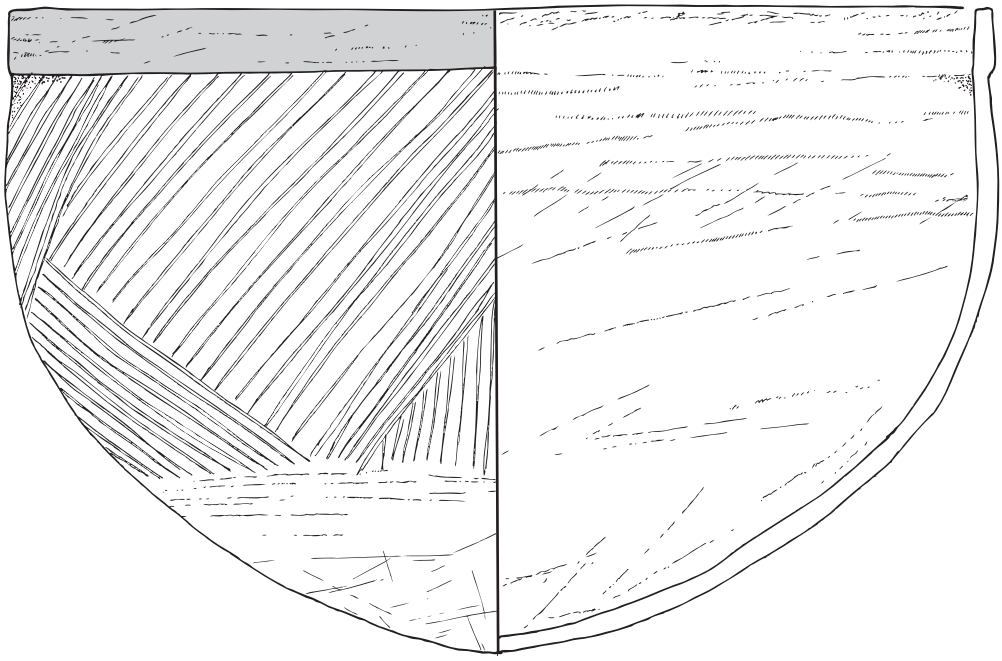
(a) Provenence unknown
(Pet. Mus. UC43309 + 43310)



(b) Mostagedda 3100 (BM EA63022)



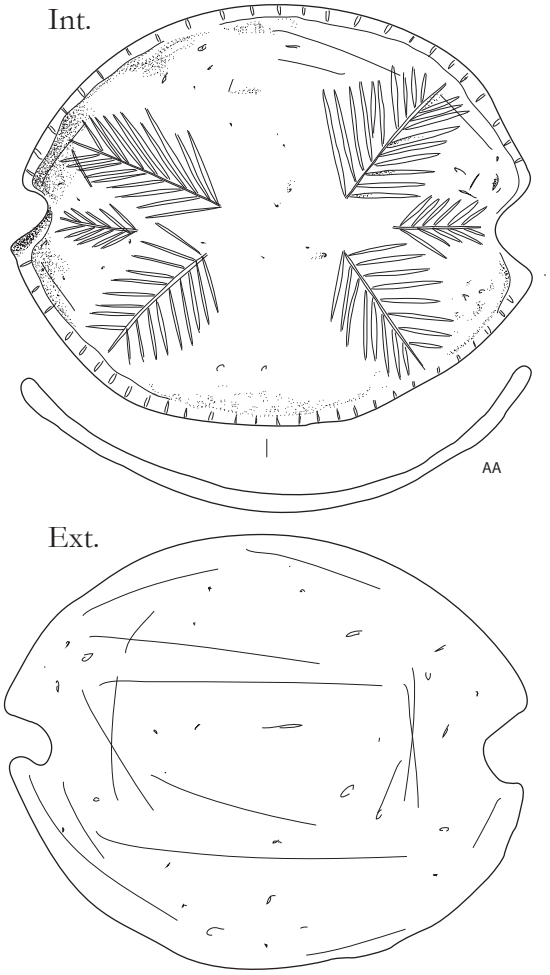
(c) Debeira East (SJE 47/74:6d)



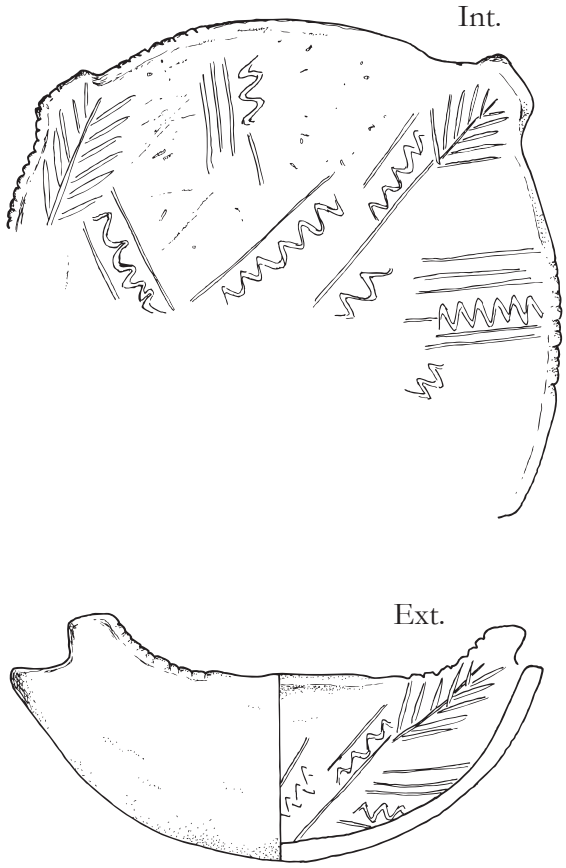
(d) Mostagedda 3226 (BM EA63038)

0 5 10 cm

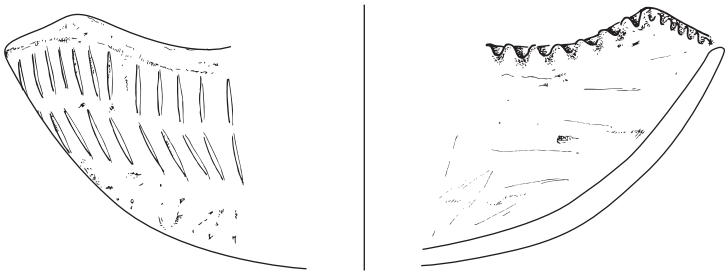
UNRESTRICTED SIMPLE (US)
Horned Bowls (HB)



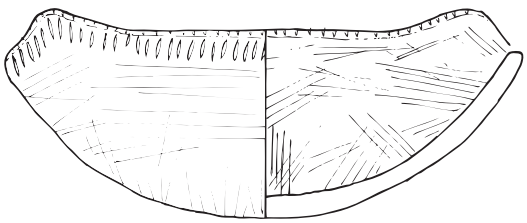
(a) Debeira East (SJE 47/51:4)



(b) Debeira East (SJE 47/82:4)

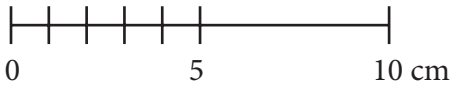


(c) Hierakonpolis HK47 Pot 35

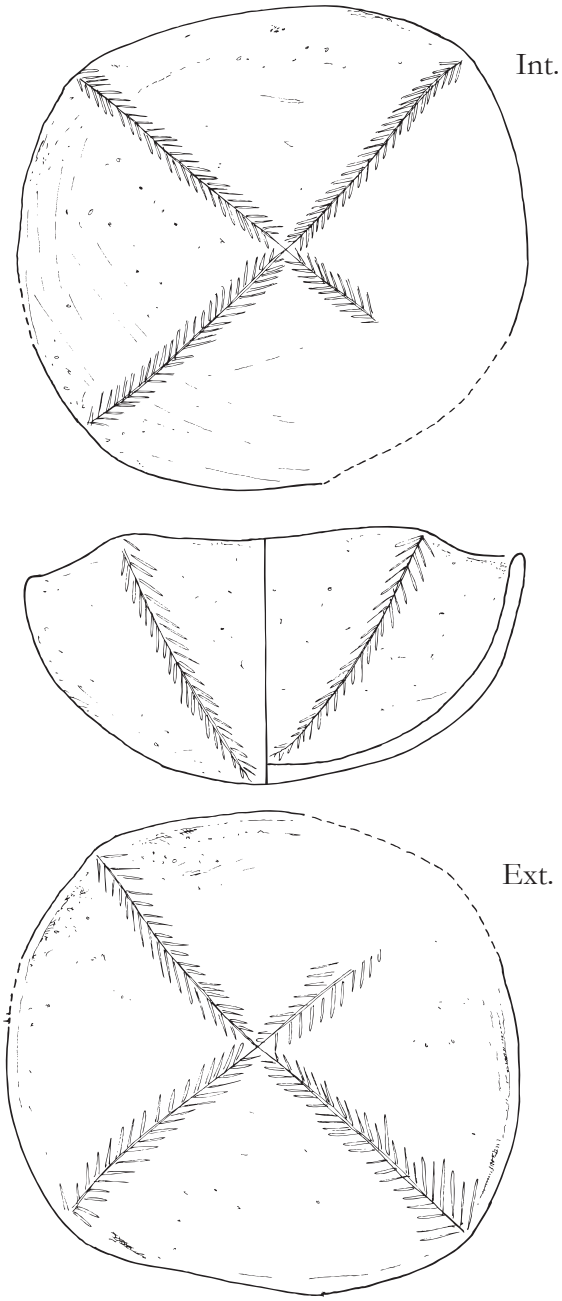


(d) Rifeh (Pet. Mus. UC17912)

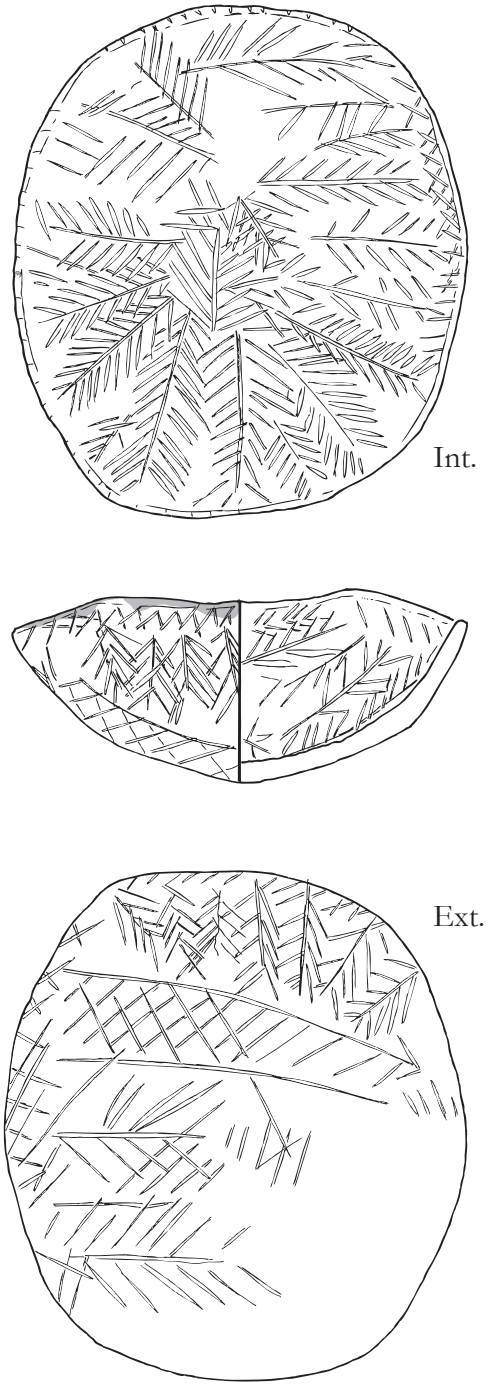
PLATE 32



UNRESTRICTED SIMPLE (US)
Horned Bowls (HB)



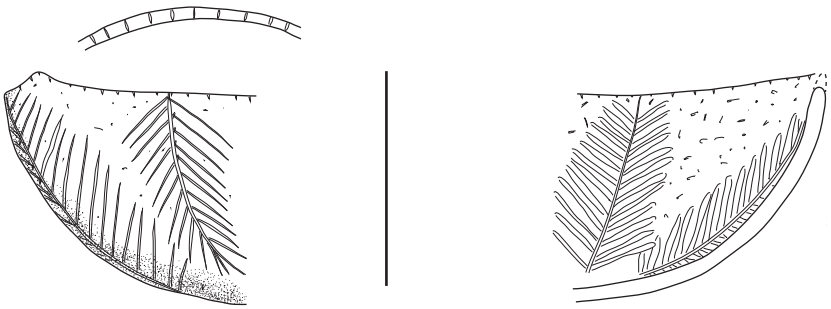
(a) Debeira East (SJE 47/3:1)



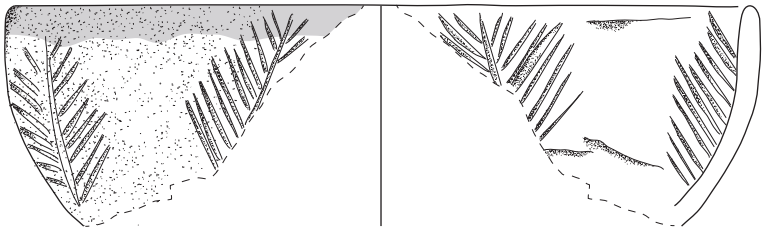
(b) Debeira East (SJE 47/31:3)

0 5 10 cm

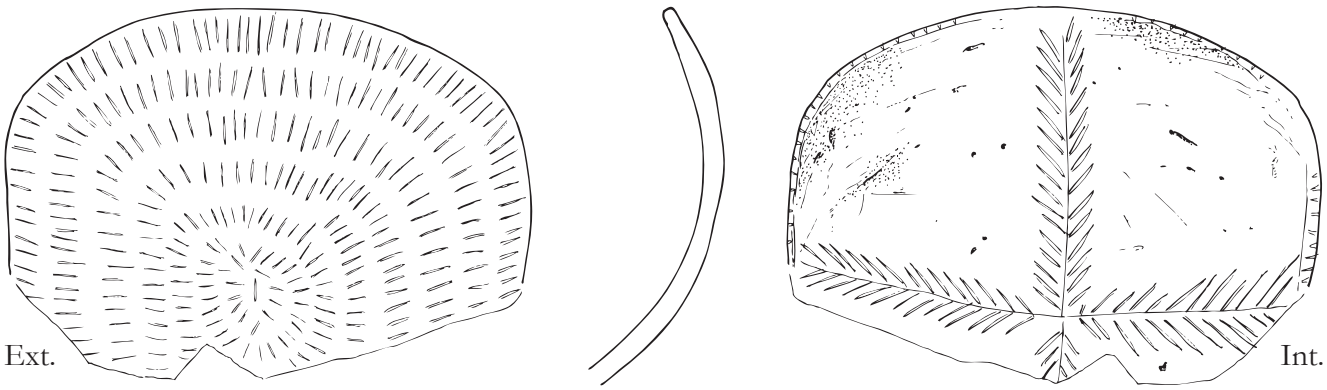
UNRESTRICTED SIMPLE (US)
Horned Bowls (HB)



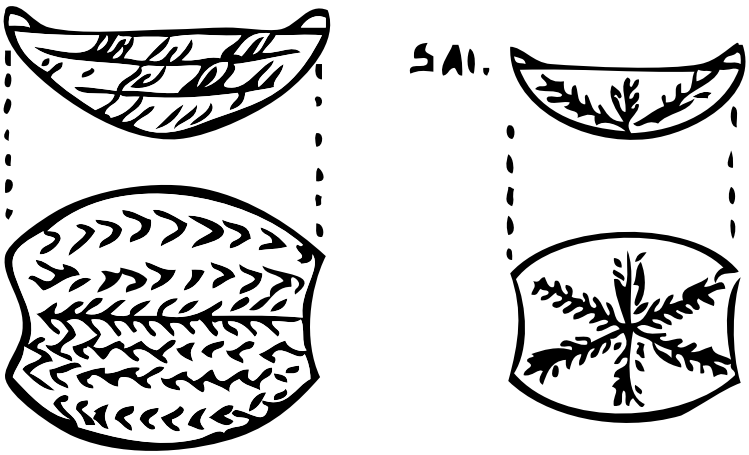
(a) Debeira East (SJE 47/0:16)



(b) Debeira East (SJE 47/11:4)



(c) Rifeh (Pet. Mus. UC17913)

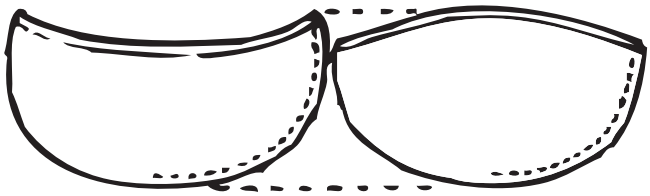


(d) Masmas Cem. 201, Grave 86.
EMERY, KIRWAN 1935, p. 327.
Scale not specified.

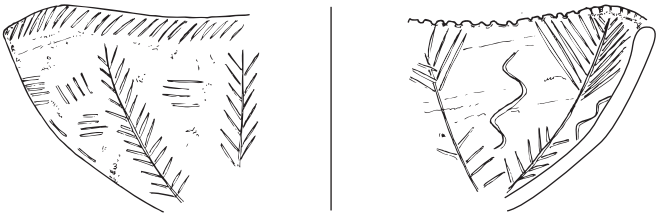
PLATE 34

UNRESTRICTED SIMPLE (US)
Horned Bowls (HB), Footed horned bowls

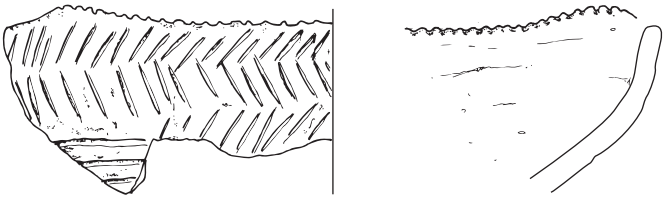
(a) Mostagedda 3136
BRUNTON 1937, pl. LXXII.53
Scale I:3



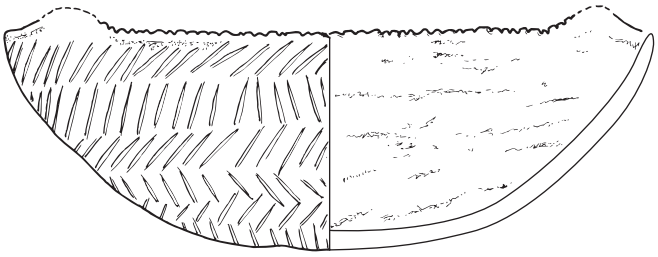
(b) Mostagedda 3153
BRUNTON 1937, pl. LXXII.52
Scale I:3



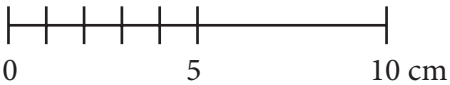
(c) Hierakonpolis HK47 Pot 34

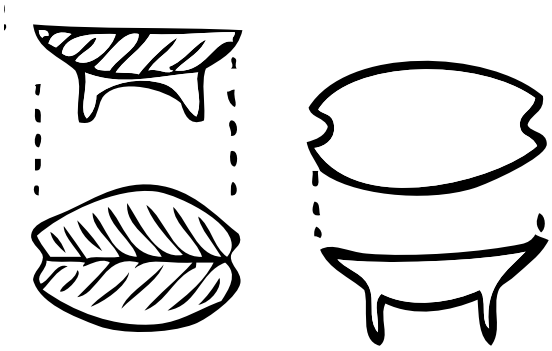


(d) Hierakonpolis HK47 Pot 28



(e) Hierakonpolis HK47 Pot 30

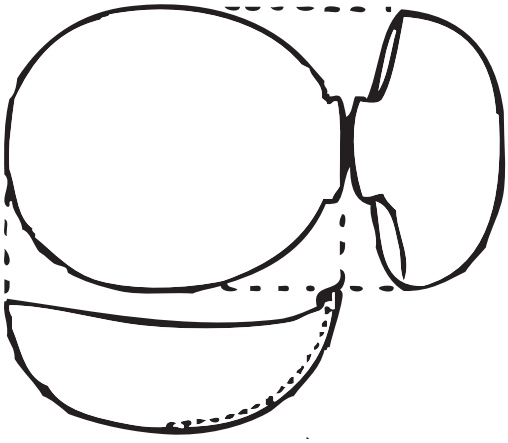




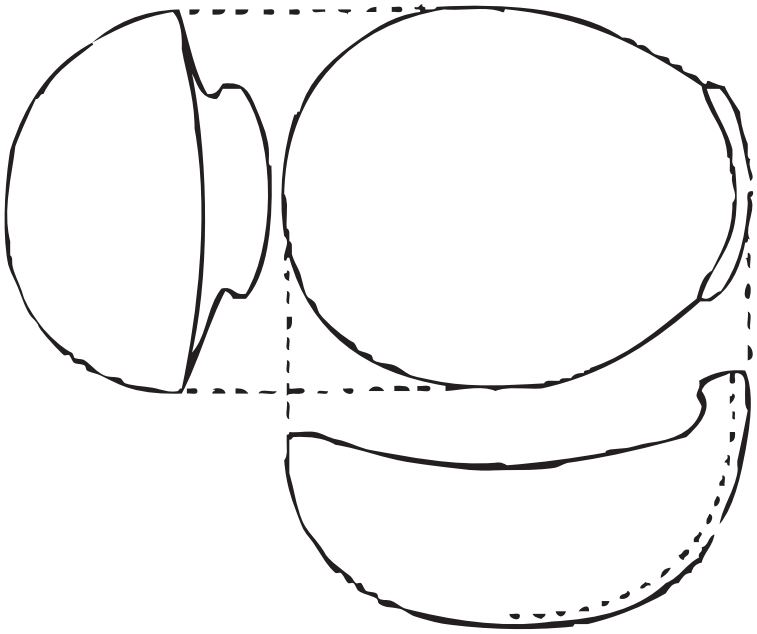
left:
(f)Masmas Cem. 201, Grave 86.
EMERY, KIRWAN 1935, p. 327.
Scale not specified.

right:
(g) Masmas Cem. 201, Grave 21
EMERY, KIRWAN 1935, p. 316.
Scale not specified.

UNRESTRICTED SIMPLE (US)
Scoops



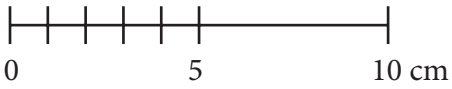
(a) Qau 1989 (Pet. Mus. UC17888)
BRUNTON 1930, pl. IX.11
Scale 1:3 (approx)



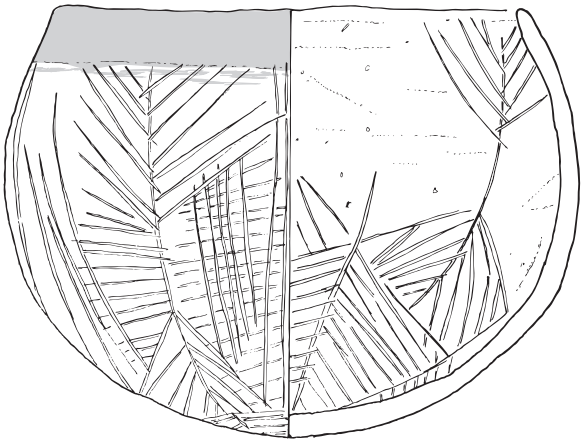
(b) Mostagedda 3241 (BM EA63040) and 3271.
BRUNTON 1937, pl. LXXII.56
Scale 1:3 (approx)

(c) Mostagedda 3158
BRUNTON 1937, pl. LXXII.57
Scale 1:3 (approx)

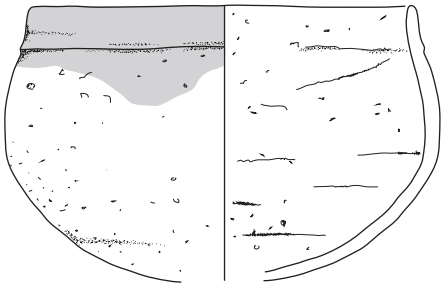
PLATE 36



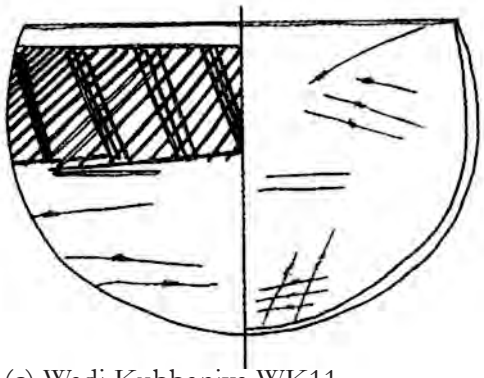
RESTRICTED SIMPLE (RS)
Rounded bowls



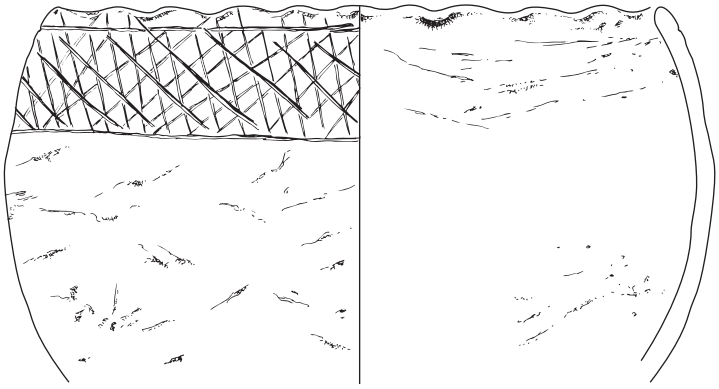
(a) Debeira East (SJE 47/B)



(b) Debeira East (SJE 47/93:3c)



(c) Wadi Kubbaniya WK11
GATTO 2012, fig. 9.7. (Scale not specifiied)



(d) Hierakonpolis HK47 Pot 26 (with wavy rim).

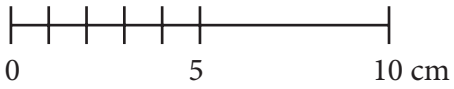
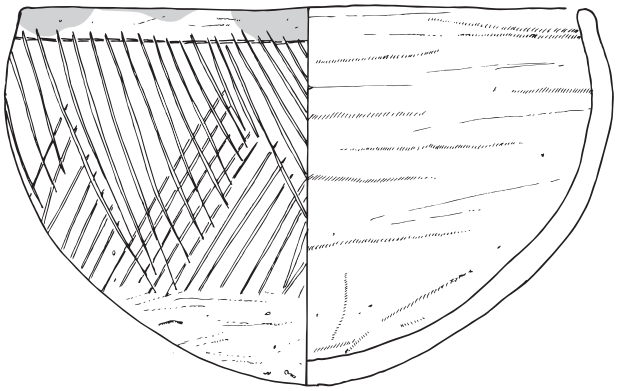
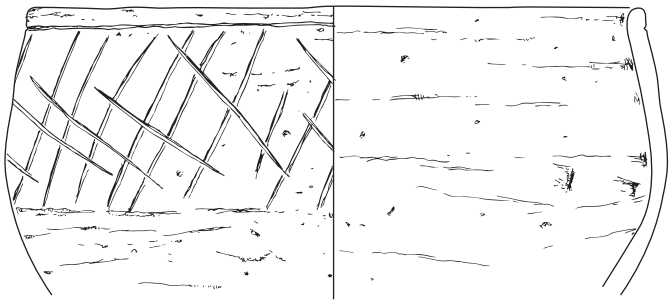


PLATE 37

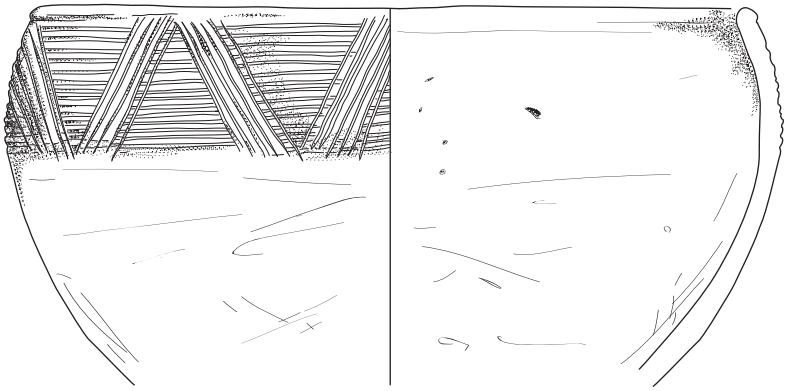
RESTRICTED SIMPLE (RS)
Rounded bowls



(a) Debeira East (SJE 47/51:1)

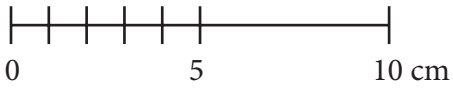


(b) Hierakonpolis HK47 Pot 24

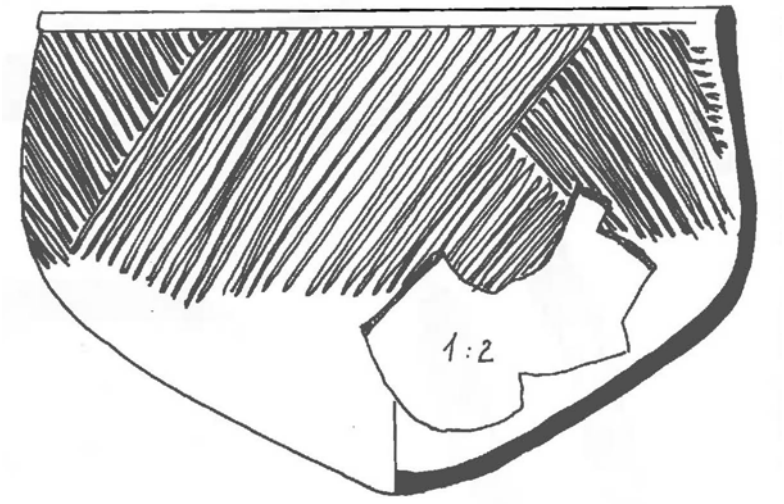


(c) Debeira East (SJE 47/79:2a)

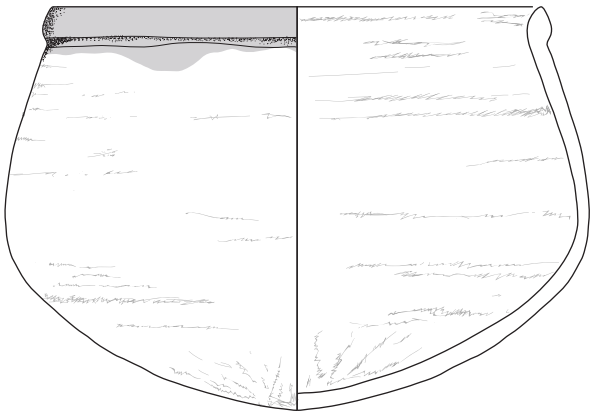
PLATE 38



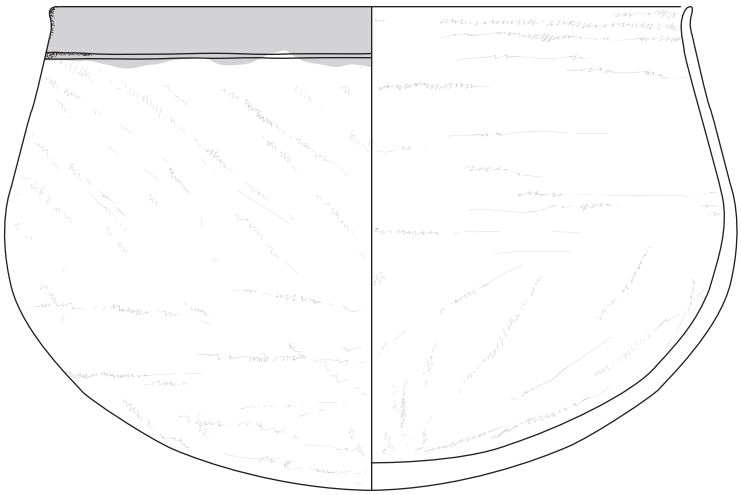
RESTRICTED SIMPLE (RS)
Bag-shaped



(a) Sayala B5
BIETAK 1966, Taf. 25.



(b) Debeira East (SJE 47/101:1)



(c) Debeira East (SJE 47/106:1)

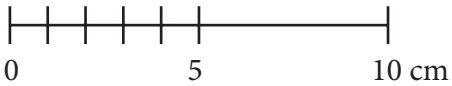
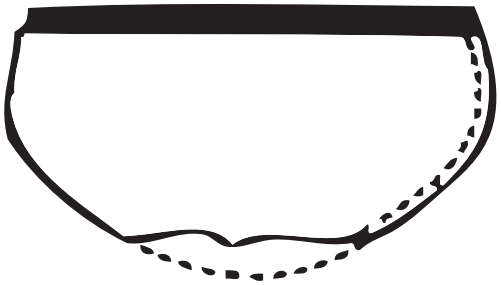
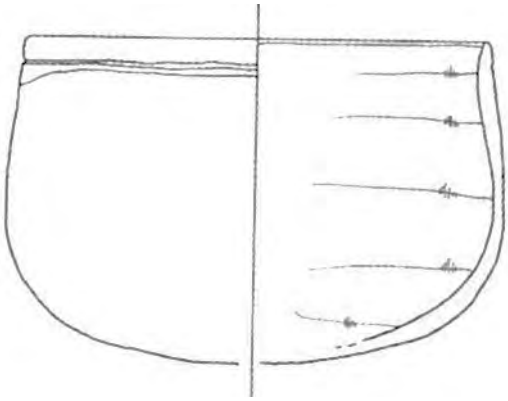


PLATE 39

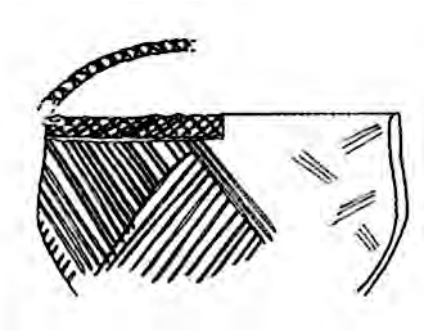
RESTRICTED SIMPLE (RS)
Bag-shaped



(a) Mostagedda 3245
BRUNTON 1937, pl. LXXII.21.



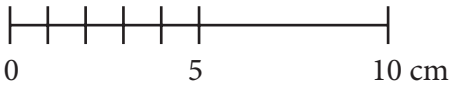
(b) Sheikh Mohammed SM14
GATTO 2012, fig. 10.8 (scale not specified)



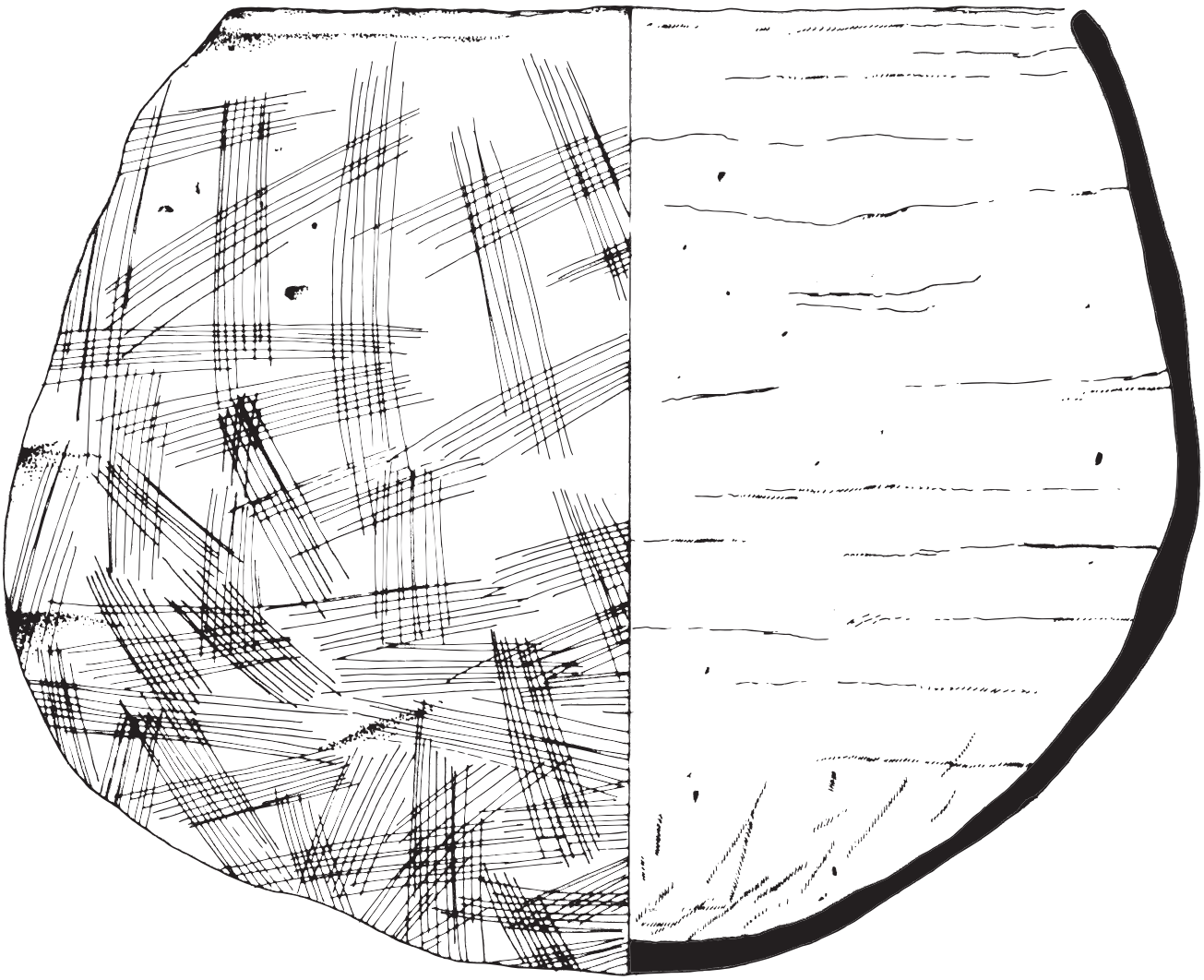
(c) Wadi Kubbaniya WK11
GATTO 2012, fig. 9.1 (scale not specified)

(d) Balabish B181/2
WAINWRIGHT 1920, pl. XIV.

