Middle Kingdom Studies 9

New Horizons: The Pan-Grave ceramic tradition in context



Aaron M. de Souza

MKS

GHP

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The Pan-Grave Ceramic Tradition in Context

Aaron M. de Souza

Middle Kingdom Studies 9

FOR JANINE BOURRIAU

who unknowingly nudged me in what neither one of us realised was the right direction.

Middle Kingdom Studies

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Foreword

This book wasn't ever supposed to happen. The story begins at the beginning of 2012, when I was preparing my Masters thesis on the topic of Egyptian pottery during the Second Intermediate Period. Six weeks before the due date, I came to the horrible realisation that I had gone way over the word limit… by 15,000 words. To this day, I still have absolutely no idea how that happened. I was loath to slash such a substantial amount of work, knowing that to do so would significantly weaken the thesis as a whole. But there was one chapter that interested me more than others. It was a chapter about this thing that kept popping up in my research – the Pan-Grave Culture.

I didn't fully understand what it was, and everything I'd read about it only seemed to raise more questions than answers. So, I made a decision. I would take my 5000 word chapter about this thing called the Pan-Grave culture, and expand it to the required 15,000–20,000 words… in six weeks.

That decision would change the course of my academic future. My Masters thesis ended up being about the Egyptianisation of the Pan-Grave culture, which led to my first journal article, which was expanded to become the topic of my PhD dissertation, which I adapted to become the book that you now hold in your hands (or read on your screen). That decision was also the beginning of an obsession with the Pan-Grave tradition, the people who followed it, and a need to know everything about them.

I hope that this small contribution to the fields of Egyptology, Nubiology, and archaeology in general proves to be meaningful and useful to you and to anyone who engages with it for as long as it remains relevant, however long or short a time that may be.

Most of all, I hope that my work will shine a new light on the enigmatic Pan-Grave people, who have intrigued me for so long, whoever they might me.

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There are so many people I wish to thank, but unfortunately expedience dictates that I must limit myself to a special few:

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To Janine Bourriau – I sent you an unsolicited email on 17 May 2011, and to this day the generosity of your response warms my heart. I would never have known about Pan-Grave anything were it not for you, and at every turn, and with every major achievement, I always remember to silently thank you for gently nudging me in what neither one us knew was the right direction.

To Julien Cooper – for answering a million questions about desert related stuff, but mainly for just being a great friend.

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To my family – you have all watched me follow the most circuitous academic path from high-school teaching, to design and finally to Egypt, but there has never been a moment when I did not feel loved and nurtured by all of you. They say that you can't choose your family, but I wouldn't choose any differently.

And to Adam – I don't even know where to begin. Thank you for allowing me the time, space, and freedom that I needed to achieve my dreams, even though I know it has been so difficult and lonely for you on so many occasions. You are the most generous and intrinsically good soul that has ever walked the earth, and it will never be possible for me to repay you for everything that you have done for me. I would not be who I am without you.

There are so many other people who I would love to thank, but I would never forgive myself if I forgot even one of you. So, I will simply say that to everyone who has ever offered me support, advice, and friendship along the way, academic or otherwise, I offer you my most heartfelt thanks in return. You have all made a contribution to this project, and all are equally important.

But finally...

To the Pan-Grave people, whoever you might be.
You are a fascinating enigma, and I hope that my work has brought us closer to understanding who you were.
You will not be forgotten… at least not by me.

Abbreviations

Ä&L	Ägypten und Levante
AAR	*African Archaeological Review*
AdNM	*Archéologie du Nil Moyen*
AI	Aperture Index
AKAP	Aswan - Kom Ombo Archaeological Project
AKS	Amri - Kirbekan Survey
AmAnt	*American Antiquity*
ASAE	*Annales du Service des Antiquités de l'Egypte*
ASN	*Archaeological Survey of Nubia*
BACE	*Bulletin of the Australian Centre for Egyptology*
BIFAO	*Bulletin de l'Institut Français d'Archaeologie Orientale*
BzS	*Beiträge zur Sudanforschung*
CAJ	*Cambridge Archaeological Journal*
CeRDO	Centro Ricerche sul Deserto Orientale
CRIPEL	*Cahiers de Recherches de l'Institut de Papyrologie et d'Egyptologie de Lille*
EHB	*Evolution and Human Behavior*
GAMAR	*Gdansk Archaeological Museum African Reports*
ISMEO	Associazione Internazionale di Studi sul Mediterraneo e l'Oriente
JAA	*Journal of Anthropological Archaeology*
JAEI	*Journal of Ancient Egyptian Interconnections*
JARCE	*Journal of the American Research Centre in Egypt*
JAS	*Journal of Archaeological Science*
JEA	*Journal of Egyptian Archaeology*
JTheorBiol	*Journal of Theoretical Biology*
LÄ	*Lexicon der Ägyptologie*
MDAIK	*Mitteilungen des Deutschen Archölogischen Institut, Kairo*
NARCE	*Newsletter of the American Research Centre in Egypt*
NA-CISA	*Newsletter di Archeologia, Centro Interdipartimentale di Servezi di Archeologia*
NDRS	Northern Dongola Reach Survey
NN	*Nekhen News*
OINE	Oriental Institute Nubian Expedition
PAUP	*Phylogenetic Analysis using Parsimony*
SAAC	*Studies in Ancient Art and Civilization*
S&N	*Sudan & Nubia*
SJE	Scandinavian Joint Expedition to Sudanese Nubia
VI	Vessel Index
ZASA	*Zeitschrift für ägyptische Sprache und Altertumskunde*

Preface

This volume focuses on the Pan-Grave ceramic tradition, pottery being the most abundant, widespread, and hence the most informative artefact type for the so-called Pan-Grave archaeological culture. Pan-Grave pottery is found in almost every context in Egypt and Nubia dating to the Second Intermediate Period, in their own cemeteries, as well as in Egyptian towns, temples, tombs. This wide and varied distribution opens a path by which to understand the Pan-Grave tradition, to unravel its relationship with the Egyptian world, to identify chronological sequences, and to observe variation within the tradition.

The central aims of this volume are to define what Pan-Grave pottery looks like and to establish a framework by which the material may be described, identified, and classified.[1] The volume is also intended to serve as a catalogue and sourcebook for Pan-Grave pottery and a survey of its distribution across Egypt and Nubia, the likes of which has not previously existed. Site-specific typologies for Pan-Grave pottery have been published,[2] but the descriptions and definitions for each assemblage differ broadly in each case owing the absence of an overarching system of classification.[3] This shortfall has been a major hindrance to comparative analyses of sites and assemblages; without a reliable set of criteria, a handmade sherd with incised decoration could be Pan-Grave, Kerma, C-Group or, at best, generally 'Nubian'.

In this study, pottery from Pan-Grave cemeteries in Upper Egypt and Lower Nubia constitute the primary data source for defining the Pan-Grave ceramic tradition. Settlement material serves as a supplementary dataset, as confirmed Pan-Grave occupation sites are yet to be positively identified, nor is it known what a Pan-Grave settlement should actually look like.[4] Additionally, Nubian pottery found in Egyptian settlement contexts is notoriously problematic in terms of cultural identification. Ultimately, it was in cemeteries that the Pan-Grave tradition was first identified, and so it is to cemeteries that we must return in order to reassess our understanding of this tradition. It is also assumed that objects placed in a grave are a reflection of the living cultural sphere in which the deceased existed—*the dead do not bury themselves*.[5]

The nature of the published record must also be taken into consideration. Many accounts of Pan-Grave sites were written and published during the early 20th Century and so the reports are in keeping with the standards of that time. Very often, only a small percentage of the material was published, and that almost invariably

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[1] An analysis of Pan-Grave pottery was the focus of my PhD research (de Souza, *Crossed Lines*).

[2] For example at Mostagedda (Brunton, *Mostagedda,* 124); Sayala (Bietak, *Ausgrabungen,* 53-6; Bietak, *Studien zur Chronologie,* 119-21); The SJE concession (Säve-Söderbergh, *Middle Nubian Sites,* 53-6); Hierakonpolis (Giuliani, *S&N 5*; Giuliani, *NN 13*; Giuliani, in Caneva, Rocati, *Acta Nubica*); and Gharb Aswan (Gatto, *JAEI 6.1,* 23-4; Giuliani, in Raue, Seidlmayer, Speiser (eds.), *The First Cataract)*.

[3] Serena Giuliani completed her PhD at the University of Rome, La Sapienza (c. 2006), but this remains unpublished and access to the thesis has not been possible. The main article cited by most researchers is Giuliani, in Kroeper, Chłodnicki, Kobusiewicz, *Archaeology*. Aspects of her work have also been referenced in her reports on the Pan-Grave cemeteries at Hierakonpolis and the Aswan - Kom Ombo Archaeological Project. Bietak's typology also remains in active use (Bietak, *Ausgrabungen,* 53-6; Bietak, *Studien zur Chronologie,* 119-21), but after half a century his record is due for an update.

[4] Possible Pan-Grave campsites have been identified at Badari (Brunton, *Qau & Badari III,* 3-4), Mostagedda (Brunton, *Mostagedda,* 121-2), and possible cave-shelters at Nag el Qarmila (Gatto et al., *MDAIK 65,* 26-7; Gatto, Curci, Urcia, *JAEI 6:4,* 38-41).

[5] Parker-Pearson, *Death and Burial,* 84.

comprises complete pots or 'interesting' sherds. In some cases, a single, highly stylised illustration is presented as a reference type for multiple vessels from different contexts, and it must be assumed that all other vessels are actually the same.[6] 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, surface detail, or ware.[7] When decorated pottery is depicted, the decorative motifs are reduced to a series of schematic lines, with no indication of the quality or thickness of the actual marks on the pots. These issues are compounded by the fact that pottery collected from these early excavations has been scattered across the world, making first-hand analysis of complete assemblages difficult and, in some cases, near impossible.

These issues are not confined to the early Twentieth Century. Bietak's reports on the C-Group and Pan-Grave cultures were based largely on data from the reports of the first Nubian survey conducted between 1907–1911, which by that were themselves already in need of revision. Bietak's typology set the standard for future research, first in his 1966 report on the Pan-Grave sites at Sayala,[8] and then in the subsequent revised version presented in his 1968 treatise on the C-Group.[9] Bietak identified eight types that are organised first by ware, then by surface treatment, but his system is in many ways overly prescriptive in its description of the decorative motifs and wares, and there was little discussion regarding 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 between each tradition are not identified. The same applies for decorated wares, such as his type P/8 (uncoated wares with cross-hatched incised decoration), which also occurs in the C-Group and Kerma traditions.

Nordström and Säve-Söderbergh published a detailed, objective, and scientifically rigorous typology of Early and Middle Nubian pottery from the Scandinavian Joint Expedition (SJE), which included fabric, shape, ware, and decoration,[10] and their work is still arguably the most complete record currently available for Middle Nubian sites. A unique aspect of the SJE volumes is that they include extensive lists of sherds,[11] providing information about the state of preservation, fabric, ware type, and decoration. Recent re-analysis of the SJE collection by the current author has found that the lists are not comprehensive, but an important advantage in the case of the SJE is that *almost* the entire collection of Early and Middle Nubian pottery—complete vessels, sherds, and associated archival material—is held in a single collection, making it easier to analyse assemblages as a whole.[12]

The first significant attempt at defining the Pan-Grave ceramic tradition specifically 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, as part of the AKAP mission, and the Survey of Memphis, but a renewed analysis of the same pottery by this author has demonstrated that many of Giuliani's observations require review. Nevertheless, Giuliani's work was an important step forward for the study of Pan-Grave pottery in its own right, and therefore it is a key starting point for the present study.

The available reports are an invaluable resource and remain, in most cases, the only surviving and easily accessible records of these finds and their contexts, many of which are now lost under water, urban sprawl, or farmland. However, it is not possible to move forward without looking back upon past scholarship through the focussing lens of hindsight. Following on from new finds and excavations of Pan-Grave sites in recent years, the time has now come for a full review of the Pan-Grave ceramic tradition, and the Pan-Grave cultural phenomenon overall.

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[6] See for example: Brunton, *Mostagedda,* pl. LXXII: 19, 24 and 28.

[7] Petrie, *Gizeh & Rifeh,* 20-1, pl. XXV.

[8] Bietak, *Ausgrabungen,* 53-6.

[9] Bietak, *Studien zur Chronologie*, 119-21.

[10] The classification system was devised by Nordström for the early Nubian pottery in the SJE Concession (Nordström, *Neolithic and A-Group Sites*, 80-94 (vol. 1), pls. 6-26 (vol. 2). The system was subsequently revised for the Middle Nubian Pottery. See Säve-Söderbergh, *Middle Nubian Sites* 25-58 (vol. 1).

[11] Säve-Söderbergh, *Middle Nubian Sites,* 69-86 (vol. 2).

[12] The Early and Middle Nubian pottery from the SJE Concession is held by the Museum Gustavianum, Uppsala University (Sweden), where the author analysed and re-recorded a selection of the material over two study seasons (Oct/Nov 2013; Sep/Oct 2014). A small portion of the finds was retained by the Sudan National Museum, Khartoum.

This volume sets out to offer a single, unifying source of data and classificatory guidelines for Pan-Grave pottery analysis, with the goal of being the most expansive survey of Pan-Grave ceramics to date, examining the tradition in all its forms from sites across Egypt and Nubia, in the Nile Valley and in the surrounding desert regions. Museum collections and archives around the world have been consulted, and first-hand access to Pan-Grave pottery from sites across Upper Egypt and Lower and Upper Nubia has led to many of the updated observations and conclusions presented in this volume. Recently excavated material has also been studied by the author either first-hand in the field or, where that was not possible, through high quality photographs.

This study joins a groundswell of interest in Nubian pottery and material culture generally, and comes at a time when archaeological activity in Sudan is gathering momentum. For the Middle Nubian cultures specifically, a 2012 workshop facilitated by the Austrian Archaeological Institute focused solely on Middle Nubian pottery in Egyptian cultural contexts, which acknowledged the ubiquity of Nubian material and the necessity to advance the interpretation thereof.[13] Researchers working at sites in both Egypt and Sudan presented evidence from their respective assemblages in an effort to make sense of the issues and problems associated with Nubian pottery when found in Egyptian settlements and cemeteries. These issues included (among others) identifying chronological and typological sequences, how Nubian pottery should be interpreted in Egyptian cultural contexts,[14] functional aspects of Nubian pottery, difficulties of cultural attribution, and factors limiting comparative interregional analyses.

This regional aspect is a central theme of the present study. As will be demonstrated, evidence for Pan-Grave activity extends far beyond the Upper Egyptian and Lower Nubian Nile Valley as the existing published record would seem to suggest. Instead, it is proposed that there are multiple variants within the Pan-Grave ceramic tradition spanning a vast region encompassing the Nile Valley in Upper Egypt and Lower Nubia, but also Upper Nubia as far as the Fourth Cataract (at least) as well as the desert regions to the east of the Nile, extending to the Red Sea coast and northeastern Sudan. Taking this vast expanse and multiplicity of traditions, it is proposed that we can no longer continue to speak of a single Pan-Grave culture or tradition, but rather a Pan-Grave *horizon* that better describes the spectrum of variation that is clearly evident in the archaeological record.

In order to illustrate this new model, the volume is divided into three main sections:

Part One of this volume opens with an exploration of the so-called Pan-Grave 'culture', as it is currently understood (Chapter 1). Previous scholarship will be summarised, outlining how the perception of the Pan-Grave 'culture' that we have inherited was formed. A general survey of Pan-Grave material culture follows, laying the foundation by which sites can be identified, described, and defined (Chapter 2). The main component of Part One—and of the volume overall—is Chapter 3, which lays out the classification system by which Pan-Grave pottery can be identified, described and defined. The aim is to provide scholars with a unifying system that is consistent in language and terminology, facilitating site-specific and comparative analyses of assemblages.

Part Two puts the Pan-Grave pottery into its archaeological context wherever it has been identified. First, sites in Upper Egypt and Lower Nubia that have long been attributed to the Pan-Grave tradition are laid out as a gazetteer, in which each site is described and a probable date range identified (Chapter 4). These sites are used to further refine what Pan-Grave sites and assemblages look like in the region with the most dense evidence for Pan-Grave activity. The search is then expanded beyond this core region, looking at sites that are not typically Pan-Grave, but at which Pan-Grave or Pan-Grave 'related' evidence has been identified (Chapter 5). The survey is then extended even further to Pan-Grave pottery from Egyptian cultural contexts towns, temples, and tombs in order to fully contextualise Pan-Grave pottery in the archaeological record of Egypt and Nubia (Chapter 6).

The third and final part of the volume presents a distribution analysis of Pan-Grave pottery, looking independently at distribution patterns of vessel form, ware, and decoration (Chapter 7). It is in this concluding

[13] Forstner-Müller, Rose (eds.), *Nubian Pottery*.

[14] For example: Aston in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 159-80; Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 103-16.

section that variation becomes most apparent as a reflection of the broad chronological, regional, and intra-cultural variation that exists within the Pan-Grave ceramic tradition. These variations set the foundation for re-framing the Pan-Grave tradition as a *cultural horizon,* under which multiple sub-cultures (plural) are located in different geographic regions at different times, each expressing their shared cultural heritage in a slightly different manner dependant on a number of impacting factors. Archaeological theory plays a part in redefining the Pan-Grave tradition as a cultural horizon, but it is important to state clearly that the focus of the concluding chapter, and of the volume in the general, is *not* a deep theoretical analysis of the Pan-Grave tradition and its identity. The focus is the pottery itself as a product of a broader cultural phenomenon, as it is necessary to identify and define the material as a first step on the path to fully understanding it as part of the larger socio-cultural system that produced it.

Part I:

Material Culture of the Pan-Grave Tradition

1.
Introduction: The Problem(s) with Pan-Graves

'While working at Abadiyeh, Mr Mace found a grave (E2) which puzzled us greatly.'
— W. M. F. Petrie, 1901.[15]

So said Petrie when he discovered 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 that contained distinctly un-Egyptian assemblages.[16] With the benefit of hindsight, we can now say that the grave at Abadiyeh (grave E2) was not a Pan-Grave burial at all, but is instead most likely a Kerma burial based on the distinctive grave contents. Petrie's error is easily forgiven; it was, after all, the first discovery of its kind. Unfortunately—but perhaps fortunately for me!—Petrie's case of mistaken identity set in train the sequence of misidentifications that forms the genesis of this book. A century worth of scholarship has come and gone, but the Pan-Grave tradition continues to puzzle researchers to the present day, just as it puzzled Petrie over a century ago.

After all that time, there is very little that we know for certain about the Pan-Grave tradition. It is quite certain that they were nomadic or semi-nomadic pastoralists, and we know from the distribution of their cemeteries that the Pan-Grave tradition was present in the Nile Valley of Upper Egypt and Lower Nubia during a period from the late Twelfth Dynasty through to the early Eighteenth Dynasty. Certain aspects of Pan-Grave material culture are easily recognisable – decorated frontal bones and horns of goats, sheep, and cattle, unique jewellery, and of course the pottery that is the primary focus of this book.[17] Unfortunately, what we *do* know about the Pan-Grave tradition is vastly outweighed by what we *don't* know.

The people who made Pan-Grave material culture objects were, as far as we can tell, non-literate and hence did not leave behind any texts to tell us who they were in their own words. We are therefore reliant on contemporary Egyptian texts, but nothing exists that can be definitively connected to what we now know as the "Pan-Grave people". We are also mostly dependant on associated Egyptian material—e.g. pottery and scarabs—in order to identify relative dates for sites and assemblages. At present, no chronological framework exists for the Pan-Grave tradition, 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 (**Fig 2**).[18] Both of those cultures have left an extensive material record in large cemeteries and settlement sites, whereas the limited quantity and piecemeal nature of Pan-Grave evidence hinders the process of devising a similar internal chronology.[19]

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[15] Petrie, *Diospolis Parva*, 45.

[16] Petrie, *Diospolis Parva*, 45.

[17] Each aspect of material culture will be described throughout this book, however other general reference texts include Bietak, *Ausgrabungen*, 43-61; Bietak, *Studien zur Chronologie*, 117-23; Säve-Söderbergh, *Middle Nubian Sites*, 15-9; Hafsaas, *Cattle Pastoralists,* 123-33.

[18] For the C-Group see Bietak *Ausgrabungen*; Säve-Söderbergh, *Middle Nubian Sites (vol. 1),* 6-14; Hafsaas, *Cattle Pastoralists*, 42-7. For the Kerma culture see Gratien, *Les cultures Kerma,* 131-270; Gratien, *Saï I,* 398-436.

[19] Existing work on the topic of chronology includes Säve-Söderbergh, *Middle Nubian Sites (vol. 1)*, 18-9; Williams, *Archaeology and Historical Problems,* 193-219. Näser, in Barnard, Duistermaat (eds.), *History of the Peoples of the Eastern Desert,* 82.

1.1 Making the Pan-Grave tradition: 1898–1966

Almost since it was first identified, the Pan-Grave tradition was been equated with the Medjay of ancient Egyptian texts, but more recent research has shown that this can no longer be fully supported.[20] Weigall was the first to propose the link between the Pan-Grave and the Medjay, citing as evidence what he identified as Pan-Grave cemeteries near the Lower Nubian fortresses.[21] Subsequent discoveries of axes, daggers, and archery equipment in Pan-Grave contexts in Theban territory seemed to confirm Weigall's conclusions. Perhaps the most evocative piece of evidence is a painted bucranium—a typically Pan-Grave object—from Mostagedda grave 3252 that bears the only known figurative depiction of a Pan-Grave individual.[22] The image depicts a black-skinned man with closely-cropped or shaved hair, wearing a red kilt, and holding an axe in one hand. In front of the figure is a rectangle containing a word—*Qeskanet*—written in Egyptian hieroglyphs, the meaning of which is unknown.[23] By all appearances, the man depicted was a soldier, and the hieroglyphic text is strong evidence that he had adopted Egyptian cultural traits. It seemed irrefutable that the Pan-Grave people *were* the Medjay soldiers of Egyptian texts, and this connection became firmly fixed in the literature.[24]

The construction of the Aswan High Dam and the subsequent UNESCO salvage missions was a watershed moment in Nubian archaeology, and many Pan-Grave sites in Lower Nubia were recorded before they were lost forever.[25] Then, in 1966, Bietak extended the Medjay-connection by proposing that the Pan-Grave tradition originated in the Eastern Desert and entered the Nile Valley via the Wadi Allaqi, based on what he considered to be a proliferation of Pan-Grave evidence surrounding that region.[26] Bietak also cited pottery from the sites of Erkowit, Kassala, and Khor Arbaat in northeastern Sudan,[27] which together with Nerita shells from the Red Sea in Pan-Grave burials was taken as further evidence for a connection to the east.[28] Bietak also argued that the Pan-Grave's distinctive material culture could only be the result of isolated development in the desert, and that they could not have originated in the Nile Valley, which was already occupied by Egyptians, and C-Group and Kerma Nubians.[29] Bietak also observed that Pan-Grave burials were frequently aligned to true cardinal directions, which he interpreted as evidence that they oriented themselves by the stars rather than by the river, and hence must not have originated in the Nile Valley.[30] Additionally, Egyptian texts known as the Semnah Despatches, dated to the late Middle Kingdom, refer to a small family group of Medjay seeking food and employment in Egypt because the desert is "dying from hunger".[31] Chronologically, the text is roughly contemporary with the apparently sudden appearance of the Pan-Grave tradition in the Nile Valley, and it was therefore assumed that the Pan-Grave people moved toward the Nile in order to escape a drying phase in the desert.[32] The link between the Pan-Grave tradition, the Medjay, and the Eastern Desert seemed to be a closed case, and it would remain so until the end of the 20th century.

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[20] Liszka's work is currently the most thorough critique on the topic of the Medjay/Pan-Grave debate. Liszka, *We have come to serve Pharaoh*, 422-86, 512-23; Liszka, *JAEI 7.2*, 42-60. See also Bietak, *Ausgrabungen*, 61-8; Hafsaas, *Cattle Pastoralists,* 129-31.

[21] Weigall, *Antiquities of Lower Nubia* 26-7.

[22] Brunton, *Mostagedda,* pl. lxxvi.66.

[23] Cooper & Barnard, *AAR,* 367-73.

[24] Other early texts that followed the Pan-Grave / Medjay connection include: Hofmann, in Voigt (ed.) *Zeitschrift*, 1113-35; Säve-Söderbergh, *Ägypten und Nubien*, 135-40.

[25] Key missions that recorded Pan-Grave and other Middle Nubian remains include: The Scandinavian Joint Expedition (Säve-Söderbergh, *Kush X*, 76-105; Nordström, *Kush* X, 34-58; Säve-Söderbergh, *Kush XI, 47-69*), The Oriental Institute Nubian Expedition (Williams, *Serra East;* Williams, *C-Group, Pan-Grave and Kerma*)*;* and the Austrian Mission (Bietak, *Ausgrabungen*).

[26] Bietak *Ausgrabungen*, 71.

[27] Bietak *Ausgrabungen,* 70.

[28] Bietak *Ausgrabungen*, 59-60.

[29] Bietak *Ausgrabungen,* 70-3.

[30] Bietak, in Hägg (ed.), *Nubian Culture*, 124.

[31] Smither, *JEA 31,* 9; Liszka, *We have come to serve Pharaoh,* 1. See also Schneider, *Foreign Egypt,* 179; Bietak, in Helck, Otto (eds.), *LÄ,* 1000.

[32] Manzo, *Eastern Sudan*, 52.

1.2 Pan-Grave tradition in the twenty-first century

Bietak's theories stood the test of time for almost half a century, but the discovery of new evidence has forced current scholars to reconsider what we thought we knew about the Pan-Grave tradition. New Pan-Grave cemeteries were discovered at Hierakonpolis,[33] Nag el-Qarmila,[34] and Moalla,[35] Pan-Grave pottery was found in Egyptian settlement contexts,[36] and excavations in Upper Nubia all added to the corpus of evidence by which earlier scholarship could be revised. The new discoveries initially appeared to uphold some earlier hypotheses, in particular the possible mercenary function of the Pan-Grave people. In his monumental study of Second Intermediate Period politics, Ryholt observed that Pan-Grave cemeteries were located near important urban centres in Theban territory and proposed that the distribution points to strategic placement of Pan-Grave outposts.[37] This pattern was interpreted as populations of Pan-Grave mercenaries posted near to major urban centres in order to protect them.[38] Ryholt's theory has 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 was advantageous for the Pan-Grave people in terms of access to necessary resources.