PLATE 40



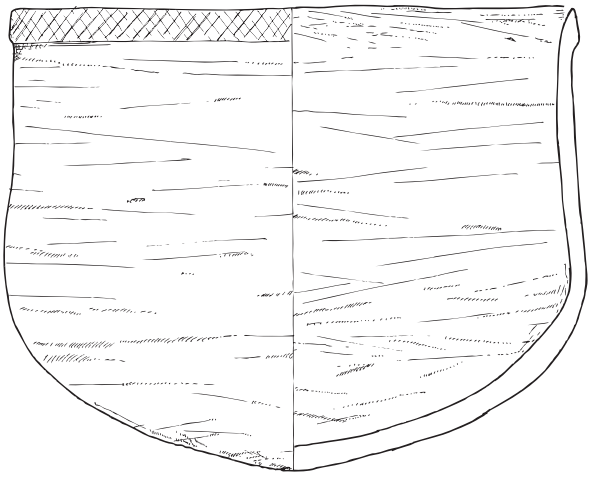
RESTRICTED SIMPLE (RS)
Large bowl



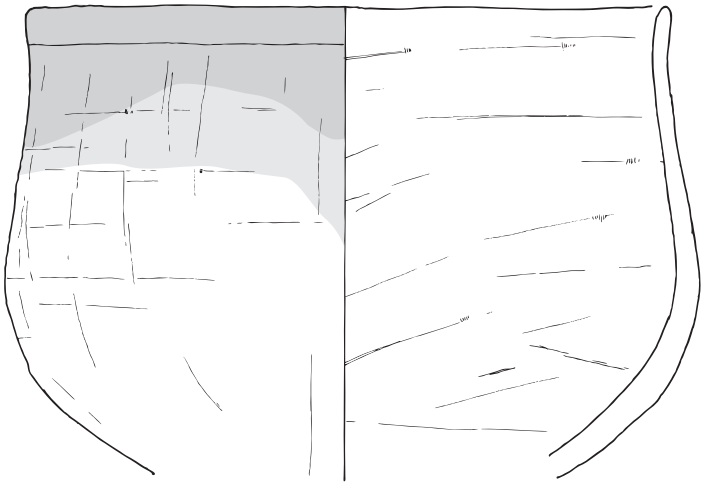
Mostagedda 1810A

0 5 10 cm

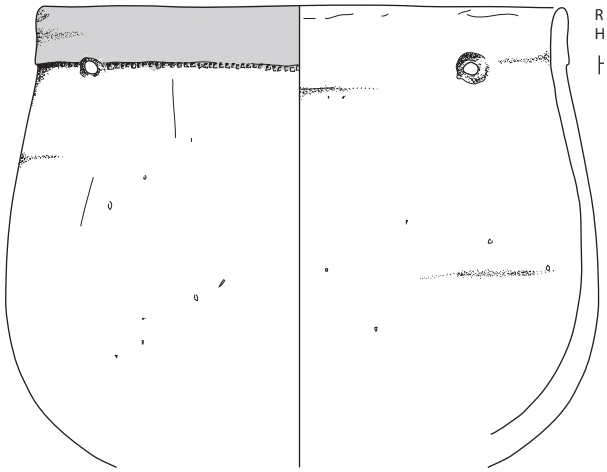
RESTRICTED INFLECTED (RI)
Bowls



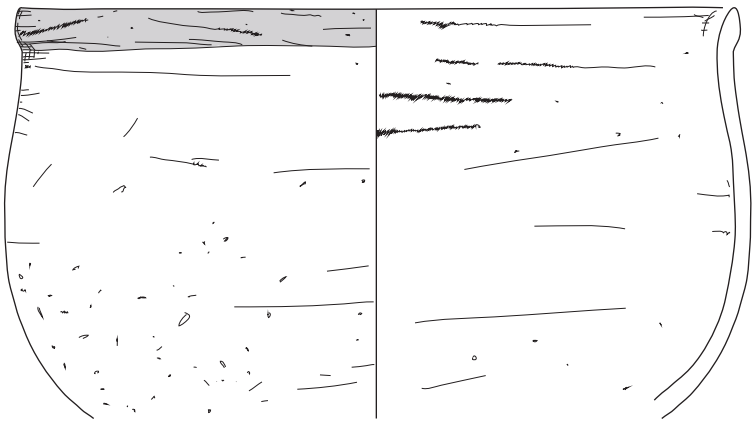
(a) Qau (Pet. Mus. UC17922)



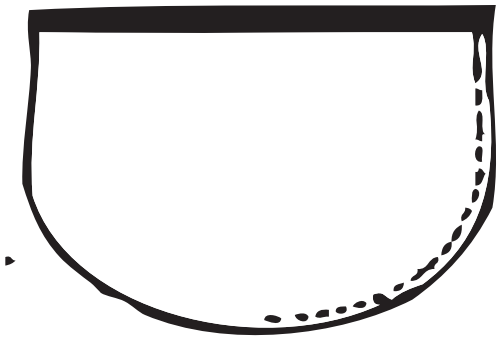
(b) Hu X28 (UC17901)



(c) Debeira East (SJE 47/14:10a)

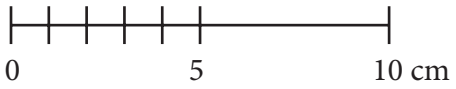


(d) Debeira East
(SJE 47/82:3c + 47/019)

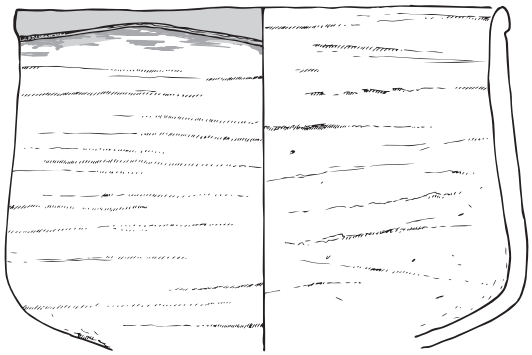


(e) Mostagedda 3163
BRUNTON 1937, pl. LXXII.33

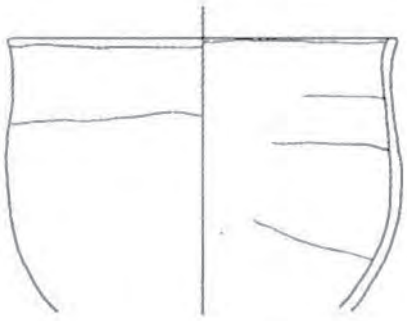
PLATE 42



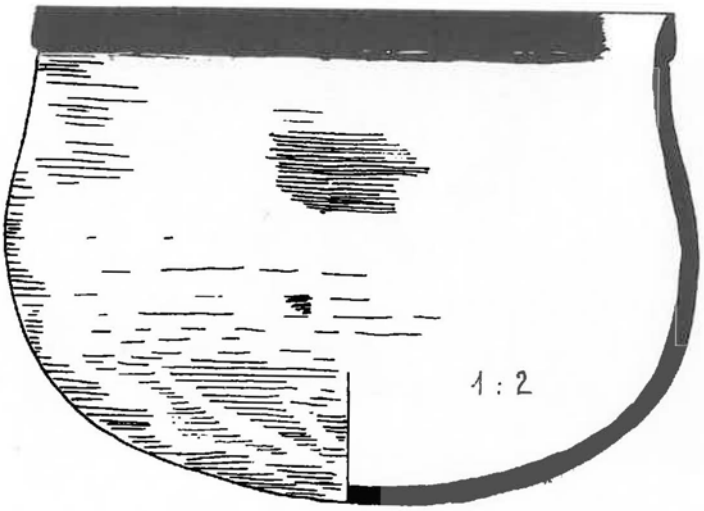
RESTRICTED INFLECTED (RI)
Bowls



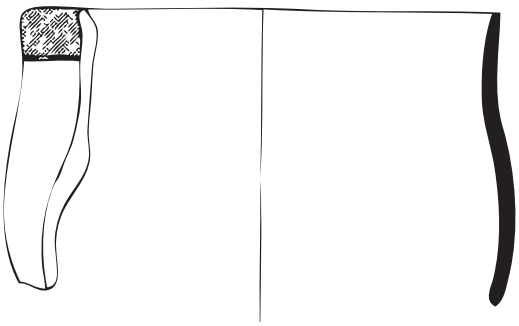
(a) Debeira East (SJE 47/59:1a)



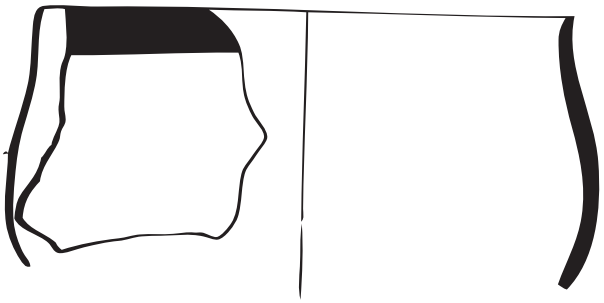
(b) WK11
GATTO 2012, Fig. 10.7.



(c) Sayala B1
BIETAK 1966, Taf. 25.



(d) Adindan K29.4b
WILLIAMS 1983, pl. 93F.

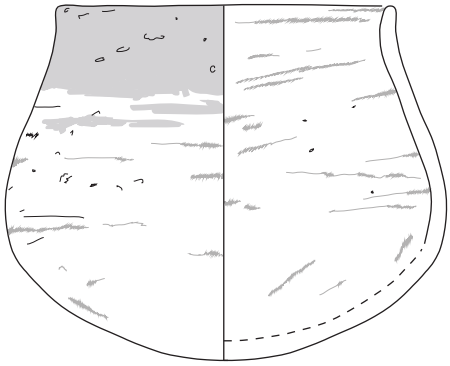


(e) Adindan K92.1
WILLIAMS 1983, pl. 93I

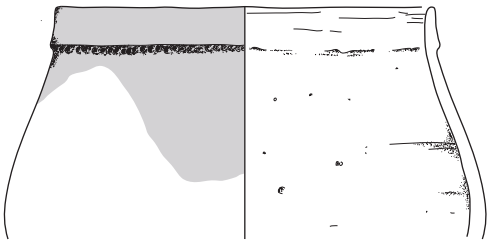
0 5 10 cm

RESTRICTED INFLECTED (RI)

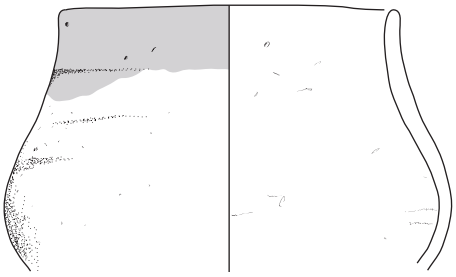
Squat bowls (a-d)



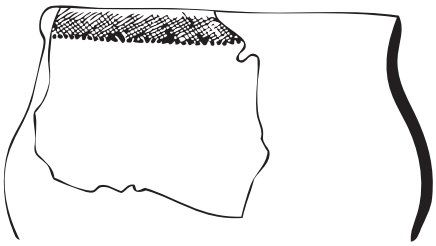
(a) Debeira East (SJE 47/109:3)



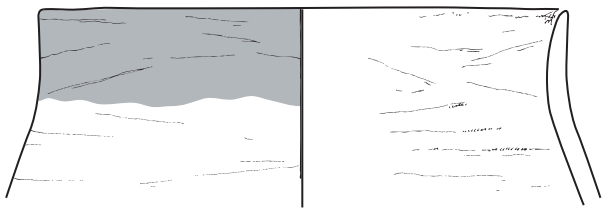
(b) Debeira East (SJE 47/3:3b)



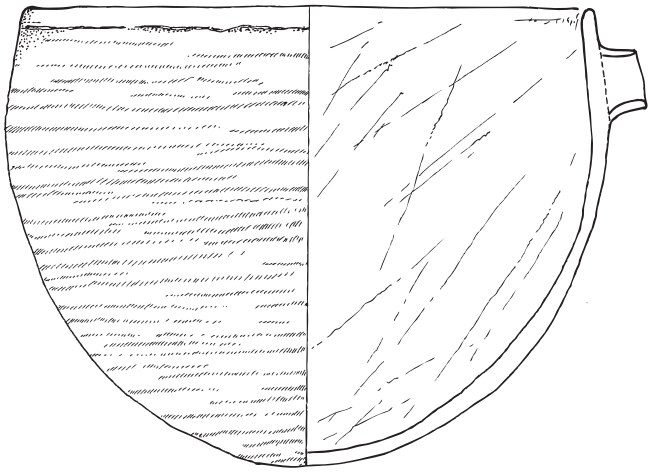
(c) Debeira East (SJE 47/20:a)



(d) Adindan K99.4c
WILLIAMS 1983 pl. 93M.



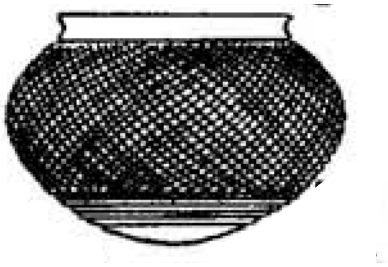
(e) Hierakonpolis HK21A Pot 43



(f) Mostagedda 3118 (BM EA 63024)

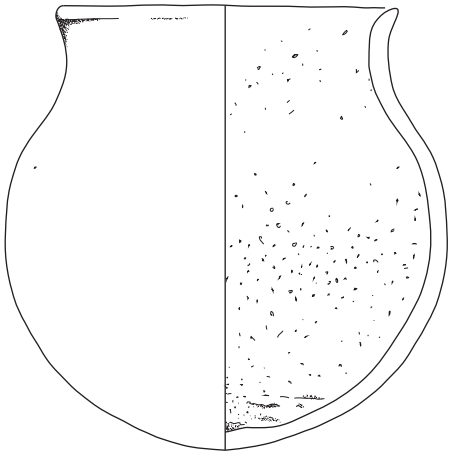
PLATE 44

CLOSED FORMS
RNI jars

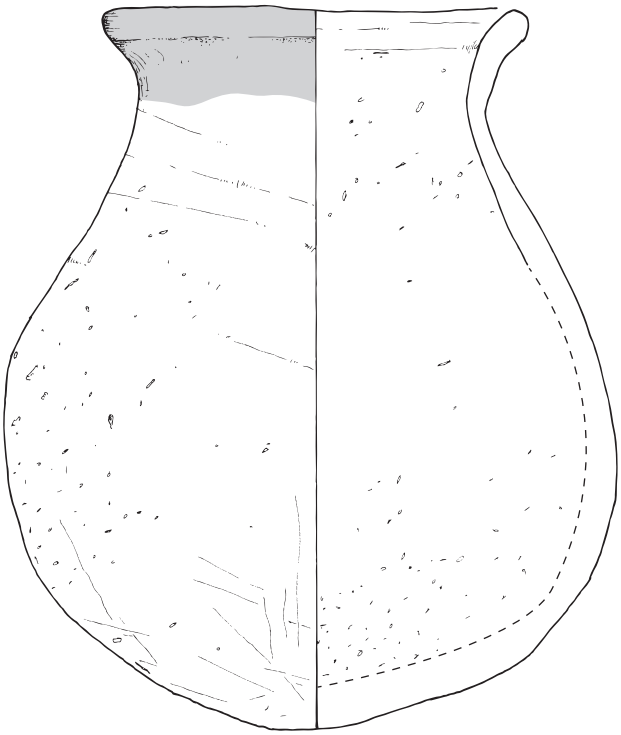


(a) Qau (Badari) 1300
(BRUNTON 1930, pl. IX.5)

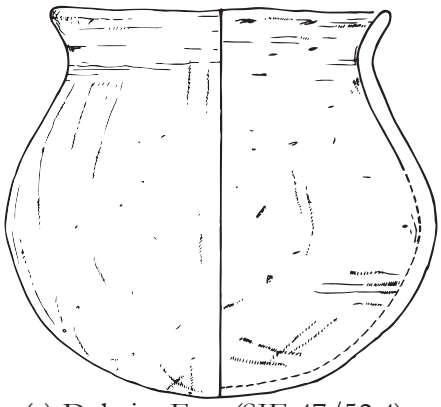
(b) Mostagedda 3100
(BRUNTON 1937, pl. lxxii.16)



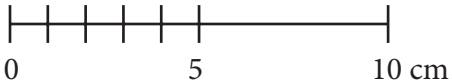
(c) Debeira East (SJE 47/3:3a)



(d) Debeira East (SJE 47/81:2)



(e) Debeira East (SJE 47/52:4)



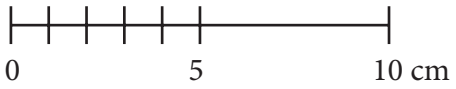
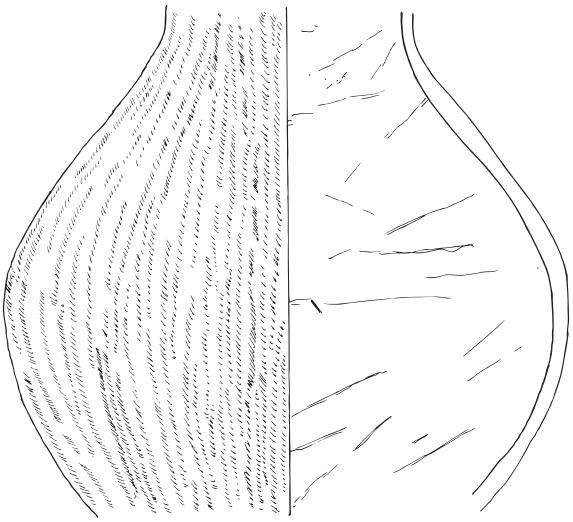
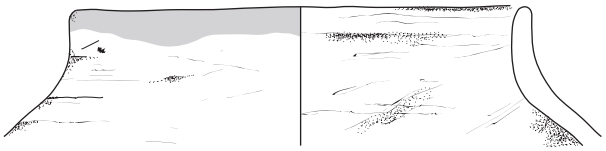


PLATE 45

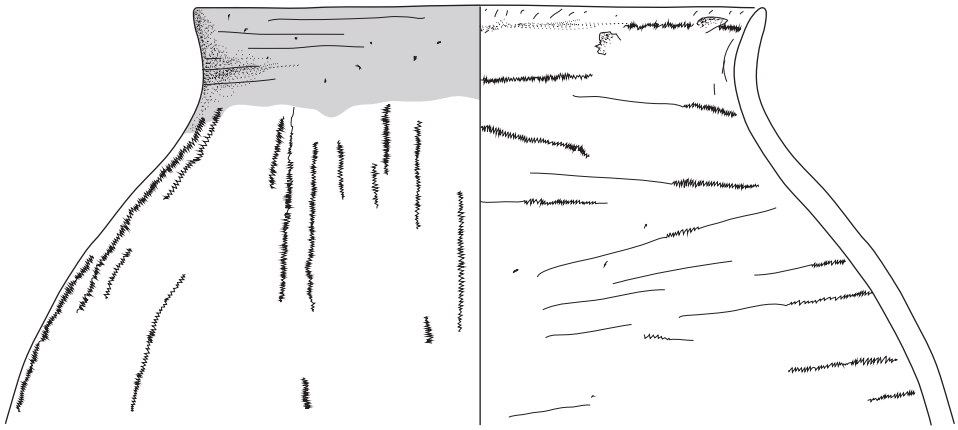
CLOSED FORMS
RNI jars



(a) Debeira East (SJE 47/109:3g)



(b) Debeira East (SJE 65/119:3f)

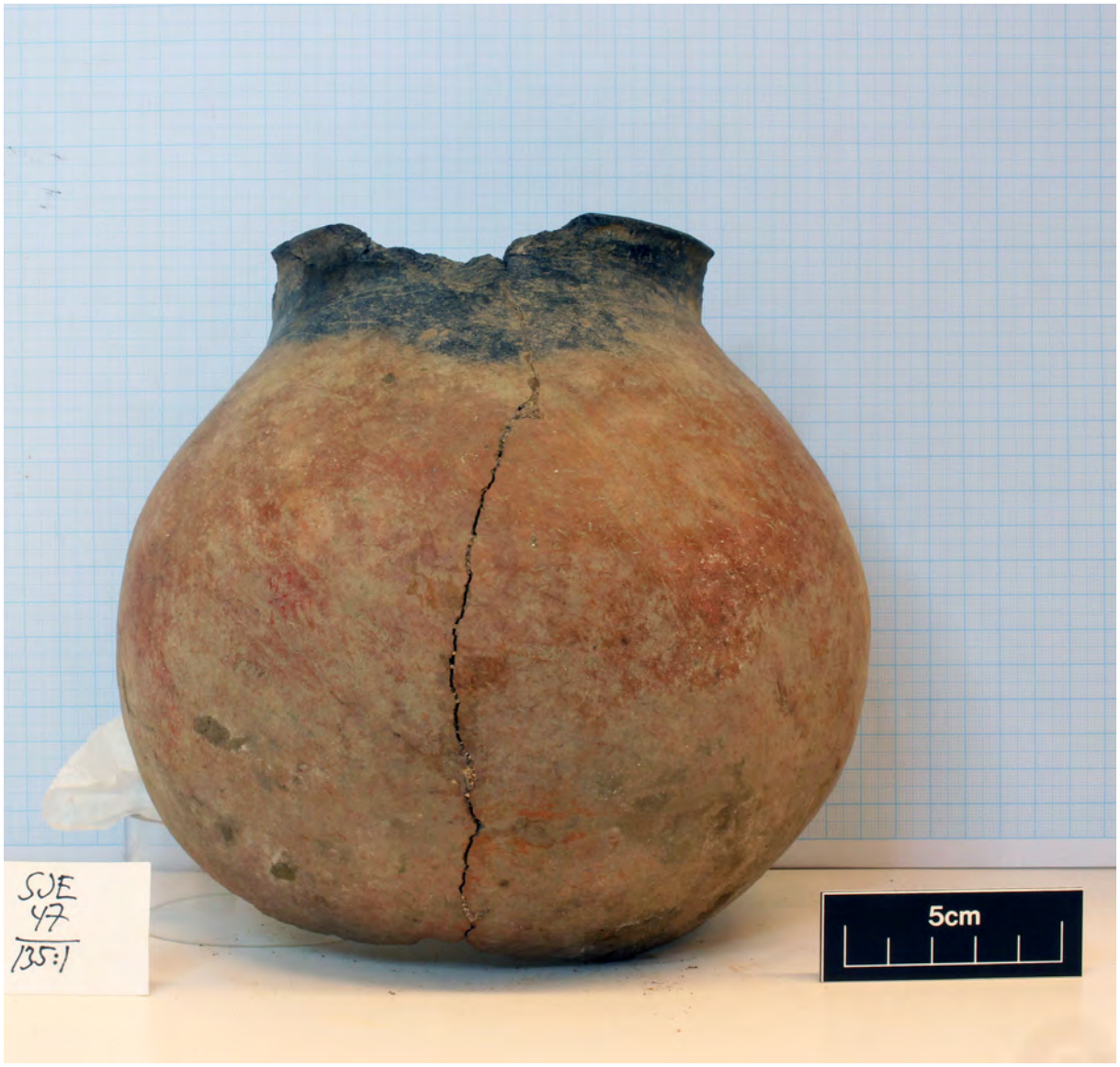


(c) Debeira East (SJE 65/47:3e)

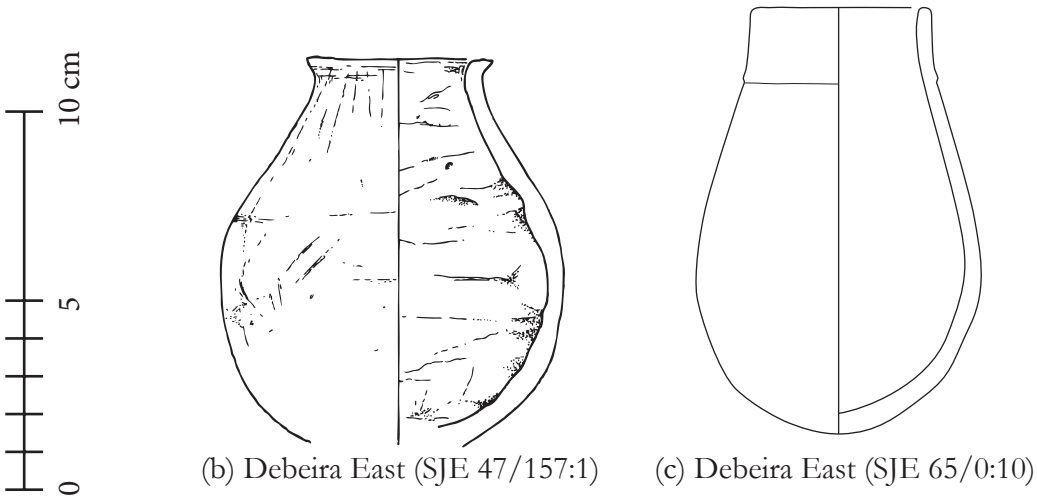
PLATE 46

CLOSED FORMS

(a) RNI jar. (b-c) RS jar and beaker

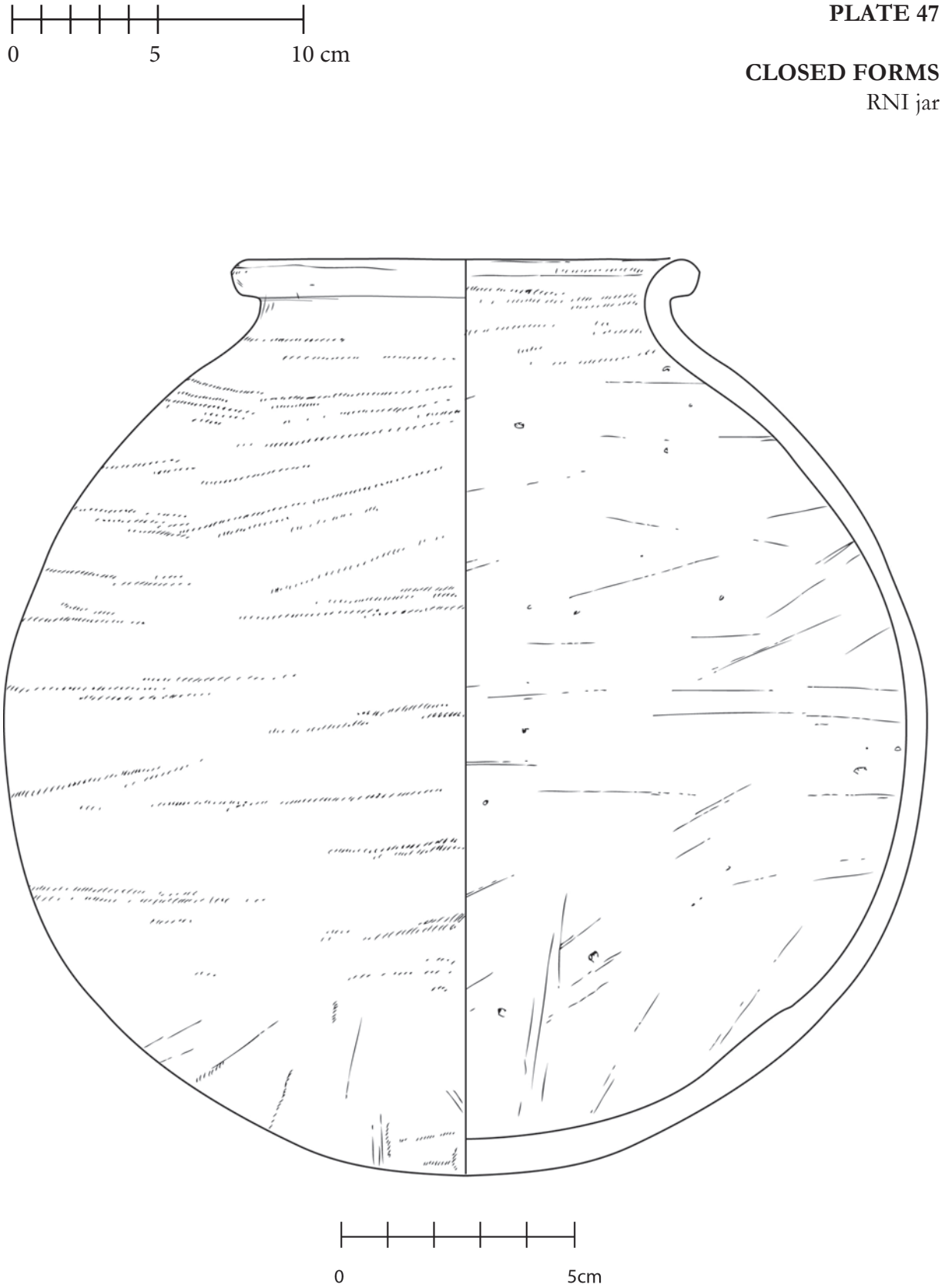


(a) Debeira East (SJE 47/135:1)



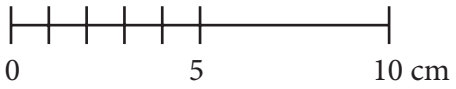
(b) Debeira East (SJE 47/157:1) (c) Debeira East (SJE 65/0:10)

CLOSED FORMS
RNI jar

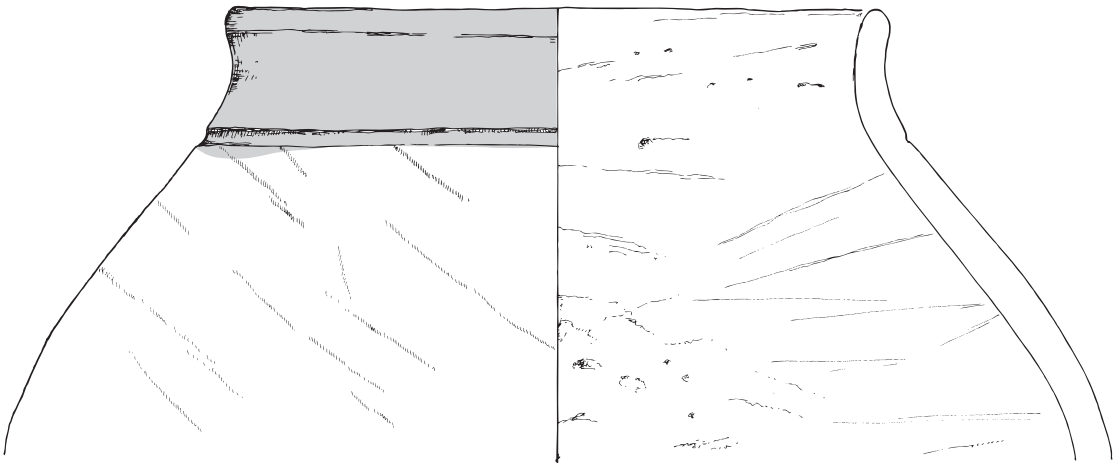


Hierakonpolis HK47 pot 31.
RB.b ware.