One of the biggest shake-ups came with Liszka's work on the Medjay, which reawakened debate surrounding the assumed equation with the Pan-Grave tradition.[39] This is not the place to dwell on the complexities of Liszka's research, but a basic premise of her investigation is that the word "Medjay" meant different things at different times—it could be occupational, an ethnic descriptor, and in the case of the Pan-Grave tradition it appears to be both. Liszka leant more toward an almost total dissociation between the Pan-Grave and the Medjay and proposed that there was little to support a link between the two based on the textual record for the Medjay and the archaeological evidence from Pan-Grave cemeteries. Liszka is correct in that there is no explicit connection, but the archaeological record does suggest that at least some people within the Pan-Grave tradition may have worked as mercenary soldiers and, hence, could be identified as "Medjay". A more balanced approach should be sought, and work conducted jointly by Liszka and the current author has taken steps to reconcile the differences.[40]

1.3 The Pan-Grave tradition and the Eastern Desert

The assumed connection with the Medjay in turn led to the assumption that Pan-Grave people originated in the desert regions east of the Nile. Each assumption buoyed up the other—the Pan-Grave are the Medjay, therefore they are from the Eastern Desert, therefore they are the Medjay, and so on. As stated above, Bietak's survey seemed to lay this discussion to rest, citing the density of evidence around the Wadi Allaqi and attestations in the Kassala region as decisive factors. It was not until 2012 that Liszka attempted to revise these assumptions, noting that many of the instances cited by Bietak are insufficient to confirm a Pan-Grave presence in the east.[41] Liszka also countered Bietak's proposal that the culture could not have arisen near the river, and instead raises the possibility that the Pan-Grave tradition 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.[42] However, Liszka's theory requires irrefutable evidence for a development from one culture (presumably the C-Group or Kerma) into the Pan-Grave tradition, which is not supported by the

[33] Friedman, *S&N 5,*33-8*;* Friedman, *NN 13*, 22-5; de Souza, *NN 29,* 18-21.

[34] Gatto et al, *MDAIK*; Gatto, Gallorini, Roma, in Forstner-Müller, Rose (eds.), *Nubian Pottery;* Gatto, *JAEI 6:1.*

[35] Manassa, *JARCE 45*; Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 117-28.

[36] For example at Elephantine (Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery, 49-58*), Tell Edfu (Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 103-16), and Abydos (Wegner, *Mortuary Temple*).

[37] Ryholt, *Political Situation,* 178-9.

[38] Ryholt, *Political Situation,* 178.

[39] Liszka, *Study of the Medjay*; Liszka *JAEI 7.2;* but see more recently Liszka, de Souza, in Emberling, Williams (eds.), *Handbook*.

[40] Liszka, de Souza, in Emberling, Williams (eds.), *Handbook.*

[41] Liszka, *We have come to serve Pharaoh*, 453-86.

[42] Liszka, *JAEI 7.2,* 51.

available archaeological data from the Nile Valley. Despite the many similarities, Pan-Grave material culture is so materially and stylistically distinct from all of its contemporaries that its relatively sudden appearance can best be explained by migration.

One of Liszka's reasons for opposing a migration from the east is the apparent lack of clear evidence for a Pan-Grave presence in that region,[43] but it must be acknowledged that survey and excavation across the Eastern Desert has been geographically very limited (§5.5), and what data does exist is meagre. Until recently, the best archaeological evidence for a possible Pan-Grave link to the east was the Jebel Mokram Group in the Kassala region of northeastern Sudan, whose ceramics bear striking similarities to Pan-Grave pottery from the Nile Valley (§5.7). Sadr dated the Jebel Mokram Group to c. 1500 BC, which is roughly the same time that the Pan-Grave tradition seems to disappear from the archaeological record in the Nile Valley.[44] This led Sadr to propose that the Pan-Grave people migrated out of the Nile Valley and into the Eastern Desert at the beginning of the Eighteenth Dynasty, where they replaced the local Gash Group and became what is now called the Jebel Mokram Group.

However, new evidence has emerged that potentially rewrites this historical timeline and shifts the focus back to the Eastern Desert as the original homeland of the Pan-Grave people. Radiocarbon tests from Jebel Mokram have yielded a date of c. 1800 BC for the Jebel Mokram Group,[45] making it contemporary with the earliest Pan-Grave evidence from the Nile Valley. This is a seismic shift, which suggests that the Pan-Grave tradition and the Jebel Mokram Group were *simultaneously* active in the Nile Valley and the Eastern Desert. This new chronology firmly connects the Pan-Grave tradition to the east, making it almost doubtless that the culture as it was manifested in the Nile Valley finds it origins in the Eastern Desert.

While the connection to the east appears almost certain, one thing remains unclear: if the Pan-Grave tradition comes from the deserts to the east of the Nile, does this mean that it is indeed the 'Medjay'? Geographically speaking, this certainly appears to be the case, but it does not necessarily mean that the Pan-Grave people were 'Medjay' in the cultural, ethnic, or occupational sense as presented to us by Egyptian sources. Certainly already in 1966, Bietak stressed that the link between the Pan-Grave and the Medjay can only apply during the Middle Kingdom and Second Intermediate Period and stated that the Pan-Grave *in its entirety* cannot be described as the Medjay in the broadest sense.[46] Bietak's reservations reinforce the difficulties faced when attempting to connect archaeological evidence to archaeological cultures, which are by their very nature etically defined. Liszka's work clearly demonstrates that the term 'Medjay' had different meanings at different times, and may describe people of a specific region, ethnic group, or occupation, depending on the sociocultural context.[47] However, it is also vital to recognise that the term 'Medjay' is itself an Egyptian word and may not have been used by the people who actually followed Pan-Grave tradition to describe themselves. It goes without saying that caution must be exercised when applying an externally defined term to an archaeological culture that is silent about its own identity.

1.4 The Pan-Grave timeline

Regardless of whether or not they are the Medjay, or whether or not they came from the Eastern Desert, it is clear that bearers of the Pan-Grave tradition were burying themselves in the Upper Egyptian and Lower Nubian Nile Valley by the time of the Thirteenth Dynasty in Egypt, and possibly even as early as the late Twelfth Dynasty. Näser has dramatically described the appearance of the Pan-Grave tradition in the Nile Valley as "abrupt and massive",[48] but in fact the archaeological record shows that its appearance would be better described as a gradual trickle. The wide distribution of Pan-Grave cemeteries overall may have led

[43] Liszka, *JAEI 7:2,* 51.

[44] Sadr, *ANM 2,* 283-9.

[45] Manzo, *Eastern Sudan*, 43.

[46] Bietak, *Ausgrabungen,* 78; Bietak, in Helck, Otto (eds.), *LÄ,*, 1003-4.

[47] For a detailed discussion of the changing role of the Medjay, see Liszka, *We have come to serve Pharaoh*, 388-523. For the role of the Medjay as desert police, see Andreu, in Helck, Otto (eds.), *LÄ,* 1068-71.

[48] Näser, in Barnard, Duistermaat (eds.)*, Peoples of the Eastern Desert,* 82.

Näser to describe their appearance as "massive", but the earliest Pan-Grave cemeteries are invariably small, isolated, and set well apart from contemporary Egyptian cemeteries. This distribution and the demographic of the cemeteries with burials of men, women, and children, suggests small, nomadic family groups who moved into the Nile Valley at different places via different routes.[49] Limited amounts of Pan-Grave pottery at Egyptian settlement contexts in Upper Egypt of the same period further suggests a gradual integration into the Egyptian cultural and social spheres (see Chapter 6).

After this early phase, the Pan-Grave activity reaches its peak during the Second Intermediate Period. There are more and larger cemeteries, spread across a greater span of the Nile Valley, and strong indications of increasing engagement with Egyptians and Egyptian culture. In a process traditionally called 'Egyptianisation', we see an evolution from circular graves with contracted burials, to elongated and rectangular graves with extended burials, as well as the inclusion of Egyptian objects in graves.[50] Cemeteries become mixed, with Egyptian and Pan-Grave burials in relative proximity, and undeniable Egyptian influence appears in the form of 'hybridised' objects, such as a painted goat skull decorated with the image of an Egyptian-style lotus blossom.[51] Egyptian pottery occurs in increasing amounts at Pan-Grave cemeteries, weapons of Egyptian manufacture occur in greater number, and even wooden coffins (some anthropoid) are attested in Pan-Grave burials.

This process of assumed Egyptianisation has sometimes been viewed as the cause of the archaeological 'disappearance' of the Pan-Grave tradition,[52] the suggestion being that the Pan-Grave people adopted Egyptian material and customs to such an extent that they became archaeologically indistinguishable as a separate cultural entity.[53] As early as 1920, Wainwright even went so far as to suggest that the 'warlike' kings of the late Seventeenth and early Eighteenth Dynasty such as Kamose and Ahmose were in fact Egyptianised Medjay soldiers—in other words, Wainwright used the assumed "Pan-Grave = Medjay" equation to suggest that the founding pharaohs of the New Kingdom may have actually been Egyptianised Pan-Grave people.[54] With the benefit of hindsight and a significantly increased dataset, it seems clear that Pan-Grave identity was always clearly expressed through material culture well into the late Seventeenth Dynasty in spite of increasing Egyptian influence.[55] The usual types of jewellery and faunal offerings continued to be deposited in Pan-Grave burials, rectangular graves do not appear to have replaced circular graves, and the increasing quantities of Egyptian pottery did not come at the expense of Pan-Grave vessels.

The combined evidence weakens the old theory that Egyptianisation with its colonial undertones is to blame for the supposed 'disappearance' of the Pan-Grave tradition from the archaeological record by the early Eighteenth Dynasty. It is also clear that Pan-Grave and Egyptian traditions merged in various ways depending on numerous factors such as time, place, and the manner in which they may have interacted with Egyptians.[56]

So, if Egyptianisation and assimilation into Egyptian society are not the reason for the supposed disappearance of the Pan-Grave tradition, then what might be? There is some, though minimal, evidence that

[49] Gatto, *JAEI 6:1*, 24-5

[50] de Souza, *BACE 24*, 111-3. Säve-Söderbergh, *Middle Nubian Sites (vol. 1),* 18.

[51] Brunton, *Mostagedda,* pl. LXXVI.65.

[52] Bietak, *Ausgrabungen,* 72-3; Säve-Söderbergh, *Middle Nubian Sites,*18 (vol. 1); Weschenfelder, in Anderson, Welsby (eds.), *The Fourth Cataract,* 363-4. The concept of total acculturation has been challenged by the current author (de Souza, *BACE 24*).

[53] de Souza, *BACE 24*; Schneider, *Ausländer,* 179-80.

[54] Wainwright, *Balabish,* 6.

[55] de Souza, *BACE 24,* 116-118.

[56] At the time of writing, the author is preparing a paper on the theme of entanglement, hybridity, and appropriation at the Pan-Grave cemeteries at Hierakonpolis. For other discussions on these themes, see Hahn, in Probst and Spittler (eds), *Between Resistance and Expansion*, 211-29; Schneider, Ä&L 13, 155-61; Bader, in van Pelt (ed.), *Archaeology and Cultural Mixing,* 257-86; Stockhammer, in Stockhammer (ed.) *Conceptualizing Cultural Hybridization*, 43-58; Stockhammer, in van Pelt (ed.), *Archaeology and Cultural Mixture*, 11-28; and van Pelt, *CAJ 23.3*, 523-50.

the Pan-Grave tradition persisted in the Nile Valley until later in the Eighteenth Dynasty,[57] and the close spatial proximity of Pan-Grave cemeteries to early New Kingdom Egyptian cemeteries, for example at Ginari 58:100, suggests some kind of relationship.[58] One possibility is migration, and that the adherents of the Pan-Grave tradition *re-migrated* out of a newly reunified Egypt early in the Eighteenth Dynasty. But if this is case, where did they go? And why? If one accepts that at least some Pan-Grave people did work as mercenary soldiers for the Egyptians (i.e. as Medjay), perhaps their services were no longer required in a newly reunified Egypt and they were released from service. If that were the case, then it begs the question of why they would have chosen to leave Egypt when they had already become so settled. It is possible that the Egyptians forced anyone following Pan-Grave traditions to leave Egypt in an attempt to re-establish their borders and re-assert their authority, but the occurrence of Kerma pottery in settlements and cemeteries suggests that a Nubian presence in Egypt persisted well into the Eighteenth Dynasty. The question of what happened to the Pan-Grave tradition and the people who followed it must therefore remain unanswered for the time being.

1.5 The Pan-Grave tradition and Egypt

The preceding sections have hopefully made it clear that our understanding of the relationship between Pan-Grave and Egyptian people is unresolved. The Medjay connection is one thing, but the actual place and function of Pan-Grave people within Egyptian society is unknown, if indeed they even served any specific function(s) at all. A key issue is that there is no confirmed evidence of Pan-Grave settlements, so our perspective of the living Pan-Grave tradition is skewed toward the mortuary evidence. Brunton identified what he believed to be Pan-Grave villages and hut remains on the low desert spurs in the region of Qau and Badari, however his descriptions of these contexts suggests that they could equally be thoroughly plundered cemeteries or isolated burials.[59] A possible Pan-Grave rock-shelter has been identified at Nag el-Qarmila,[60] and remains of a Nubian campsite have been found at Hierakonpolis,[61] but neither is sufficient to provide any meaningful contribution to our understanding of Pan-Grave life in Egypt. The Pan-Grave people's reliance on livestock animals should also be considered, as the need for grazing land may have been a potential source of conflict with Egyptian farmers, but as Pan-Grave populations were relatively small (at least in the early days), the numbers may not have had much impact and animals could have been taken into the desert wadis for grazing. It is also possible that a reciprocal agricultural relationship was established; this author has observed modern goat-herders in Egypt, who bring their animals into farmland, where they selectively feed on grasses and weeds, leaving the crop plants largely untouched and depositing fertiliser (dung) along the way.[62] In this way, the animals are fed, and the farmer benefits by having his crop cleared of weeds and nourished with manure produced on site.

There are noteworthy quantities of Pan-Grave pottery in Egyptian settlement contexts of the late Middle Kingdom and Second Intermediate Period, but in all cases there is no other artefact that points toward the actual presence of Pan-Grave people at the settlement itself. This theme will be expanded in later chapters, but for now it is suffice to say that the presence of Pan-Grave pottery should not be taken as proof that Pan-Grave people were actually present at that place. It has variously been suggested that Nubians may have worked as domestic servants in Egyptian settlements, but it is equally possible that the pottery was acquired and used by Egyptians through trade or some other means of encounter. It cannot even be said with absolute certainty that

[57] In Lower Nubia, these cemeteries are called "Transitional" and show evidence of activity well into the Eighteenth Dynasty. See Säve-Söderbergh, *Middle Nubian Sites,* 23-24 (vol. 1). 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, *Middle Nubian Sites,* 200-205 (vol. 1)), 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, in Wenig (ed.), *Studien zum Antiken Sudan,* 17-8, 21-3, 52-3; Török, in Wenig (ed.), *Studien zum Antiken Sudan,* 152-5. I have studied the pottery from SJE Site 176 at the Museum Gustavianum in Uppsala, Sweden, and support a Napatan date for the much of the assemblage.

[58] de Souza, in Honegger (ed.), *Nubian Archaeology,* 233-42

[59] Brunton, *Qau and Badari III,* 3-4.

[60] Gatto, Curci and Urcia, *JAEI 6.4*, 39.

[61] Friedman et al., *JARCE 36*, 18–29.

[62] This practice was observed in the farming villages north of Edfu, and was confirmed by local goat herders.

the Nubian cooking pots found in Egyptian towns were made by Nubians, and perhaps they were made by local Egyptian potters in imitation of Nubian styles and technologies. There are examples of 'imitation' wares, which are stylistically Nubian but technologically Egyptian in that they are wheel-made and more thoroughly fired. Examples of 'hybrid' pottery incorporating characteristics from each of the two traditions also exists and is clear evidence of the two-way diffusion of cultural and technological elements (§6.3 and §6.4).

The mortuary evidence shows that Pan-Grave communities obtained goods from Egyptians, evident in the numerous and varied Egyptian items found at the large Pan-Grave cemeteries in Middle Egypt. Such items include Egyptian pottery (and presumably the goods they contained), faience beads, weapons, and coffins. These items may have been obtained through trade or as a form of payment for a service, and perhaps this is how the occurrence of Nubian material in Egyptian cultural contexts may be explained. This inevitably brings us back to the assumed connection with the Medjay, and the possibility that this was an occupational descriptor. Services rendered could be as mercenary soldiers, guards, domestic servants, and temple attendants. Indeed, the Medjay family described in the Semnah Despatches stated that they "*have come to serve pharaoh*", suggesting that they were willing to work for Egyptians in exchange for refuge from a drought in the desert.[63] This Medjay family was turned away and sent back to the desert, but if they were indeed Pan-Grave people, the archaeological record shows that other similar families had better luck, and eventually found their way into the Egyptian social sphere.

1.6 The Middle Nubian cultures

The Pan-Grave was not the only Nubian tradition to have encounters with Egypt during the Second Intermediate Period, nor were they the only non-Egyptian cultures or traditions active in the Egyptian Nile Valley at the time (**Fig. 2**). In the north, the Hyksos controlled Lower Egypt from the Eastern Delta, but it is in Upper Egypt that we find the greatest density of Nubian activity. The C-Group predates the Pan-Grave tradition and is attested from the late Old Kingdom onwards, concentrated mostly in Lower Nubia but also at a handful of cemetery and settlement sites in Upper Egypt.[64] The Kerma Culture was also active during the Second Intermediate Period,[65] best attested in Nubia, but isolated Kerma graves have also been identified in Upper Egypt,[66] and Kerma pottery occurs in Egyptian cemeteries[67] and settlements.[68] There is also strong historical and archaeological evidence for a political alliance of sorts between Kerma and the Hyksos rulers. It is within this multicultural environment that the Pan-Grave tradition must be considered. All three Nubian groups show clear similarities in terms of material culture, suggesting that they are all related in some way. At the same time, the material traditions of each culture are distinct enough for them to have been divided into different cultural groups in the first place. The precise ways in which the groups are or are not related is still unknown, and such a complex investigation warrants its own dedicated investigation. For the present volume, it is important to consider the ways in which these similarities and differences led to some of the confusion evident in earlier scholarship, which has in turn provided the impetus for the current study and its aim to refine and update our understanding of the Pan-Grave tradition.

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[63] Smither, *JEA 31*, 3-10.

[64] Bietak, *Studien zur Chronologie*; Säve-Söderbergh, *Middle Nubian Sites,* 6-14; Williams, *C-Group, Pan Grave, and Kerma,* 1-23. C-Group cemeteries in Upper Egypt have been found at Kubbaniya (Junker, *el-Kubanieh Süd*), Hierakonpolis (Friedman, *S&N 5*, 29-33; Friedman, *S&N 8,* 47-52), and Armant (Myers, *unpublished mss*.). C-Group pottery is also present in the settlement site of Elephantine (Raue, *Elephantine und Nubien*).

[65] Key texts for the Kerma culture include Gratien, *Les Cultures Kerma*; Gratien, *Saï I*; Bietak, *Studien zur Chronologie,* 123-7; Säve-Söderbergh, *Middle Nubian Sites (vol. 1),* 20-2.

[66] Bourriau, in Davies (ed.), *Egypt and Africa*; Bourriau, in Arnold (ed.)*, Studien,* 31-7.

[67] For example at Abydos (§6.8), Abd el-Gurna (Petrie, *Qurneh,* 6-10, pls. xxii & xxvii), and Dra Abu el-Naga (Seiler, *Tradition und Wandel,* 84-5).

[68] Kerma pottery has been found in settlement remains at Elephantine (Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 52-6; Raue, *S&N 6,* 22-4), Aswan (Forstner-Müller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 63-6), Tell Edfu (Ayers & Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 111), Kom Rabia (Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 156-7), at Tell el-Dab'a (Aston, in Forstner-Müller, Rose (eds.), *Nubian Pottery*; Fuscaldo, *Ä&L* 12, 168-86; Fuscaldo, *Ä&L* 14, 111-9; Fuscaldo, *Ä&L* 18, 107-27.

Reisner was the first to distinguish the various Nubian cultural groups,[69] but this did little to stop many future scholars describing any non-Egyptian, black-topped, handmade pottery with incised decoration as "Pan". Additionally, many early excavation reports from the early Twentieth Century conflated the Pan-Grave tradition with what at the time was identified as the Late C-Group, and it is now often quite difficult to differentiate between the two in early literature. The Late C-Group can be equated with Bietak's C-Group Phase III,[70] which he defined as a period during which the C-Group culture went into decline due to influence from Egypt, Kerma, and even the Pan-Grave tradition.[71] The C-Group was certainly heavily impacted upon by Egyptian influence, but there does not seem to be any clear evidence of the Pan-Grave tradition impacting upon C-Group identity. One might also wonder how small, nomadic groups could have exerted a damaging influence upon a culture as well-established and widespread as the C-Group. Instead, it appears that Bietak's Phase III should be divided into two contemporary lines of cultural development, one for the C-Group, and another for the Pan-Grave tradition.[72] On the whole, the two cultures are quite distinct and their cemeteries are rarely, if ever, mixed. Even at locations where C-Group and Pan-Grave cemeteries are in relative proximity, for example at Adindan, there is a clear spatial distinction and their assemblages can be easily distinguished (§4.23).

Admittedly problematic, the limited analysis of Pan-Grave and C-Group human remains has revealed some biological differences that appear support physiological differences that may correspond to cultural differences. Skeletal remains from Sayala suggest that people buried at Pan-Grave sites were generally taller than C-Group people,[73] and Pan-Grave remains from HK47 at Hierakonpolis indicate they were generally more robustly built and taller than their Egyptian and C-Group contemporaries, having an average height of 178 cm and strong muscle attachments in their legs.[74] Of course, equating physiological and genetic differences to cultural or ethnic groups is highly problematic,[75] but the overall physical differences seem to align with the distinctions between C-Group and Pan-Grave material culture.

While the differences between Pan-Grave and C-Group are quite pronounced, the boundaries between the Pan-Grave and Kerma cultures are more blurred. The various phases of the Kerma culture extend over a much longer span of time than the Pan-Grave, the two coinciding mostly during the penultimate phase of the Kerma culture, Classic Kerma.[76] In 1981, Bourriau had observed that the Pan-Grave and Kerma cultures appeared distinct, noting that Kerma pottery has never been found in a Pan-Grave context in Egypt,[77] but her proposal now needs to be updated in light of more recent discoveries. A small amount of Kerma pottery has been found amongst the ceramic assemblage from the Pan-Grave cemeteries HK47 and HK21A at Hierakonpolis, but it is not clear how or why the Kerma sherds came to be there.[78] At Cemetery 110 at Kubban, Pan-Grave burials are located in the same part of the cemetery as Classic Kerma graves (§4.19), and although the individual graves are culturally distinct, the close proximity may have implications for the relationship between the two cultures. Even more striking are the mixed assemblages at the Fourth Cataract site of el-Widay, where Kerma and Pan-Grave pottery has been found together in closed burial contexts (§5.3). In all of these cases, the association

[69] Reisner, *ASN 1907-08,* 313-348.

[70] Säve-Söderbergh, *Middle Nubian Sites,* 10-1; Bietak, *Studien zur Chronologie,* 113; Weschenfelder, in Anderson, Welsby (eds.), *The Fourth Cataract*, 363.

[71] Bietak, Studien zur Chronologie, 113-7.

[72] de Souza, in Honegger (ed.), *Nubian Archaeology,* 233-42.

[73] Strouhal, in Jelinek (ed.), *Man and his Origins,* 321-6; Ehgartner, Jungwirth, in Bietak (ed.) *Ausgrabungen,* 83-8; Strouhal, Jungwirth, *Die anthropologische Untersuching,* 187-91; Bietak, in Hägg (ed.), *Nubian Culture,* 123. A focused analysis of teeth from C-Group cemetery HK27C has also been conducted (Irish, *S&N 8,* 56-9). See also Sadr, *Development of Nomadism,* 102.

[74] Friedman, S&N 5, 37.

[75] Liszka, *JAEI 7:2,* 45-6, 49.

[76] For general overviews of the Kerma phases, see Lacovara, *BzS 2,* 51-74; Lacovara, in Oren (ed.), 69-83.

[77] Bourriau, in Arnold (ed.), *Studien*, 25.

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

of Pan-Grave and Kerma material could be an archaeological illusion resulting from the simple fact that the cultures were contemporaneous, but it does seem to suggest that the Pan-Grave tradition shared a closer connection with Kerma than with the C-Group.

2.
Non-Ceramic Objects of the Pan-Grave Tradition

Being non-literate, and with no explicit references in the Egyptian textual record, Pan-Grave material culture is all that remains to tell us the story of the people who produced it. Thankfully, these objects are, for the most part, highly distinctive. Existing literature creates the impression that Pan-Grave material culture and assemblages are homogeneous and easily comparable between sites, however this is far from the case. It is true that Pan-Grave material culture is generally uniform in style, but in reality the archaeological record is marked by broad variation within a discernible range. Such variation is not surprising given the culture's broad geographic distribution and their apparently mobile lifestyle. Small groups moving across a vast expanse that may or may not have come into contact with one another should not be expected to express their identity in a uniform way, even if they share a common cultural heritage.

The following sections present a brief and general overview of key aspects of Pan-Grave material culture, highlighting both the consistency and variation in the archaeological record, thereby setting the broader archaeological backdrop against which the pottery can be set as the focus of this study. The discussions as presented below are purely descriptive, and their chronological significance is discussed further in Chapter 8.

2.1 Grave types

Grave shape is often cited as a key diagnostic feature for the Pan-Grave tradition, and the reader may recall that the shallow, circular 'pan-shaped' graves are in fact the source of the culture's name. The general impression is that this grave form is typical for the Pan-Grave, and while this is essentially true, circular graves are not the only type, and even these can vary from one site to another. In fact, the 'pan-shaped' graves that Petrie identified at Diospolis Parva are in the minority. There are strong indications that differences in grave shape are closely linked to chronology, changing from circular to rectangular over time, presumably as a result of Egyptian influence (**Fig. 3**).[79] Other socio-cultural factors may have had some impact, for example variations in the intensity of interaction and exchange between Pan-Grave and Egyptian communities. The following types of grave have thus far been identified at Pan-Grave sites:

2.1.1 "Sand-graves"

As the name suggests, sand-graves (Bietak's *Sandgräber*[80]) are burials deposited in loose sand. As a result of their loose matrix, these graves are usually quite wide, roughly circular and shallow—in other words, they are archetypal 'pan-graves' that gave the culture its name. In almost all cases, sand-graves are lined with layers of basketry, matting, and animal hide placed on the floor and sides of the grave (**Fig. 4**).[81] The loose sand in and around the grave could be consolidated by the application of resin, fat, or some other substance.[82]

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[79] de Souza, *BACE 24,* 111-3; Säve-Söderbergh, *Middle Nubian Sites*, 17-8.