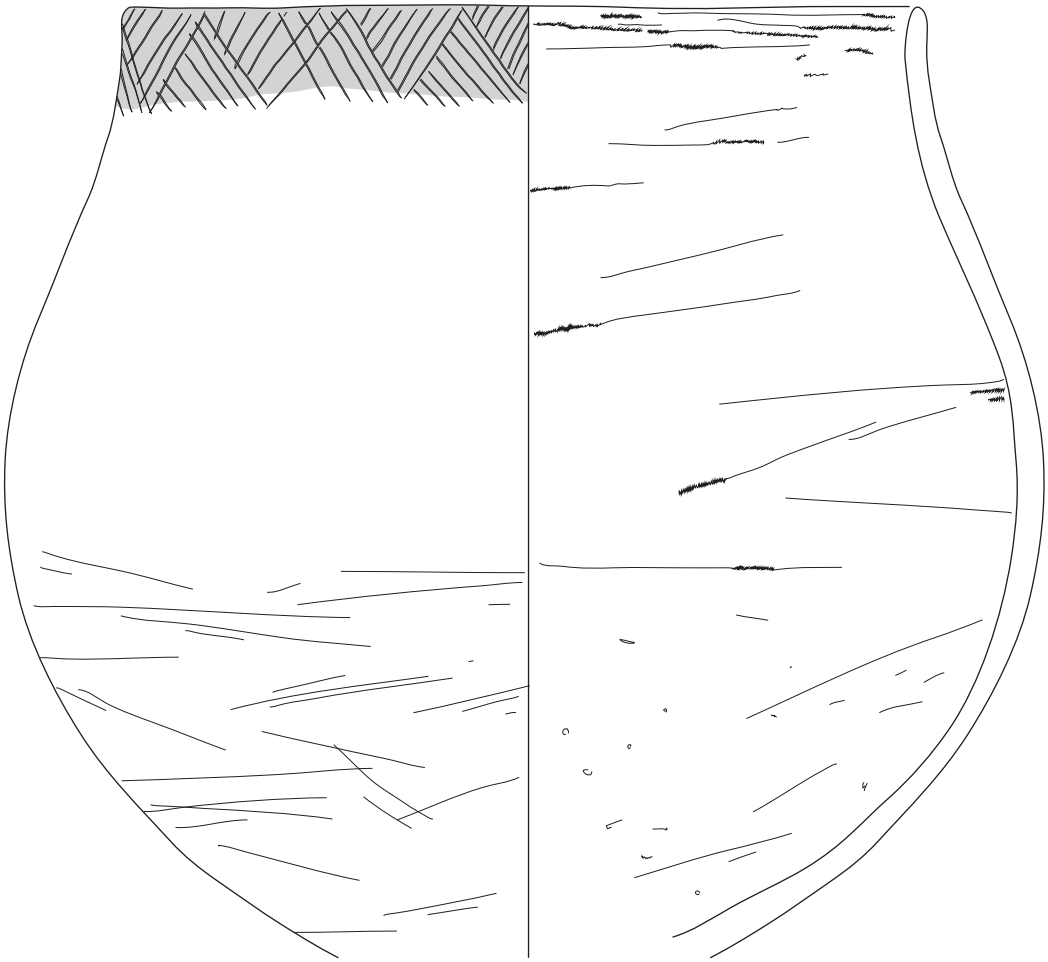
PLATE 48



CLOSED FORMS
RI jar



(a) Debeira East (SJE 47/119:3g)

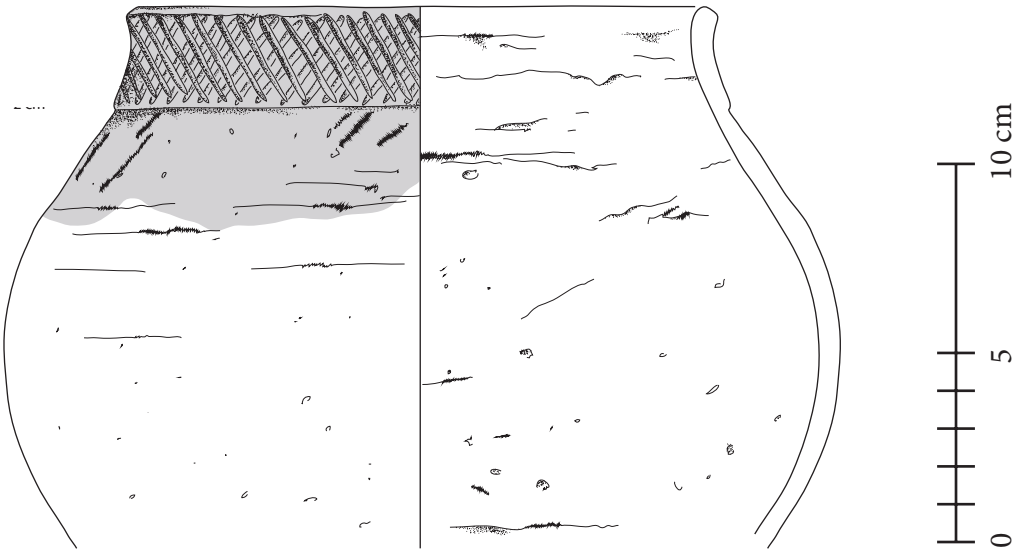


(b) Debeira East (SJE 47/154:3)

CLOSED FORMS

RI jar

(a) Debeira East (SJE 47/7:3b)

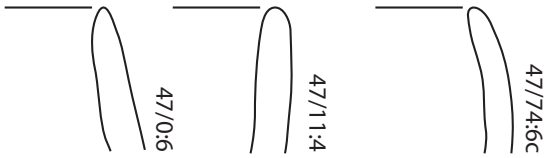


(b) Debeira East (SJE 47/109:3j)

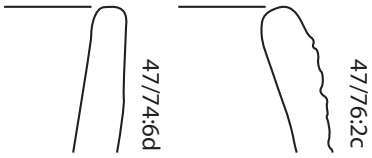
PLATE 50

Rim Profile types

D1. Direct - rounded

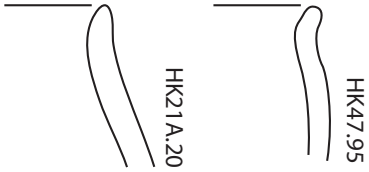


D2. Direct - flattened

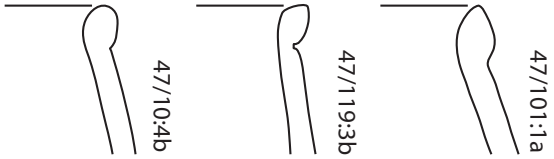


D3. Direct - set-off

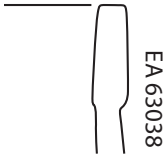
D4. Direct - inflected



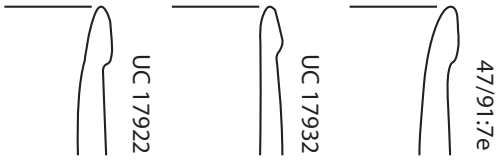
M1. Modelled - rounded



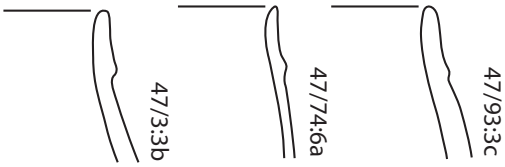
M2. Modelled - rectangular



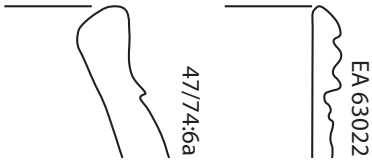
M3. Modelled - triangular



M4. Modelled - inflected triangle



M5. Modelled - complex

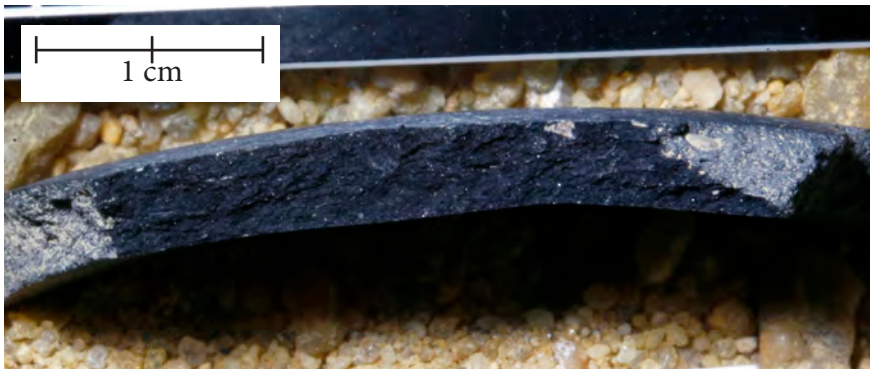


R1. Recessed

PLATE 51

Fabric PG.1
No visible temper

(a) HK47 Pot 17, with white inclusions
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).



(b) HK47.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

(c) SJE 47/143:1a
(Photo Aaron de Souza. Courtesy Museum Gustavianum, Uppsala University)

PLATE 52

Fabric PG.2
Dung Temper

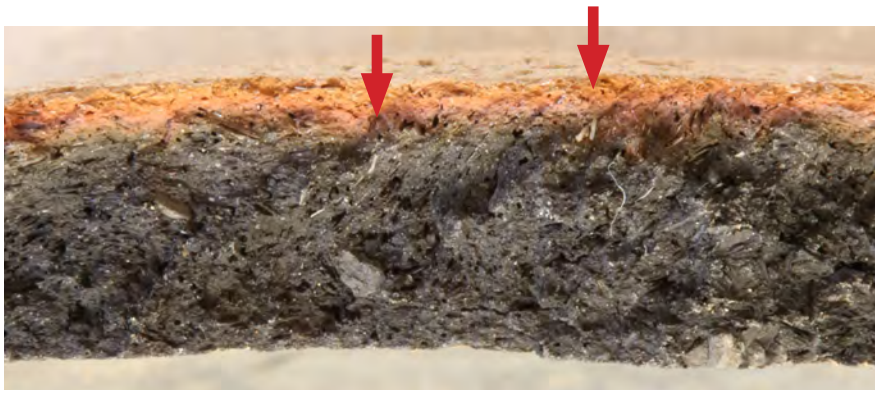
(a) HK47 Pot 15
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

(b) HK21A Sample 6.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

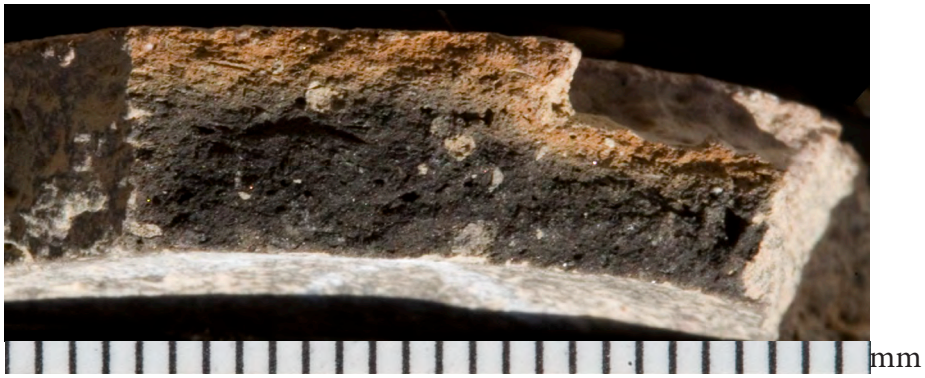
(c) HK21A Sample 9.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

Fabric PG.3
Chaff Temper

(a) HK47 pot 27 showing elogated chaff voids.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).



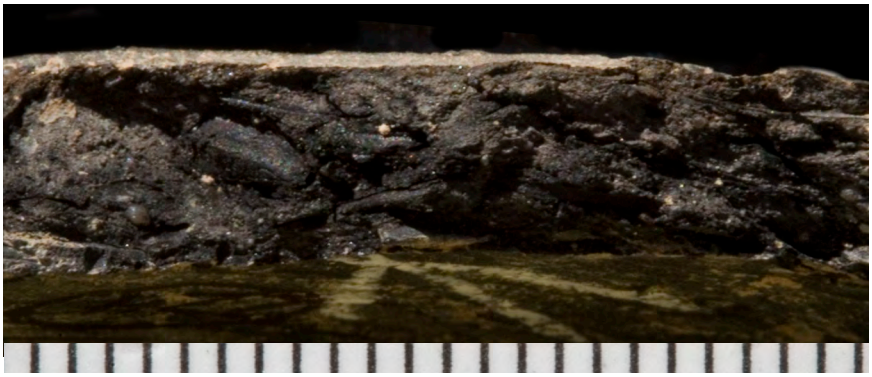
(b) SJE 47/135:2a. Chaff particles marked by arrow.
(Photo Aaron de Souza. Courtesy Museum Gustavianum, Uppsala University)



(c) HK21A Sample 1. Chaff voids visible near exterior surface (top).
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

PLATE 54

Fabric PG.4
Straw Temper

mm 

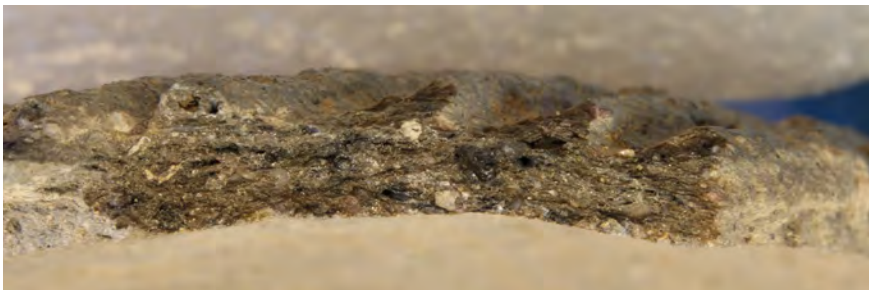
(a) HK21A.22. Showing large carbonised straw particles.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

(b) SJE 47/0:16.
(Photo Aaron de Souza. Courtesy Museum Gustavianum, Uppsala University)

(c) SJE 47.
(Photo Aaron de Souza. Courtesy Museum Gustavianum, Uppsala University)

Fabric PG.5
Sand Temper

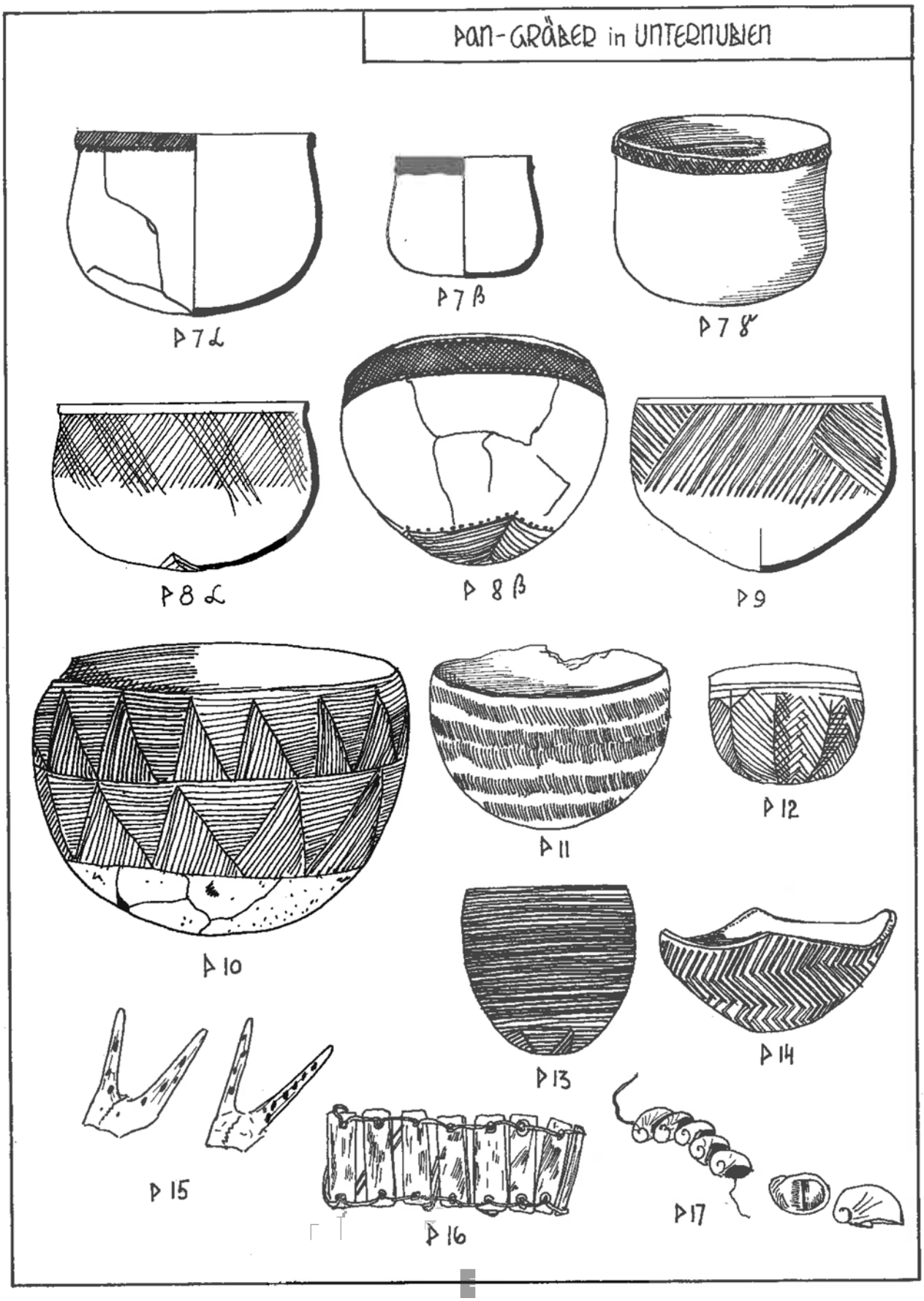
(a) HK21A Sample 5.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).



(b) SJE 47/0:16.
(Photo Aaron de Souza. Courtesy Museum Gustavianum, Uppsala University)

(c) Interior surface of HK47, Pot 29 showing large rounded sand particles visible at surface.
(Photo Jim Rossiter. Courtesy the Hierakonpolis Project).

PLATE 56



Bietak's typology of Pan Grave pottery. BIETAK 1968, pl. 16.

Surface treatment - Burnshing

(a) RS Bowl from Debeira East (SJE 47/77:6 and 47/119:3)
This vessel shows evidence of burnishing in multiple directions, as indicated by the white arrows. Black brush marks are also visible below the black-top, indicating that a black pigment was painted onto the vessel. (Photo: A. de Souza)

(b) US Bowl from Mostagedda 3155 (BM EA63030)
Black-topped vessel showing burnishing strokes radiating from the base. (Photo: A. de Souza)

PLATE 58

Black-top uncoated ware (BT.u)

(a) Wadi Kubbaniya WK11 surface collection.
(Photo: Courtesy AKAP/Maria Gatto)

(b) SJE 47/106/2a. (Photo: A. de Souza)

(c) Hierakonpolis HK 47A, Pot 9.
(Photo: Jim Rossiter, Courtesy The Hierakonpolis Expedition)

(d) Debeira East SJE 47/121:1 (Photo: A. de Souza)

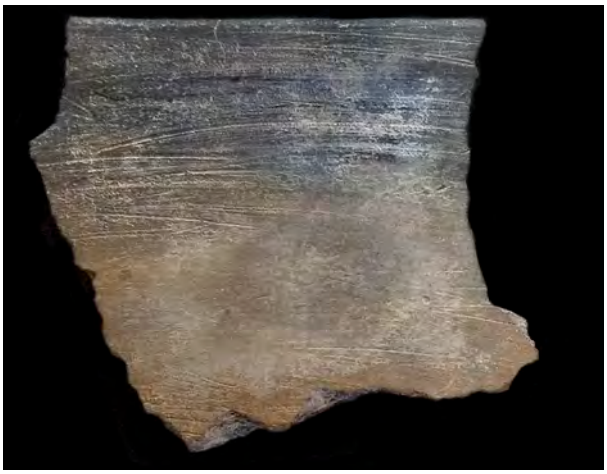
Black-top coated ware (BT.c)

(a) Debeira East SJE 47/52:5
(Photo: A. de Souza)

(b) Hu X28. Pet. Mus. UC 17901
(Photo: A. de Souza)

(c) Debeira East SJE 47/B (Photo: A. de Souza)

(d) Qau 1989. (Pet Mus. UC17889 (Photo: A. de Souza)



(e) HK 21A.43. (Photo: Jim Rossiter, Courtesy The Hierakonpolis Expedition)

PLATE 60

Black-top coated ware(BT.c) - Defined and applied black-tops

(a) Debeira East SJE 47/77:2
(Photo: A. de Souza)

(b) Mostagedda 3143 (BM EA63027
(Photo: A. de Souza)

(c) Debeira East SJE 47/106:1
(Photo: A. de Souza)

Black-top coated ware (BT.c) - Defined and applied black-tops

(a) Rifeh. UC 17927
Black-topped, red-coated bowl with narrow line of uncoated clay between black and red zones, demonstrating that the red-slip did not cover the entire body and that the black-top ws applied artificially.
© Petrie Museum, UCL

b)

c)

d)

(b-d) Three examples of bowls with 'post-firing' black rims that have eroded to reveal light coloured and unslipped vessel surface underneath. Note that the red-slip covers the vessel body only. All from Debeira East.
(b) SJE 47/143:1a; (b) SJE 47/145:1; (c) SJE 47/124:2. (All photos: A. de Souza)

PLATE 62

Black smoothed ware (B.s)

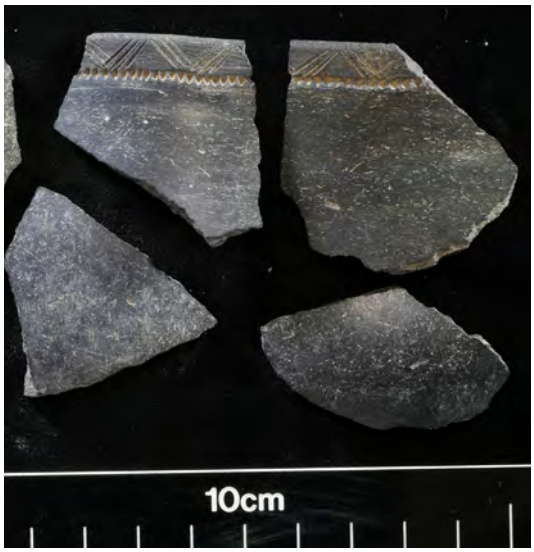
(a) Debeira East SJE 47/79:2.
(Photo: A. de Souza)

(b) Wadi Kubbaniya WK11 ß CC1
(Courtesy AKAP/Maria Gatto)

PLATE 63

Black Burnished ware (B.b)

(a) Qau 1989 (Pet. Mus. UC17888. Photo: A. de Souza)



(b) Hierakonpolis HK47 Pot 17
(Photo: Jim Rossiter, Courtesy The Hierakonpolis Expedition).

(c) Qau. (Pet. Mus. UC17922.
Photo: A. de Souza)

PLATE 64

Red-and-black uncoated ware (RB.u)

(a) Hierakonpolis HK47A Pot 26. Exterior (top) and interior (bottom). (Photos: Jim Rossiter. Courtesy The Hierakonpolis Expedition)

(b) Hierakonpolis HK47A Pot 80. Exterior (left) and interior (right). (Photos: Jim Rossiter. Courtesy The Hierakonpolis Expedition)

Red-and-black uncoated ware (RB.c)

Hierakonpolis HK47A Pot 29. Exterior (top) and interior (bottom). (Photos: Jim Rossiter. Courtesy The Hierakonpolis Expedition)

PLATE 66

Red uncoated ware (R.u)

(a) Mostagedda 3100.
BM EA63022
Photo: A. de Souza

(b) Mostagedda 3248
BM EA63046
Photo: A. de Souza

(b) Mostagedda 3248
BM EA63044
Photo: A. de Souza

Red coated ware (R.c)

(a) Mostagedda 3100 ©Trustees of the British Museum.

Red burnished ware (R.b)

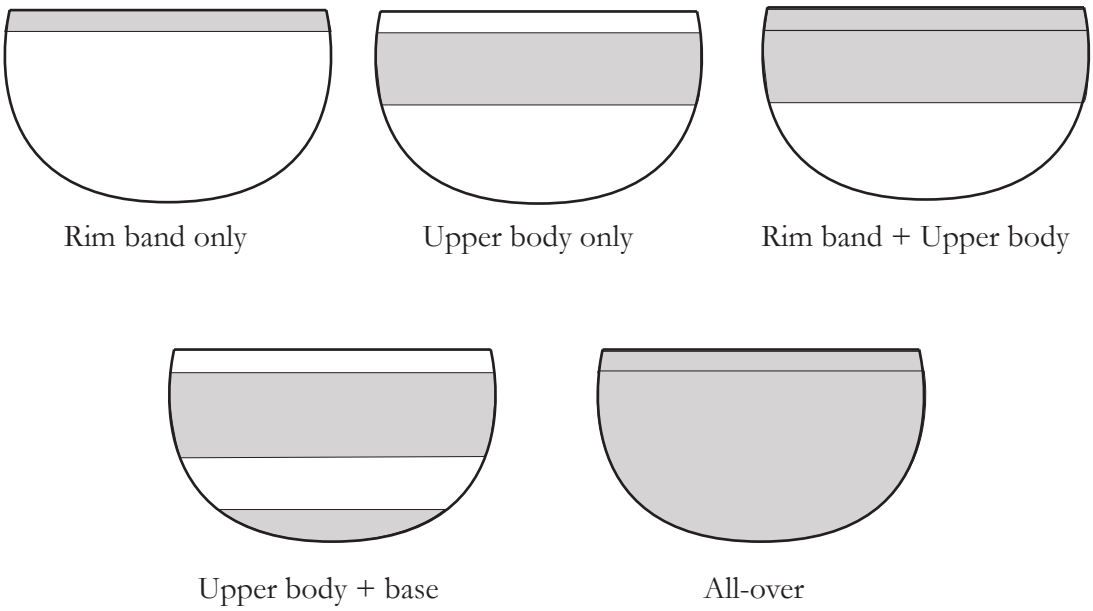
(b) SJE 47/21:5 (Photo: A. de Souza)

PLATE 68

Red burnished ware (R.b)

(a) Mostagedda 3241 (BM EA63040. Photo: A. de Souza)

(b) Mostagedda 3248. Top: exterior with Pan-Grave fine burnsh; Bottom: Red-slipped interior rim. (BM EA63045. Photo: A. de Souza)

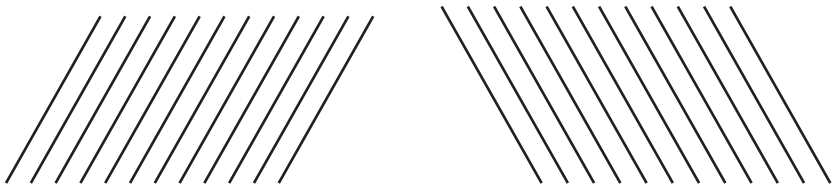


(a) Placement of decoration.

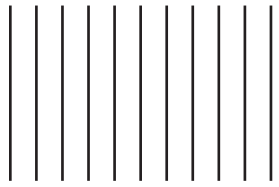
(b) Unprovenanced Pan Grave sherds with impressed spiral motif and red-and-white painted decoration. Pet. Mus. UC 43309 and 43310. (Photo: A. de Souza)

PLATE 70

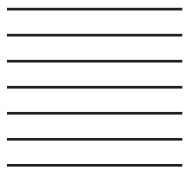
Schematic representations of Pan-Grave decorative motifs (1)



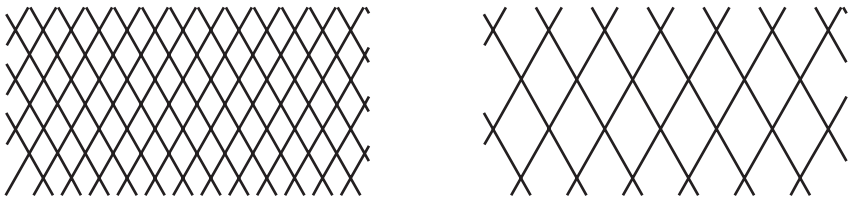
H.o: Oblique hatching



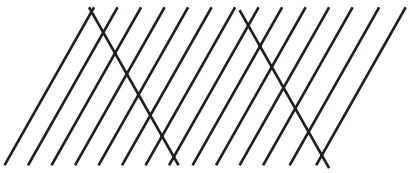
H.v: Vertical hatching



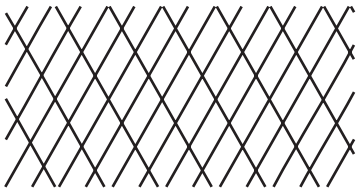
H.h: Horizontal hatching

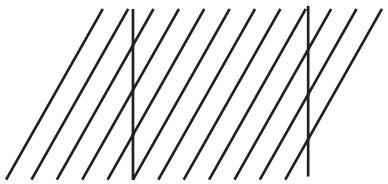


C.r: Regular Cross-hatch

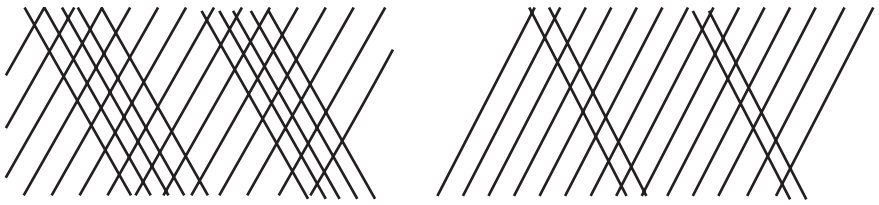


C.i: Irregular Cross-hatch

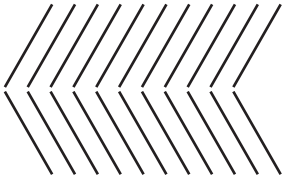




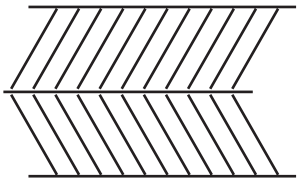
C.x: Complex Cross-hatch



C.b: Banded Cross-hatch

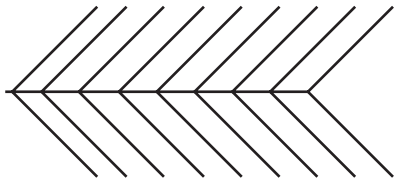


HB.f: Herringbone - free

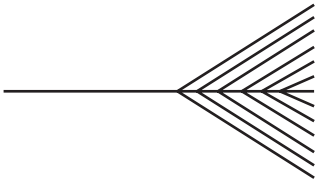


HB.b: Herringbone - banded

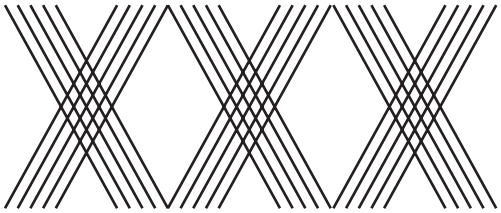
Schematic representations of Pan-Grave decorative motifs (2)



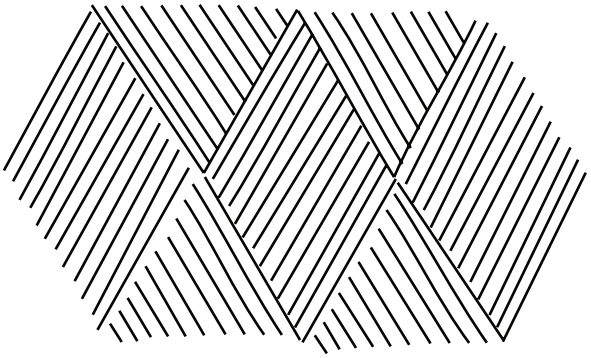
F.l: Long feather



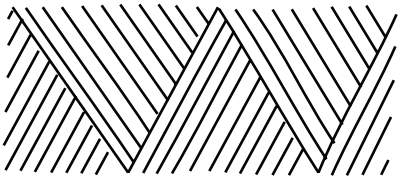
F.e: End feather



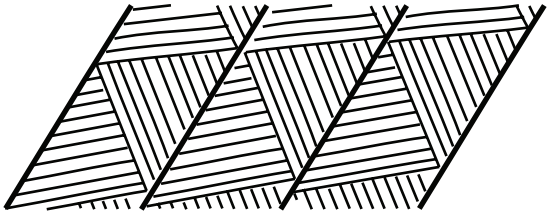
L: Lattice



Q: Quadrilateral



B.h: Horizontal braid



B.b Banded braid

Z.p: Plain zig-zag

Z.f: Filled zig zag

PLATE 72

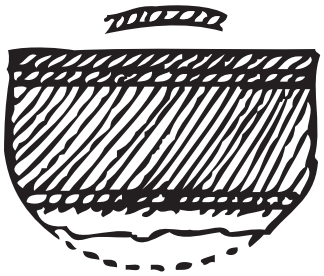
(a) Sherds from HK21A with comb impressed decoration to the rim band. HK21A Pot 4 (left) and Pot 5 (right). (Photo: Jim Rossiter. Courtesy the Hierakonpolis Expedition.)

(b) Detail of a horned bowl from Rifeh, showing fine impressed marks with raised area in centre. Pet. Mus. UC17913 (Photo: A. de Souza)

(c) Rim sherd of bowl from Rifeh with rippled impressions decorating the rim. Pet, Mus. UC17908. Photo: Aaron de Souza

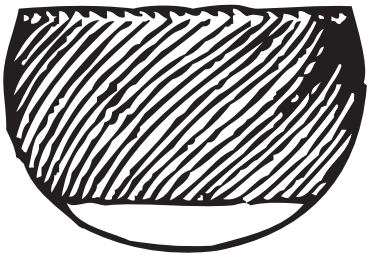
Oblique hatch (Motif H.o)

a



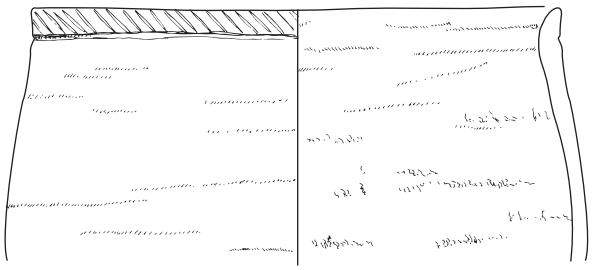
Balabish B177
(WAINWRIGHT 1920, pl. XIV)
scale approx. 1:3

b



Mostagedda 3136
(BRUNTON 1937, pl. LXXII.13)
Scale approx. 1:3

c



Hierakonpolis HK47 Pot 10
Scale 1:2

d

Debeira East SJE 47/106.2a (Photo: Aaron de Souza)

e

Hierakonpolis HK47, Pot 23 (Photo: Jim Rossiter, The Hierakonpolis Expedition)

PLATE 74

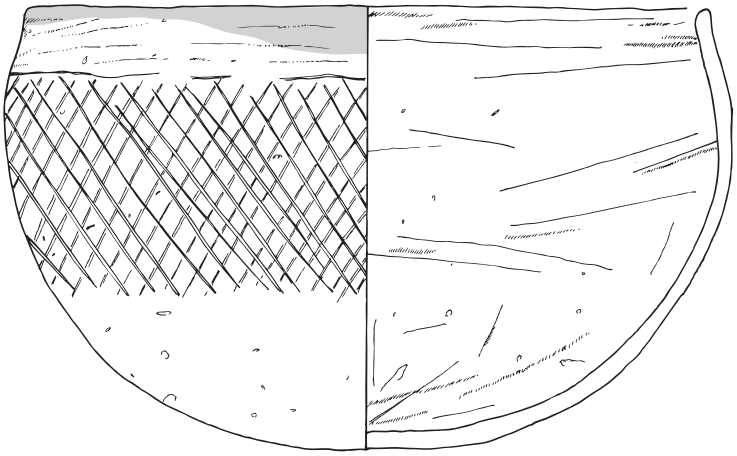
Vertical and Horizontal hatch (Motifs H.v and H.h)

(a) Sherd with vertical hatching (H.v). Debeira East. Museum Gustavianum, SJE 47/147:2. (Photo: A. de Souza).

(b) Sherd with horizontal hatching (H.h).
Rifeh 1300 (surface find).
Pet. Mus. UC 17934

Regular cross-hatch (Motif C.r)

(a)



Debeira East SJE 47/A

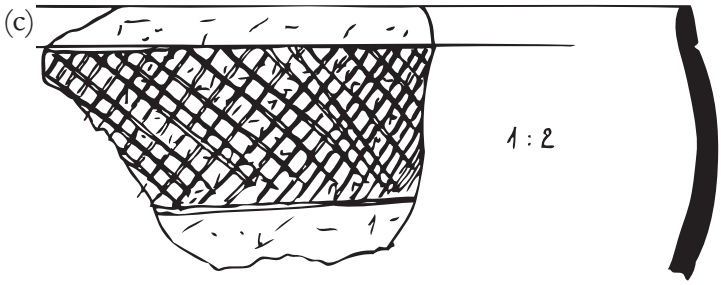
5cm

(b)

Hierakonpolis HK47 Pot 80
Photo: Jim Rossiter.
(Courtesy the Hierakonpolis Expedition)

5cm

(c)



Sayala B1
BIETAK 1966, pl. 26. (Scale 1:2)

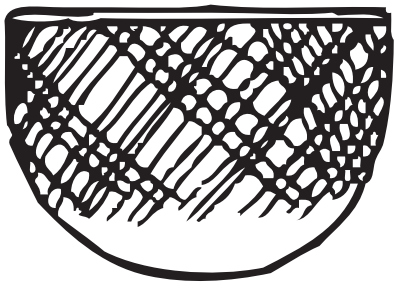
(d)

Moalla Area H3. MANASSA 2012a, fig. 6b
(scale not specified)

PLATE 76

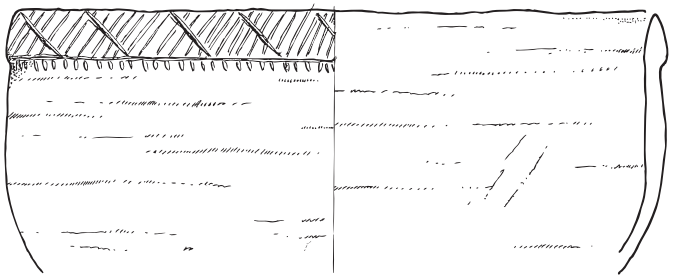
Irregular cross-hatch (Motif C.i)

(a)



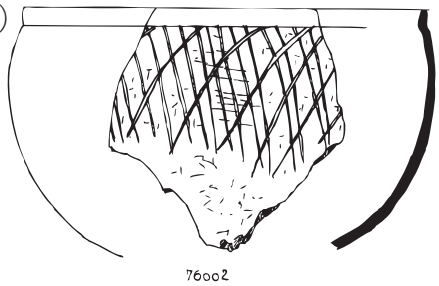
Mostagedda 3146.
BRUNTON 1937, pl. LXXII.3
Scale 1:6 (approx)

(b)



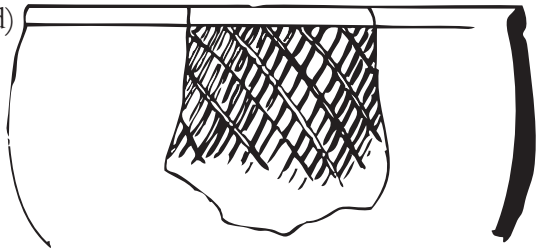
Rifeh.
Pet. Mus. UC179047

(c)



Sayala B1
BIETAK 1966, pl. 25.
(Scale 1:6)

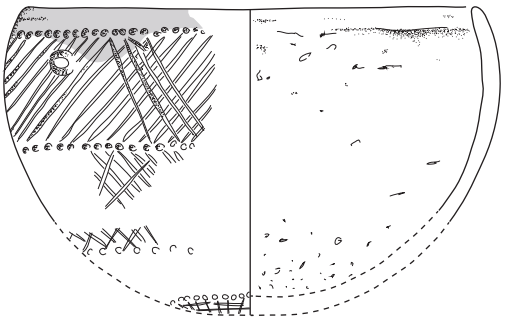
(d)



Sayala B1
BIETAK 1966, pl. 26.
(Scale 1:4)

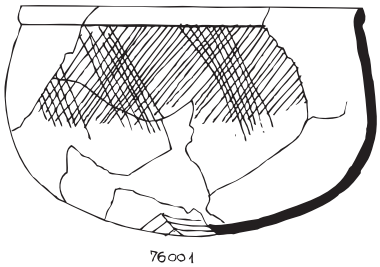
Banded cross-hatch (Motif C.b)

(a)



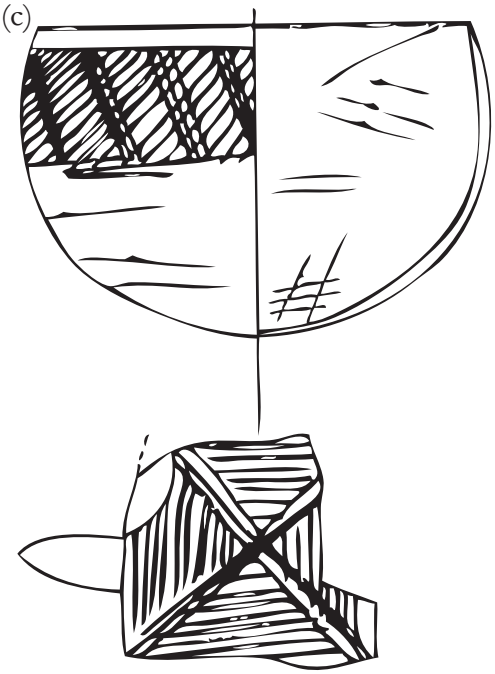
Debeira East SJE 47/74:6c (Scale 1:2)

(b)



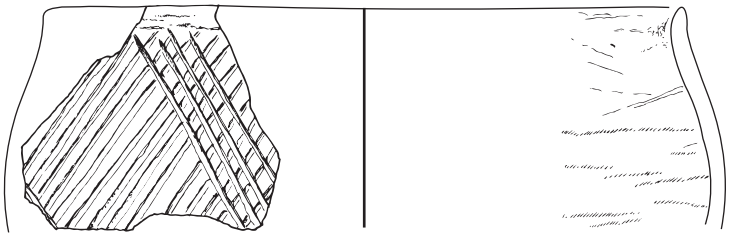
Sayala B1
BIETAK 1966, pl. 25.
(Scale 1:4)

(c)



Wadi Kubbaniya WK11
GATTO 2012, fig. 9.7
(Scale not specified)

(d)



Hierakonpolis HK21A Pot 20 (Scale 1:2)

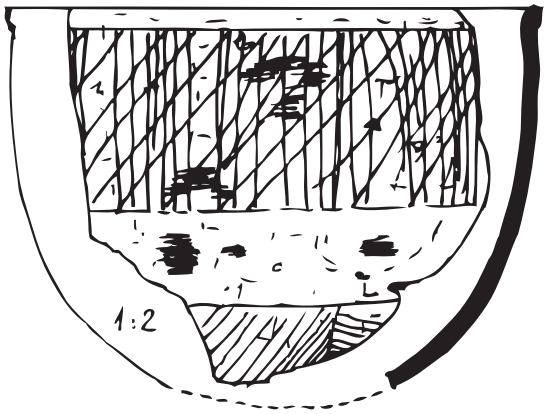
PLATE 78

Cross hatch - complex (Motif C.x)

(a)

Hierakonpolis HK47 Pot 26.
(Photo: Jim Rossiter. Courtesy the Hierakonpolis Expedition)

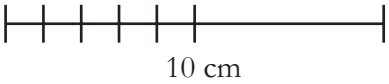
(b)



Sayala B11
BIETAK 1966, pl. 30.
(Scale 1:2)

(c)

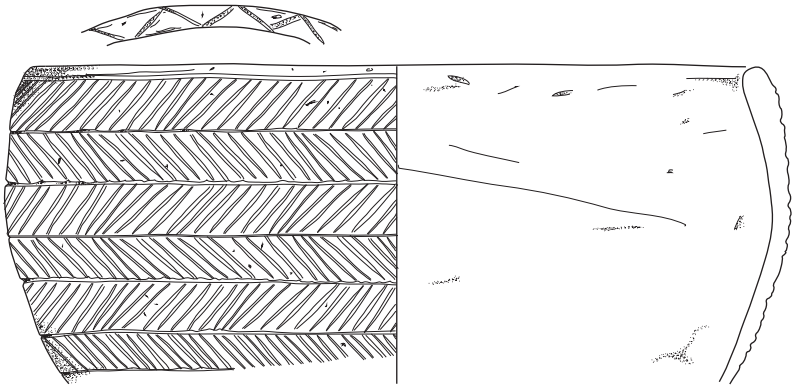
Moalla Area H3.
MANASSA 2012a, fig. 6d. (Scale not specified)



Herringbone (Motif HB)

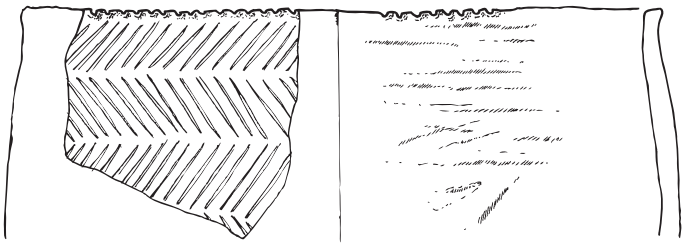
Banded Herringbone (a), Free Herringbone (b-c)

(a)



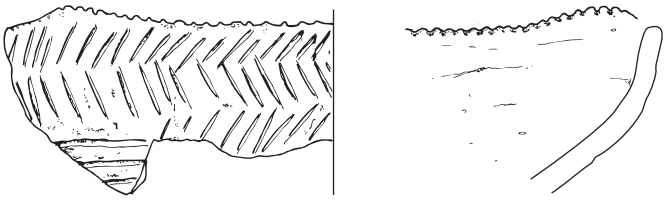
Debeiera East, SJE 47/76:2c

(b)



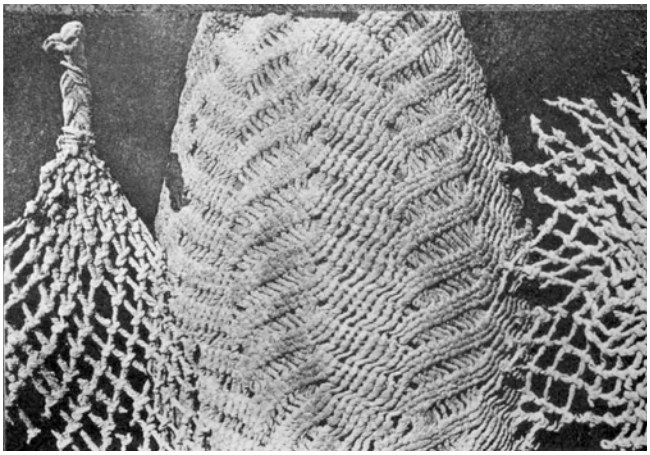
Rifeh. Pet. Mus. UC17903.

(c)



Hierakonpolis HK47 Pot 28.

(d)



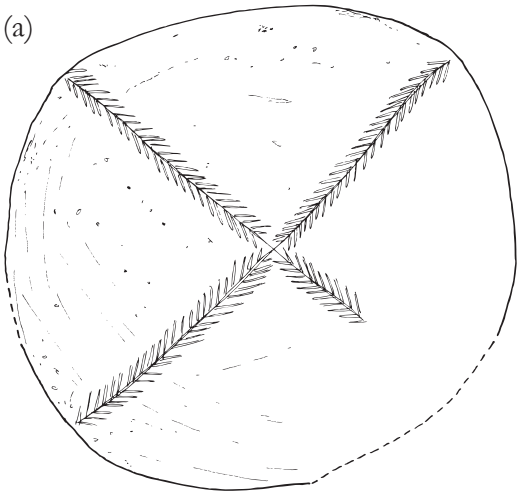
Nets used for suspension of vessels found in a 17th Dynasty rishi burial at Qurneh, woven in a herringbone-like pattern.
PETRIE 1909, pl. XXVIII.

PLATE 80

Feather (Motif F)

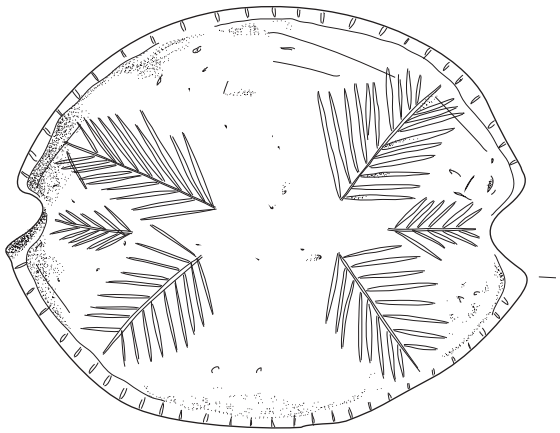
Long feather (a-c) End feather (d-e)

(a)



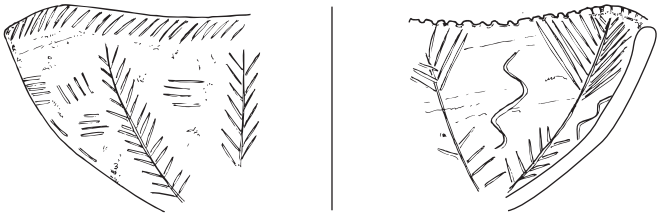
Debeira East, SJE 47/3:1

(b)



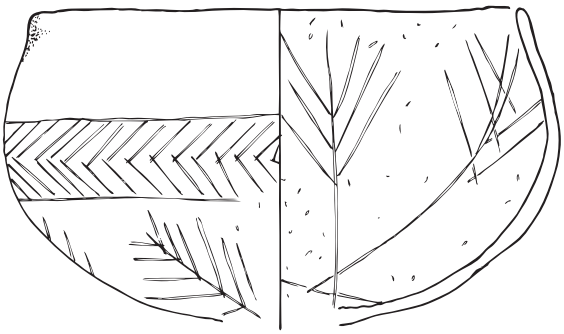
Debeira East, SJE 47/51:4

(c)



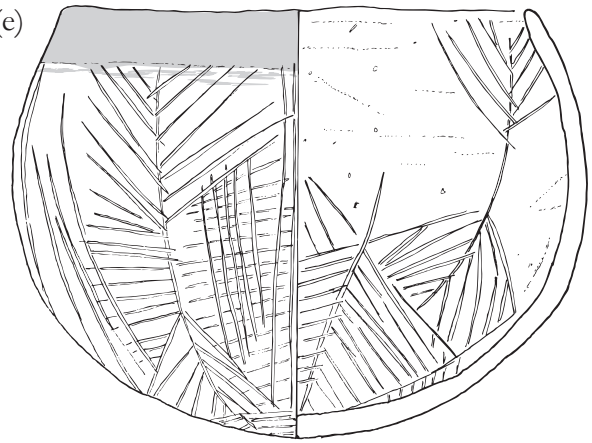
Hierakonpolis HK47 Pot 34, wirh F.l on the exterior, F.e on the interior.

(d)



Debeira East, SJE 47/39:2, with HB.f and F.l on the exterior and F.e on the interior.

(e)

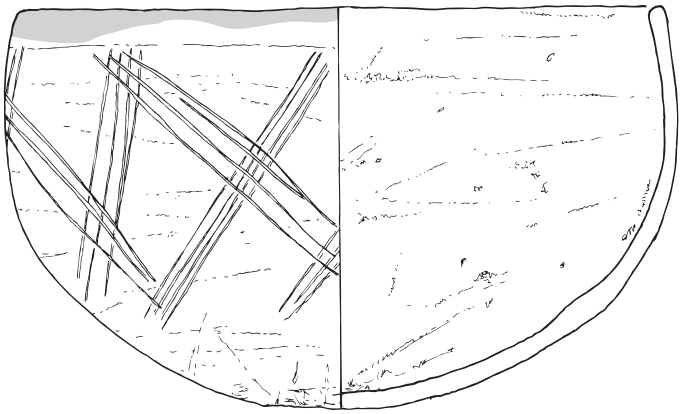


Debeira East, SJE 47/B, with double-ended F.e motifs on the exterior and interior.

PLATE 81

Lattice (Motif L)

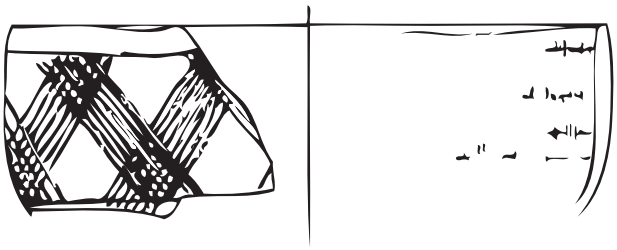
(a)



Debeira East SJE 47/121:1

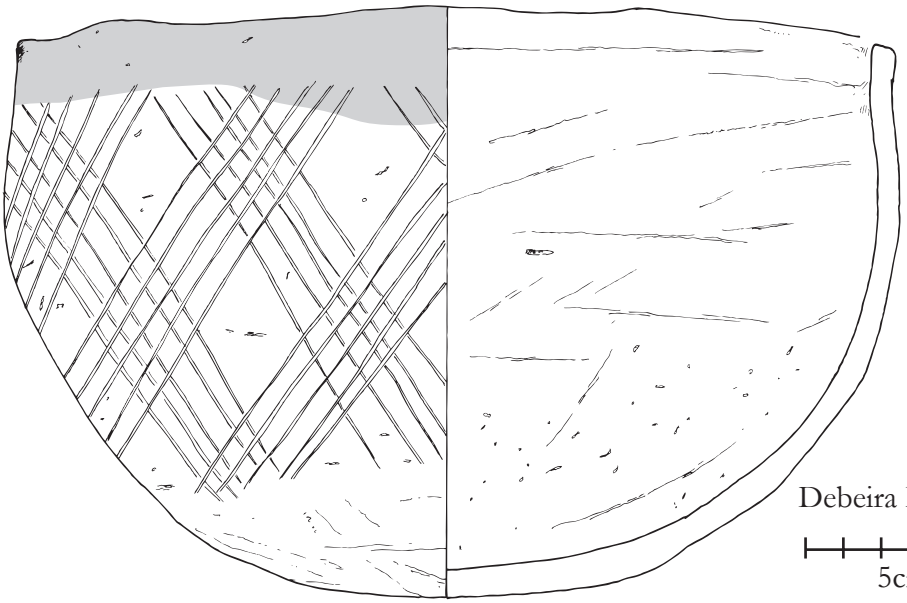
5cm

(b)



Wadi Kubbaniya WK11
(Scale not specified)
GATTO 2012, fig. 9.10.

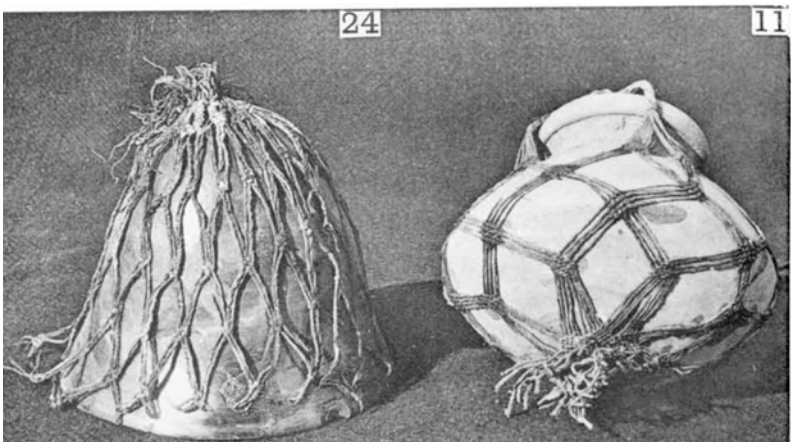
(c)



Debeira East SJE 47/136:2

5cm

(d)

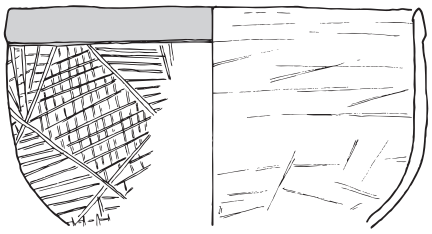


Kerma beaker (left) and Egyptian jar (right) from *rishi* grave at Qurneh with netting that resembles lattice motif. PETRIE 1909, pl. XXVIII. (Scale not specified)

PLATE 82

Quadrilateral motif

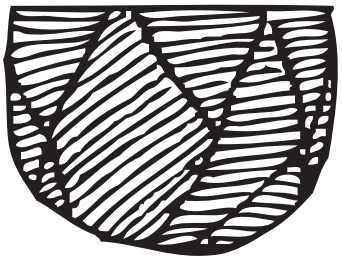
(a)



Rifeh. Pet. Mus. UC17392

5cm

(b)



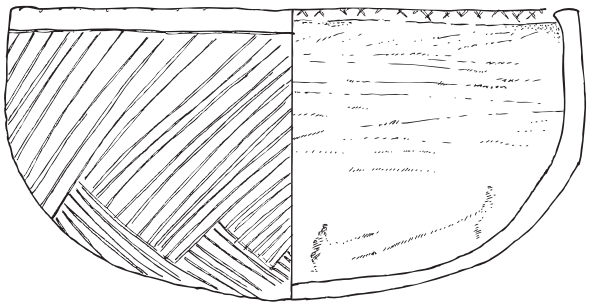
Mostagedda 3158
BRUNTON 1937, LXXII.6.
Scale 1:6 (approx)

(c)

Hierakonpolis HK47 Pot 29 (Photo: Jim Rossiter. Courtesy the Hierakonpolis Expedition).

Braid motif

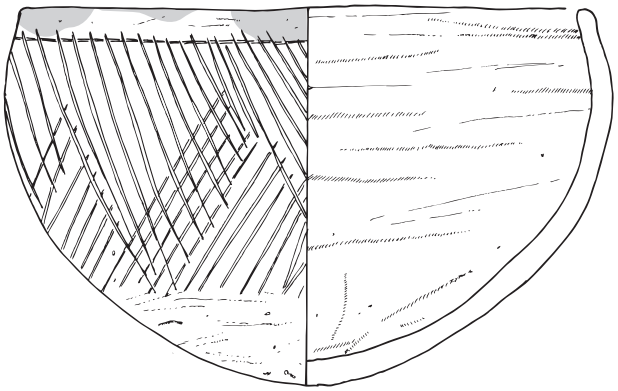
(a)



Mostagedda EA 63044

5cm

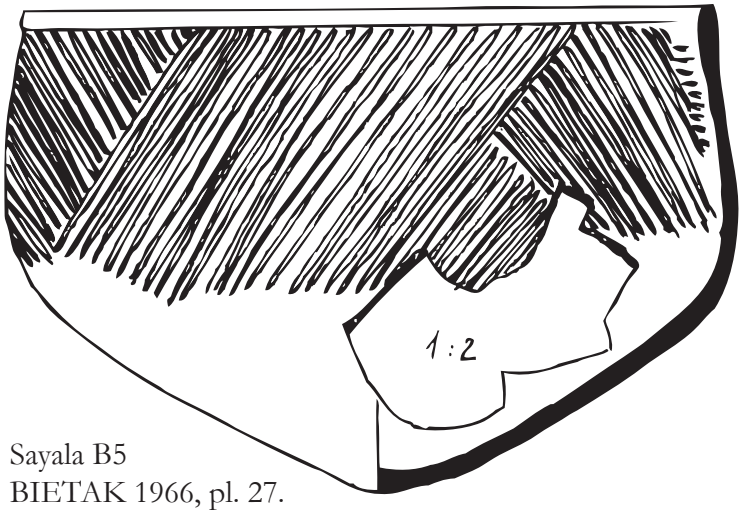
(b)



Debeira East SJE 47/51:1

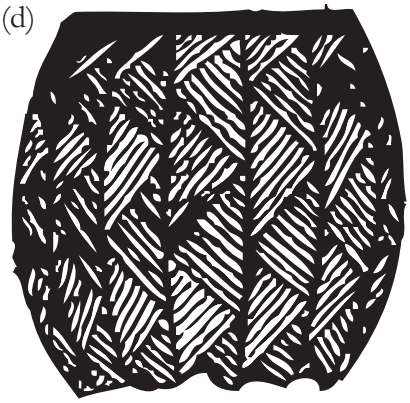
5cm

(c)



Sayala B5
BIETAK 1966, pl. 27.
Scale 1:2

(d)



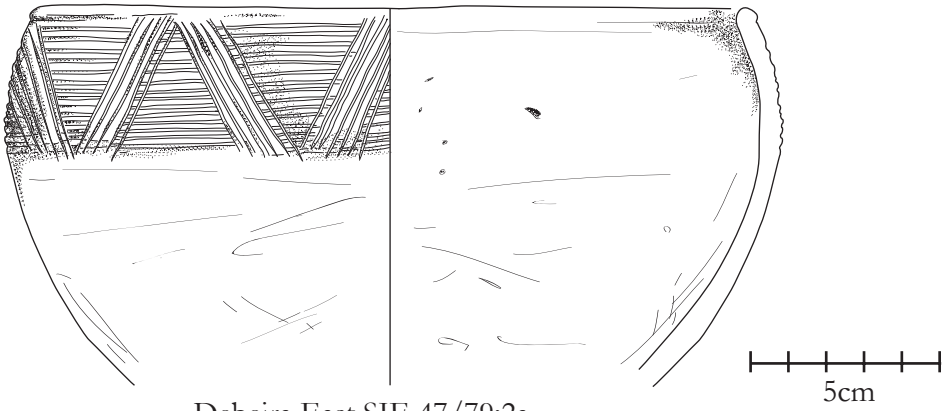
Mostagedda 1800
BRUNTON 1937, pl. LXXII.1
Scale 1:3 (approx)

PLATE 84

Zig-zag motif

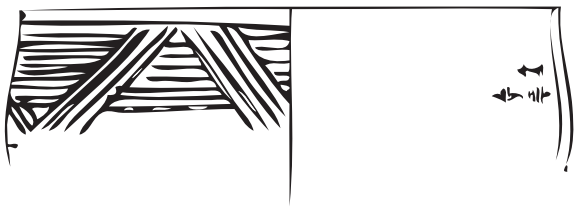
Filled zig-zag (a-b). Plain zig-zag (c)

(a)



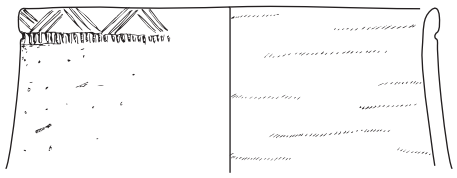
Debeira East SJE 47/79:2a

(b)



WK11 (Scale not specified)
GATTO 2012, fig. 9.6.

(c)



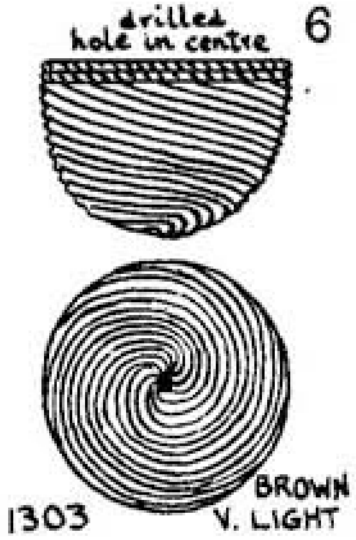
Hierakonpolis HK 47 Pot 17

Spiral motif

(d)

WBS 24-I-4 (NORDSTRÖM 2014, pl. 24c)
Scale not specified.

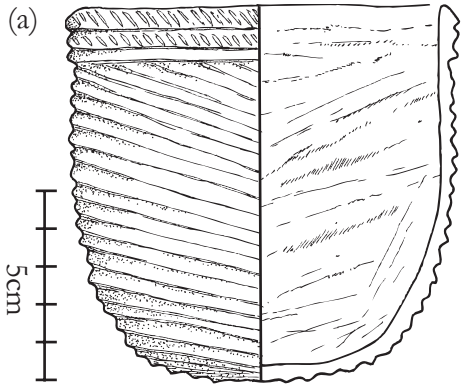
(e)



Qau 1303 (BRUNTON 1930, pl. IX)
Scale 1:3 approx

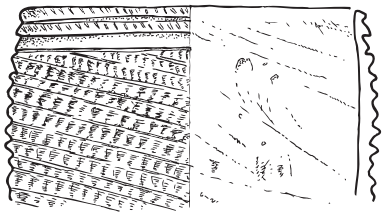
Spiral motif

(a)



Mostagedda 3100.
BM. EA 63022.

(b)



Provenance unknown.
Pet Mus. UC43309 and 43310

5cm

(c)

Bowl with spiral decoration, said to come from Abydos.

Conical bowl
Nubian (Pan-Grave), Pan-Grave Period, about 1700–1520 B.C.
Pottery
Height x diameter: 9.5 x 10 cm (3 3/4 x 3 15/16 in.)
Museum of Fine Arts, Boston
Emily Esther Sears Fund
03.1616
Photograph © Museum of Fine Arts, Boston

(d)

Bowl with spiral decoration, said to come from Abydos.

Nubian (Pan-Grave), about 1700–1520 B.C.
Pottery
Height x width: 10.2 x 8.8 cm (4 x 3 7/16 in.)
Museum of Fine Arts, Boston
Emily Esther Sears Fund
03.1615
Photograph © Museum of Fine Arts, Boston

PLATE 86

Impressed decoration

(a)

Rim with impressed dotted set-off line.
Debeira East, SJE Site 47. SJE 47 5:1.
Photo: A. de Souza

(b)

Rim with impressed and incised decoration.
Hierakonpolis HK47 Pot 50.
(Photo: Jim Rossiter. Courtesy the Hierakonpolis Expedition)

(c)

String-impressed line. Hierakonpolis HK47 Pot 16.
(Photo: Jim Rossiter. Courtesy the Hierakonpolis Expedition)

(a)

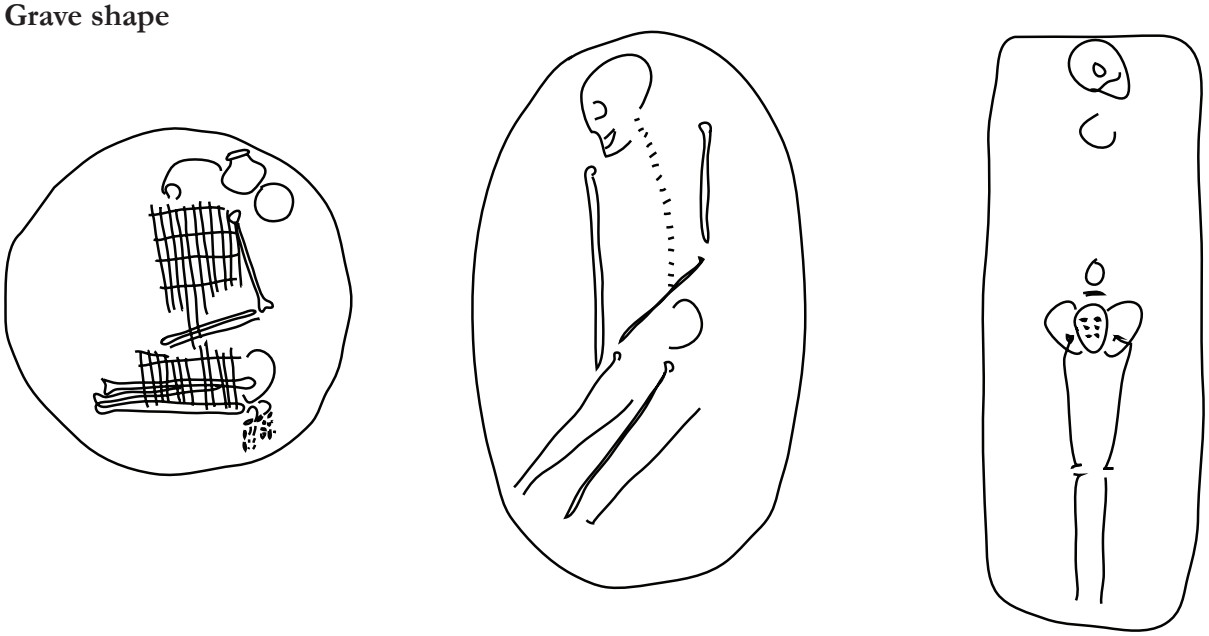
Base decorated with incised "spider web" motif.
Hierakonpolis HK47 Pot 20.
(Photo: Jim Rossiter. Courtesy the Hierakonpolis Expedition)

(b)

Base decorated with incised "spider web" design.
Wadi Kubbaniya WK11.
(Photo courtesy AKAP and Maria Gatto)

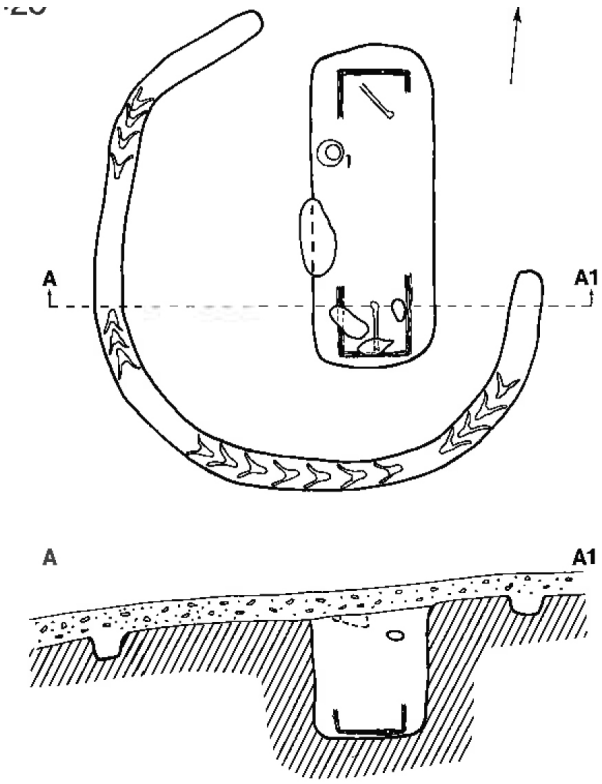
PLATE 88

Grave shape



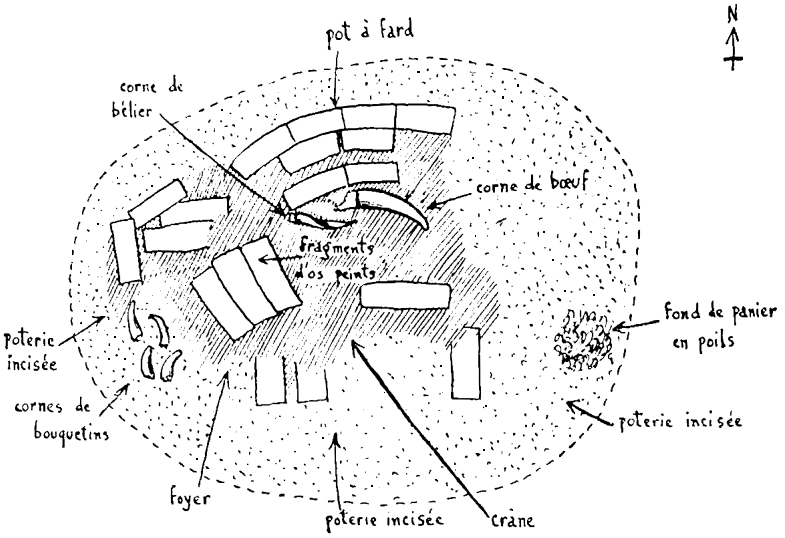
(a) The three different shapes of Pan-Grave burials showing the different modes of buirial.
Drawing by L. Donovan after WAINWRIGHT 1920, pl. XV.

(b) A shallow oval Pan-Grave grave from HK 21A (Hierakonpolis).
Photo by Jim Rossiter, Courtesy the Hierakonpolis Expedition.

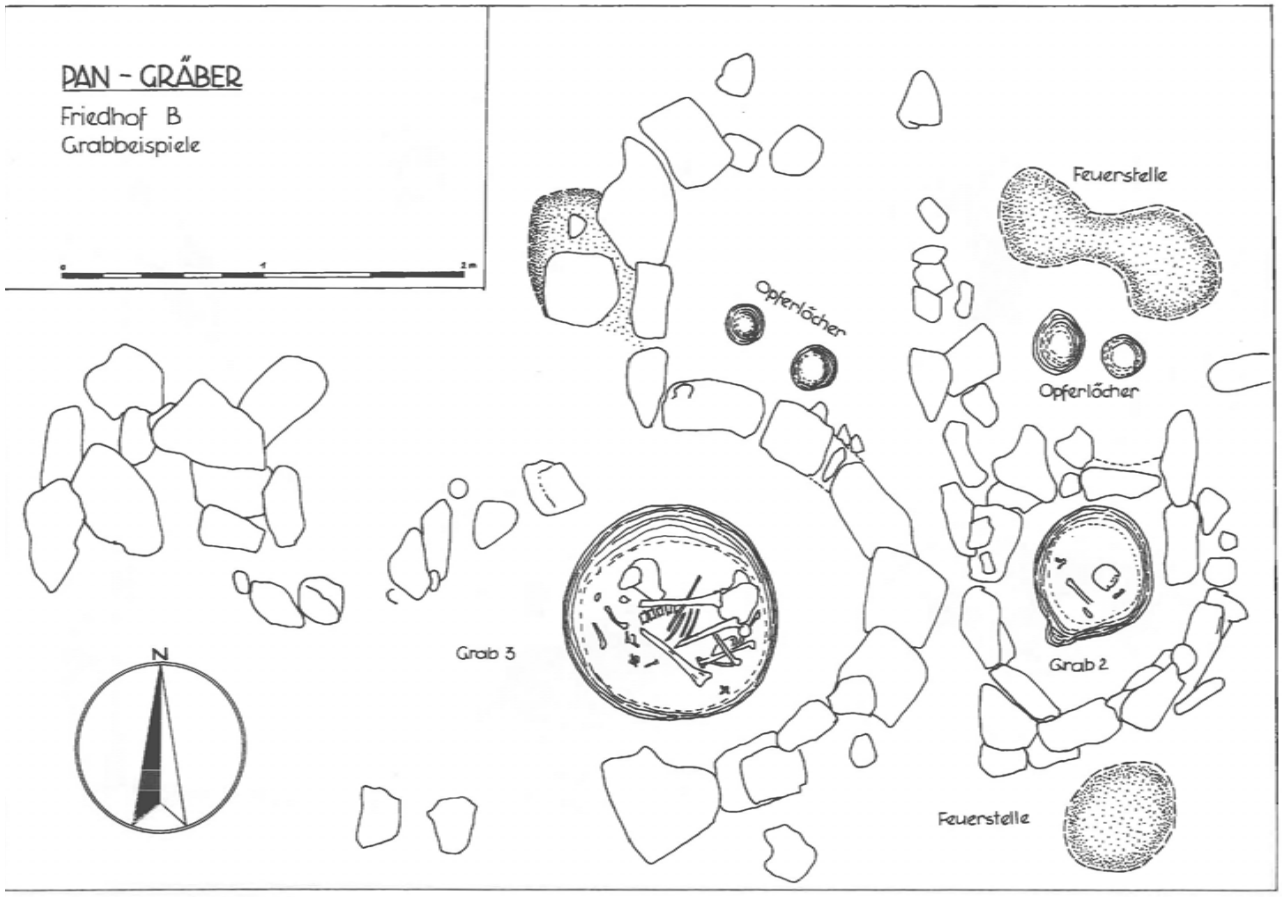


(c) A rectangular Pan-Grave burial from SJE Site 47, Debeira East. Note the trough of animal skulls and the remains of a coffin.
SÄVE-SÖDERBERGH 1989, pl. 83.