[80] Bietak, *Studien zur Chronologie*, 118.

[81] For example at Hierakonpolis (Friedman, *S&N 5,* 34-35).

[82] Consolidated sand was observed at Hierakonpolis HK47 (Friedman, *S&N 5,* 34-35), Balabish (Wainwright, *Balabish*, 8, 14), Mostagedda (Brunton, *Mostagedda*, 131-2), and Moalla (Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 119-21).

2.1.2 Circular graves

Circular graves differ from sand-graves in that they are dug into a solid substratum giving them a more defined shape (**Fig. 3a)**. The grave pits may be bowl-shaped in profile (**Fig. 5**), or more cylindrical with vertical walls,[83] and depths of up to almost 2m, such as at Mostagedda.[84] The burials placed in circular graves were invariably lain in a contracted position lying on their side with knees pulled toward the chest. Circular graves are the most common grave type, occurring at all sites regardless of date. This strongly suggests that this is the earliest type in the sequence and hence the 'standard' form of Pan-Grave burials. Circular graves remained in use until the latest stages of Pan-Grave activity in the Nile Valley and are not replaced by later Egyptianised types.

2.1.3 Oval graves

Oval graves may be interpreted as a transitional phase between circular graves and 'Egyptianised' rectangular graves (**Fig. 3b**). They occur most frequently at larger cemeteries in Middle Egypt and the Second Cataract region at sites showing evidence of activity into the early Second Intermediate Period. At Balabish[85] and at Mostagedda,[86] oval graves with a 'shelf' (a ledge extending from one side of the grave wall) were recorded.

2.1.4 Rectangular graves

Rectangular graves with well-defined corner points and often over 1m in depth with vertical walls are generally accepted as evidence of Egyptian influence (**Fig. 3c**).[87] The bodies in these graves were placed in an extended supine position, and some show evidence of having been buried in decorated coffins, all of which points to an advanced stage of Egyptianisation. Unlike circular graves, rectangular graves do *not* occur at all sites and are most common at sites showing evidence for activity into the later Seventeenth and early Eighteenth Dynasty.

Curiously, rectangular graves were not included in either of the typologies that Bietak devised for the Pan-Grave tradition,[88] creating the impression that circular graves are the only type. Subsequent researchers have mostly overlooked this omission, which is surprising considering that rectangular Pan-Grave burials have been known from published reports since the 1920s.

2.2 Superstructures & surface features

Superstructures, or rather the lack thereof, were also considered a useful feature for identifying a Pan-Grave burial, but recent discoveries have shown that these features are equally as variable as the graves themselves.

2.2.1 No superstructure

The lack of a superstructure, at least for the Pan-Grave tradition, appears to be as important as the presence of a superstructure, and has occasionally been used as a diagnostic feature to identify Pan-Grave contexts, for example at Adindan.[89] As will be seen below, Pan-Grave burials very often do have some form of superstructure, and hence it is not advisable to use the absence of one as a diagnostic factor. In cases where there is no superstructure, it must be remembered that one may once have existed but has since been lost. Additionally, while there does not appear to be any clear chronological signal attached to the lack of a superstructure, it is worth noting that none were recorded for any of the rectangular graves at sites in Upper Egypt dated to the Seventeenth Dynasty, however this may simply be a result of poor preservation or it may be an omission on the part of the excavators.

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[83] For example at Serra East (Williams, *Serra East*, 124-8, 132) and Sayala (Bietak, *Ausgrabungen,* Taf. 20-3).

[84] Brunton, *Mostagedda*, 122.

[85] Wainwright, *Balabish*, 8.

[86] Brunton, *Mostagedda,* 122.

[87] de Souza, *BACE 24,* 110-2, 116-8; Säve-Söderbergh, *Middle Nubian Sites,* 18 (vol. 1); Wainwright, *Balabish,* 8; Brunton, *Mostagedda,* 122.

[88] Bietak, *Ausgrabungen*, 49-51; Bietak, *Studien zur Chronologie*, 117-9.

[89] Williams, *C-Group, Pan Grave and Kerma*, 113.

2.2.2 Tumuli

Tumuli consisting of loose sand, stones, and other debris may be piled over a grave, in particular over sand graves without any subterranean structure. No such tumuli have yet been found intact, but the best evidence for this type of superstructure comes from Hierakonpolis HK47 where accumulations of worn potsherds, lithics and other debris were frequently found in subsurface layers above graves (**Fig. 6**).[90] It is possible that similar features may have been installed at other sites but were either not preserved or not reported.

2.2.3 Stone superstructures

Stone superstructures generally take the form of circles of stones surrounding the grave pit attested at a number of sites in Egypt and Nubia including Hierakonpolis,[91] Nag el-Qarmila,[92] Serra East,[93] Aniba,[94] and Sayala.[95] In most cases, the stones are large, flat and lain in a single course around the burial pit, either lying flat or standing on edge. It is also possible that the stone structures may have been flat or slightly domed circular structures and that the holes at the centre are in fact the result of looting. This certainly appears to be the case at Hierakonpolis HK21A, where the stones appear to have been pushed aside by plunderers (§4.12.2).

2.2.4 Mud-brick walls

Mud-brick superstructures are rare, and in most cases the bricks are preserved to a height of only one or two courses, however the original structures may have been taller. As a distinctly Egyptian building material, the use of mud bricks may be interpreted as evidence of influence and exchange with Egyptians and hence a later date. This certainly seems to be the case at SJE Site 47 (Debeira East), where mud-brick walls are associated exclusively with rectangular graves.[96] However, low brick structures are preserved around the circular graves at Tod that are much earlier in date (the late Middle Kingdom),[97] but it is possible that Egyptian materials were incorporated into Pan-Grave contexts in Egypt at an earlier date than in Nubia.

2.3 Faunal remains

One of the best known and most characteristic aspects of Pan-Grave material culture are frontal bones and horns from livestock animals that are often painted with decorative motifs.[98] Detached horns from goat, sheep, and cattle are also known, and these may also be decorated with painted bands or spots (**Fig. 7**).[99] The most common animals are goat, sheep, and cattle, which is a reflection of Pan-Grave subsistence strategies and of the animals that they chose to keep or sacrifice, and it has been noted that the abundance of female animals is typical of herd structures, where there is usually only one dominant, breeding male.[100]

The ways in which painted frontal bones and horns are deposited varies from one location to another. The best known practice is the long, arc-shaped troughs containing rows of skulls that surround certain graves.[101] Not every grave is equipped with such an elaborate feature, which may indicate differing social identity or status. Quantities of animal skulls and horns have been found as discrete deposits that do not appear to be

[90] Friedman, *S&N 5,* 35-6.

[91] Friedman, *S&N 5,* 33-4; de Souza, *NN 29,* 20; de Souza, in Bader, Knoblauch, Hulkova (eds.), *Second Intermediate Period Assemblages*.

[92] Gatto, *JAEI 6:1,* 18.

[93] Williams, *Serra East,* 124-32.

[94] Steindorff, *Aniba I*, 193-4, Taf. 79-81.

[95] Bietak, *Ausgrabungen,* Taf. 20, 22.1.

[96] Säve-Söderbergh, *Middle Nubian Sites,* pls. 80-1.

[97] Barguet, *BIFAO 50*, fig. 3.

[98] Bangsgaard, *Ritual Cows*, 86-99; Bangsgaard, *Anthropozoologica 48:2, 187-97*; Bangsgaard, in Anderson, Welsby (eds.), *The Fourth Cataract, 347-55.* See also Hall, *Kush X,* 58-61.

[99] The following examples from Mostagedda are now held in the British Museum: EA63201, EA63200.

[100] Bangsgaard, *Anthropozoologica 48:2,* 291. See also Weschenfelder, in Anderson, Welsby (eds.), *The Fourth Cataract,* 359; Säve-Söderbergh, *Middle Nubian Sites*, 18 (vol. 1).

[101] Säve-Söderbergh, *Middle Nubian Sites*, 155; Bietak, *Studien zur Chronologie*, 119.

associated with any particular burial. Prime examples are Mostagedda 3226, which contained 47 pairs of horns,[102] and Mostagedda 3252, which contained at least 40 frontal bones and horns including the well-known bucranium bearing the depiction of a Pan-Grave individual (**Fig. 8**).[103] Figurative decoration is exceedingly rare and is unknown from Lower Nubian sites.[104]

The Pan-Grave tradition was not alone in the inclusion of skulls from livestock animals with their burials. Large Kerma burials were surrounded by rings of cattle skulls, sometimes in exceedingly high numbers, and C-Group burials are also known to have included cattle skulls. The difference is that in the Pan-Grave tradition, whole skulls have not been attested, only the dressed frontal bones or horns. Cut marks near the edges of the frontal bones, at the base of the horns, and across the skull generally, attest to the process of de-fleshing and removal of the horn casing.[105] There is also evidence that some cattle had their horns removed while they were young in a practice known as 'polling'.[106] Similar practices have not yet been observed in C-Group or Kerma contexts and may therefore be a further element unique to the Pan-Grave tradition.

Sacrificial animals, or parts thereof, are also known to have been deposited in Pan-Grave burials. Usually young sheep or goats, these animals were placed in the grave pits, close to the body. At Hierakonpolis, all examples were very young animals, some apparently newly born.[107] Although there are only a few confirmed examples of this practice, it implies that the Pan-Grave tradition comprised a belief in an afterlife for which sustenance was needed.

Deposits of dung pellets have also been observed in and around some Pan-Grave burials at Armant and Hierakonpolis (**Fig. 9**).[108] The dung is occasionally burnt, which led Myers to propose that it may be the remnants of fires lit above new burials to deter scavenging animals. Dung pellets have also been found contained in a Pan-Grave bowl at Hierakonpolis HK47,[109] and an Egyptian jar from Hu Cemetery X is filled with a solid unidentified substance that has a slightly dung-like odour.[110]

2.4 Jewellery

Pan-Grave individuals were often buried with jewellery items including strings of beads in faience, ostrich eggshell, semi-precious stone and, very rarely, metal. A full description of all types of Pan-Grave jewellery is beyond the scope of this volume and warrants its own dedicated study,[111] and as such only the most frequent and diagnostic types are detailed below.

2.4.1 Mother-of-pearl plaque beads

These most characteristic jewellery items are unique to the Pan-Grave tradition and, as such, may be considered a cultural marker (*Stammeszeichen*).[112] Often called spacer beads in existing literature, these are rectangular plaque-shaped beads with holes at either end through which leather thongs were woven together into an articulated band that was worn around the arm or wrist (**Fig. 10**). Each bead averages about 2.5 x 0.8 cm,

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[102] Brunton, *Mostagedda,* 131.

[103] Brunton, *Mostagedda,* LXXVI.66. See also Cooper, Barnard, *AAR 34,* 363-76; Weschenfelder, in Anderson, Welsby (eds.), *The Fourth Cataract,* 362, pl. 3; Cohen, *Egyptianization,* 30-3; Schneider, *Ausländer,* 187-8.

[104] Bangsgaard, *Anthropozoologica 48:2,* 291-2; Bangsgaard, in Anderson, Welsby (eds.), *The Fourth Cataract,* 353, pl. 4.

[105] Bangsgaard, *Ritual Cows,* 88; Bangsgaard, *Anthropozoologica 48(2),* 290.

[106] Myers, *Pan Grave Cemetery.* This practice was also observed at Hierakonpolis HK47 (Wim van Neer, pers. comm.)

[107] de Souza, in Bader, Knoblauch, Hulkova (eds.), *Second Intermediate Period Assemblages*.

[108] Myers, *Pan-Grave Cemetery;* Friedman, *S&N 5*, 35.

[109] This object was excavated during the 2017 season of excavations. Publication is in preparation.

[110] The author studied this vessel at the Oriental Institute Museum, University of Chicago. Object no. OIM 5568.

[111] For summaries of Pan-Grave beads, see: Bietak, *Ausgrabungen,* 57-61; Wainwright, *Balabish,* 19-23; Brunton, *Mostagedda,* 125-6, pl. lxxvi.1-63; Säve-Söderbergh, *Middle Nubian Sites,* 76-94, 113-4. Metal jewellery including neck torcs, earrings, and finger rings in copper, silver, gold and electrum were found at Mostagedda, see Brunton, *Mostagedda,* 130-1, pl. lxxv.7-24. See also Sanders, *NN 13*, 25-6.

[112] Bietak, *Ausgrabungen,* 60.

although smaller and larger examples are known. It is worth noting that very small examples, about 1.2 x 0.5 cm, were found in infant and child burials at Hierakonpolis,[113] which suggests that children were incorporated into the Pan-Grave cultural sphere from a very young age, even if they did not survive.

2.4.2 Ostrich eggshell beads

Small disc-shaped beads made of ostrich eggshell are by far the most numerous bead type associated with Pan-Grave burials (**Fig. 10**),[114] where they may be found in their hundreds, occasionally found in situ, in long strings.[115] The beads are small, measuring between 5–7 mm in diameter, and may be strung in combination with other bead types, usually in alternating colours, either individually or in groups.

[113] de Souza, *NN 29,* 18-9.

[114] Säve-Söderbergh, *Middle Nubian Sites,* 76-8 (vol. 1).

[115] Wainwright, *Balabish,* pl. vii-viii.

3.
Describing Pan-Grave Pottery

3.1 The problem(s) with Pan-Grave pots

Undertaking a comprehensive survey of the Pan-Grave ceramic tradition and devising a widely applicable typology inevitably leads to several road-blocks that must be overcome. The published record is piecemeal, varies in scope, and the material itself is scattered across the globe making it near impossible to reconstitute assemblages.