Grave shape and surface features (1)



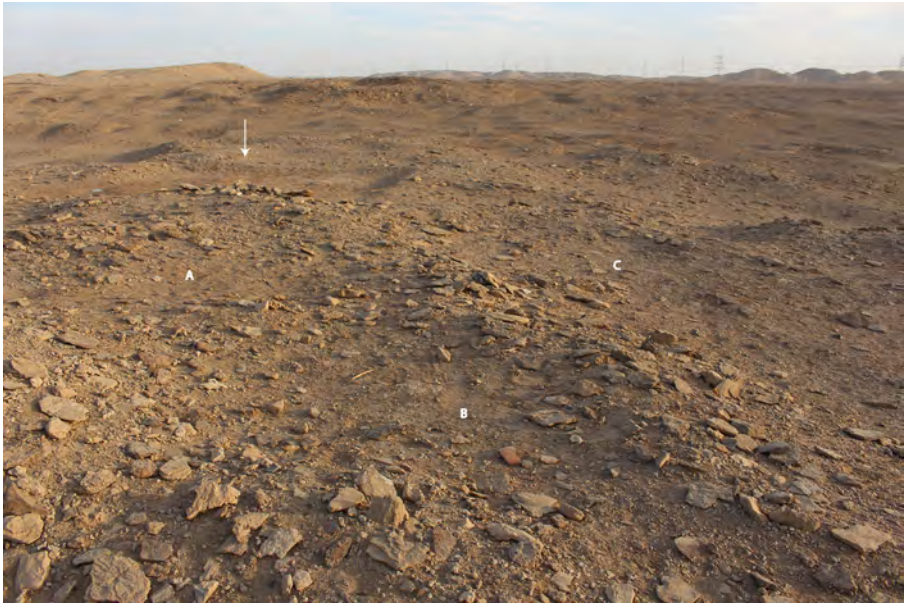
(a) Tomb 7 at Tod, showing remains of mud brick superstructure. BARUGET 1952, p. 31, fig. 21.



(b) Examples of graves at Sayala Cemetery B showing circular stone superstructures around graves. Traces of "fireplaces" can also be seen. BIETAK 1966, pl. 20.

PLATE 90

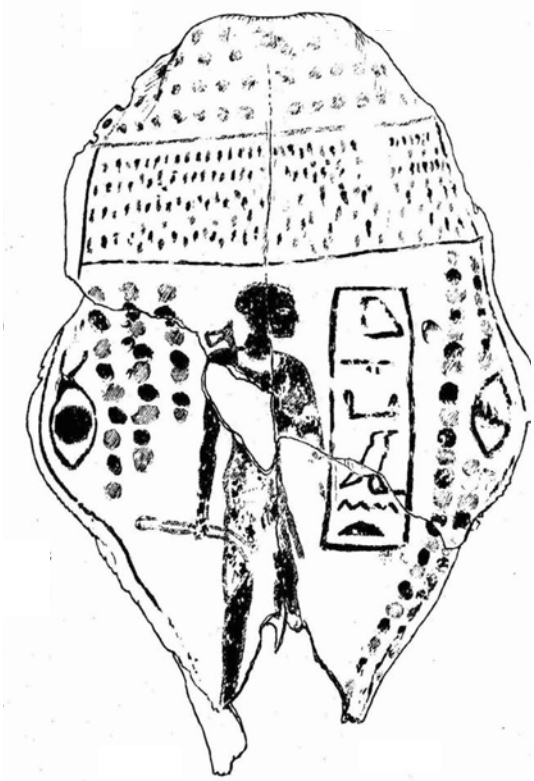
Grave shape and surface features (2)



(a) Site HK21A at Hierakonpolis. Three possible grave pits surrounded by rings of stones can be seen in the foreground (marked A, B, and C). The area excavated in 2001 is marked with an arrow. (Photo: A. de Souza)

(b) Site HK47 at Hierakonpolis. A mound of sand, potsherds and lithics thought to be a Pan-Grave tumulus is marked with a red arrow (Photo: A. de Souza)

(a) Painted goat (left) and cow (right) skulls from SJE Site 47, Debeira East.
(Photos: A. de Souza)

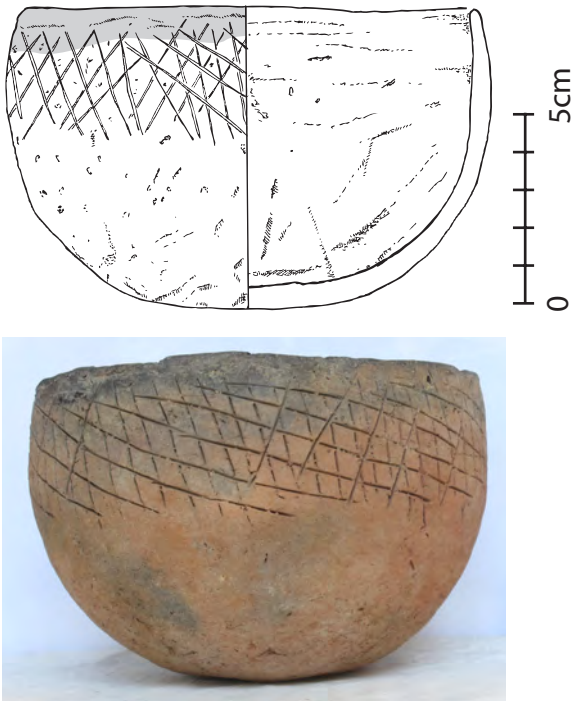


(b) Painted skull from Mostagedda Grave 3252 showing human figure and hieroglyphic text.
BRUNTON 1937, pl. LXXVI.66.

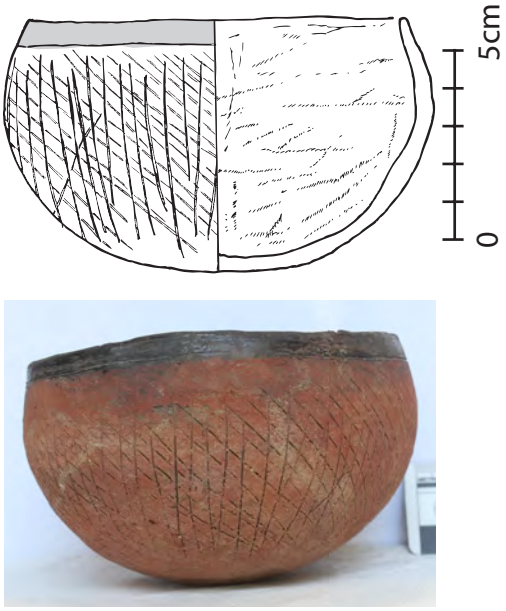
(c) Trough-shaped feature containing painted [goat?] skulls. Adindan Tomb K82.
WILLIAMS 1983, pl. 131.

PLATE 92

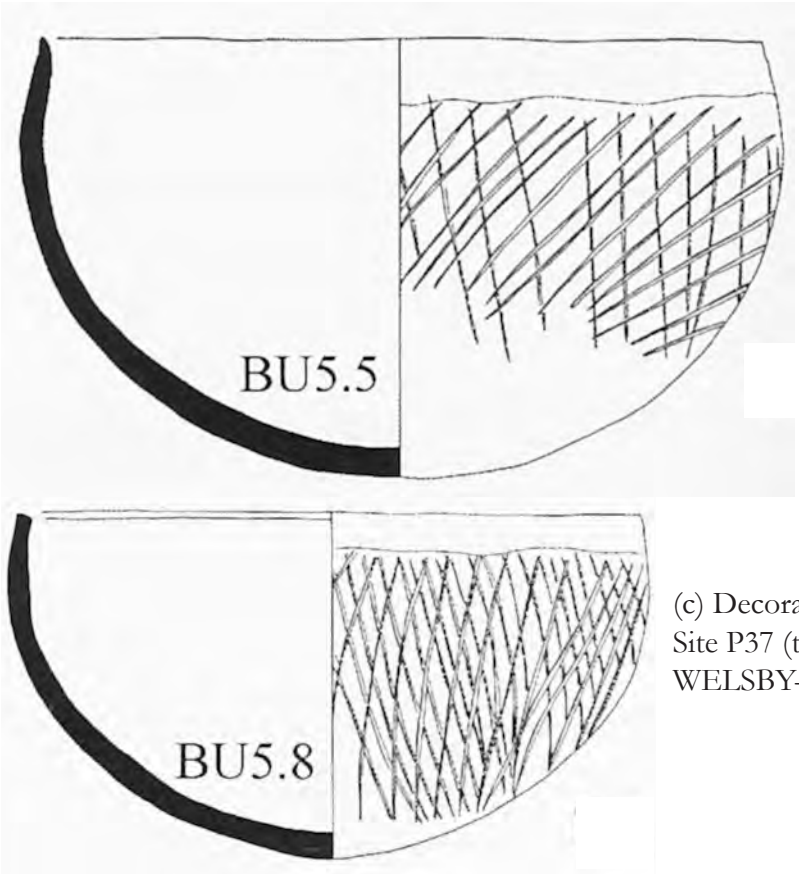
Wadi el Khowi, P37



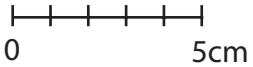
(a) Decorated bowl from Wadi el Khowi Site P37. BM EA81927.
Drawing and photo: A. de Souza



(b) Decorated bowl from Wadi el Khowi Site P37. BM EA81932.
Drawing and photo: A. de Souza



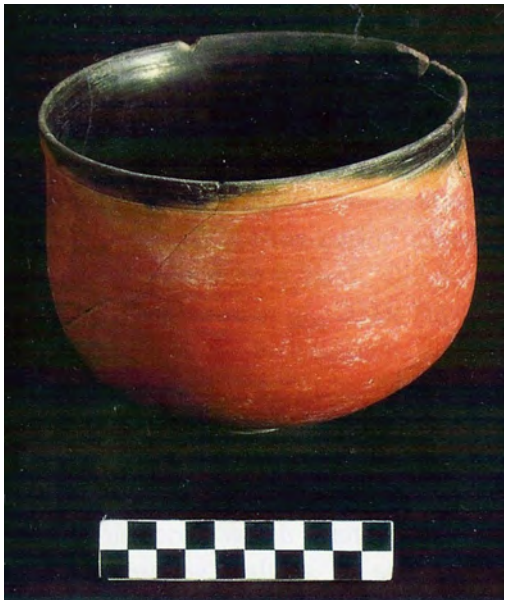
(c) Decorated bowls from Wadi el Khowi Site P37 (top and bottom).
WELSBY-SJÖSTRÖM 2001a, p. 308.



a

b

c



d

e

(a) Shemkhiya. BTZ2/T3. (WLODARSKA 2014, pl. 9).
(b) Shemkhiya, BTZ11/T3. (WLODARSKA 2014, pl. 16).
(c) Shemkhiya, SH4a/T2. (WLODARSKA 2014, pl. 20).
(d) Carinated back-topped bowl with flattened base. Shemkhiya SH4a/T4. (WLODARSKA 2014, pl. 18).
(e) El-Ar I. (PANER 2014, pl. 26).

PLATE 94

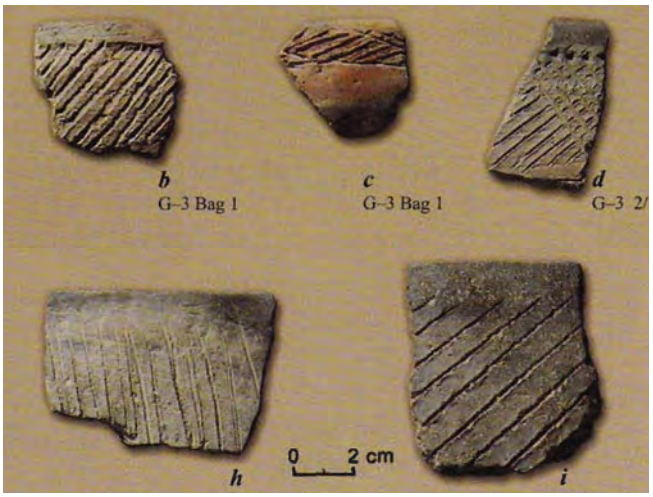
El Widay

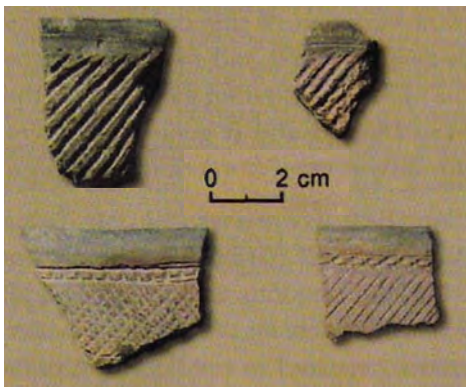
(a) Black-topped bowls, el Widay I. Left: Tomb 67. Right: context not specified. PANER 2014, pl. 32.

(b) Front and base view of decorated bowl from el Widay I, Tomb 14 (2008:207). PANER 2014, pl. 21.

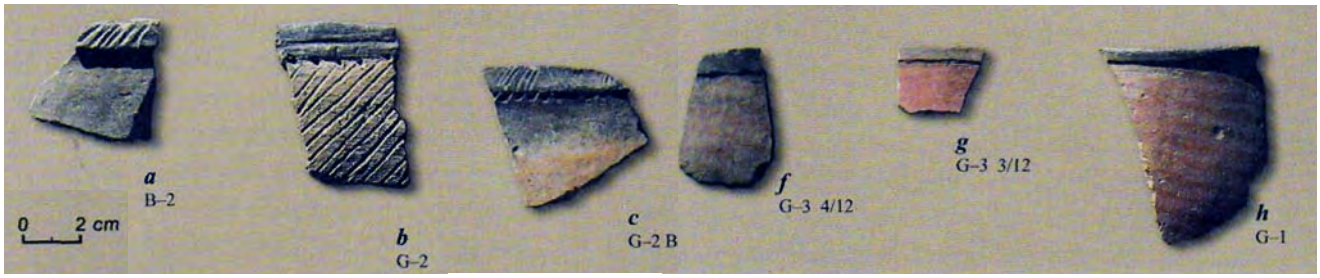
(c) Decorated and burnished bowl from el Widay I. PANER 2014, pl. 21.

Hosh al Guruf / Kassala

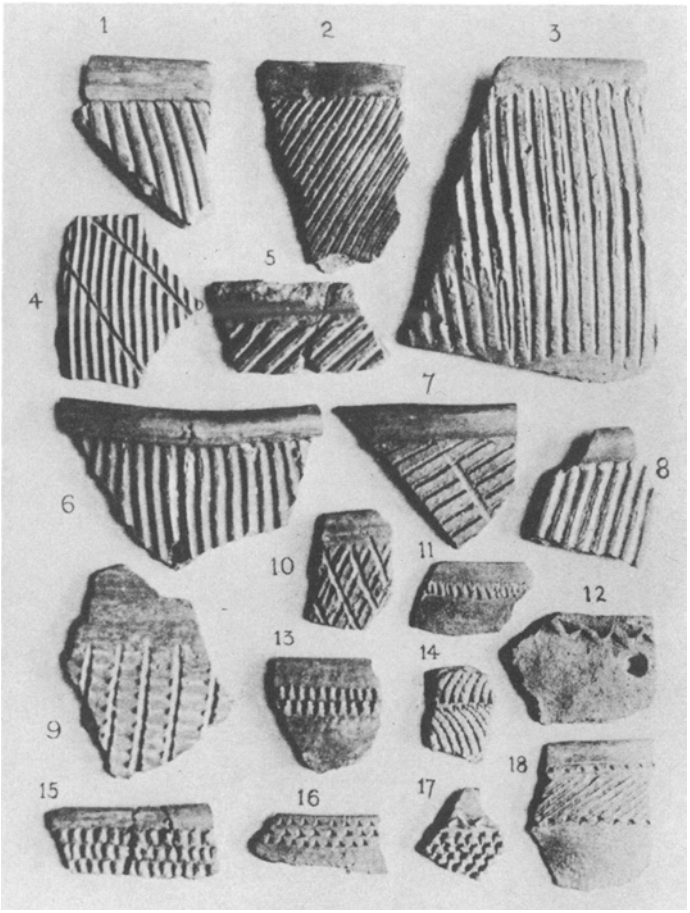




(a) Hosh al Guruf. Selection of sherds identified as "Old Kush" but showing Pan Grave characteristics. EMBERLING/WILLIAMS 2010, fig. 25-26.



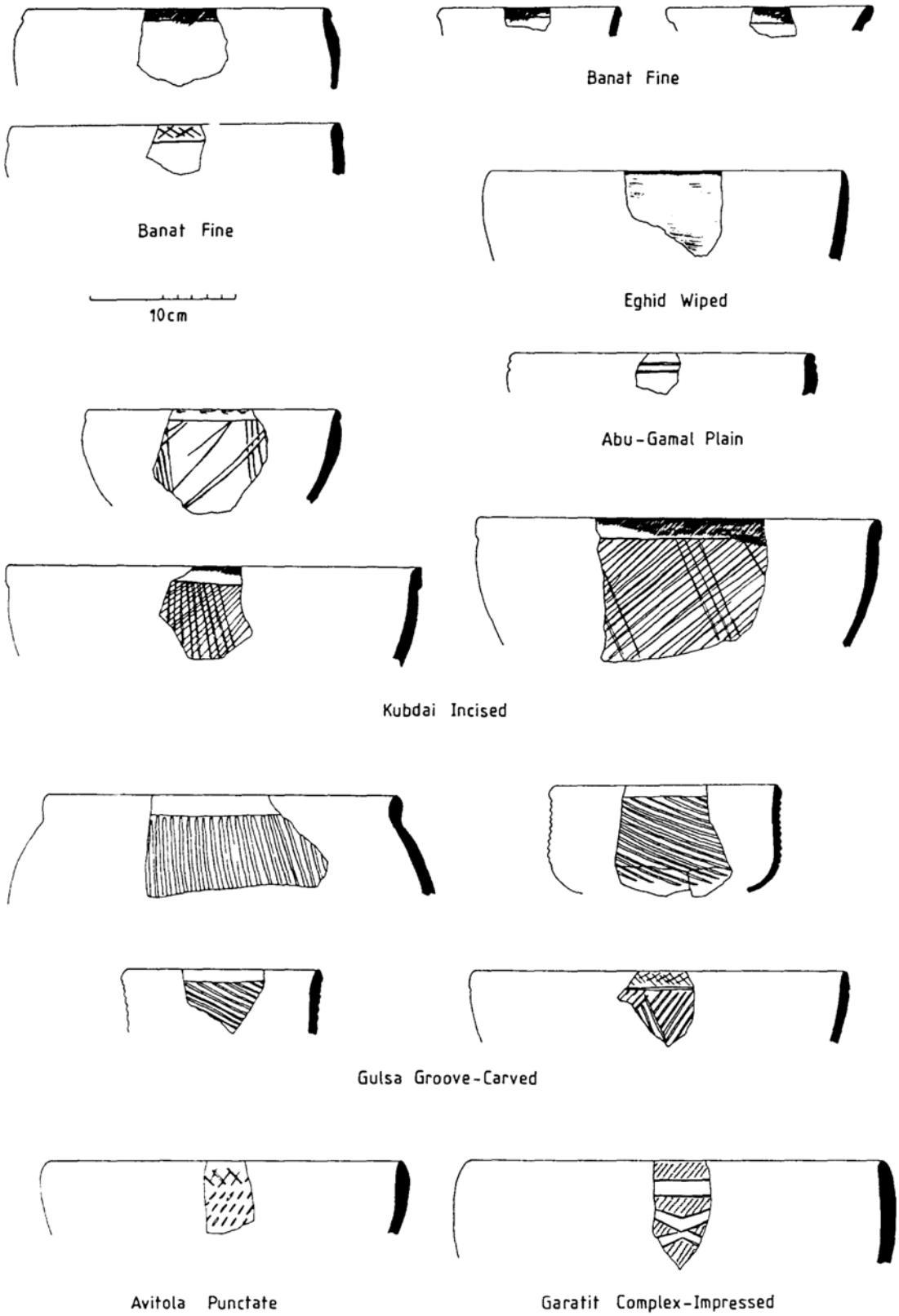
(b) Hosh al Guruf. Selection of sherds identified as Pan Grave. EMBERLING/WILLIAMS 2010, fig. 32.



(c) Kassala. Sherds collected by Crowfoot. Only sherds 1-10 (and possibly 18) may be associated with the Pan-Grave tradition. CROWFOOT 1928, pl. XIII.

PLATE 96

Jebel Mokram

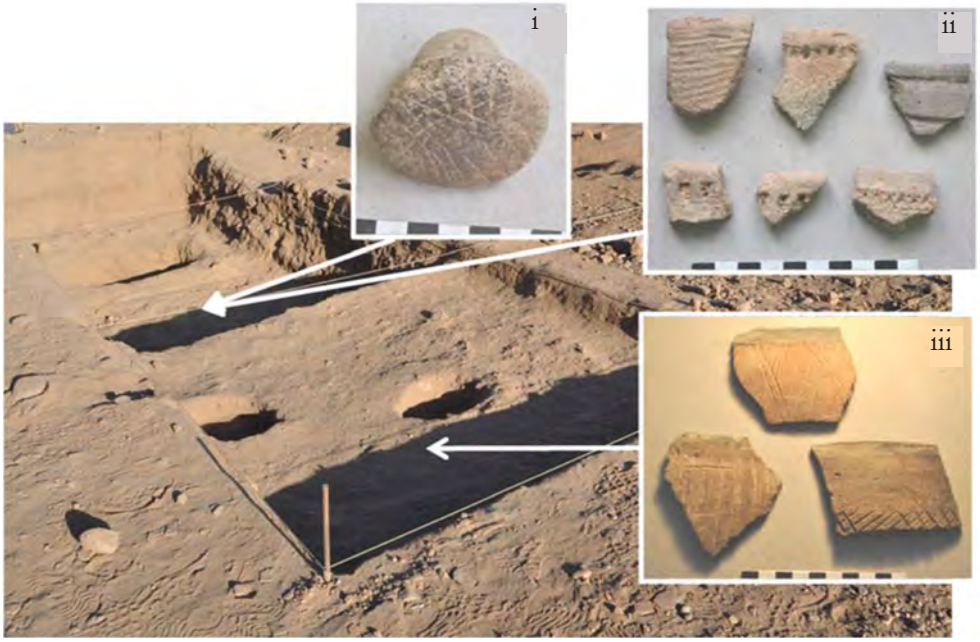


Jebel Mokram ware typology. SADR 1987, p. 274, fig. 5.

Mahal Teglinos

(a) Mahal Teglinos. Jebel Mokram sherd from Unit K1 VIII
MANZO 2014, p. 398 fig. 10.

(b) Mahal Teglinos. Jebel Mokram sherd from Unit K1 VI.
MANZO et al. 2011, p. 29 fig. 48.



(c) Mahal Teglinos. Excavation unit K1 VI.
(i) Gash Group seal; (ii) Gash Group sherds; (iii) Jebel Mokram sherds from later floor levels.
MANZO 2015, p. 239 fig. 3.

PLATE 98

The Eastern Desert / Atbai (1)

(a) UA 53. Jebel Mokram sherds. MANZO 2012b, p. 105 fig. 28.

b

c

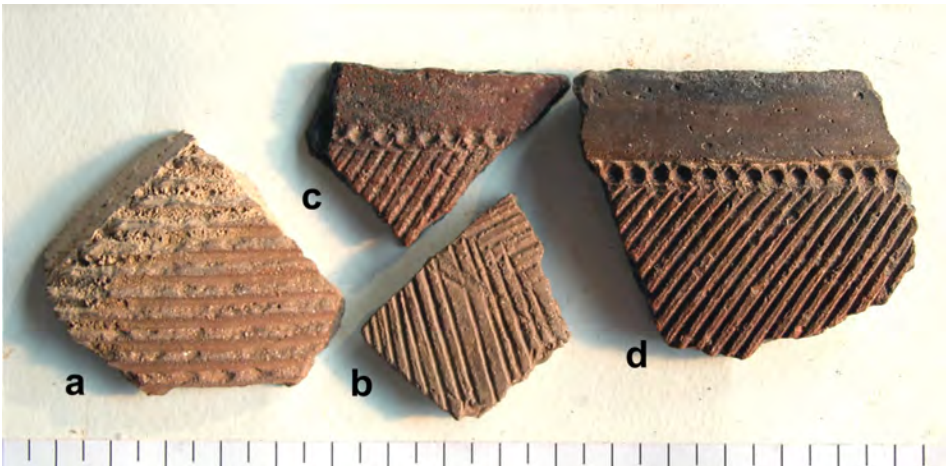
(b) UA 100. Jebel Mokram sherds. MANZO et al 2012, p. 62 fig. 88.
(c) UA 100. Jebel Mokram Sherds. MANZO et al. 2012, p. 64 fig. 92.

(a) Shurab el Gash, SEG 13. MANZO 2012b, p. 95 fig. 10.

(b) Shurab el Gash, SEG 14. MANZO 2012b, p. 95 fig. 11.

PLATE 100

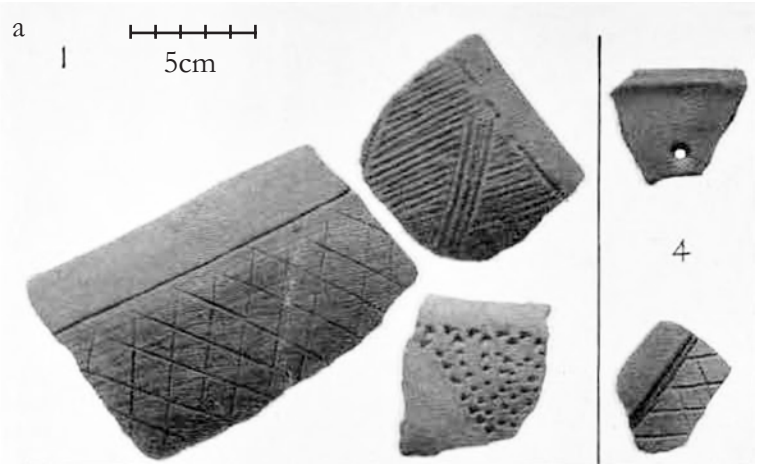
The Eastern Desert / Atbai (3)

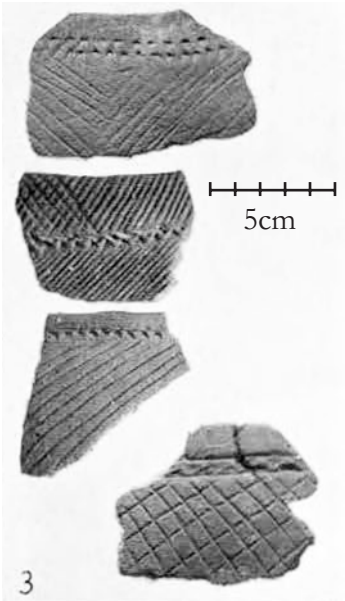


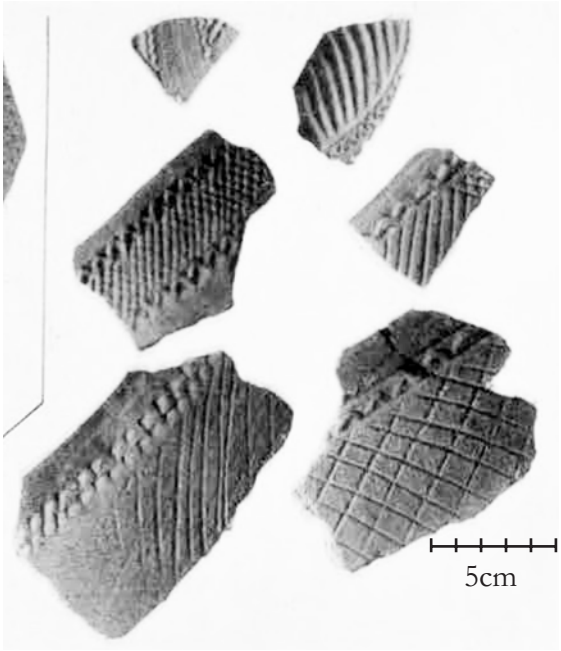
(a) R 49. Sherds from CeRDO survey. MANZO 2012b, p. 100 fig. 19.

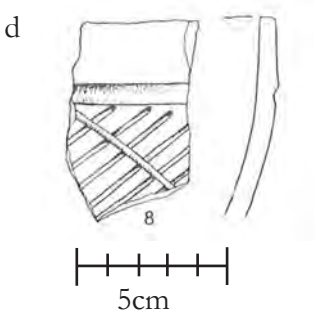
(b) Site AL. Sherds from CeRDO survey. MANZO 2012b, p. 98 fig. 16.

(c) ED 16. Sherds from CeRDO survey. MANZO 2012b, p. 98 fig. 16.









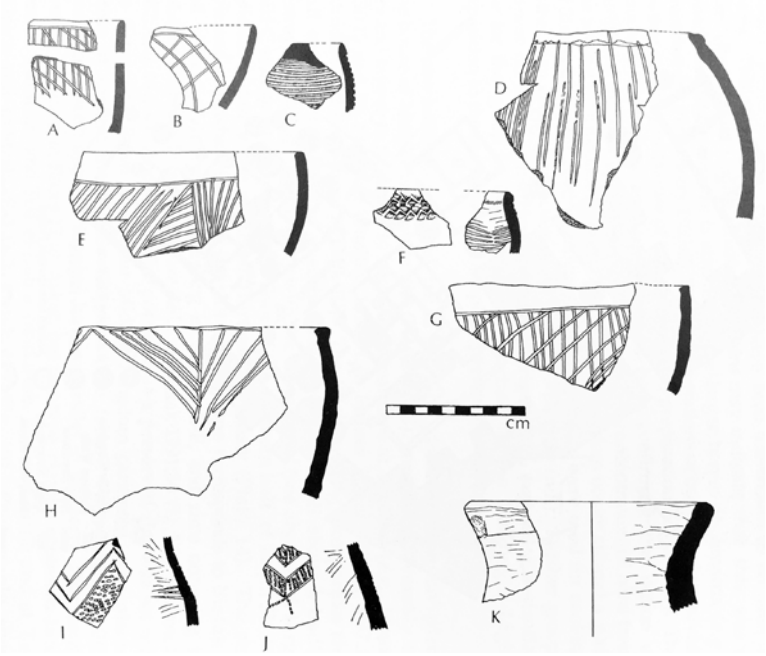
Selected sherds from Agordat.
(a-c) ARKELL 1954, pl. VII, IX, X; (d) BRANDT et al 2008, p. 42 fig. 3.9.

e

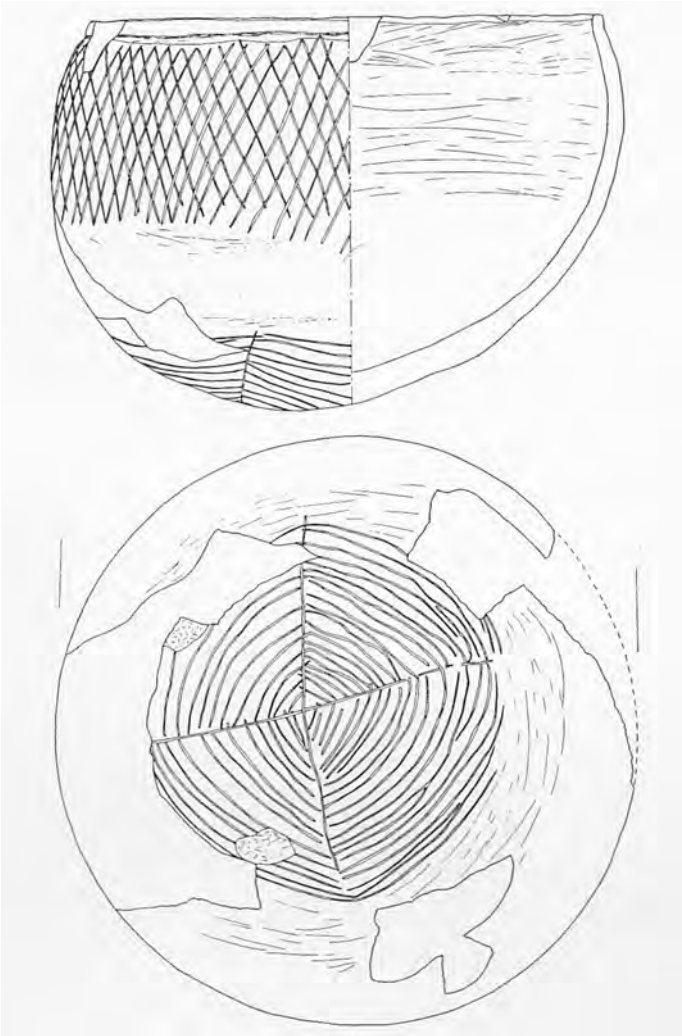
f

Selected sherds from Mersa Gawasis showing the most Pan-Grave characteristics.
MANZO 2012a, fig. 2-3.
(e) Manzo Type 10 (WG 46, E4, SU 1-2) (f) Manzo type 5 (WG 17, SU 1)

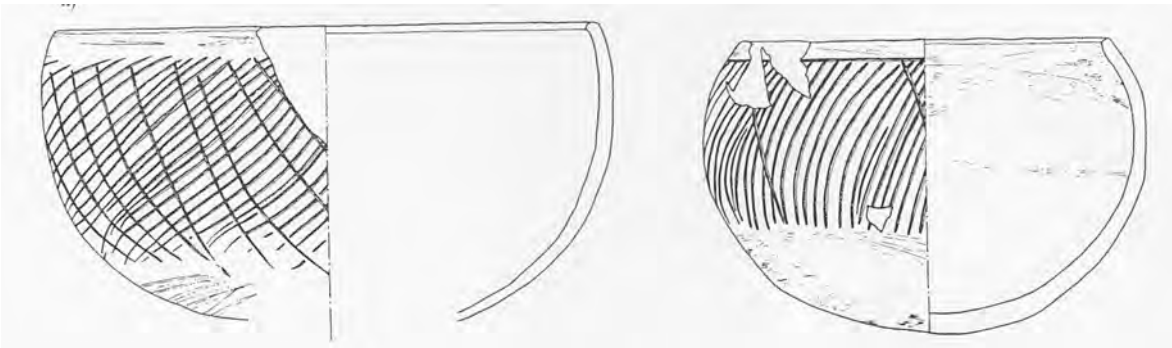
PLATE 102



(a) Pottery from Askut, assigned by Smith to the Pan-Grave and C-Group cultures. SMITH 1995, fig. 4.10.



(b) Nubian cooking pot from Elephantine (Haus 84), Bauschicht 13 (Scale 1:3). VON PILGRIM 1996, p. 343, fig. 152a



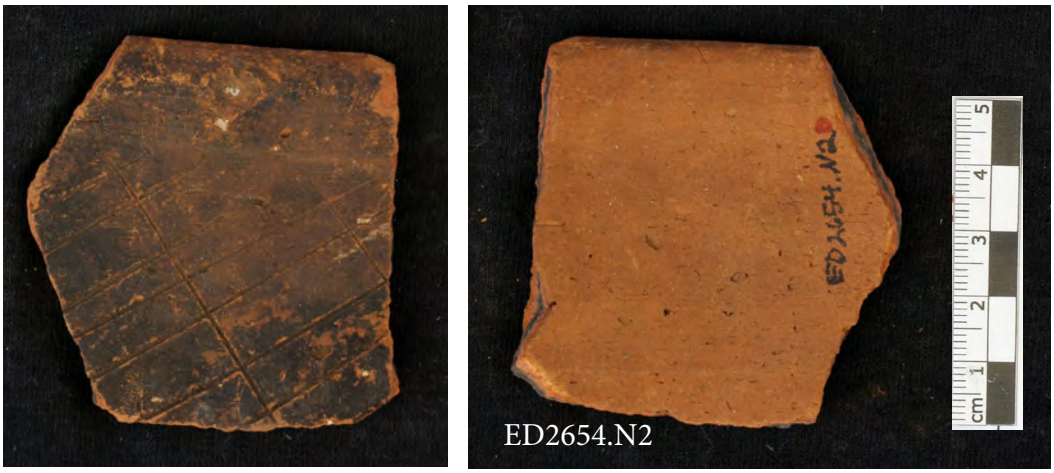
(a) Cooking pots from Elephantine, Bauschicht 11 (Scale 1:3).
VON PILGRIM 1996, Abb. 146n-o.

Black-topped bowls with recessed rims from Elephantine
(b) Bauschicht 11 (Haus 46). VON PILGRIM 1996, Abb. 143d (Scale 1:3)
(c) Phase ELE-7B. RAUE in prep, Abb. 134-I (Scale 1:4)

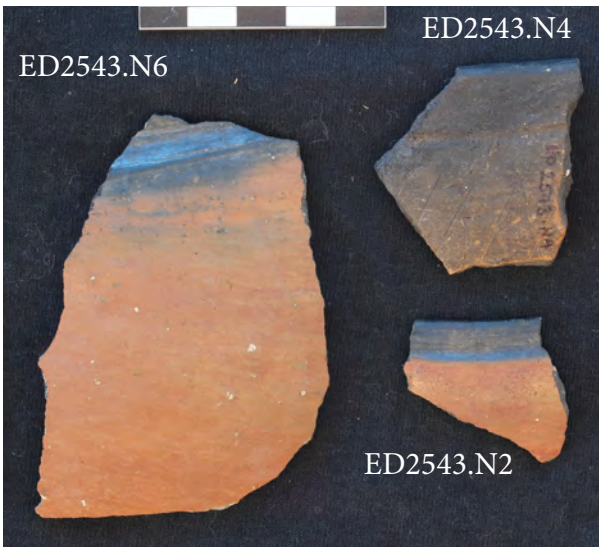
(d) Example of Late Middle Nubian Imitation (LaMNI) ware from Elephantine, Z4008.
RAUE 2012, p. 55, fig. 11.

PLATE 104

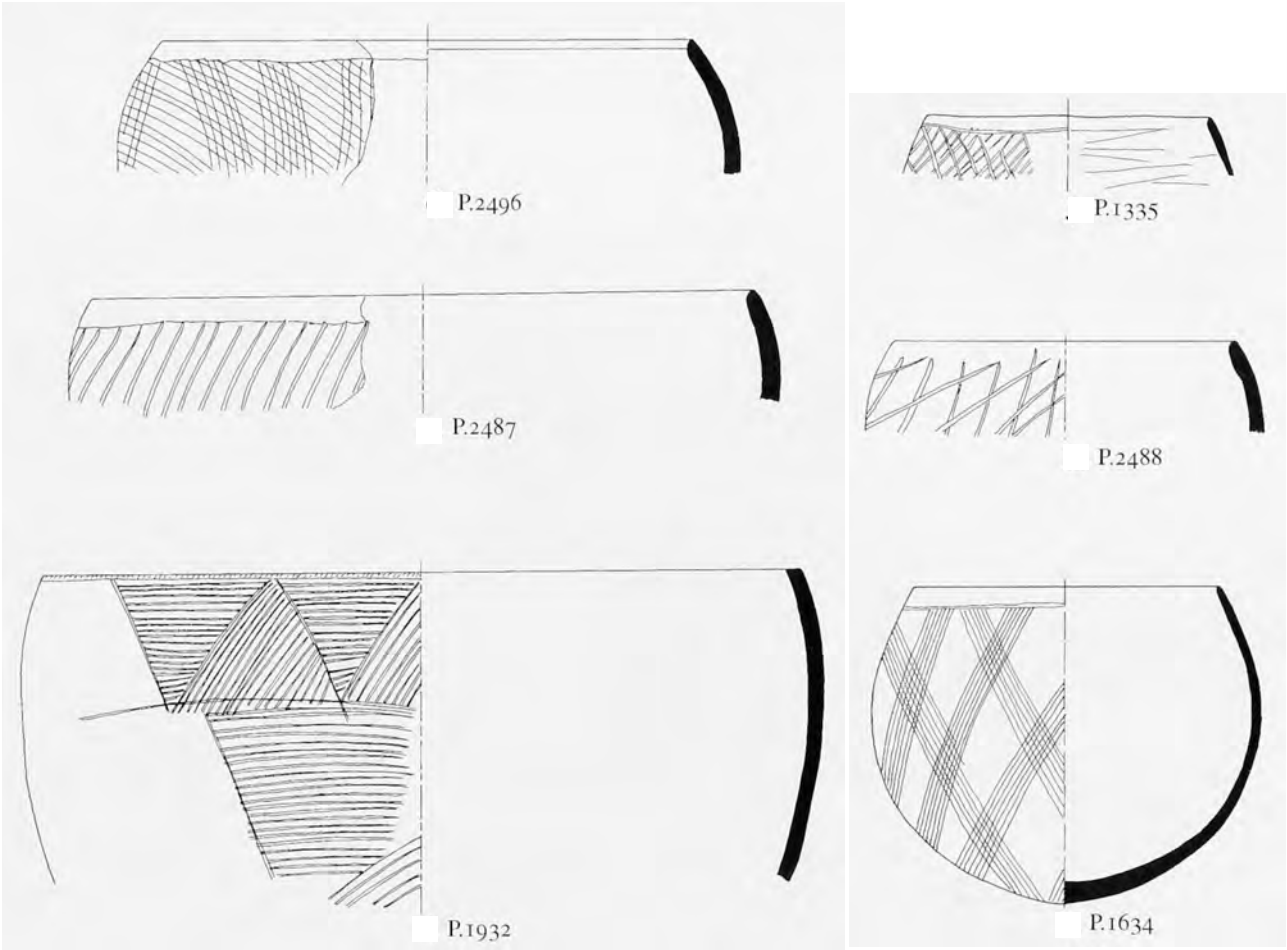
(a) Pan-Grave sherds from Tell Edfu US 2079. Top: ED2079.N1. Bottom: ED2079.N2. (Photo: Elise McArthur, Courtesy the Tell Edfu Project)



(b) Exterior and interior of Pan-Grave sherd from Tell Edfu US2654, comparable with LaMNI ware. Exterior (L) shows signs of secondary burning.
(Photo: Elise McArthur, Courtesy the Tell Edfu Project)



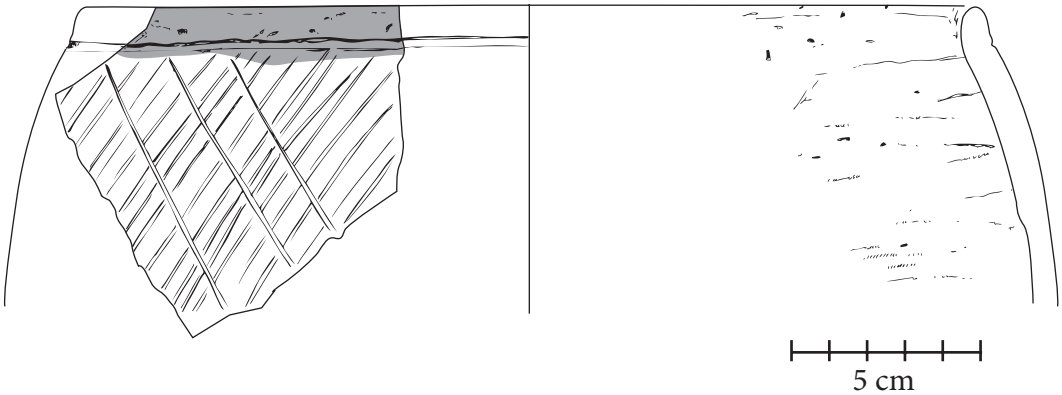
(c) Pan-Grave sherds from Tell Edfu US2543. Sherd numbers as indicated. Note the recessed rim and well-defined black-top on sherd N2. Sherd N6 also has a recessed rim.
(Photo: Elise McArthur, Courtesy the Tell Edfu Project)



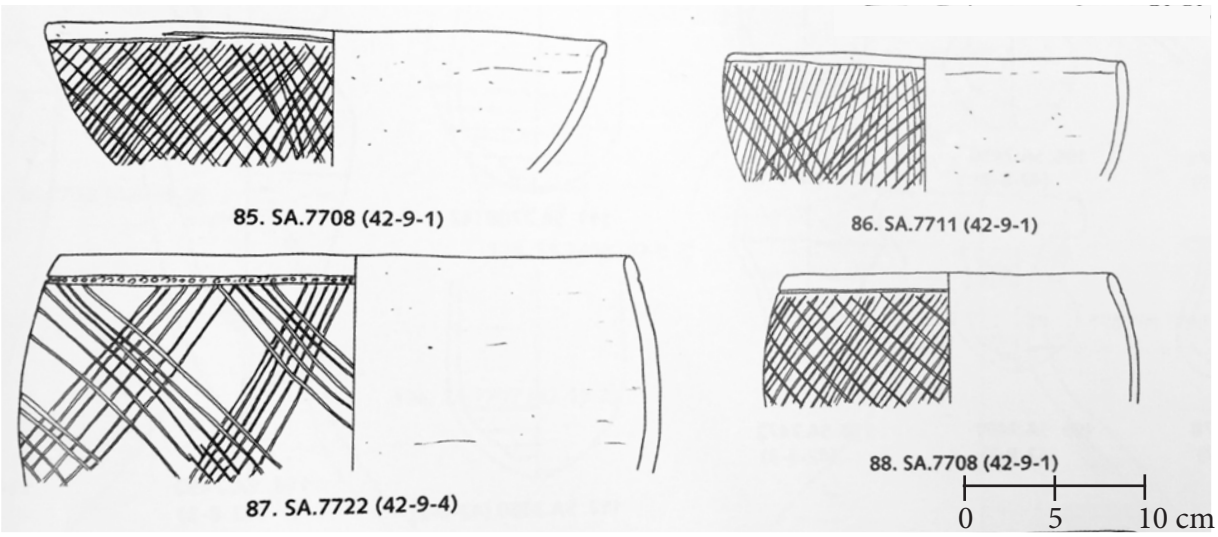
(a) Pan-Grave pottery from The Treasury of Tuthmosis III, Karnak North (Scale 1:4).
JACQUET-GORDON 2012, pl. 39 (vol 2).

(b) Pan-Grave pottery from Tomb K01.8, Dra Abu el Naga (Scale 1:2).
SEILER 2005, p. 85, Abb. 36.

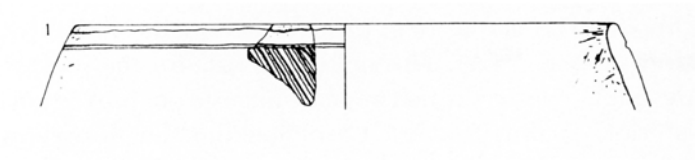
PLATE 106



(a) Pan-Grave sherd from Dendera, associated with the Isis Temple.



(b) Pan-Grave pottery from the East Block refuse deposit, Mortuary Temple of Senwosret III, Abydos (Scale TBC). WEGNER 2007, p. 241, fig. 124.85-88.



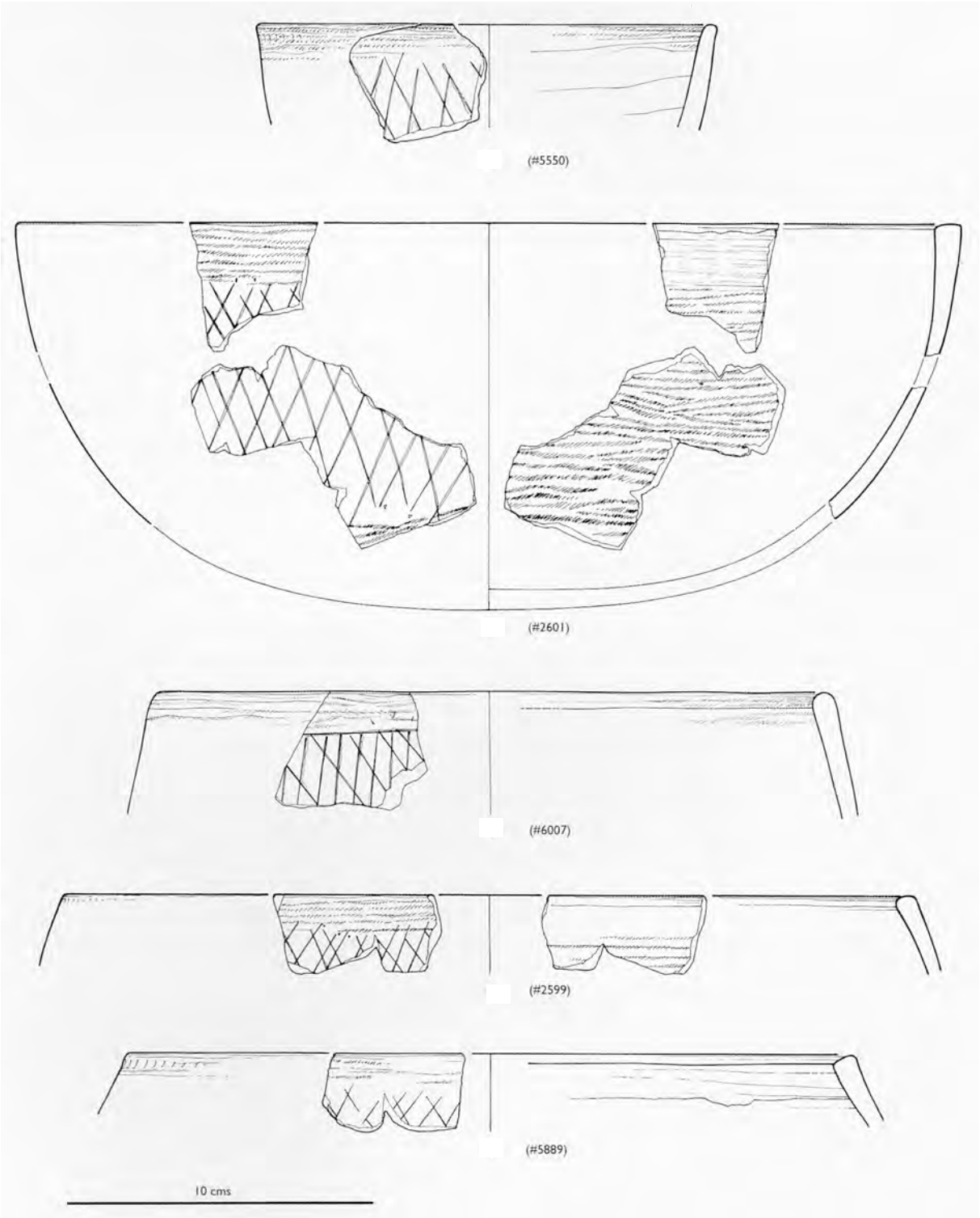
(c) Pan-Grave sherd found amongst the building materials of the Pyramid of Queen Tetisheri, Abydos (Scale 1:3). BUDKA 2006, p. 85, fig. 1.1.

(a) Pan-Grave bowl from Abydos. Grave D68?
E.73.1901

(b) Pan-Grave bowl from Abydos.
E.78.1911

(c) Pan-Grave bowl from Abydos.
E.79.1911

PLATE 108



Selection of pottery from Kom Rabia (Memphis). BOURRIAU 2012, p. 154, fig. 4.

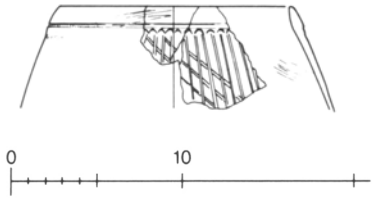
(a) Sherd from Kahun. Britisum Museum, EA55289. Photo: A. de Souza.

b

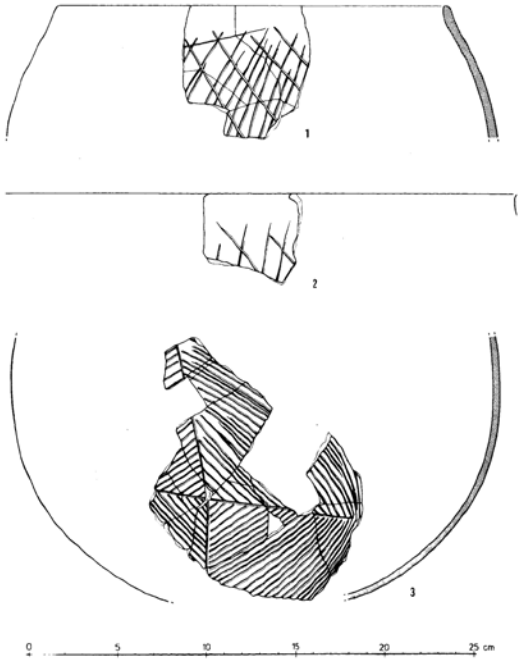
c

(b-c) Two examples of non-Egyptian pottery from from the Nubian cemetery at Dashur. Photos: Janine Bourriau.

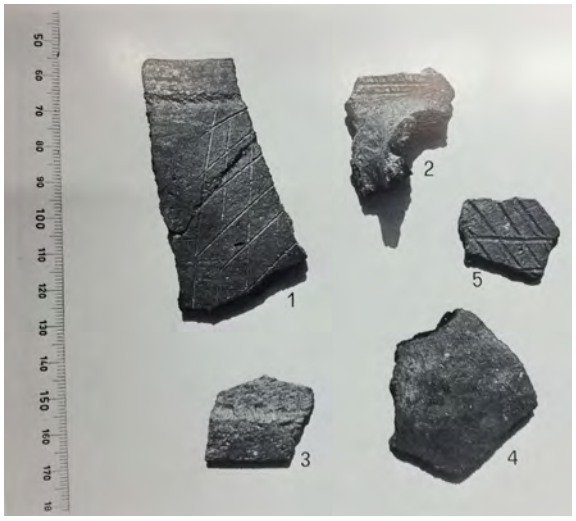
PLATE 110



(a) Sherd from Lisht.
DO. ARNOLD, F. ARNOLD, ALLEN 1995, fig. 5.10.



(b) Probable Pan-Grave pottery from Qasr es Sagha, Western Settlement, Room no. 3, Unit D I.
SLIWA 1992, p. 30, fig. 12.



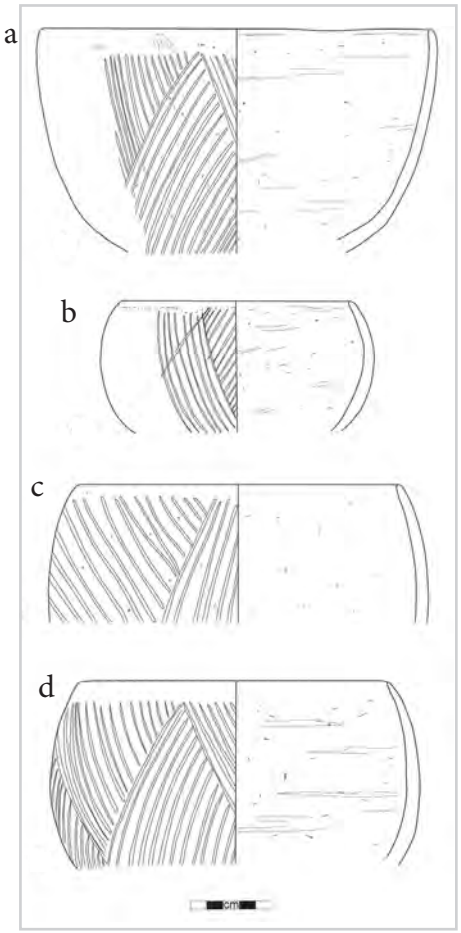
(c) Nubian (Pan-Grave?) sherds from Qasr es Sagha.
DI. ARNOLD, DO. ARNOLD 1979, pl. 21-c.

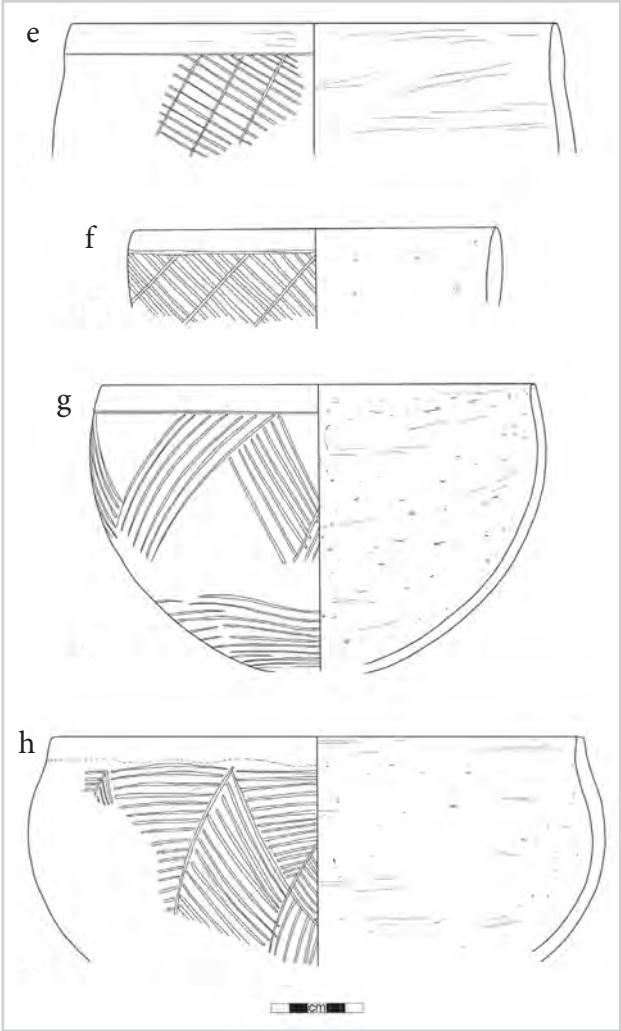
(a-e) 'Nubian' sherds from Khatana L81.
Photo scourtesy, Manfred Bietak, David Aston, and the Austrian Archaeological Institute, Cairo.

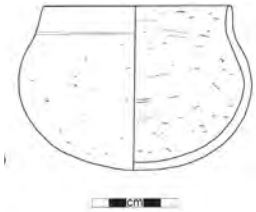
PLATE 112

(a) 'Nubian' sherd from Khatana L81 with impressed/raised decoration.
Top: exterior surface; Bottom: interior surface.
Photo courtesy, Manfred Bietak, David Aston, and the Austrian Archaeological Institute, Cairo.

(b) 'Nubian' sherd from Khatana L81 with incised herringbone decoration and horizontal loop handle.
Photo courtesy, Manfred Bietak, David Aston, and the Austrian Archaeological Institute, Cairo.







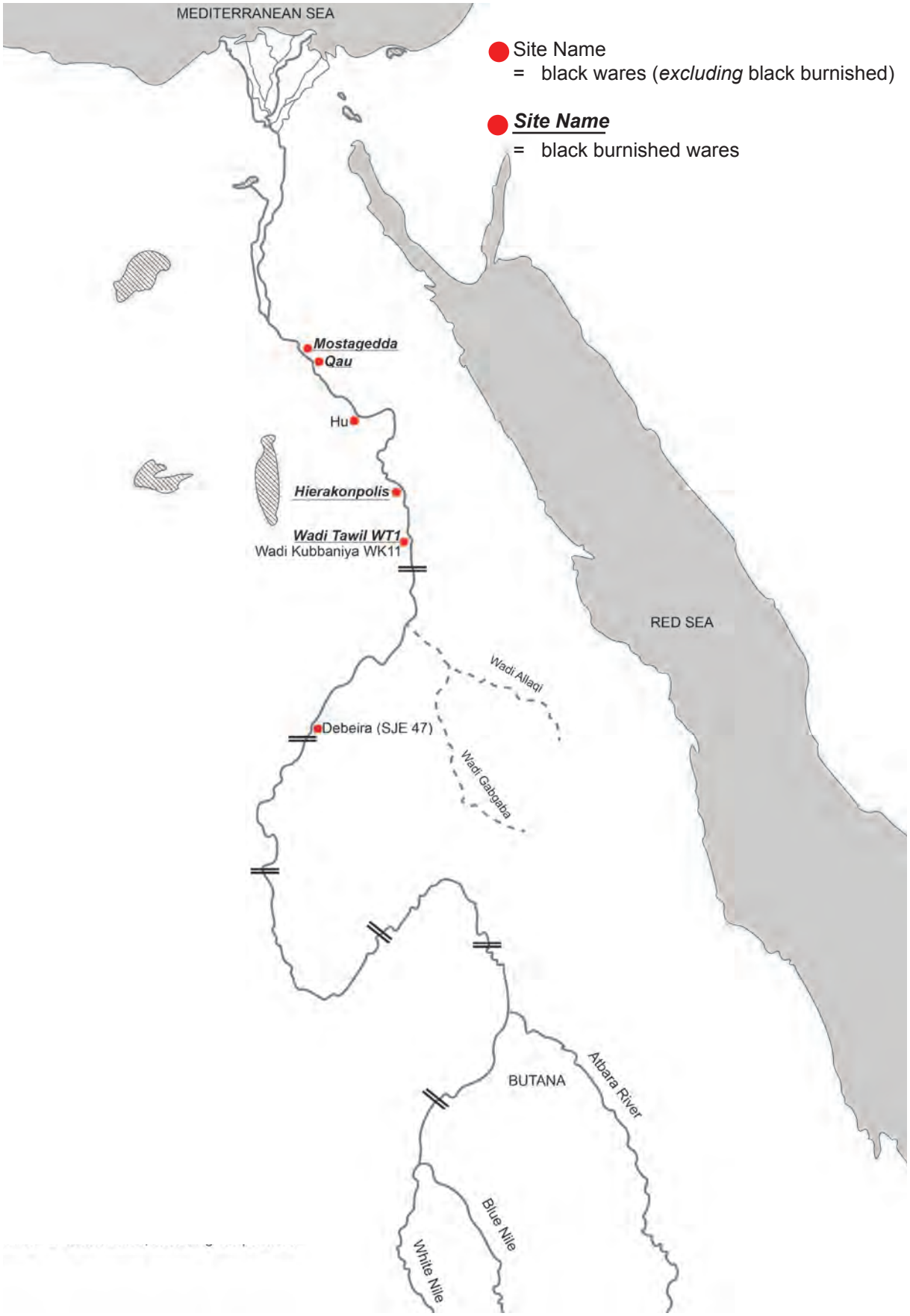
(a-k) Probable Pan-Grave pottery from Umm Mawagir, Kharga Oasis.
MANASSA 2012b.

PLATE 114

Distribution of defined and applied black-tops.

SJE Site 47, Debeira East. Distribution of defined and applied black-tops and Egyptian pottery.

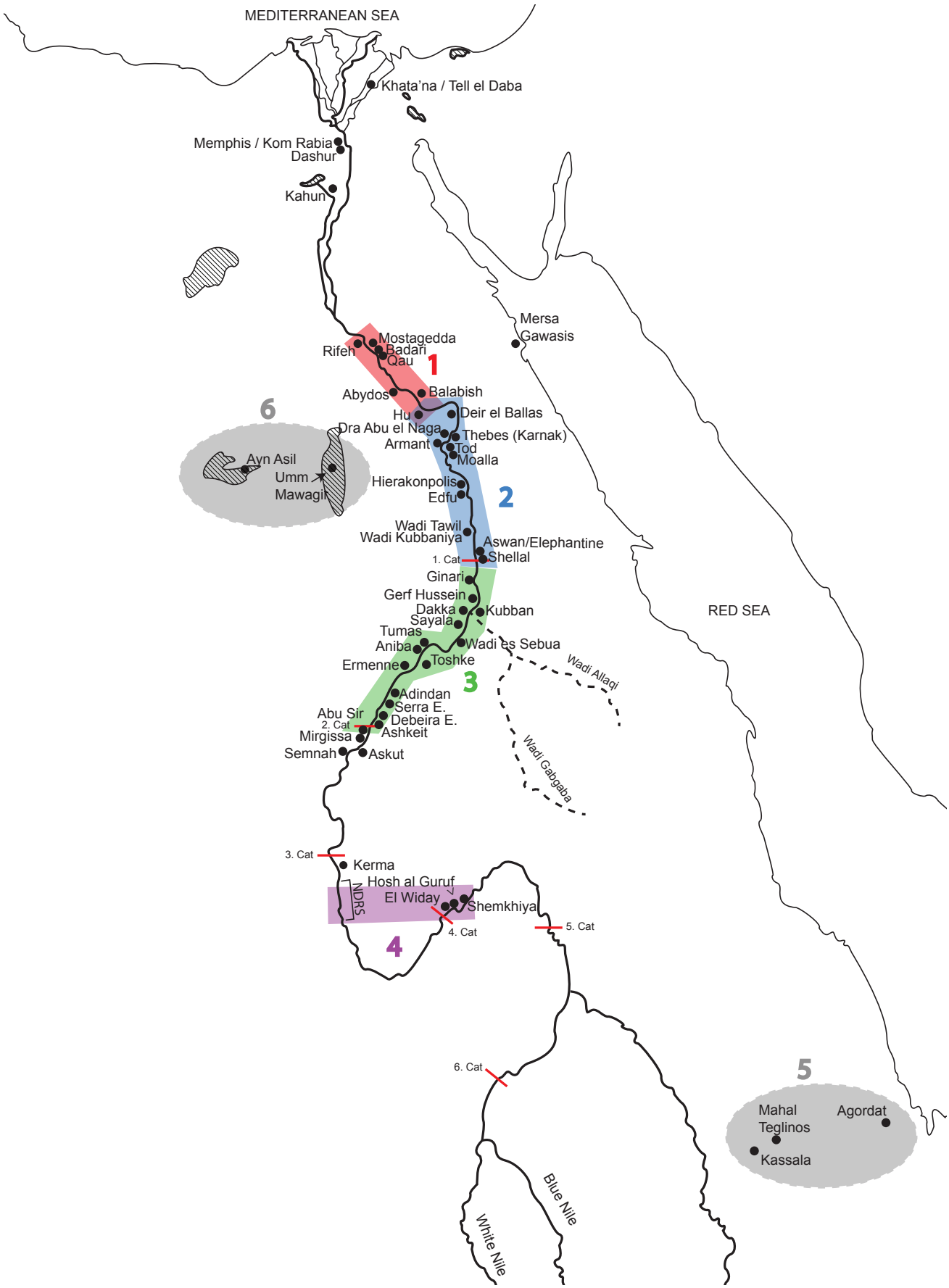
PLATE 116



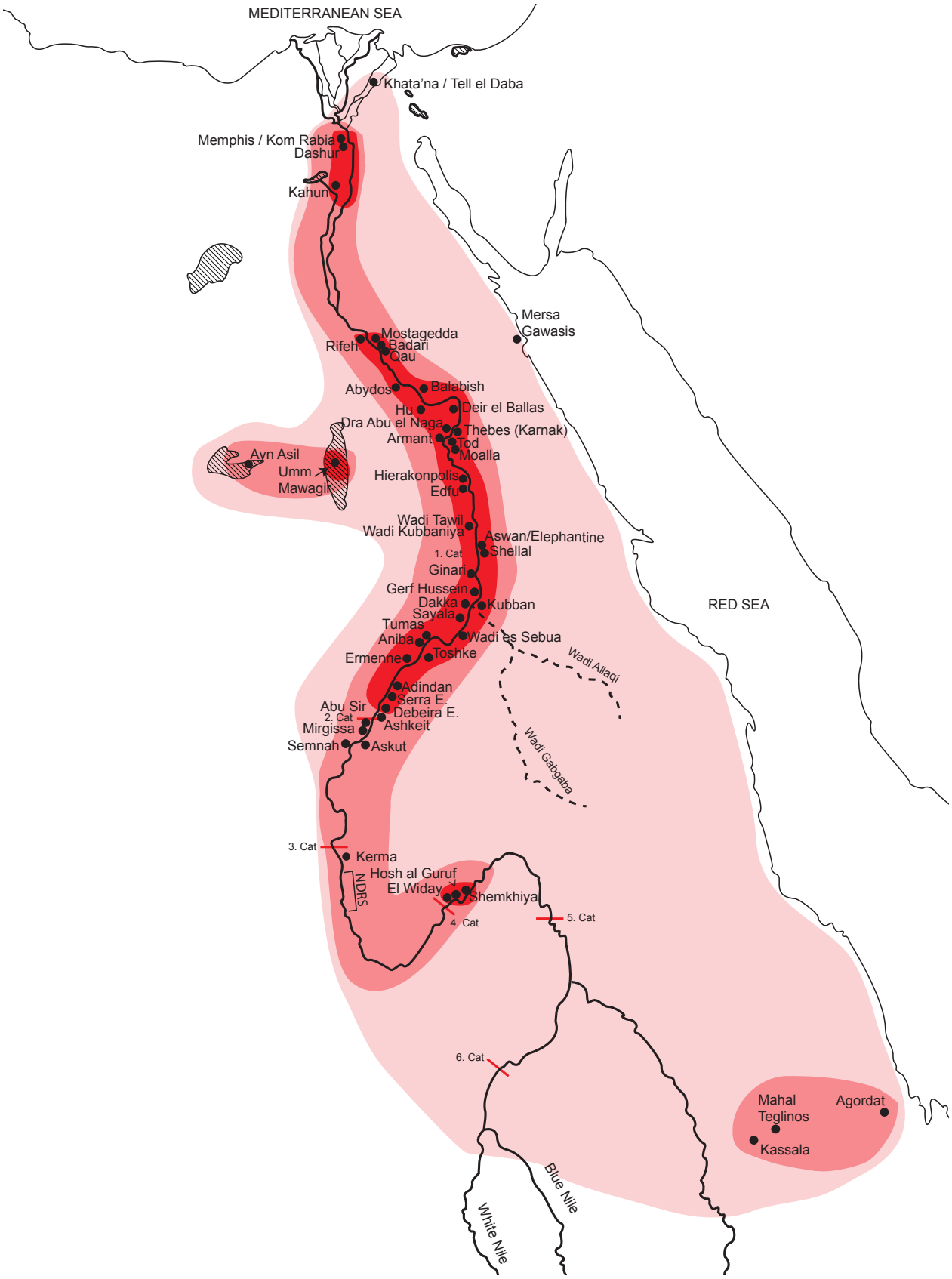
Distribution of black smooth and black burnished wares.

Distribution of red wares - smooth and burnished.

PLATE 118



Regional groups identified in the Pan-Grave ceramic tradition. (1) Middle Egypt; (2) Southern Upper Egypt; (3) Lower Nubia; (4) Upper Nubia; (5) The Sudanese Eastern Desert/ The Southern Atbai; (6) The Western Desert Oases.



Theoretical reach of the Pan-Grave ceramic tradition. Darker red denotes more intense activity.

APPENDIX 1

Database of Pan-Grave pottery comprising the core dataset.