The production and preservation of Pan-Grave pottery is also a limiting factor. Unlike Egyptian pottery, which was wheel-turned, usually produced on a large scale, circulated widely, and followed observable trends, Pan-Grave pottery was handmade in small quantities, restricted in circulation and does not appear to change or evolve very much at all (but more on this later!). The handmade technology that sets Pan-Grave and, indeed, all Middle Nubian pottery apart is a key factor in the difficulties faced when attempting to define and classify the material. The actual *châine opératoire* is still unknown, but the pottery is most likely to have been hand built using either by pinching and coiling,[116] or by the hammer-and-anvil method.[117] These non-rotational processes tend to result in vessels that are irregular in form with each individual being entirely unique, limiting the scope for classification. Cooking pots that appear to be Nubian in style but produced using Egyptian wheel-turned technology have been identified at settlement sites such as Tell Edfu (§6.4) and Umm Mawagir (§6.10.1), resulting in 'hybridised' forms with mixed *châines opératoires*.

With regard to preservation, the common Pan-Grave practice of depositing pottery and other offerings on the surface above a grave means that vessels could be easily removed or damaged, and the remaining evidence is often very fragmentary. This combined with the variable nature of the material itself makes it difficult—and perhaps even inadvisable—to attempt constructing a typology, which would in some ways create a false sense of rigidity within a ceramic tradition that is characterised by fluidity and variation.

In spite of these limitations, some form of working typology for Pan-Grave ceramics is needed. Pan-Grave material continues to be found at sites across Egypt and Sudan, and it must be classified if it is to be properly understood as part of the archaeological record. Thankfully there are a number of factors that open a path by which to devise such a typology. Pan-Grave pottery is relatively consistent in terms of shape and decorative motifs, which suggests that there was a standard repertoire of styles and types from which Pan-Grave potters could draw, which in turn supports strong ties between pottery traditions, cultural heritage and group identity.[118]

The relatively short timespan over which the Pan-Grave tradition is visible in the archaeological record may be a reason for the seeming lack of evolution as far as vessel form is concerned. The culture is attested in the Nile Valley for a period of approximately 200-250 years, which is not much longer than just one of

[116] Nordström, *Neolithic and A-Group Sites*, 47-8.

[117] Williams, *C-Group, Pan-Grave and Kerma*, 29-36.

[118] Ethnoarchaeological parallels from modern African cultures reflect similar patterns of limited production and distribution. Njemps potters in Kenya produced a restricted range of forms that were sold and distributed across a limited region (Hodder, *Symbols in Action,* 37-44), and Samburu pottery production and distribution is so limited that potters from a particular tribe or locality often did not recognise pots produced by another Samburu tribe within the same region (Grillo, *Materiality*, 172-9).

the phases that make up the C-Group and Kerma cultures (**Fig. 2**), each phase of which is characterised by relatively stable material traditions. The Twelfth Dynasty in Egypt also endured for the same length of time as the Pan-Grave tradition, and Egyptian pottery styles remained very stable during that time. In each of those examples—the C-Group, Kerma and Egypt—there are subtle changes in proportion, shape, and decoration running alongside this underlying stability, and the same trajectory may therefore be expected for the Pan-Grave ceramic tradition. Looking at it another way, if a generation is taken to be approximately 25 years, then there would have been at least ten Pan-Grave generations in the Nile Valley—plenty of time for traditions to change and evolve, even slightly.

Previous attempts at defining the Pan-Grave ceramic tradition have been conducted on various scales with varying applicability and success, and the site-specific studies that do exist are, by their very nature, applicable only to one assemblage. The best known examples are Bietak's typology for the Pan-Grave ceramics from Sayala[119] and the system devised for the SJE Concession,[120] both of which work well for their respective localities but do not necessarily reflect the composition of other assemblages. One significant drawback of existing typologies is their rigidity; for example, Bietak's system for Sayala identified a series of types composed of fixed combinations of shape, ware, and decorative motif, some of which do not occur at any other site. Most recently, Giuliani's study of Pan-Grave pottery attempted to bring together the disparate assemblages and published records, but her work remains largely unpublished, and it is now clear that many of her observations are in need of revision,[121] which is a primary goal of this study.

The goal here is not to devise a rigid typology, in which a series of fixed types is identified—this would only perpetuate the problems that are already present in the existing published record. Instead, this study aims to identify those characteristics that define the Pan-Grave ceramic tradition, based on assemblages that can be accepted as Pan-Grave sites in the Nile Valley of Upper Egypt and Lower Nubia.

For this study, the author undertook a full re-assessment of sites previously identified as Pan-Grave sites in order to ensure that there was enough evidence to support this attribution based on a concentration of multiple classes of Pan-Grave objects, beyond just pottery (see Chapter 2). In order to fit the definition, Pan-Grave objects must be the dominant form of artefact in terms of quantity across the entire site assemblage, which is taken to indicate that the deceased and the people who buried them adhered to Pan-Grave traditions. As a result of this reassessment, a number of sites previously identified as 'Pan-Grave' have been excluded from the survey on the grounds that the cultural affiliation could not be verified.[122]

Limiting the dataset in this way ensures that the defining characteristics of Pan-Grave pottery in its most archetypal form are identified, allowing sites and assemblages to be compared and integrated as appropriate. The identified characteristics are divided between a series of morphological aspects—shape, fabric, ware, and decoration— from which the researcher is then free to select from this foundational set of characteristics as relevant for their assemblage(s). By providing a unifying language and descriptive vocabulary, the system aims to facilitate comparison of vessels and assemblages between sites and regions.

3.2 Vessel shape

As noted above, shape is one of the more consistent aspects of the Pan-Grave ceramic tradition, with vessels occurring in a limited range of forms and sizes. Bietak's typology of Pan-Grave pottery did not deal with shape as an independent feature, but each of his individual types incorporated shape with other features such as colour and decoration. For example, Bietak's *Näpfe der braunen bis grauen Ware mit eingerrisenem Netzmuster* does

[119] Bietak, *Ausgrabungen,* 53-6; Bietak, *Studien zur Chronologie*, 119-22.

[120] Säve-Söderbergh, *Middle Nubian Sites,* 53-6 (vol. 1).

[121] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 647-58.

[122] The excluded sites include: Harageh (Engelbach, *Harageh*, 7, pl. xxx); Daraw (Weigall, *Antiquities of Lower Nubia*, 25; Bietak, *Ausgrabungen,* 65), Dakka Cem. 97 and Cem. 98:1000 (Firth, *ASN 1909-10*, 108-112, Bietak, *Ausgrabungen, 67*), Possible Pan-Grave finds such as plaque beads were scattered throughout Dakka Cem. 101 but these could not be verified by the author (Firth, *ASN 1909-10*, 138-139); Wadi Allaqi Cem. 114 (Firth, *ASN 1910-11,* 129; Bietak, *Ausgrabungen,* 67), Maharaqqa (Bietak, *Ausgrabungen,* 49), Areika (MacIver, Woolley, *Areika*, pl. 10.4101-4103; Bietak, *Ausgrabungen*, 69), and Afyeh (Lal, *Fouilles en Nubie*; Hafsaas, *Cattle Pastoralists*, 158).

not allow for bowls or cups in black-topped ware with the same type of decoration, nor does it account for coatings, vessel size, or rim profile.[123]

The SJE system, was an extension of Nordström's typology for Early Nubian pottery (i.e. Neolithic and A-Group), which was expanded to encompass Middle Nubian pottery from the SJE Concession, including Pan-Grave. Transposing a system devised for one pottery tradition onto another, especially one from which it is separated by at least a millennium, is not without its obvious drawbacks. Giuliani later emphatically stated that shape should *not* be considered a defining characteristic of Pan-Grave pottery on the basis that it is handmade and inherently asymmetrical, and also that the narrow repertoire of forms limits the usefulness of shape as a tool for classification.[124] Her reservations are not unwarranted, but nevertheless there is a considerable consistency in vessel form that cannot be ignored and should be captured in a classificatory system.

Intensively mathematical approaches to vessel form, such as the *Aperture Index* (AI) and the *Vessel Index* (VI) have been used extensively for Egyptian pottery, but their application to Nubian pottery is more troublesome. Giuliani's reservations come into play—the handmade and inherently irregular forms of Pan-Grave pottery do not lend themselves to such strict measurements. Additionally, Pan-Grave pottery is rarely found intact or even complete, making such rigorously mathematical methods wholly unreliable. Additionally, the VI approach is only statistically informative in large quantities of a single type, which again renders it inapplicable to Pan-Grave pottery. Calculating the AI or VI from published illustrations would also be ill-advised, as only a single, usually symmetrical perspective of a vessel is presented, when in reality the rim diameter of individual Pan-Grave vessels can vary by as much as 5–10 cm depending on the point from which the measurement is taken. Applying such mathematically rigorous methods to Pan-Grave pottery should therefore be undertaken with great caution, and it has been decided that neither will be applied to this study.

In order to circumvent these pitfalls, the shape classification system proposed here simplifies the description and definition of vessel shapes that are applicable to Pan-Grave pottery wherever it is found. The contour method devised by Nordström for the SJE Concession forms the foundation, whereby a series of fundamental shapes is identified by analysing the geometric relationships between the characteristic points of a vessel—the base point, maximum point, inflection point (if present), and the rim point (**Fig. 11**). This is a simple method by which to sort Pan-Grave vessels into form groups, based on the curvature of the vessel wall between the orifice plane and the base plane. Within each form group, the vessels are further divided based on their contours. Vessels are then sorted further by dividing them into size groups based on rim diameter.

It is important to note at this point that contour refers to the overall form of the vessel body (as it is preserved) and does not account for the rim band, for which a separate classification system is presented below.

Closed forms are exceedingly rare, and as such are handled as their own group.

3.2.1 Unrestricted forms

3.2.1.1 Unrestricted simple (US)

Unrestricted simple vessels are defined as having a rim diameter equal to the maximum diameter of the vessel and walls that form a single continuous curve from the base point to the rim. Vessels in this group vary in depth from shallow bowls, to hemispherical bowls, to deep bowls with almost vertical sides. Size may vary considerably from small cups to bowls and large pots.

i. Cups: < 12 cm diameter
ii. Bowls: 12 – 20 cm diameter
iii. Large Bowls: > 20 cm diameter

Three variant forms of US vessel are attested in each size category:

[123] Bietak, *Ausgrabungen,* 120.

[124] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 648.

- Shallow: Wide, round-based vessels with low walls that angle slightly outward from the base point. Maximum diameter is greater than the depth. (**Fig. 12)**
- Rounded: Round-based vessels with a 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. Maximum diameter roughly equal to depth. (**Fig. 13**)
- Deep: Round based vessels with a continuous contour and tall, vertical sides (**Fig. 14**).

Vessels of comparable forms also occur in C-Group, Middle Kerma and Classic Kerma assemblages. Deep US bowls may be an exception as they seem to occur only in Pan-Grave assemblages.

Occurrences: US type vessels occur in varying quantities at all known Pan-Grave sites.

3.2.1.2 Horned bowls **(Fig. 15)**

The defining feature of so-called 'horned bowls' are the distinct protuberances extending from the rim edge, usually four in number, which are the 'horns' that give this vessel type its name. 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 Hierakonpolis,[125] and the current study represents a renewal of her findings based on a wider dataset.

Horned bowls defy classification in that every example is different, each having its own unique form and decorative motif, the only commonalities being that they are characteristically shallow and open in form with 'horns' extending from the rim. Most examples are roughly oval in shape when viewed from above, but on some examples the 'horns' are equally spaced around the rim edge, giving the vessel a distinctly four-sided, rectangular shape (**Fig. 15a**). In other examples, the horns are closely spaced in pairs at the narrow ends of the vessel, creating a boat-shaped form with notches at either end that resemble those on a modern ash-tray (**Fig. 15b**).

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 appears as though the sheet had been picked up by the four corners to create this distinctive boat-shaped form. On other examples, the rim edge is mostly level but with gently curved 'bumps' rising from the rim edge, as in the examples from Rifeh (**Fig. 15c**), Hierakonpolis (**Fig. 15d**), and the AKAP concession.[126] Two examples from Serra and Debeira East are of a boat-shaped form with pointed ends where a deep notch creates two pairs of horns (**Fig. 15b**). A unique example from Debeira East has small rectangular tabs extending from the rim edge, only two of which are preserved (**Fig. 15e**).

Two unusual examples from Masmas Cemetery 201 are remarkable for having feet extending from the base (**Fig. 16**).[127] The form of the bowls themselves is similar to the boat-shaped examples from Debeira East and Serra East with pointed ends and deep notches. Giuliani compared the feet of these examples to the development of pedestal bases on later C-Group cups,[128] implying that footed horned bowls may be a late development for the Pan-Grave tradition. Drawing such a comparison between two entirely different vessel forms from two different traditions is perhaps a stretch, but it is worth noting that both of the footed horned bowls were found with Egyptian pottery that can be dated to the early New Kingdom,[129] suggesting that they are indeed late examples. Their occurrence also suggests that the Pan-Grave ceramic tradition continued into the Eighteenth Dynasty, at least in this region of Lower Nubia, after it apparently disappears from Egypt. As a final note on these two unique vessels, footed horned bowls are only attested at this one locality, Masmas

[125] Giuliani, in Caneva, Roccati (eds.), *Acta Nubica,* 224-6. The same horned bowls were analysed by the author at Hierakonpolis in February 2016.

[126] Gatto, Gallorini, Roma, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, fig. 9.8, 10.2.

[127] Emery, Kirwan, *Excavation and Survey,* 316, 327 (vol. 1).

[128] Giuliani, in Caneva, Roccati (eds.), *Acta Nubica*, 225.

[129] Emery, Kirwan, *Excavation and Survey,* 316 (vol. 1). Of note is the Egyptian jar with black painted decoration.

Cemetery 201, and it therefore possible that they are a unique local variant, perhaps even made by the same potter. Horned bowls have not yet been identified in Egyptian settlement contexts, and so this form may be specific to Pan-Grave mortuary contexts.

Occurrences: Rifeh Cemetery S;[130] Mostagedda Cemetery 3100;[131] Hierakonpolis HK 47;[132] Hierakonpolis HK21A;[133] Nag el-Qarmila WK11;[134] Sheikh Mohammed SM14;[135] Serra Cemetery C;[136] Masmas Cemetery 201 (footed);[137] Aniba Cemetery N[138] and Cemetery C;[139] Debeira SJE47.[140]

3.2.1.3 Scoops **(Fig. 17)**

Only four examples of this vessel type have been identified and each is unique. All are oval, boat-shaped bowls with curved rims that are highest at the narrow ends. Each has a tab-like handle extending approximately 1-2 cm above the rim line at one end of the vessel. The handle of the example from Qau 1989 (**Fig. 17a**) is unique in that it has a curved top edge and notches where it joins the rim of the bowl. The examples from Qau 1989 and Mostagedda 3271 (**Fig. 17b**) are in black burnished ware, while that from Mostagedda 3241 is in red burnished ware. These examples are all finished with what is here called 'Pan-Grave fine burnish', which will be described in detail below. The scoop from Mostagedda 3158 is unpolished with simple incised decoration (**Fig. 17c**).

This form has earlier precedents; vessels of a comparable shape are attested in Badarian contexts at Mostagedda,[141] but these early examples are not burnished, and one example includes a hole in the tab, presumably for suspension. Additionally, an Early Dynastic example was found at Siali in Lower Nubia, Cemetery 40, grave 73, described as being made in a hard, pink (marl?) pebble-burnished ware.[142]

The occurrence of scoops at Pan-Grave sites is concentrated in Middle Egypt, notably in the region where the Badarian culture is best attested. It is therefore possible (although difficult to demonstrate) that Pan-Grave potters may have encountered Badarian and Early Dynastic Egyptian scoops in the area, which they then imitated in their own wares. The possibility that the scoops may actually be Badarian vessels that were appropriated into Pan-Grave burials should also be considered, however the ware types are distinctly Pan-Grave in character. Precedents exist for such appropriation of early Egyptian vessels in Pan-Grave burials, most notably at Balabish, where Predynastic D-ware jars have been found in Pan-Grave contexts.[143] At Hierakonpolis, the tumuli at the Pan-Grave cemetery HK47 were constructed from sand and debris that included Predynastic Egyptian sherds and lithics, but in this case, the inclusion of earlier material may be incidental; the areas surrounding the cemetery were Predynastic settlement areas and hence rich with Predynastic pot sherds.

Occurrences: Qau Grave 1989;[144] Mostagedda Graves 3241,[145] 3271,[146] and 3158.[147] Scoops are not known in the C-Group or Kerma repertoire.

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[130] Petrie, *Gizeh and Rifeh,* pl. xxv.41-44.

[131] Brunton, *Mostagedda,* pl. lxxii.52-53.

[132] Giuliani, *S&N 5,* 43.

[133] Studied by the author at Hierakonpolis in February 2017. Publication is in preparation.

[134] Gatto, *JAEI 6:1,* fig. 11.8.

[135] Gatto, *JAEI 6:1,* fig 12.2.

[136] Williams, *Serra East,* 129, fig. 81.b.

[137] Emery, Kirwan, *Excavation and Survey,* 316, 327 (vol. 1).

[138] Steindorff, *Aniba I,* Taf. 58.6.

[139] Steindorff, *Aniba I,* Taf. 81.13.

[140] Säve-Söderbergh, *Middle Nubian Sites,* pl. 21 (vol. 2).

[141] Brunton, *Mostagedda*, pl. XVIII.36-38

[142] Reisner, *ASN 1907-1908,* p. 240-1, pl. 61.a.15.

[143] Wainwright 1920, p. 21, pl. 14.

[144] Brunton, *Qau and Badari III,* pl. 9.11. Petrie Museum, London UC17888.

[145] Brunton, *Mostagedda,* pl. LXXII.54; British Museum, London 1930.7.1160.

[146] Brunton, *Mostagedda,* pl. LXXII.54.

[147] Brunton, *Mostagedda,* pl. LXXII.57.

3.2.2 Restricted forms

Restricted vessels are characterised by a rim diameter that is smaller than the maximum diameter, which is located further down the body of the vessel. They occur in simple and inflected contours, and their forms vary more widely than unrestricted vessels.

3.2.2.1 Restricted simple (RS) cups, bowl, large bowls

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. This accounts for the fact that Pan-Grave vessels are very often incomplete and hence the maximum diameter cannot always be established. Size groups for RS vessels are as follows:

i. Cups: < 12 cm rim diam.
ii. Bowls: 12 – 20 cm rim diam.
iii. Large Bowls: > 20 cm rim diam.

There are two variant forms RS vessels:

- Rounded: The walls of rounded RS vessels have a smooth and continuous curve from base point to rim, with a convex profile. Forms include: over-hemispherical and globular forms with maximum point at approximately half the height of the vessel (**Fig. 18**), and forms with a slightly tapered base on which the maximum point is situated in the upper half of the vessel creating the impression of a shoulder (**Fig. 19**).
- Bag-Shaped: Vessels of this form are bottom heavy, and an upper-body and lower-body can be clearly distinguished. The upper body walls are almost straight and angled inward from the maximum point to the rim. A marked change in curvature occurs at the maximum point from which the vessel wall curves toward the base, which can be either rounded (**Fig. 20b,d**) or slightly tapered (**Fig. 20a, c**).

A large asymmetric example was found at Mostagedda, Grave 1810A (**Fig. 21**).[148] This vessel is very coarse, roughly made, and shows evidence of burning, suggesting that it was used as a cooking pot before being deposited with a burial. Its fabric, ware, surface treatment are typical of Nubian cooking pots found in Egyptian settlement contexts (see Chapter 6), and the inclusion of such a vessel in a cemetery context is unusual.

3.2.2.3 Restricted inflected (RI) bowls

Restricted inflected (RI) bowls are characterised by upright walls with a sinuous profile that is slightly concave through the height of the vessel (**Fig. 22**). For some examples, the rim diameter may be equal to or only very slightly less than the maximum vessel diameter, but they are here grouped into the restricted category as the inflected body is generally the narrowest point on the vessel. 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;[149] Aniba Cemetery N; and Aniba Cemetery C.

3.2.2.4 Restricted inflected (RI) squat bowls

RI squat bowls are rare in the Pan-Grave tradition and are limited in distribution, being found mostly in Lower Nubia. Morphologically, squat bowls fall somewhere between bowls and jars and are characterised by an

[148] Brunton, *Mostagedda,* 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 those vessels as being so clean that they appear to have never been used.

[149] Williams, *C-Group, Pan-Grave and Kerma,* pl. 93.F-G, I-J and M. See also Pl. 54.B-C and E. In the latter group, pots B and C were assigned by Williams to C-Group, however the incised line parallel to the rim suggests a Pan-Grave identification is also likely.

inflected profile with a rim diameter that is considerably smaller than their maximum point (**Fig. 23**). They are bottom-heavy with a bulbous bag-shaped lower body and a slightly concave inflected upper body that curves inward toward the rim. However, because these vessels do not have a clearly defined neck, they have here been classified as bowls rather than jars. From a purely subjective and admittedly non-scientific viewpoint, these vessels look and 'feel' more like very restricted bowls rather than jars, and have been classified accordingly.

Occurrences: SJE Site 47;[150] Adindan Cemetery K;[151] Hierakonpolis HK47.

3.2.2.5 Spouted bowls

The only known example of a Pan-Grave spouted bowl comes from Mostagedda grave 3118 (**Fig. 24**).[152] As well as being unique in the Pan-Grave repertoire, this bowl is also the only vessel recorded as coming from this grave. A goat skull found in the grave, and shell and faience beads makes a Pan-Grave identification more than likely, and the bowl is produced in black burnished ware with the fine, streaky burnish that is 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 diameter is high on the vessel body, just below the spout, from which point it curves down toward the rounded base.

A comparable vessel has been found on Sai Island at cemetery SKC2, dated to the *Kerma Classique* period,[153] which corresponds well with the presumed date for the Pan-Grave cemetery at Mostagedda (§4.2). Spouted bowls attributed to the C-Group culture have been found at SJE Site 170[154] and at Hierakonpolis HK27C.[155] Fragments of spouted vessels were also found in settlement contexts at Aniba,[156] but the associated material appears to be mostly C-Group[157] with some Kerma pottery also present.[158]

3.2.3 Closed forms

Closed vessels that can be confidently associated with the Pan-Grave tradition are rare, and they can only be identified on the basis of their context as well as the distinctive ware types. They are identified as closed vessels on the basis that they have a clearly observable neck or a sharp change in angle (i.e. a corner point) that demarcates the vessel mouth and rim from the body.

To date, the current author has identified only 17 closed vessels that can be attributed to the Pan-Grave tradition with some degree of confidence; 16 from the SJE Concession alone and only one example from all of Egypt, at Hierakonpolis HK47. All of the closed vessels identified as being of the Pan-Grave tradition are listed and described in **Table 1**. Two other possible examples are included in Brunton's Pan-Grave corpora for Mostagedda and Qau, but the nature of the context in which they were found is unclear.[159] The small beaker jar from SJE Site 65 may be in imitation of Egyptian forms (**Fig. 25b**).[160]

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 as each example would essentially constitute its own type. Nevertheless, three broad categories could be identified based on contour:

- RS: restricted simple (**Fig. 25**)
- RI: restricted inflected (**Fig. 26**)
- RNI: restricted necked inflected (**Fig. 27**)

[150] Säve-Söderbergh, *Middle Nubian Sites*, pl. 22 (vol. 2). Vessel 47/109:3.

[151] Williams, *C-Group, Pan-Grave and Kerma*, pl. 93.M.

[152] British Museum EA63024.

[153] Gratien, *Sai I,* 315 (fig. 256c).

[154] Säve-Söderbergh, *Middle Nubian Sites,* pl. 31.2 (vol. 2).

[155] Renée Friedman, pers. comm.

[156] Steindorff, *Aniba I,* Taf. 94.

[157] Steindorff, *Aniba I,* Taf. 91-94.

[158] Steindorff, *Aniba I,* Taf. 91.170.

[159] Brunton, *Qau and Badari III*, pl. is.5; Brunton, *Mostagedda*, pl. lxxii.16.

[160] de Souza, *CCE 11*.

3.2.4 Rim profile

Three categories of rim type have been identified, each with its own range of variants: direct rims, externally modelled rims, and recessed rims. A typology of characteristic examples of each rim profile is depicted in **Fig. 28**.

3.2.4.1 Direct rims (D)

Direct rims are defined as a continuation of the vessel wall and may either follow the curvature of the vessel or are inflected outwards at the edge. The most important defining feature of direct rims is that there is no thickening of the vessel wall at the rim. Four variant groups of direct rim have been identified (Fig. 28):

- D1. Direct – rounded
- D2. Direct – flattened
- D3. Direct – band[161]
- D4. Direct – inflected

The rim edge in type D1, D2 and D4 may be rounded, tapered, flattened, and occasionally appear to have been cut, creating distinct corners and edges, the latter being more common on coarse, thick-walled vessels.

Type D3 rims are the equivalent of Giuliani's 'set-off' rim type,[162] however the term 'band rim' is implemented here as it better describes the visual appearance. This rim type is defined by an incised line that delineates the rim zone from the vessel body, and it is classified as a direct rim due to the fact that there is no change in thickness of the vessel wall. On the weight of evidence, it appears that band rims are unique to the Pan-Grave ceramic tradition and, to this author's knowledge, are not attested on C-Group or Kerma pottery. A unique example of a type D3 band rim from Hierakonpolis HK47 must be highlighted owing to its wavy rim edge, unique among Pan-Grave pottery but presumably in imitation of Egyptian pottery (**Fig. 18d**).

Type D4 inflected rims are easily identified by their distinct s-curve, again without any thickening to the vessel wall.

3.2.4.2 Externally modelled rims (M)

Externally modelled rims are characterised by a thickening of the rim, usually toward the exterior of the vessel and rarely on the interior. In some cases, the modelling may be accompanied by a change in angle or an inflection. Five variants of externally modelled rim have been identified, each of which is defined by its geometric form when viewed in cross section (**Fig. 28**):

- M1. Modelled – rounded
- M2. Modelled – rectangular
- M3. Modelled – triangular
- M4. Modelled – inflected triangle
- M5. Modelled – complex

The difference between types M3 and M4 require some clarification. Both are triangular in cross section, but type M3 has a wedge-like profile that tapers toward the rim edge in a straight line, whereas the triangular section of type M4 is inflected outwards creating a sinuous line.

Complex modelled rims of type M5 are uncommon and are most often associated with deep US cups decorated with deeply incised spiralling grooves (**Fig. 14a**), or large bowls with deep oblique grooved decoration (**fig. 38b**).