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Adindan K	OI	K surface	-	PG.1?	US cup	D1	-	-	Y	H.v (see notes)	-	-	inc.
Adindan K	OI	K29:4a	-	PG.1?	RS bowl	D3	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K29:4b	-	PG.1?	RS bowl	D3	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K surface	-	PG.1?	RS bowl	D3	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K74:6	-	PG.1?	US cup	D3	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K92:1	-	PG.1?	RS bowl	D3	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K99:4b	-	PG.1?	RS cup	D3	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K100:4	-	PG.1?	RS bowl	D3	BT.?	def	Y	L	-	-	inc.
Adindan K	OI	K102:1	-	PG.1?	RS cup	M2	BT.?	def	N	-	-	-	inc.
Adindan K	OI	K99:4c	-	PG.1?	RI cup	M1	RB.?	-	Y	C.r	-	-	imp.
Aniba C1	Leip.	Taf 81.1	-	PG.1?	US cup	M2	BT?	-	N	-	-	-	
Aniba C11	Leip.	Taf 81.2	-	PG.1?	US cup	M1	?	-	N	-	-	-	
Aniba C12	Leip.	Taf 81.12	-	PG.1?	RS bowl	inflected?	?	-	Y	H.v	-	-	
Aniba C13	Leip.	Taf 81.3	-	PG.1?	RS bowl	M1	?	-	N	-	-	-	
Aniba C13	Leip.	Taf 81.5	-	PG.1?	RS bowl	M?	?	-	N	-	-	-	
Aniba C13	Leip.	Taf 81.13	-	PG.5?	horned dish	D1	?	-	?	-	-	-	
Aniba N ?	Leip.	Taf 58:4	-	PG.1?	RS bowl	D3	?	-	Y	H.v	-	-	inc.
Aniba N 60	Leip.	Taf 58:1	-	PG.1?	RI bowl	M1	BT.c	irr?	Y	-	C.b		inc.
Aniba N 67	Leip.	Taf 58:2	-	PG.1?	RS bowl	D3	BT.c	irr?	Y	-	H.o		inc.
Aniba N60	Leip.	Taf 58:3	-	PG.1?	US bowl	D3	?	?	Y	C.b	-		inc.
Aniba N60	Leip.	Taf 58:6	-	PG.5?	horned dish	D1	?		Y	HB.f	-	notch	
Aniba N70	Leip.	Taf 58:5	-	PG.1?	RS tapered bowl	D3	?	?	Y	X	-		inc.
Armant 1900	Swan(?)	P.1624	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	Swan(?)	P.773	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	Swan(?)	P.772	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1900	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1907	Swan(?)	P.771	-	-	? Bowl	M1	RB.c		Y	-	C.b		imp.
Armant 1908	-	-	-	-	? Bowl	-	BT?	-		H.i	-	-	?
Armant 1914	-	-	-	-	RS bowl	D3	BT.c	-	Y	C.r	-	-	inc.
Armant 1916	Swan(?)	P.765(c)	9	-	US cup	D1	BT.?	irr	N	-	-	-	
Armant 1916	-	-	-	-	US bowl	D3	BT.?	-	Y	-	C.r		inc.
Armant 1918a	-	-	-	-	RS cup	D1	BT.c	-	N	-	-	-	-
Armant 1918b	-	-	-	-	RS cup	D1	BT.c	-	N	-	-	-	-
Armant 1918c	-	-	-	-	? Bowl	-	BT.?	-	Y	C.r	-	-	inc.
Armant 1919	-	-	-	-	RS cup	D1	-	-	N	-	-	-	-
Armant 1919	Swan(?)	P.768	-	-	RS cup	D1?	BT.?	-	Y	-	C.r	-	inc.
Armant 1920	Swan(?)	P.769	-	-	-	D3	-	-	Y	C.i	-	-	inc.
Armant 1920	-	-	-	-	-	D1?	R.b	-	Y	-	Z.	-	-
Armant 1924	-	-	-	-	RI cup	inflected	BT.c	irr	N	-	-	-	-
Armant 1924	Swan(?)	P.763	-	-	RI cup	inflected	RB?	-	Y	-	C.i	-	inc.
Armant 1925a	Swan(?)	P.406	-	-	RS bowl	D1	RB?	-	Y	X.inv triangle	-	-	-
Armant 1925b	Swan(?)	P.407	-	-	US deep bowl	M1	?	-	Y	Z.bands	-	-	inc.
Armant 1931	-	-	-	-	-	D3?	?	-	Y	-	C.x	-	inc.
Armant 1938a	Swan(?)	P.1624(b)	-	-	RS bowl	D3	BT.c	-	Y	C.r	-	-	inc.
Armant 1938h	Swan(?)	P.765(b)	9.2	-	US cup	D1	BT.?	irr	N	-	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Armant 1947a	Swan(?)	P.766	-	-	-	-	-	-	-	-	-	-	-
Armant 1947A-C	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1948	-	-	-	-	RI bowl	D1	-	-	N	-	-	-	-
Armant 1958	Swan(?)	P.769(b)	-	-	-	D3	-	-	Y	C.i	-	-	inc.
Armant 1958	-	-	-	-	-	-	BT?	-	Y	C.x	-	-	-
Armant 1958	-	-	-	-	RS cup	D1?	BT.?	-	Y	-	C.r	-	inc.
Armant 1959	-	-	-	-	US shallow bowl	D1	BT.c	irr	N	-	-	-	-
Armant 1965	-	C-Group?	-	-	-	-	-	-	-	-	-	-	-
Armant 1965	-	-	-	-	-	-	-	-	-	-	-	-	-
Armant 1970	Swan(?)	P.765	9.2	-	US cup	D1	BT.?	irr	N	-	-	-	
Armant 1970A	Swan(?)	P.408	-	-	RN bowl	M1	BT.c	irr	N	-	-	-	inc.
Armant 1971	-	-	-	-	? Bowl	D3	BT.c	-	Y	H.i	-		inc.
Armant 1971	-	-	-	-	? Cup	D3	BT.?	-	N	-	-	-	imp.
Balabish 208/3	-	-	-	PG.1/5	RS bowl	D3	R?	-	Y	B	-	H.o	inc.
Balabish B177	-	-	-	PG.1?	US cup	D3	BT.c	def	N	-	-	-	-
Balabish B177	-	-	-	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Balabish B177	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish B177	-	-	-	PG.1/III	US cup	X	R?		Y	H.o	H.o	H.o	inc.
Balabish B180	-	-	-	PG.1?	US bowl	D1	BT.c	irr	N	-	-	-	-
Balabish B180	-	-	-	PG.1/III	RS bowl	M1	R?		Y	B.v	C.b		inc.
Balabish B181/2	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish B182a	-	-	-	?	RS tapered bowl	D1	R.b		N	-	-	-	-
Balabish B183	-	-	-	PG.1?	RS bowl	D1	BT.c	irr	N	-	-	-	-
Balabish B211	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish B211	-	-	-	PG.1?	RS bowl	D1	B.u	?	?	-	-	-	-
Balabish B213	-	-	-	PG.1?	US cup	D3	BT.c	def	N	-	-	-	-
Balabish B220	-	-	-	PG.1?	US cup	D3	BT.c	def	N	-	-	-	-
Balabish B221	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish B223	-	-	-	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Balabish B226	-	-	-	PG.1?	US bowl	D1	BT.c	irr	N	-	-	-	-
Balabish B226	-	-	-	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Balabish B236	-	-	-	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Balabish B240	-	-	-	-	US bowl	D1	R.b		N	-	-	-	-
Balabish B240	-	-	-	-	US bowl	D1	R.b		N	-	-	-	-
Balabish B240	-	-	-	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Balabish B240	-	-	-	PG.1/5	RS bowl	M1	R?		Y	B / X	imp.	-	inc.
Balabish B68	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	US bowl	D1	BT.c	irr	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	RS bowl	R1	BT.c	def	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	US cup	R1	BT.c	def	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	US cup	R1	BT.c	def	N	-	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Balabish surf	-	-	-	PG.1?	US cup	R1	BT.c	def	N	-	-	-	-
Balabish surf	-	-	-	PG.1?	US cup	R1	BT.c	def	N	-	-	-	-
Balabish surf	-	-	-	PG.1/5	RS bowl	D3	R?		Y	B	imp.	-	inc.
Diospolis Parva	Pet.Mus.	UC17891	16.5	PG.1?	US bowl	M1	BT.c	irr	N	-	-	-	-
Diospolis Parva	Pet.Mus.	UC17892	-	PG.1?	US bowl?	D3	BT.u	irr	Y	C.r	-	-	-
Diospolis Parva	Pet.Mus.	UC17893	-	PG.1?	RS bowl?	D3	BT.c	irr?	Y	B.b	-	-	inc.
HK21A	HK	HK21A.1	17	PG.1	RS Bowl	D1	BT.c	irr	Y	-	C.r	notch	-
HK21A	HK	HK21A.3	-	PG.1	RS bowl?	?	RB.c	irr	Y	-	C.r	-	-
HK21A	HK	HK21A.4	15-16	PG.1	RS bowl	D3	BT.c	irr	Y	-	imp.	imp.	-
HK21A	HK	HK21A.5	15-16	PG.1	RS bowl	M1	BT.c	irr	Y	-	imp.	imp.	imp.
HK21A	HK	HK21A.6	17	PG.1	RI bowl	M3	BT.c	def	Y	-	HB.	-	-
HK21A	HK	HK21A.8	17	PG.5	RI Bowl	M3	BT.c	def	Y	-	C.i	-	-
HK21A	HK	HK21A.9	14	PG.5	RI bowl	M3	BT.c	irr	Y	-	C.i	-	inc.
HK21A	HK	HK21A.10	16	PG.1	RI Bowl	M1	BT.c	irr	Y	-	Z.b	-	imp.
HK21A	HK	HK21A.11	16	PG.1	RS Bowl	D3	R.c		Y	Z.b	C.i	-	inc.
HK21A	HK	HK21A.12	17	PG.1	RS bowl	R1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.13	15	PG.1	RS bowl	M1	BT.c	def	-	-	-	-	-
HK21A	HK	HK21A.14	9	PG.1	US cup	M1	BT.c	def	-	-	-	-	-
HK21A	HK	HK21A.15	12	PG.1	RS cup	D4	BT.c	irr	-	-	-	-	-
HK21A	HK	HK21A.17	9	PG.1	RS cup	D1	BT.c	irr	-	-	-	-	-
HK21A	HK	HK21A.18	20	PG.1	RS bowl	D1	BT.c	irr	-	-	-	-	-
HK21A	HK	HK21A.19	12-14?	PG.I?	RS Bowl	D1	BT.c	irr	-	-	-	-	-
HK21A	HK	HK21A.20	17?	PG.I?	RS Bowl	M1	BT.u	irr	Y	C.b	-	-	inc.
HK21A	HK	HK21A.22	18	PG.II	RS Bowl	D4	BT.u	irr	Y	B?	-	-	inc.
HK21A	HK	HK21A.23	?	PG.1	RS Bowl?	M3	BT.c	irr	Y	-	C.i	-	inc.
HK21A	HK	HK21A.24	15-18?	PG.I	RS Bowl?	D3	BT.?	?	Y	-	C.r	-	string
HK21A	HK	HK21A.25	18?	PG.1	RS Bowl	M1	BT.u	def	Y	C.i	-	-	inc.
HK21A	HK	HK21A.26	16-18?	PG.1	RS Bowl	M1	BT.c	def?	Y	C.r	-	-	inc.
HK21A	HK	HK21A.27	?	PG.1	HB	D1	BT.c	irr	Y	HB.	-	-	-
HK21A	HK	HK21A.28	Body	PG.2?	-	-	R.?	-	Y	C.r	-	-	-
HK21A	HK	HK21A.29	Body	PG.I	-	-	RB.?	irr	Y	random	-	-	-
HK21A	HK	HK21A.30	Body	PG.I	-	-	-	-	Y	H.	-	-	-
HK21A	HK	HK21A.31	Body	PG.I	-	-	-	-	Y	HB.	-	-	-
HK21A	HK	HK21A.32	Body	PG.3	-	-	-	-	Y	HB.	-	-	-
HK21A	HK	HK21A.33	Body	PG.2	-	-	-	-	Y	HB.	-	-	-
HK21A	HK	HK21A.34	19	PG.1	US bowl	D1	BT.c	irr	N		-	-	-
HK21A	HK	HK21A.35	18	PG.2	RS Bowl	D1	?.u		Y	Z.b	-	-	-
HK21A	HK	HK21A.37	21	PG.2	RS Bowl	D1	BT.u	irr	Y	HB.	-	-	-
HK21A	HK	HK21A.38	16	PG.2	RS Bowl	D3	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.39	13	PG.2	RS Bowl	D1	BT.c	irr	N	-	-	-	inc.
HK21A	HK	HK21A.40	12	PG.2	RS Bowl	D1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.41	16?	PG.2	RS Bowl	M1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.42	16?	PG.2	RS Bowl	M1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.43	14	PG.1	RI bowl	D1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.44	14	PG.1	RS Bowl	D4	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.45	19?	PG.1	RI bowl	M3	BT.c	def	N	-	-	-	-
HK21A	HK	HK21A.46	17-18	PG.1	RS Bowl	D3	BT.c	def	N	-	-	-	-
HK21A	HK	HK21A.47	16-20?	PG.2	RS/RI Bowl	D3	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.48	15-17?	PG.2	HB	D1	BT.c	irr	Y	mixed	-	-	-
HK21A	HK	HK21A.49	17-18?	PG.2	RI Bowl	M3	BT.c	irr	Y	-	-	-	-
HK21A	HK	HK21A.50	13	PG.2	RS Bowl?	R1	BT.c	def/ irr	N	-	-	-	-
HK21A	HK	HK21A.51	12?	PG.2	RS bowl	D4	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.52	14-15	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.53	12-18	PG.2	RS Bowl	D1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.54	14	PG.2	RS Bowl	M3	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.55	17	PG.2	RS Bowl	D1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.56	15	PG.2	RS Bowl	D1	BT.c	irr	N	-	-	-	-
HK21A	HK	HK21A.58	13	PG.2	RS Bowl	M1	BT.c		N	-	-	-	-
HK21A	HK	HK21A.59	13-15	PG.2	RS Bowl	D3	BT.c		N	-	-	-	-
HK47	HK	HK47.1	8	PG.1	RS cup	D4	B.b		N	-	-	-	-
HK47	HK	HK47.2	10.5	PG.1	US cup	M1	BT.u	irr	N	-	-	-	-
HK47	HK	HK47.3	6	PG.1	US deep cup	D1/D4	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.4	8.5	PG.1	RS Cup	M1	RB.c		N	-	-	-	-
HK47	HK	HK47.5	8	Marl?	US cup	??	R.u		N	-	-	-	-
HK47	HK	HK47.6	10	PG.1	US cup	D1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.7	9	PG.1	RS cup	M1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.8	12	PG.1	RI cup	D3	RB.c		N	-	-	-	-
HK47	HK	HK47.9	16-17	PG.1	US Bowl	M1	BT.c	irr	Y	C.r	-	-	dash
HK47	HK	HK47.10	14	PG.1	RI bowl	D3	RB.c		Y	-	H.o	-	inc.
HK47	HK	HK47.11	13	PG.1	US Bowl	M1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.12	10	PG.1	RS bowl	M1	RB.c		N	-	-	-	-
HK47	HK	HK47.13	10	PG.1	RS cup	M1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.14	10	PG.1	US cup	D1	BT.c	irr	N	-	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
HK47	HK	HK47.15	body	PG.5	?	?	?.u	?	Y	HB?	-	-	-
HK47	HK	HK47.16	19	PG.5	RS bowl	D3	BT.u	irr	Y	C.r		-	string
HK47	HK	HK47.17	11	PG.1	RI cup	D3	B.b		Y	-	Z.p	-	imp.
HK47	HK	HK47.18	11	PG.1	US Cup	D1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.19	11	PG.1	RS cup	M1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.20	base	PG.1	?	?	??.u	?	Y	base: spider-web	-	-	-
HK47	HK	HK47.21	15	PG.1	RI Bowl	M1	RB.c	irr	N	-	-	-	-
HK47	HK	HK47.22	15	PG.1	RI Bowl	D3	BT.c	irr	Y	-	H.o	-	
HK47	HK	HK47.23	c. 30	PG.2	RS bowl	M1	BT.u	irr	Y	H.o	-	-	inc.
HK47	HK	HK47.24	16	PG.1	RS bowl	D3	BT.u	irr	Y	C.i	-	-	inc.
HK47	HK	HK47.26	16	PG.1	RS Bowl	D3	BT.c	irr	Y	C.x	-	-	inc.
HK47	HK	HK47.27	26	PG.4	RS large bowl	D1	BT.u	irr	Y	C.r	-	-	-
HK47	HK	HK47.28	17 (long	PG.2	HB	D1	BT.u	irr	Y	HB.f	-	notch	-
HK47	HK	HK47.29	13	PG.5	RS bowl	D3	RB.c		Y	H.zoned	H.v	-	inc.
HK47	HK	HK47.30	17 (long	PG.1/5	HB	D1	BT.u	irr	Y	HB.f	-	notch	-
HK47	HK	HK47.31	10	PG.1	RNI globular jar	M1?	R.b		N	-	-	-	-
HK47	HK	HK47.33	14	PG.1	RS Bowl	M1	BT.c	def	N	-	-	-	-
HK47	HK	HK47.34	17 (long	PG.5	HB	D1	R.s		Y	Ext: F.l radial Int: F.e + squiggles	-	notch	-
HK47	HK	HK47.35	19	PG.2	HB	D1	R.c		Y	H.rows	-	notch	
HK47	HK	HK47.36	10	PG.1	US cup	D1	B.b		N	-	-	-	-
HK47	HK	HK47.40	14	PG.1	RI Bowl	D3	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.42	14	PG.1	RS bowl	M1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.43	13	PG.1	RS bowl	D1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.44	15	PG.1	RI Bowl	M3	B.p		N	-	-	-	-
HK47	HK	HK47.45	12	PG.1	RS bowl	D1	RB.r		N	-	-	-	-
HK47	HK	HK47.46	18	PG.1	RS Bowl	D1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.48	16	PG.4	RS Bowl	D3	R.c		N	-	-	-	-
HK47	HK	HK47.49	12	PG.1	RI Bowl	M3	R.c		Y	HB.b	-	-	inc.
HK47	HK	HK47.50	16	PG.1	US Bowl	D3	BT.u	?	Y	C.r	-	-	imp.
HK47	HK	HK47.51	14	PG.2	US bowl	M1	R.u	def	Y	C.r	-	-	inc.
HK47	HK	HK47.52	16?	PG.1	RS bowl	D1	B.u		Y	C.x	-	-	-
HK47	HK	HK47.53	12	PG.1	RI bowl	M3	BT.c	irr	Y	-	C.r	-	-
HK47	HK	HK47.54	22	PG.5?	RI bowl	M1	R.u		Y	H.o		-	-
HK47	HK	HK47.55	17-20?	PG.5?	HB	D1	BT.u		Y	X.impressed		notch	-
HK47	HK	HK47.56	17?	PG.5	HB	D1	RB.u		Y	H.?	HB.f	notch	-
HK47	HK	HK47.80	14-16?	PG.1	RS Bowl	M1	RB.u	irr		-	-	-	-
HK47	HK	HK47.81	15	PG.1/5	RS Bowl	D1	R.c			-	-	-	-
HK47	HK	HK47.82	12?	PG.2	RS bowl?	D1	BT.?	?	Y	C.r	-	-	imp.
HK47	HK	HK47.83	15?	PG.2	RS bowl	M3	BT.?	?	N	-	-	-	
HK47	HK	HK47.84	10	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	
HK47	HK	HK47.85	10-12?	PG.2	RS bowl	D1	BT.c	irr	Y	-	C.i	-	inc.
HK47	HK	HK47.86	14-16?	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.87	14	PG.2	RS bowl	D3	eroded	irr?	N	-	-	-	-
HK47	HK	HK47.88	13	PG.2	RS bowl	M1	BT.c	irr?	N	-	-	-	-
HK47	HK	HK47.89	11	PG.2	RS bowl	M3	BT.c	irr?	N	-	-	-	-
HK47	HK	HK47.90	14	PG.2	RS bowl	M3	BT.c	?	N	-	-	-	-
HK47	HK	HK47.92	15	PG.1/5	RS bowl	D3	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.93	16	PG.5	RS bowl	D1	?.u		Y	C.i	-	-	-
HK47	HK	HK47.94	12-15?	PG.1	US bowl?	D3	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.95	9	PG.1	RI bowl	D4	BT.c	irr	N	-	-	-	-
HK47	HK	HK47.96	13-15	PG.3	US bowl	D1	B.b	irr?	N	-	-	-	-
HK47	HK	HK47.97	10?	PG.I	US bowl?	D1	?.u		N	-	-	-	-
HK47	HK	HK47.98	too small	PG.2	?	D3	BT.c	irr?	N	-	-	-	-
Hu ?	Pet.Mus.	UC17897	8	PG.1	UC footed carited bowl	D1	B.s	-	N	-	-	-	-
Hu 23		Dios. Neg. 123	-	-	RI bowl	M1	?	?	N	-	-	-	-
Hu W164		Dios. Neg. 138	-	-	RI bowl	D3	?	?	N	-	-	-	-
Hu X		Dios. Neg. 107	-	-	US bowl	D3	?	?	Y	C.x	-	-	-
Hu X		Dios. Neg. 122	-	-	US Bowl	D3	BT.c?	def?	N	-	-	-	-
Hu X1		Dios. Neg. 135	-	-	RI bowl	D3	?	?	?	-	-	-	-
Hu X11		Dios. Neg. 108	-	-	US Bowl	D3	BT.c?	?	N	-	-	-	-
Hu X11		Dios. Neg. 108	-	-	US Bowl	D3	BT.c?	?	N	-	-	-	-
Hu X17	BM	EA30980	11?	PG.1	US deep cup	M2	BT.c	irr	Y	-	C.i		inc.
Hu X17		Dios. Neg. 122	-	-	US Bowl	D3	?	?	N	-	H.o/C.r		inc.
Hu X25		Dios. Neg. 101	-	-	RS bowl	M1	?	?	Y	C.i	-	-	inc.
Hu X28	Pet.Mus.	UC17901	17	PG.1	RI bowl	M1	BT.c	irr	N	-	-	-	
Hu X29		Dios. Neg. 135	-	-	RI deep bowl	D3	-	-	Y	-	?	-	inc.
Hu X30		Dios. Neg. 120	-	-	RU bowl	M3	BT.?	-	N	-	-	-	-
Hu X36		Dios. Neg. 105	-	-	US bowl	M1	-	-	Y	C.r	-	-	inc.
Hu X36		Dios. Neg. 126	-	-	US bowl	D3	-	-	Y	H.z	C.b	-	inc.
Hu X38		Dios. Neg. 135	-	-	RI bowl	D3	-	-	Y		H.o	-	inc.
Hu X41	BM	EA30981	21.5	PG.2	US hem bowl	D3	B.s	-	Y	C.x	-	-	inc.
Hu X41		Dios. Neg. 104	-	-	US Bowl	D1	-	-	Y	C.x	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Hu X48		Dios. Neg. 115	-	-	US cup	M1	-	-	N	-	-	-	-
Hu X49		Dios. Neg. 102	-	-	RS bowl	D3	-	-	Y	C.b	-	-	inc.
Hu X50		Dios. Neg. 125	-	-	US bowl	D3	-	-	Y		H.o	-	inc.
Hu X52		Dios. Neg. 124	-	-	US Bowl	D3	-	-	Y		C.r	-	imp.
Hu X57		Dios. Neg. 103	-	-	US Bowl	D3	-	-	Y	L.	-	-	-
Hu X67		Dios. Neg. 135	-	-	US bowl	D1	-	-	N	-	-	-	-
Hu X7		Dios. Neg. 130	-	-	US bowl	D3	BT.c?	-	N	-	-	-	-
Hu X74		Dios. Neg. 131	-	-	US deep bowl	D3	-	-	N	-	-	-	-
Hu X74		Dios. Neg. 131	-	-	-	D3	-	-	Y	C.b?		-	-
Hu X77		Dios. Neg. 132	-	-	RS Bowl	D3	-	-	Y	-	C.x	-	inc.
Hu X8		Dios. Neg. 130	-	-	RI Bowl	D3	BT.c?	-	N	-	-	-	-
Hu X8		Dios. Neg. 130	-	-	US bowl	D1	-	-	N	-	-	-	-
Hu Y?	Pet.Mus.	UC17896	11	PG.1	RS cup	R1	BT.c	def	N	-	-	-	-
Hu Y344	Pet.Mus	UC19021	9.2	-	-	-	-	-	N	-	-	-	-
Kahun	BM	EA55289	-	PG.4	?	-	-	-	Y	C.x	-	-	-
Lahun?	Pet.Mus.	UC27904	ND	PG.4	US deep bowl	D1	RB.c	-	Y	C.r	-	-	inc.
Moalla H3		Manassa 2012	-	-	US cup	M1	BT.c	irr	N	-	-	-	-
Moalla H3		Manassa 2012	-	-	RS bowl	M1	BT.c	-	N	-	-	-	-
Moalla H3		Manassa 2012	-	-	US cup	M1	BT.c	-	N	-	-	-	-
Moalla H3		Manassa 2012	-	-	US cup	M3	R.c	-	N	-	-	-	-
Moalla H3		Manassa 2012	-	-	US cup	?	R.u	-	N	-	-	-	-
Moalla H3		Manassa 2012	-	-	?	?	R.u	-	Y	X.i	-	-	-
Moalla H3		Manassa 2012	-	-	?	D3	RB.u	-	Y	C.r	-	-	inc.
Moalla H3		Manassa 2012	-	-	?	?	?	-	Y	X.o	-	-	-
Moalla H3		Manassa 2012	-	-	?	D3	RB.u	-	Y	C.x	-	-	-
Moalla H3		Manassa 2012	-	-	?	?	RB.u	-	Y	B	-	-	-
Moalla H3		Manassa 2012	-	-	?	X	R.u	-	Y	C.r	-	-	imp.
Mostagedda 29/3211	BM	EA63032	8	-	-	-	-	-	N	-	-	-	-
Mostagedda 1800	-	Brunton 1937	-	-	RS deep bowl	D3	BT.u	irr	Y	B.v	-	-	inc.
Mostagedda 1800	-	Brunton 1937	-	PG.2	US cup	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 1895	-	Brunton 1937	-	PG.2	US bowl	D1	BT.c	irr	N	-	-	-	-
Mostagedda 28/2600	BM	EA 62419	20	PG.1	-	M2	BT.u	irr?	Y	H.o?	-	-	inc.
Mostagedda 29/1810A	BM	Brunton 1937	25-26	PG.4	RS bag shaped pot	D1	BT.u	irr	Y	X.combed	X.comb	-	-
Mostagedda 29/3100	BM	EA63022	9-10	PG.1	US deep cup	M5	R.u	-	Y	Spiral	H.o	-	inc.
Mostagedda 29/3111	BM	EA63023	12	PG.2	RS cup	R1	BT.c	irr	N	-	-	-	-
Mostagedda 29/3118	BM	EA63024	15	PG.2	RS spouted bowl	D1	B.b	-	N	-	-	-	-
Mostagedda 29/3120	BM	EA63026	9-10	PG.2	US deep cup	D1	BT.c	irr	N	-	-	-	-
Mostagedda 29/3143	BM	EA63027	12-13	PG.2	US deep cup	R1	BT.c	irr	N	-	-	-	-
Mostagedda 29/3145	BM	EA63028	16-17	PG.2	RS bag-shaped bowl	R1	BT.c	irr	N	-	-	-	-
Mostagedda 29/3155	BM	EA63030	15	PG.2	US hem cup	R1	BT.c	irr	N	-	-	-	-
Mostagedda 29/3211	BM	EA63034	11	PG.2	footed bowl with undulating profile	D2	B.b	-	N	-	-	-	-
Mostagedda 29/3226	BM	EA63038	24-25	PG.4?	US deep large bowl	M2	BT.u	def	Y	B	-		inc.
Mostagedda 29/3241	BM	EA63040	13.1 lor	-	US scoop	D1	R.b	-	N	-	-	-	-
Mostagedda 29/3248	BM	EA63047	11.1	PG.2	US hem bowl	D1	R.b	-	N	-	-	-	-
Mostagedda 29/3248	BM	E 63046	15	PG.2	US deep bowl	D1	R.u	-	N	-	-	-	-
Mostagedda 29/3248	BM	EA63044		PG.2	US hem bowl	D3	R.u	-	Y	B	-	C.	inc.
Mostagedda 29/3248	BM	EA63045	15	PG.2	US deep bowl	D1	R.b	-	N	-	-	-	-
Mostagedda 3100	-	-	-	PG.2	US bowl with vertical walls	M1	R.b	-	Y	B	imp.	-	
Mostagedda 3100	-	-	-	-	RS bowl	M1	R.u	-	Y	B?	H.o	-	inc.
Mostagedda 3100	-	-	-	-	RI jar	inflected	BT.c	def	Y	X.mixed	-	-	inc.?
Mostagedda 3100	-	-	-	-	US large bowl	M2	BT.c	irr	Y	H.o	-	-	inc.
Mostagedda 3100	-	-	-	-	US cup	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3100	-	-	-	-	US cup	M2	BT.c	def/irr	N	-	-	-	-
Mostagedda 3100	-	-	-	-	US bowl with straight sides	D1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3100	-	-	-	-	US cup	M1?	BT.c	irr	N	-	-	-	-
Mostagedda 3100	-	-	-	-	US deep cup	D1	BT.c	irr	N	-	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Mostagedda 3100	-	-	-	-	RI bowl	D1	BT.c	def	N	-	-	-	-
Mostagedda 3100	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3100	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3101	-	-	-	-	US cup	D3	BT.c	def	Y	B	-	-	inc.
Mostagedda 3101	-	-	-	-	US flared cup	D1	BT.c	irr	N	-	-	-	-
Mostagedda 3101	-	-	-	-	RS deep cup	D1	BT.c	irr	N	-	-	-	-
Mostagedda 3113	-	-	-	-	RI bowl	D1	BT.c	def	N	-	-	-	-
Mostagedda 3120	-	-	-	-	US bowl	M2	BT.c	def/irr	N	-	-	-	-
Mostagedda 3120	-	-	-	-	US cup	D1	R.u		N	-	-	-	-
Mostagedda 3121	-	-	-	-	US cup	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3121	-	-	-	-	US bowl with straight sides	D1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3122	-	-	-	-	US cup	M2	BT.c	def/irr	N	-	-	-	-
Mostagedda 3122	-	-	-	-	US bowl	M2	BT.c	def/irr	N	-	-	-	-
Mostagedda 3124	-	-	-	-	US bowl	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3126	-	-	-	-	US cup	M2	BT.c	def/irr	N	-	-	-	-
Mostagedda 3128	Man.Mus.	8799		-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3128	Man.Mus.	8800		-	US cup	R1	R.b	-	N	-	-	-	-
Mostagedda 3128	-	-	-	-	US cup	D3	R.u	-	Y	X	-	-	inc.
Mostagedda 3134	-	-	-	-	US flared cup	D1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3134	-	-	-	-	RI jar	D1	BT.c	irr	N	-	-	-	-
Mostagedda 3135	-	-	-	-	US bowl with straight sides	D1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3135	-	-	-	-	US bowl	R1	R.b	-	N	-	-	-	-
Mostagedda 3136	-	-	-	-	RS bowl	D1	R.u	-	Y	H.o	-	notch	
Mostagedda 3136	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3136	-	-	-	-	"horned dish"	D1	R.?	-	N	-	-	-	-
Mostagedda 3139	-	-	-	-	RS cup	D3	BT.c	def/irr	N	-	-	-	-
Mostagedda 3139	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3145	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3146	-	-	-	-	US bowl	D3	B.s	-	Y	C.i	-	-	inc.
Mostagedda 3146	-	-	-	-	US cup	D1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3146	-	-	-	-	US bowl with straight sides	D1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3146	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3150	-	-	-	-	US cup	D1	R.u	-	N	-	-	-	-
Mostagedda 3151	-	-	-	-	US bowl	D3	B.s	-	Y	C.i	-	-	inc.
Mostagedda 3153	Man.Mus.	8809		-	US cup	R1	BT.c	-	N	-	-	-	-
Mostagedda 3153	-	-	-	-	US cup	D3	R.u	-	Y	X.grid	C.r	-	inc.
Mostagedda 3153	-	-	-	-	US bowl	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3153	-	-	-	-	boat shaped dish	D3	R.b	-	N	-	-	-	-
Mostagedda 3154	-	-	-	-	US bowl	D1	R.u	-	Y	HB.b	-	notch	-
Mostagedda 3154	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3155	-	-	-	-	US bowl	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3156	-	-	-	-	RS bowl	D1	R.u	-	Y	C.x	-	notch	-
Mostagedda 3157	-	-	-	-	US flared cup	D1	BT.c	def/irr	N	-	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Mostagedda 3158	-	-	-	-	US bowl	D1	?	-	Y	H.zones	-	-	inc.
Mostagedda 3158	-	-	-	-	RS cup	D3?	BT.c	def/irr	N	-	-	-	-
Mostagedda 3158	-	-	-	-	US cup	M1?	R.u	-	N	-	-	-	-
Mostagedda 3158	-	-	-	-	US cup	R1	R.b	-	N	-	-	-	-
Mostagedda 3158	-	-	-	-	scoop	D1	?	-	Y	-	-	-	-
Mostagedda 3161	-	-	-	-	RS shallow dish	D3	R.b	-	N	-	-	-	-
Mostagedda 3163	-	-	-	-	US bowl	R1	B.b	-	N	-	-	-	-
Mostagedda 3165	-	-	-	-	RI bowl	D1	BT.c	def	N	-	-	-	-
Mostagedda 3170	-	-	-	-	US bowl	M2	BT.c	def/irr	N	-	-	-	-
Mostagedda 3208	-	-	-	-	US bowl	D1	R.b	-	N	-	-	-	-
Mostagedda 3230	-	-	-	-	RS bowl	R1	R.b	-	N	-	-	-	-
Mostagedda 3230	-	-	-	-	US cup	R1	R.b	-	N	-	-	-	-
Mostagedda 3231	-	-	-	-	RS bowl	D3	BT.c	def/irr	N	-	-	-	-
Mostagedda 3232	-	-	-	-	US cup	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3237	-	-	-	-	RS cup	D3	RB.c	-	N	-	-	-	-
Mostagedda 3238	-	-	-	-	US hem bowl	D1	R.b	-	N	-	-	-	-
Mostagedda 3241	-	-	-	-	US bowl	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3245	-	-	-	-	US cup	D3	R.u	-	Y	H.o	H.o	notch	inc.
Mostagedda 3245	-	-	-	-	RS tapered bowl	R1	BT.c	def/irr	N	-	-	-	-
Mostagedda 3271	-	-	-	-	US cup	D1?	BT.c	def?	N	-	-	-	-
Mostagedda 3271	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 3271	-	-	-	-	scoop	D1	B.b	-	N	-	-	-	-
Mostagedda 3311	-	-	-	-	US cup	D1	R.b	-	N	-	-	-	-
Mostagedda 5211	-	-	-	-	US cup	R1	BT.c	def/irr	N	-	-	-	-
Naqada?	Pet.Mus.	UC17910		-	?	?	?	?	Y	-	-	-	-
Qau	Pet.Mus.	UC17922	15	PG.5	RI bowl	M1	B.b		Y	-	C.i	-	-
Qau ?	-	-	-	-	RS?	D3	?	?	Y	B	-	-	inc.
Qau 1300	Pet.Mus.	UC17933	-	-	RI jar	M?	RB.u		Y	C.r	-	-	inc.
Qau 1300	-	-	-	-	US cup	inflected	BT.?	irr	N	-	-	-	-
Qau 1300	-	-	-	-	RS bowl	D1	BT.c	def	N	-	-	-	-
Qau 1300 surf	Pet.Mus.	UC17934	-	-	? Bowl	D3?	?	?	Y	H.h	-	-	-
Qau 1300 surf	Pet.Mus.	UC17935	-	-	? Bowl	D3?	?	?	Y	X.	-	-	-
Qau 1300 surf	Pet.Mus.	UC17936	-	-	? Bowl	D3?	?	?	Y	H.h	-	-	-
Qau 1300 surf	Pet.Mus.	UC17937	-	-	?	?	R?	?	Y	C.r	-	-	-
Qau 1300 surf	Pet.Mus.	UC17938	-	-	?	?	?	?	Y	X	-	-	-
Qau 1300 surf	Pet.Mus.	UC17939	-	-	?	D1	BT.c	def?	Y	X	-	-	-
Qau 1300 surf	Pet.Mus.	UC17940	-	-	? Bowl	D3	B.s		Y	C.r	-	-	inc.
Qau 1303	-	-	-	-	US cup	X	R.u		Y	Spiral	X.h	-	inc.
Qau 1303	-	-	-	-	US cup	D1	BT.?	irr	N	-	-	-	-
Qau 1306	-	-	-	-	RI deep cup	D1	BT.?	irr	N	-	-	-	-
Qau 1989	Pet.Mus.	UC17889	12	PG.1a/b	US deep bowl	R1	BT.c	irr	N	-	-	-	-
Qau 1989	Pet.Mus.	UC17888	17.6 lor	PG.1a	US scoop	D1	B.b		N	-	-	-	-
Qau 1989	-	-	-	-	US bowl	R1	BT.c	irr	N	-	-	-	-
Qau 3000/b	-	-	-	-	US bowl	D1	B.s	-	Y	X.mixed	H.o	-	-
Qau 3800	-	-	-	-	US cup	D3	RB.u	-	Y	X.mixed	H.v	-	inc.
Qau 4200	-	-	-	-	RS bowl	D1	B.s	-	Y	X.mixed	-	-	-
Qau 4253	-	-	-	-	US cup	D1	BT.?	?	N	-	-	-	-
Qau 5462	-	-	-	-	US bowl	R1	BT.c	irr	N	-	-	-	-
Qau 5477	-	-	-	-	US bowl	D1	B.b	-	N	-	-	-	-
Rifeh	Pet.Mus.	UC17927	8.2	PG.2	US cup	D1	BT.c	irr	N	-	-	-	-
Rifeh	Pet.Mus.	UC17929	12	PG.2	US cup	D3	BT.c	irr	N	-	-	-	inc.
Rifeh	Pet.Mus.	UC17928	9.2	PG.2	US cup	D1	BT.c	irr	N	-	-	-	-
Rifeh	Pet.Mus.	UC17943	-	PG.1/5	horned dish	D1	RB.c	-	Y	F.e	-	-	-
Rifeh	Pet.Mus.	UC17930	10	PG.2	US hem cup	D3	BT.c	irr	Y	X.oblique	-	-	-
Rifeh	Pet.Mus.	UC17932	11	PG.1	US cup	D3	BT.c	irr	Y	X.mixed	-	-	inc.

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
Rifeh	Pet.Mus.	UC17908	15	PG.5	RS bowl	M1	R.b	-	Y	-	H.o	-	inc.
Rifeh	Pet.Mus.	UC17906	15	PG.5	horned dish	D1	R.c	-	Y	H.dashed	-	notch	
Rifeh	Pet.Mus.	UC17909	16	PG.4	RS bowl	D3	RB.c	-	Y	pendant tri	-		imp.
Rifeh	Pet.Mus.	UC17903	17	PG.4	RS bowl?	D1	B.s	-	Y	HB.f	-	notch	
Rifeh	Pet.Mus.	UC17907	17	PG.2	US bowl	M1	R.b	-	Y	-	C.i	-	dash
Rifeh	Pet.Mus.	UC17920	20	PG.1	US bowl	D3	BT.c	irr	Y	B	-	-	-
Rifeh	Pet.Mus.	UC17921	-	PG.5	US bowl?	D1	RB.u	-	Y	H.f	-	-	-
Rifeh	Pet.Mus.	UC17947	-	PG.5	US bowl?	-	-	-	Y	H.f	-	?	?
Rifeh	Pet.Mus.	UC17905	-	PG.5	horned dish?	D1	RB.u	-	Y	HB.f	H.v	notch	-
Rifeh	Pet.Mus.	UC17911	-	PG1/5	horned dish	D1	?.u	-	Y	HB.f (ext) F.e (int)	-	notch	-
Rifeh	Pet.Mus.	UC17904	ND	PG.1/4	?	?	RB.u	?	Y	X.imp	?	?	-
Rifeh	Pet.Mus.	UC17913	-	PG.5	horned dish	D1	RB.c	-	Y	int: F.l ext: imp.	-	notch	-
Rifeh	Pet.Mus.	UC17912	-	PG.5	horned dish	D1	RB.u	-	Y	-	H.o	notch	-
Rifeh	Pet.Mus.	UC17917	-	PG.5(?)	horned dish	D1	RB.c	-	Y	F.e	-	notch	-
Rifeh	Pet.Mus.	UC17918	-	PG.2	RS bowl	M1	BT.c	irr	Y	-	C.r	-	imp.
Rifeh	Pet.Mus.	UC17919	17	PG.2	US bowl	D3	BT.c	irr	Y	-	C.i	-	inc.
Rifeh	-	-	-	-	RS bowl	D3	?	?	Y	X / B	-	-	inc.
Rifeh	-	-	-	-	RS cup	M1	?	?	Y	H.z	C.r	-	inc.
Rifeh	-	-	-	-	US bowl	D1	?	?	Y	B.v	-	-	-
Rifeh S46	Pet.Mus.	UC17902	10	-	US cup	D1	RB.c	-	N	-	-	-	-
Sayala B/1	-	76000	17	-	RI bowl	M3	BT.c	def	N	-	-	-	-
Sayala B/1	-	76001	-	-	RS bowl	M1	RB.c?	-	Y	C.b (upper) Web (base)	-	-	inc.
Sayala B/1	-	76002	-	PG.4?	RS bowl	M1	RB.u?	-	Y	C.i	-	-	inc.
Sayala B/1	-	76003a	-	PG.4?	RS cup	M1	RB.u?	-	Y	C.i	-	-	inc.
Sayala B/1	-	76003b	-	PG.4?	RS cup	M1	RB.u?	-	Y	C.r	-	-	inc.
Sayala B/1	-	76004	-	-	RS cup	M3	BT.c	def	N	-	-	-	inc.
Sayala B/10	-	76046/b	-	-	US bowl	M3	RB.c	-	Y	B	-	-	
Sayala B/10	-	76046/a	-	-	US deep cup	M1	BT.c	def	N	-	-	-	
Sayala B/11	-	76047/a	-	-	RS deep cup	M2	BT.c	irr	N	-	-	-	inc.
Sayala B/11	-	76047/b	-	-	RS deep cup	M2	BT.c	irr	N	-	-	-	inc.
Sayala B/11	-	76047/c	-	-	US deep cup	M1	RB.?	-	Y	H.i (upper) Web (base)	-	-	inc.
Sayala B/11	-	76048	-	-	RS pot	M1	BT.c	irr	N	-	-	-	-
Sayala B/11	-	76047/d	-	-	US cup	M1	RB.?	-	N	-	-	-	-
Sayala B/12	-	76052/a	-	-	RS bowl	D3	RB.c?	-	Y	B	-	-	inc.
Sayala B/12	-	76052/b	-	-	US bowl	M1	RB.c?	-	N	-	-	-	inc.
Sayala B/2	-	76011	-	-	US shallow cup	D1	BT.c	irr	N	-	-	-	-
Sayala B/3	-	76013	10.2	-	US cup	D1	BT.c	irr	N	-	-	-	-
Sayala B/3	-	76015/b	-	-	?	D3	?	?	Y	C.r	-	-	inc.
Sayala B/4	-	76017	-	-	US cup	M3	BT.c	def	N	-	-	-	-
Sayala B/5	-	76019/a	-	-	US cup	M3	BT.c	def	N	-	-	-	-
Sayala B/5	-	76019/b	-	-	US cup	M3	RB.c	-	N	-	-	-	-
Sayala B/5	-	76020	18.2	-	RS tapered bowl	M3	RB.c	-	Y	B	-	-	-
Sayala B/8	-	76030	7.6	-	RS deep cup	D1	BT.c	irr	N	-	-	-	-
Sayala B/8	-	76031/a	-	-	RS deep cup	M1	BT.c	def	N	-	-	-	-
Sayala B/9	-	76039	-	-	RS bowl	D1	BT.c	irr	N	-	-	-	-
Sayala G/6	-	76059	-	-	RS cup	D1	BT.t	irr	N	-	-	-	-
Sayala G/7	-	76062	-	-	RS bowl	M2	BT.c	irr	Y		C.r		
Sayala G/7	-	76068a	-	-	RS bowl	D3	RB.c	-	Y	C.r	-	-	
Sayala G/7	-	76068b	-	-	US deep bowl	D3	BT.c	irr	N		-	-	inc.
Sayala G/8	-	76069	-	-	RS bowl	M1	RB.c	-	Y	C.i	-	-	inc.
Serra C3	OI	24427	-	PG.2	US cup	M1	BT.c	irr	N		-	-	
Serra C3	OI	24428	-	PG.2	RS bowl	M3	BT.c	irr	N		-	-	
Serra C3	OI	24429	-	PG.2	US bowl	D3	BT.c	irr	Y	C.i	-	-	inc.
Serra C4	Khartoum	2s11 Kh	-	PG.5	horned dish	D1	R.u	-	Y	Ext: F.l motifs pendant from rim	-	notch	
Serra C6	OI	24603	-	PG.2	US cup	D1	R.u	-	N	-	-	-	-
Serra C6	OI	24441	-	PG.2	RS bowl	D1	BT.?	irr	N	-	-	-	-
SJE 170/13	Gust.	SJE 170/13:3	-	PG.1	US bowl	D1	BT.?	def	N	-	-	-	-
SJE 170/29	Gust.	SJE170/29:1	-	PG.1	RS bag-shaped bowl	D3	BT.c	def	N	-	-	-	inc.
SJE 170/30	Gust.	SJE170/30:6	-	PG.2	RS large bowl	D3	RB.u	-	Y	H.o	-	-	inc.
SJE 170/34	Gust.	SJE170/34:1	-	PG.1	US small cup	D3	RB.u	-	N	-	-	-	imp.
SJE 170/39	Gust.	SJE170/39:2	-	PG.1	RS tapered cup	D3	BT.c	irr	N	-	-	-	inc.
SJE 179/30	Gust.	SJE 170/30:4	-							-	-	-	
SJE 179/38	Gust.	SJE 179/38:01	-	PG.2	RS bowl	D1	BT.?	def	N	-	-	-	
SJE 193 surf	Gust.	SJE 193/0:3:1	-	PG.2	RS bowl	D3	BT.u	irr	Y	B	-		inc.
SJE 193 surf	Gust.	SJE 193/0:3:4	-	PG.1	RS cup	D1	BT.c	irr	N	-	-	-	-
SJE 65 surf	Gust.	SJE 65/0:10	-	PG.1	RI jar	M3	BT.c	def	N	-	-	-	-
SJE 95 surf	Gust.	SJE 95/0:9	-	PG.2	horned dish	D1	RB.u	-	Y	HB.f	-	notch	-
SJE 95/156	Gust.	SJE 95/156:1	-	PG.1	RS bowl	R1	BT.c	def	N	-	-	-	-
SJE 95/76	Gust.	SJE 95/76:2	-	PG.1	RS bowl	D3	BT.c	irr	Y	L?	-	-	inc.
SJE 95/129	Gust.	SJE95/129:2	-	PG.2	RS bowl	D3	RB.u	-	Y	H.v	-	-	inc.
SJE 95/140	Gust.	SJE95/140:2a	-	PG.2	RS bowl	D3	B.u	-	Y	B	-	-	inc.

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
SJE 95/140	Gust.	SJE95/140:2b	-	PG.1	RS bowl	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/A	17	PG.2	RS bowl	D3	BT.u	irr	Y	H.r	-	-	inc.
SJE Site 47	Gust.	47/B	13-15	PG.2	RS bowl	D3	BT.c	irr	Y	X (ext) X (int)	-	-	inc.
SJE Site 47	Gust.	47/C	18	PG.4	RS bowl	D3	BT.u	irr	Y	L	-	-	inc.
SJE Site 47	Gust.	47/0:13:2	15	PG.1	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/0:16(?)	-	PG.2	horned dish	D1	RB.u	-		F.l (int + ext)	-	notch	-
SJE Site 47	Gust.	47/0:16a		PG.3	horned dish	D1	R.u	-	Y	ext: F.l int: F.l	-	notch	-
SJE Site 47	Gust.	47/0:16f	15	PG.2	RS bowl?	D3	BR.u	-	Y	C.r	-	-	string ?
SJE Site 47	Gust.	47/0:16g	-	PG.3	RS bowl?	D3	BT.u	def	Y	L	-	-	inc.
SJE Site 47	Gust.	47/0:16h	-	PG.2	RS bowl	?	?.u	?	Y	B	-	-	?
SJE Site 47	Gust.	47/0:2a	13	PG.1	RS cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/0:6b	?	PG.2	RS bowl?	D3	BT.u	irr	Y	H.o	-	-	inc.
SJE Site 47	Gust.	47/0:6c	10	PG.2	RS cup	D3	BT.u	irr	Y	C.b	-	-	imp.
SJE Site 47	Gust.	47/0:6d	17	PG.2	RS bowl?	M1	BT.u	irr	Y	HB.b (vertical)	-	-	-
SJE Site 47	Gust.	47/0:6e	-	PG.1	?	D3	BT.c	app	Y	H/ L/C	-	-	inc.
SJE Site 47	Gust.	47/0:6f	16	PG.1	US bowl	D3	BT.c	?	Y	C.b	-	-	imp.
SJE Site 47	Gust.	47/0:6g	-	PG.5	horned dish	D1	BT.u	irr	Y	ext: HB.f below rim int: X	HB.f	notch	-
SJE Site 47	Gust.	47/0:6h	25	PG.3	RS large bowl	D3	BT.c	def?	Y	H.o	-	-	inc.
SJE Site 47	Gust.	47/0:8a	13	PG.4	RS bowl	D1	BT.c	?	N	-	-	-	-
SJE Site 47	Gust.	47/019:1a	18	PG.2	RS bowl	D3	BT.c	?	N	-	-	-	inc.
SJE Site 47	Gust.	47/019a	19	PG.?	? Bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/019b	15	PG.1/4	US bowl	D3	?	app	Y		-	-	imp.
SJE Site 47	Gust.	47/019c	11	PG.2	RS cup	D3	BT.c	def	Y	-	-	-	inc.
SJE Site 47	Gust.	47/019d	12	PG.1	RS? Cup	D3	BT.c	def	Y	-	-	-	imp.
SJE Site 47	Gust.	47/019e	18	PG.4	RI jar	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/1:3a		PG.2	RS bowl?	D3	BT.u	?	Y	L	-	-	inc.
SJE Site 47	Gust.	47/1:3b	-	PG.?	?	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/1:4a	12	PG.2	US hem cup	D3	BT.u	def		-	-	-	
SJE Site 47	Gust.	47/2:1a	?	PG.1	RS bowl	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/3:1a	-	PG.2/5	horned dish	D1	RB.u	-		F.l (int + ext)	-	notch	-
SJE Site 47	Gust.	47/3:2a	10	PG.2	RS cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/3:3a	9	PG.1	RNI jar	D1	RB.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/3:3b	10	PG.2	RI jar?	M1	BT.c	irr	N	-	-	-	imp.
SJE Site 47	Gust.	47/4:1a	15	PG.1	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/5:1a	9	PG.1	US hem cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/6:1a	19	PG.1	RS cup	D3	BT.c	def?	N	-	-	-	
SJE Site 47	Gust.	47/6:1c	?	PG.2	?	M?	BT.?	?	N		-	-	
SJE Site 47	Gust.	47/6:1f		PG.5	?	D3	R.u	-	Y	C.r	-	-	string
SJE Site 47	Gust.	47/6:1g	15	PG.1	RS bowl	modelled	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/7:2a	22	PG.2	? Bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/7:3b	19	PG.4	RI jar	D1	BT.c	irr	Y	-	C.r	-	-
SJE Site 47	Gust.	47/7:7	9	PG.1	US cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/10:4a	19	PG.2	RS bowl	D3	BT.u	irr	Y	L	-	-	inc.
SJE Site 47	Gust.	47/10:4b		PG.1	RS bowl	M1	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/11:1b	-	PG.5	RI jar	?	B.b	?	Y	X	?	?	?
SJE Site 47	Gust.	47/11:4a	20	PG.5	horned dish	D1	BT.c	irr	Y	F.l (int. and ext.)	-	-	-
SJE Site 47	Gust.	47/11:4b	9-10	PG.2	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/13:1a	11	PG.3	RS cup	D1	BT.c	irr	Y	X.impressed triangles	-	-	imp.
SJE Site 47	Gust.	47/13:1b	11	PG.2	US cup	?	BT.c	eroded		-	-	-	
SJE Site 47	Gust.	47/14:10a	12	PG.1	RS bag-shaped cup	M4	BT.c	def	N	-	-	-	imp.
SJE Site 47	Gust.	47/16:5a	15	PG.2	RS bowl	M1	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/17:1	10	PG.2	RS cup	D1	BT.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/18:1a	19	PG.	RS bag shaped bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/19:10a	?	PG.1	US?	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/20:4a	9	PG.1	RI cup	D1	BT.c	def	N	-	-	-	
SJE Site 47	Gust.	47/20:4b	-	PG.1	RS bowl	D3	BT.c	def	N	-	-	-	string
SJE Site 47	Gust.	47/21:5	19	PG.2	US bowl	M1	R.b	-	N		-	-	inc.
SJE Site 47	Gust.	47/26:1a	13	PG.1	?	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/26:1b	10	PG.2	RS cup	D3	BT.c	irr	-	-	-	-	inc.
SJE Site 47	Gust.	47/26:1c	10	PG.2	RS? Cup	D3	BT.c	irr	-	-	-	-	inc.
SJE Site 47	Gust.	47/29:2a	-	PG.1	RS bag-shaped bowl	D1	BT.c	def		-	-	-	-
SJE Site 47	Gust.	47/29:2b	-	PG.1	RS bowl	D1	BT.c	def		-	-	-	-
SJE Site 47	Gust.	47/30:1a		PG.2	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/31:3a	13.3wid	PG.2/5	horned dish	D1	BT.u	irr	Y	X (ext) F.l (int)	-	notch	-
SJE Site 47	Gust.	47/32:1a	12	PG.1	US hem cup	M1	BT.u	?	N		-	-	inc.
SJE Site 47	Gust.	47/34:2c	-	PG.1	?	D3?	?	?	Y	H?	-	-	inc.
SJE Site 47	Gust.	47/35:1	17	PG.2	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/37:2a	12	PG.1	? Cup	D1	BT.c	def	N	-	-	-	-

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
SJE Site 47	Gust.	47/39:2a	12-13	PG.4	RS cup	D1	BT.u	irr	Y	F.l (int + ext)	-	-	-
SJE Site 47	Gust.	47/47:3a	19	PG.1	RS? Cup	D3	BT.c	irr?	N	-	-	-	inc.
SJE Site 47	Gust.	47/47:3b	17	PG.2	RS bowl	D3	BT.c	irr	N	-	-	-	imp.
SJE Site 47	Gust.	47/47:3e	15	PG.2	RNI jar	D1	BT.c	irr	N	-	-	-	
SJE Site 47	Gust.	47/51:1a	15	PG.2	RS bowl	D3	BT.c	irr	Y	B	-	-	inc.
SJE Site 47	Gust.	47/51:2a	11	PG.2	RS bowl	D1	RB.u	-	Y	HB.f (ext) radial lines (int)	H.x	-	-
SJE Site 47	Gust.	47/51:3	10	PG.2	RS cup	D1	RB.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/51:4a	11.4 wi	PG.2/5	horned dish	D1	RB.c	-	Y	radial F.l (int)	-	notch	-
SJE Site 47	Gust.	47/52:4	9	PG.1	RI jar	D1	RB.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/52:5	10	PG.1	RS cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/52:6	9	PG.2	US cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/57:2	18	PG.2	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/57:3	13	PG.2	RS bag shaped bowl	D1	BT.c	irr?	N	-	-	-	-
SJE Site 47	Gust.	47/57:5	9	PG.2	RS cup	D3	BT.u	irr?	Y		-	-	imp.
SJE Site 47	Gust.	47/57:5a	21	PG.1	?	D3	BT?	?	Y	L?	-	-	inc.
SJE Site 47	Gust.	47/59:1a	12	PG.1	RI cup	M1	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/59:2a		PG.2	RS bowl	D1	BT.c/u	?		X.? (ext) F.e (int)	?	-	?
SJE Site 47	Gust.	47/60:2	12	PG.1	RS cup	D1	BT.c	irr?	N	-	-	-	-
SJE Site 47	Gust.	47/60:3	15	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/61:1a	17	PG.4	RS? Bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/62:1	15-19	PG.2	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/62:1	19	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/65:3a	10	PG.12	RS cup	D1	-	-	Y	HB.f	C.r	-	
SJE Site 47	Gust.	47/68:9a	21	PG.2	RS bowl	?	BT.c	irr	N	-	-	-	?
SJE Site 47	Gust.	47/69:4	12	PG.2	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/69:6a	13	PG.2	RS cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/70:2a	16	PG.?	RS? bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/70:2b	19	PG.2	RS? Bowl	D1	BT.c	irr?	N	-	-	-	-
SJE Site 47	Gust.	47/72:2		PG.2	RS cup	D1	BT.c	irr	-	-	-	-	-
SJE Site 47	Gust.	47/72:3	9	PG.5	US cup	D3	R.u	-	N	-	-	-	inc.
SJE Site 47	Gust.	47/73:1	13-14	PG.2	RS bag shaped bowl	D3	BT.c	irr?	N	-	-	-	inc.
SJE Site 47	Gust.	47/73:3		PG.1	RS cup	D3	BT.c	irr		-	-	-	inc.
SJE Site 47	Gust.	47/74:2	14	PG.1	RS bowl	D3	BT.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/74:6a	11	PG.1	RS cup	D3	BT.u	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/74:6b	25	PG.5	RS large bowl	X	BT.u	irr?	Y	H.o	-	-	inc.
SJE Site 47	Gust.	47/74:6c	-	PG.1	?	?	RB.u	?	N	C.b	?	?	imp.
SJE Site 47	Gust.	47/74:6d		PG.2	RS large bowl	D1	RB.u		Y	X. triangles	-	-	-
SJE Site 47	Gust.	47/74:6e		PG.2	horned dish	D1	R.u	-	Y	F.l	-	-	-
SJE Site 47	Gust.	47/74:6β	13	PG.2	US bowl	D3	RB.c	-	Y	-	H.o	-	-
SJE Site 47	Gust.	47/75:2	18	PG.2	RS bowl	D1	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/76:2a		PG.5	US large bowl	D3	R.u	-	N	HB.b	-	Z	inc.
SJE Site 47	Gust.	47/76:2c	20	PG.4	US bowl	M1	R.u	-	Y	HB.b	-	Z.Z	inc.
SJE Site 47	Gust.	47/77:1	12	PG.1	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/77:2	10	PG.1	RS cup	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/77:6a	16	PG.1	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/79:2a	-	PG.2	RS bowl	M1	B..s		Y	Z.f	-	-	-
SJE Site 47	Gust.	47/81:2	11	PG.2	RI jar	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/82:3(?)	-	PG.2	RS bowl	M1	BT.c	irr		-	-	-	inc.
SJE Site 47	Gust.	47/82:3c	10	PG.5	RS bowl	M1	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/82:4b	17	PG.5	horned dish	D1	R.s	-	Y	X. (int only)	-	notch	-
SJE Site 47	Gust.	47/86:1a	9?	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/86:1c	??	PG.2	?	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/87:1	11-12	PG.1	US cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/87:4a	13-15	PG.1	RS bowl	D3	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/87:4b	21	PG.1	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/91:1	10-14	PG.2	US cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/91:2	9	PG.1	RS cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/91:3	11	PG.1	RS cup	D1	BT.u	irr	N		-	-	-
SJE Site 47	Gust.	47/91:7c		PG.5	RI cup?	D1	BT.u	irr	N		-	-	-
SJE Site 47	Gust.	47/91:7d	10	-	-	-	BT.u	-	N		-	-	-
SJE Site 47	Gust.	47/91:7e	19	PG.3	RS bowl	M2	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/93:3a	13	PG.1	RI cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/93:3b	12	PG.2	US Cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/93:3c	10	PG.2	RI cup	D3	BT.c	irr		-	-	-	inc.
SJE Site 47	Gust.	47/93:3d	10.5	PG.2	RI cup	D3	BT.?	irr	N		-	-	inc.
SJE Site 47	Gust.	47/94	12	PG.2	RS bowl	D1	BT.c	irr?	N	-	-	-	-
SJE Site 47	Gust.	47/94:1	14	PG.2	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/95:1	12	PG.1	US cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/96:1	18	PG.2	? Bowl	D3	BT.c	eroded	N	-	-	-	inc.
SJE Site 47	Gust.	47/96:2	11	PG.2	RS cup	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/97:1a	12	PG.1	RS bowl	D3	BT.c	irr	Y	X. dots	-	-	inc.
SJE Site 47	Gust.	47/97:2	9	PG.1	RS cup	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/98:1	9	PG.2	US cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/98:2	9	PG.2	US cup	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/101:1a	14	PG.2	RS bag-shaped bowl	M1	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/106:1	17	PG.1	RS bag shaped	D3	BT.u	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/106:2a	27	PG.4	RS bowl	X	BT.u	irr?	Y	H.o	-	-	inc.
SJE Site 47	Gust.	47/107:1a	22	PG.1	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/108:1	14	PG.2	RS bowl	D3	BT.c	irr	N	-	-	-	inc.

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
SJE Site 47	Gust.	47/108:4	13	PG.?	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/109:3	9	PG.2	RI jar	D3	BT.c	def?	N	-	-	-	inc.
SJE Site 47	Gust.	47/109:3b	16	PG.1	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/109:3c	13	PG.4	RS bowl	D3	BT.c	eroded	N	-	-	-	inc.
SJE Site 47	Gust.	47/109:3d		PG.1	RS cup	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/109:3g	-	PG.1	RNI jar?	?	RB.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/109:3h	12	PG.1	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/109:3i	20	PG.1	RS? Bowl	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/112:1	11	PG.1	RS cup	D3	BT.u	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/114:1	12	PG.2	RS bowl	D3	BT.c	irr?	N	-	-	-	inc.
SJE Site 47	Gust.	47/119:3a	15	PG.1	RS bowl	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/119:3b	10	PG.1	RS cup	M1	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/119:3c	11	PG.1	RS cup	D1	BT.u	irr	N	-	-	-	-
SJE Site 47	Gust.	47/119:3e	-	PG.4	horned dish	??	RB.c	-	Y	F.? (ext) F.l (int).	-	?	-
SJE Site 47	Gust.	47/120:1	9	PG.2	RS cup	D3	R.u	-	N	-	-	-	inc.
SJE Site 47	Gust.	47/120:2	8	PG.1	US cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/121:1a	18	PG.4	RS bowl	D3	BT.u	irr	Y	L	-	-	inc.
SJE Site 47	Gust.	47/121:2a	21	PG.2	RS bowl	D1	BT.u	irr	Y	L	-	-	-
SJE Site 47	Gust.	47/122:1	17	PG.2	RS jar	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/122:2	9	PG.1	US cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/124:1		PG.2	RI bowl	D1	BT.c	irr		-	-	-	-
SJE Site 47	Gust.	47/124:2	9-10	PG.1	US cup	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/125:1	10	PG.5	RS cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/127:1a	10	PG.1	US(?) cup	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/127:1b	9	PG.1	RS(?) cup	D3	BT.c	-	N	-	-	-	-
SJE Site 47	Gust.	47/127:1c	17	PG.2	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/129:8a	-	PG.1	horned dish	D1	BR.c	-	Y	F.l (int. and ext.)	-	-	-
SJE Site 47	Gust.	47/131:1a	17	PG.1	RS(?) bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/132:1	10	PG.1	RS cup	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/133:1a	13-15	PG.2	RS bowl	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/135:1	12	PG.4	JU jar	D1	BT.c	irr	N	-	-	-	-
SJE Site 47	Gust.	47/136:1a	19	PG.2	RS Bowl	D1	BT.c	def	N	-	-	-	-
SJE Site 47	Gust.	47/136:2	20-25	PG.4	RS large bowl	D3	BT.u	irr	Y	L	-	-	inc.
SJE Site 47	Gust.	47/140:1a	10	PG.1	US cup	D3	BR.c	-	N	-	-	-	inc.
SJE Site 47	Gust.	47/143:1a	11	PG.1	RS cup	D1	-	??	N	-	-	-	-
SJE Site 47	Gust.	47/143:1b	19	PG.2	RS? Bowl	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/145:1	10	PG.1	RS cup	D3	BT.c	irr	N	-	-	-	inc.
SJE Site 47	Gust.	47/147:2a	-	PG.3	RS?	?	RB.u	?	Y	H.v	?	?	?
SJE Site 47	Gust.	47/151:1a	16	PG.5	US bowl	D3	R.u	-	Y	-	-	-	string
SJE Site 47	Gust.	47/151:1b	-	PG.2	?	?	?	?	Y	L(?)	?	?	?
SJE Site 47	Gust.	47/152:1a	13	PG.1	RS bowl	D3	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/152:1b	19	PG.5	? Bowl	D1	BT.c	def	N	-	-	-	inc.
SJE Site 47	Gust.	47/154:3a		PG.4	RI jar	D1	BT.c	irr	Y	-	B	-	
SJE Site 47	Gust.	47/157:1	5	PG.1	RX jar	??	RB.c	-	N	-	-	-	-
SM14	Aswan	SM14 C5	-	-	US bowl	D3	BT.u	irr	Y	C.b	C.r	-	imp.
SM14	Aswan	SM14 C14	-	-	RS bowl	M1	BT.c	irr?	N	-	-	-	-
SM14	Aswan	SM14 C6	-	-	?? Bowl	M1	BT.c	irr	N	-	-	-	-
SM14	Aswan	SM14 C6	-	-	RS bowl	D1	BT.u	irr	Y	C.i	-	-	-
SM14	Aswan	SM14 SC B5	Body	-	RS bowl?	??	BT.u	?	Y	C.b	-	-	inc.?
SM14	Aswan	SM14 SC H2	-	-	US cup	D3	?.u	-	Y	mixed	-	-	imp.
SM14	Aswan	SM14 SC S of A	Body	-	-	-	?.u	-	Y	C.r	-	-	inc.
SM14	Aswan	SM14 SC T18	-	-	HB	D1	?.u	-	Y	HB	-	-	
SM14	Aswan	SM14 SC T18	-	-	?? Bowl?	D3	BT.c	irr	N	-	-	-	inc.
SM14	Aswan	SM14 T18	-	-	RS? Bowl	D3	BT.c	irr	N	-	-	-	inc.
Tod Tomb 4	-	-	-	-	US bowl	D1	BT.?	def?	Y	C.b	-	-	inc.?
Tod Tomb 7	-	-	-	-	RS bowl	D3	BT.?	?	Y	C.r (upper) Web (base)	-	-	inc+ imp
Tod Tomb 7	-	-	-	-	RS bowl	M1	R?	?	N	-	-	-	-
Toshka	Yale	TWD22 / 265296	-	-	horned dish	D1	R.c	-	Y	B.?	-	notch	-
unknown	Pet.Mus	UC43309/ UC43310	9	PG.1	US deep bowl	M5	R.painted	-	Y	spiral	H.o	-	inc.
unknown	Pet.Mus	UC43311	10	PG.5	US hem bowl	M5	R.c		Y	X.mixed	H.v	notch	inc.
unknown	BM	EA58189	15.9	PG.3	US deep bowl	M1	BT.c	irr	Y	-	C.b	-	inc.
unknown	Pet.Mus	UC43293	21	PG.5	?	M1	R.u		Y	B	C.r	-	inc.
unknown	Pet.Mus	UC43333	12-13	PG.1	? Cup	R1	BT.c	irr	Y	B		-	-
WK11	Aswan	WK11 SC V9-FF14	-	-	?? Bowl	D3	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 EE9-V11-L4	-	-	RS? Bowl	D3?	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 Ext 5 L5	-	-	RS Bowl?	D3	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 SC (2008)	base	-	?? Bowl	base	?.u	-	Y	-	-	-	-
WK11	Aswan	WK11 SC AA4	-	-	RS cup?	M1?	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 SC AA4	Body	-	Body	-	-	-	Y	C.b	-	-	imp.
WK11	Aswan	WK11 SC BB2	-	-	US? Cup	M1?	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 SC BB5	-	-	?? Bowl	D3	BT.c	def?	N	-	-	-	inc.
WK11	Aswan	WK11 SC D8	-	-	RS cup?	M1?	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 SC DD3	-	-	US bowl	M1	BT.u	irr	Y	C.b	-	-	inc.

Site / Context	Current location	Object No.	Rim D (cm)	Fabric	Shape	Rim type	Ware group	BT type	Dec. Y/N	Body dec.	Rim band dec.	Rim edge dec.	Border
WK11	Aswan	WK11 SC EE15	-	-	RI cup	D1	BT.c	irr	Y	-	imp.	-	-
WK11	Aswan	WK11 SC P3	-	-	RS cup?	M1	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 SC P8	-	-	RS? Bowl	D3	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 SC R8	-	-	?? Bowl	D3	BT.u	irr	Y	C.b		-	inc.
WK11	Aswan	WK11 SC S11	Body	-	Body	-	-	-	Y	C.b	-	-	imp.
WK11	Aswan	WK11 SC V5	-	-	RS cup?	D3	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 ß CC1	-	-	RI? Bowl	D3	B.b		Y	-	C.r	-	inc.
WK11	Aswan	WK11 T22	-	-	US bowl	D4	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 T22 + AA10	-	-	RS bowl	D3	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 T22 L3	-	-	? Bowl	D3	R.c	-	Y	C.r	-	-	inc.
WK11	Aswan	WK11 T22 L5	-	-	RS bowl?	D3	BT.u	irr	Y	C.i	-	-	inc.
WK11	Aswan	WK11 T22 L5	-	-	RS cup?	D3	BT.c	irr	N	-	-	-	inc.
WK11	Aswan	WK11 T22 L5-6 EE1	-	-	HB	D1	BT.c	irr	Y	HB.	-	notch	-
WK11	Aswan	WK11 T22 L5+4	-	-	RS bowl	R1	BT.c?	irr	Y	C.b	-		inc.
WK11	Aswan	WK11 T22 L5+4	-	-	US bowl	D1	R.c	-	Y	-	-	notch	-
WK11	Aswan	WK11 T22 L6-10.5	-	-	US bowl	D3	BT?.u	?	Y	L.	-	-	inc.
WK11	Aswan	WK11 T22 L6-AA12	-	-	RS bowl	D3	R.c	-	Y	B.	C.r	C.r	inc.
WK11	Aswan	WK11 T22 L8	base	-	?? Bowl	base	?.u	-	Y	-	-	-	-
WK11	Aswan	WK11 T36 + AA4	-	-	RS bowl	D3	BT.u	def	Y	ZZ.f	-	-	inc.
WK11	Aswan	WK11 T9 ß	-	-	RS bowl	M1	R.c		Y	-	C.r		inc.
WK7	Aswan	WK7 SC [23]	-	-	?? Bowl	D3?	BT.u	irr	Y	B?	-	-	imp.

APPENDIX 2

Database of Pan-Grave closed vessel forms

Site/Context	Object no.	Shape code	Rim Diam. (cm)	Max Diam. (cm)	Ware	Decoration	Notes	Plate ref.
Debeira East SJE 47	SJE 47/7:3b	RI	19	27.5	BT.r	C.r	Globular jar, inflected 'neck', direct rim. Faded black-top. Red slipped exterior, horizontal burnish strokes. Interior black with horizontal burnishing and scraping marks. Rim band decorated with regular cross-hatching.	**49a**
Debeira East SJE 47	SJE 47/109:3j	RI	15	19.5	BT.r	C.r	Globular jar, vertical, inflected set-off rim that creates the appearance of a neck. Irregular black-top, red-slipped, burnished with horizontal strokes. Interior black, compacted but not burnished. Incised regular cross-hatch to rim band only.	**49b**
Debeira East SJE 47	SJE 47/119:3g	RI	17	-	BT.r	-	Rim and shoulder of globular(?) jar, inflected set-off rim that creates the appearance of a neck. Irregular black-top, red-slipped. Traces of oblique bunish visible on eroded surface. Interior black, well compacted with wiping marks.	**48a**
Debeira East SJE 47	SJE 47/154:3	RI	21	33	BT.r	B	Globular jar, short inflected neck and direct rim. Irregular black-top, red slipped, slight burnish. Interior black, well compacted. Rim band decorated with incised braid pattern. Possibly Kerma?	**48b**
Debeira East SJE 47	SJE 47/3:3a	RNI	9	11.7	R.b	-	Small spherical jar, short inflected neck, direct rim. Exterior eroded but traces of red-slip preserved. Interior black and well compacted but not burnished.	**44c**
Debeira East SJE 47	SJE 47/47:3e	RNI	15	-	BT.r	-	Rim, neck, and shoulder of globular jar with inflected neck and direct rim. Irregular black top. Red-slipped, vertical burnishing. Interior black and burnished with horizontal strokes.	**45c**
Debeira East SJE 47	SJE 47/52:4	RNI	9	11.5	R.b	-	Globular jar, inflected neck, everted direct rim. Exterior red-slipped and burnished, horizontal strokes around rim, vertical strokes at neck, oblique strokes on body. Interior black, well compacted, some wiping marks inside rim.	**44e**
Debeira East SJE 47	SJE 47/81:2	RNI	11	19.1	BT.r	-	Globular jar, inflected neck, everted direct rim. Irregular black-top, red-slipped. Exterior eroded but traces of oblique burnish visible. Interior black, compacted.	**44d**
Debeira East SJE 47	SJE 47/109:3g	RNI	-	c. 15	RB.c	-	Upper-body and neck of shouldered jar. Rim and base are not preserved. Red slipped, burnished exterior with vertical strokes. Interior black, well compacted but not burnished.	**45a**
Debeira East SJE 47	SJE 47/119:3f	RNI	12	-	BT.u	-	Rim of a jar, short vertical neck and direct rim. Exterior uncoated, irregular black-top. Interior black with prominent scraping and wiping. Possibly Kerma?	**45b**
Debeira East SJE 47	SJE 47/135:1	RNI	12	19	BT.r	-	Spherical jar, vertical neck and direct rim. Irregular black-top covering neck. Exterior red-slipped, oblique burnishing visible. Interior black, compacted.	**46a**
Hierakonpolis HK47	HK47 Pot 31	RNI	10	20	RB.c	-	Spherical jar, short inflected neck, everted and slightly modelled rim. Exterior red-coated, burnished, horizontal burnish marks to exterior. Interior black, compacted.	**47**

Site/Context	Object no.	Shape code	Rim Diam. (cm)	Max Diam. (cm)	Ware	Decoration	Notes	Plate ref.
Qau 1300	see: BRUNTON 1930, pl. IX.5	RNI	?	?	RB.?	C.r	Squat shouldered jar, short inflected neck. Uncoated. Incised closely spaced cross-hatchin on body. Base and neck plain. Black interior. Possibly not Pan-Grave, but compare example from Mostagedda 3100. Description based on published drawing.	**44a**
Mostagedda 3100	see: BRUNTON 1937, pl. LXXII.16	RNI	?	?	BT.r	C.r	Squat shouldered jar, short inflected neck, direct rim. Neck black. Incised cross hatch to body in opposing fields? Possibly not Pan-Grave but compare to example from Qau 1300. Description based on published drawing.	**44b**
Debeira East SJE 47	SJE 47/157:1	RS	5	9.2	R.c	-	Small drop-shaped jar, everted and flattened rim. Exterior red-slipped, smoothed. Interior black, compacted with finger marks visible.	**46b**
Debeira East SJE 47	SJE 65/0:10	RS	5	8	BT.r	-	Beaker jar, set-off rim. Defined black-top and red-slipped exterior. Well burnished exterior. Burnishing has smoothed out set-off line. Interior black and compacted with some scraping.	**46c**