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[161] D3 rim types are equivalent to the SJE type A8 (Säve-Söderbergh, *Middle Nubian Sites*, 33 (vol. 1)) and Giuliani's 'set-off' rim (Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology*, 650-1).

[162] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology*, 651.

3.2.4.3 Recessed rims (R)

Rims of this type are characterised by a thinning of the vessel wall confined to the rim band only, creating a distinct 'stepped' rim profile (**Fig. 28**). 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,[163] either by pinching or by shaving away excess clay.[164] The recessed section of R1 type rims is usually rectangular in profile with a flattened rim edge, although tapered variants are also known.

As was already noted by Giuliani, recessed rims appear to be diagnostic for the Pan-Grave tradition and do not have equivalents in C-Group or Kerma assemblages. It should be stressed that while recessed rims are almost certainly diagnostic of the Pan-Grave tradition, they are by no means characteristic as they occur only rarely at a handful of sites (§7.1.4).

3.3 Fabric

The Vienna System of Egyptian pottery fabric classification is used extensively in the field,[165] and though by no means a perfect system, it has proven to be a robust and reliable point of reference for Egyptian ceramic studies.[166] In contrast, no such classification system exists for Nubian pottery fabrics, and given some of the issues associated with the Vienna System, it may be asked if such a system is desirable. Site-specific fabric classifications do exist, but an all-encompassing system that covers the full regional, cultural, and chronological breadth of the various Nubian ceramic traditions is yet to be developed. Early excavators such as Brunton and Wainwright classified Pan-Grave pottery based on surface treatment and decorative styles with little or no regard for vessel fabric.[167] Likewise, Bietak's typologies sorted the pottery based on surface treatment and decoration without taking the raw materials into account.[168]

One of the biggest hurdles is the nature of Middle Nubian pottery production, and in particular that of the Pan-Grave tradition. Egyptian pottery during the pharaonic period was produced by workshops in large quantities, whereas Pan-Grave pottery was produced on a much smaller scale, apparently for use within a local community or for distribution across a limited area. This fundamental difference means that Pan-Grave pottery, and Nubian pottery in general, cannot and should not be approached in the same was as pharaonic Egyptian ceramics. Analyses of Nubian pottery are often complicated by the imposition of Egyptian models onto non-Egyptian material, and Nubian pottery is often processed by a specialist in Egyptian pottery, who may—consciously or otherwise—apply the same methodology and approach to *both* sets of material. This is problematic; 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 tradition originally 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 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,[169] which in turn required communities to adapt to the new environment in order for ceramic production to remain viable.[170] Such adaptations are observable in the Pan-Grave tradition, where fabrics are highly variable and appear to use locally sourced materials that were manipulated and adapted 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,

[163] "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, *Egyptian Pottery,* 36.

[164] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology*, 651.

[165] Nordström, Bourriau, in Arnold, Bourriau, *Egyptian Pottery,* 168-82.

[166] Bourriau, in Hawass, Richards (eds.), *Archaeology and Art*, 137-44.

[167] Brunton, *Mostagedda,* 124; Wainwright, *Balabish,* 35-41.

[168] Bietak, *Ausgrabungen,* 53-5.

[169] Arnold, *Ceramic Theory,* 32-5.

[170] Arnold, *Ceramic Theory,* 120.

suggesting exploitation of a local source.[171] Manassa has similarly reported that Nubian pottery from Umm Mawagir (Kharga Oasis) is made from local oasis silts,[172] and it is also possible that the Nubian pottery from Ayn Asil (Dakhla Oasis) is made from materials collected at the specific location.[173] This author has also noted that the pottery from Middle Egypt at sites including Mostagedda, Qau and Badari is made in exceptionally fine fabrics that are not dissimilar to much earlier Badarian pottery, which may indicate a character peculiar to that region.

Fabric composition in the Pan-Grave tradition may also have been dependant on the 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.[174] This variation over a relatively confined region, which might be deliberate to some degree, may be compared to the Pan-Grave tradition, which, although spread across a much larger expanse displays marked variation from one site to another.

Variation in pottery fabrics may also offer insights into the 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 cups and bowls with well compacted and carefully burnished surfaces, presumably to decrease permeability.[175] Experientially, vessels made in a finer fabric with a smooth surface would make eating and drinking more comfortable. Conversely, coarse, chaff-tempered fabrics with a more porous texture were favoured for large bowls and cooking vessels, presumably because the open structure reduced thermal shock.[176] Sand-tempered fabrics appear to have been favoured for the production of horned bowls, although it is not clear what function this vessel type served. These choices demonstrate that Pan-Grave potters had a finished product in mind, consciously accounted for the physical properties of their materials, and manipulated them to suit their requirements.

The first comprehensive study of Nubian pottery fabrics was undetaken by Nordström for the Early Nubian pottery from the SJE Concession,[177] which was subsequently adapted for Middle Nubian pottery by Säve-Söderbergh.[178] The SJE system gives an overall sense of the nature of Pan-Grave pottery fabrics without divisions based on detailed observations of minute differences. Four fabric types were identified, each of which is differentiated on the basis of temper—sand, ash, dung, and chaff—making for a concise and straightforward system and a good foundation upon which to build one that can be applied to the Pan-Grave pottery tradition in general.

Middle Nubian pottery fabrics were also discussed at length as part of the workshop organised by the Austrian Archaeological Institute in 2010, at which site-specific classification systems were presented for most of the assemblages. This is well and good, but the different divisions and terminologies used for each site hinder comparative studies, and some of the fabric classifications are extremely detailed and specific. For example, a total of sixteen fabric groups were identified from a total of only 92 sherds at Tell el Daba,[179] and in some cases the only difference between fabrics were particles that could actually be natural inclusions present in the silt.[180] These issues aside, the pottery from Tell el Daba represents a clear illustration of the high variability of Nubian pottery fabrics even at a single site, and in turn the difficulties faced when devising a suitable classification system for Pan-Grave pottery fabrics.

The most recent attempt at classifying Pan-Grave pottery fabrics is that devised by Gatto for the Pan-Grave

[171] Gatto, *JAEI 6:1,* 23.

[172] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 140-141, fig. 9d-e.

[173] Marchand, Soukiassian, *Balat VIII,* 154; Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 141.

[174] Grillo, *Materiality,* 165-6.

[175] Shepard, *Ceramics,* 125-6.

[176] Shepard, *Ceramics,* 125-7; Rice, *Pottery Analysis,* 367-8.

[177] Nordström, *Neolithic and A-Group Sites,* 48-68 (vol. 1).

[178] Säve-Söderbergh, *Middle Nubian Sites*, 25-30 (vol. 1).

[179] Forstner-Müller, Rose (eds.), *Nubian Pottery,* 184-7.

[180] For example, Fabric Groups II and X at Tell el-Dab'a appear to be differentiated based only on the presence of mica.

material from the AKAP survey.[181] Gatto's simple system divides the material into three types and, like the SJE system, the fabrics are defined based on temper, namely dung, straw and sand. A similar approach was taken by Forstner-Müller for Nubian pottery found in Egyptian settlement remains at Aswan (Syene).[182] Gatto's system is neat and easy to use, however there is still room for subjectivity, for example defining the differences between fine and coarse variants of her type PG.I.

Overall, the current author questions the validity and necessity of an overly detailed classification for 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 consistency 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—they are divided based on temper. This is by far the easiest way to identify and sort the different types of Pan-Grave pottery fabric, and hence the same approach is applied here. It must also be remembered that Pan-Grave pottery is almost invariably made from alluvial Nile silts, the only exception being pottery from the oases. Sorting the fabrics on the basis of the dominant temper material removes the emphasis on naturally occurring inclusions and variations, therefore avoiding over-classification. Dividing fabrics based on temper may also allow for consideration of the cognitive processes involved in Pan-Grave pottery production, as outlined above.

3.3.1 Typology of Pan-Grave pottery fabrics

Analysis of the core dataset has identified *five* fabric types, each defined by the predominant tempering material, or the apparent absence thereof.

Visual analysis was conducted using a 10x hand lens in order to best replicate field conditions. As much as possible, fresh breaks were analysed in natural light. Museum collections were therefore of limited use as fresh breaks could not be obtained, the only exception being the SJE Collection, where more recent breaks, presumably made during excavation, could be observed.

It must also be noted that the proposed fabric analysis is based only on pottery which has been examined first-hand by the author or, where that was not possible, by studying high-resolution colour photographs of pottery fabrics. Published written descriptions without accompanying images were not deemed reliable for the classification process.

3.3.1.1 PG.1: No visible temper **(Plate A)**

Very fine-textured fabric with a dense, silty groundmass. Porosity is very low. The section is usually black but may range through grey and light red depending on firing conditions. 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 could not be positively identified using a hand lens. Mica particles and sparse very fine sand (< 1 mm) may be present, and the low quantities suggest that these are natural inclusions. Sparse, small white particles may be present, and these are also likely to be natural inclusions.

This fabric is most frequently associated with thin-walled fine wares (4-6 mm thick). Such bowls often have a slipped and well-burnished exterior, and the interior surface is also either well-compacted or burnished.

Concordances:
No comparable fabrics exist in the AKAP, Aswan, or SJE typologies.

3.3.1.2 PG.2: Dung temper **(Plate B)**

Fine textured fabric with a dense, silty groundmass similar to PG.1. Porosity is very low. The section is generally black in colour, but examples with a light grey section with black patches have been observed (**Plate B, left**).

Very fine organic temper, probably dung, is visible in the section as fibrous particles that resemble short

[181] Gatto, *JAEI 6:1,* 23.

[182] Forstner-Müller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 63.

hairs 1-2 mm long. The fibrous particles may also be visible on the vessel surfaces as fine hair-like impressions. Inorganic particles such as mica and fine sand may be present as natural inclusions. This fabric is also most often associated with fine, thin-walled vessels as for fabric PG.1.

Concordances:
AKAP type PG.Ia; SJE type IIB; and Aswan Fabric II.

3.3.1.3 PG.3: Chaff temper **(Plate C)**
Fine to medium textured fabric with a noticeably less homogeneous consistency than PG.1 and PG.2. Colour dependant on firing conditions, but generally black in the section with a narrow oxidised zone at the exterior surface.

Organic temper in the form of small and finely divided chaff particles 2-3 mm long are 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.

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.

Concordances:
AKAP type PG.Ib; and falls somewhere between SJE types IIB/IIE.

3.3.1.4 PG.4: Straw temper **(Plate D)**
Medium to coarse fabric with a silty groundmass. Porosity is high. The section is black to dark grey-brown, usually with a narrow oxidised zone at the exterior surface depending on firing conditions.

Large straw particles 3-5 mm long added as temper are clearly visible in the section as carbonised skeletons or elongated voids. 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 generally not uniformly aligned, indicating that the vessel was not turned on a wheel. Sparse rounded sand, mica, and white particles occur and are likely to be natural inclusions.

This fabric is used mainly for larger pots with thicker walls (> 6 mm), and is commonly used for Nubian cooking pots, the straw temper and high porosity improving the thermal properties of the vessel.

Concordances:
AKAP type PG.II; SJE type IIE; and Aswan Fabric III.

3.3.1.5 PG.5: Sand temper **(Plate E)**
Medium-coarse and dense fabric with low porosity. The colour of the section varies from black to grey-brown and light brown depending on firing conditions.

Dominant temper is angular or rounded sand particles in a 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.

This fabric is mostly associated with horned bowls, but is also rarely attested as thick-walled bowls and cups. It is also common for pottery from desert sites and is a defining feature of Second Millennium BC pottery from the Fourth Cataract site of al-Widay (§5.3).

Concordances:
AKAP type PG.III; SJE type ID; and Aswan Fabric I.

3.4 Surface treatment and ware

Ware and surface treatment forms the basis for the majority of site-specific typologies that currently exist. Wainwright's ware classification divided the Pan-Grave pottery from Balabish into three very broad categories: red polished, black-top, and "hatched" (i.e. decorated) wares.[183] By making a separate class for decorated vessels, Wainwright's system prioritises decoration over other aspects, implying that it is not itself a form of surface treatment. Moreover, the divisions identified by Wainwright do not account for the variety of ware types that are actually present in the Balabish assemblage, in particular that both black-topped 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.[184]

In 1937, 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.[185] Each of his eleven types is based on a three-tiered system, taking into consideration decoration, colour, and rim type. Like Wainwright before him, Brunton considered decoration to be an aspect of ware, but unlike Wainwright, he did attempt to account for the fact that decoration could be applied to vessels of various surface treatments. 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 by this author has shown that the pottery from Mostagedda ranges from wet-smoothed to highly burnished, including some examples that are among the most finely burnished examples of all Pan-Grave pottery currently known.

The most influential typology was devised by Bietak for the pottery at Sayala, the first iteration of which was published in 1966,[186] and a subsequent updated version in 1968 (**Fig. 29**).[187] Both typologies were based primarily on ware, and the later version continues to be referenced in recent literature. Bietak's 1968 typology groups together particular surface treatments and colours with specific decorative motifs. This approach works for Sayala assemblage, but the typology as a whole is overly prescriptive and rigid, and it implies that certain types of surface treatment only occur with specific decorative motifs, for example *roten bis rotbraunen Ware mit eingerissenem Fischgrätenmuster*. Additionally, Black-top ware forms its own category (P/7),[188] under which decorated and undecorated vessels are subsumed and surface treatment/texture is not considered. Such fixed combinations are restrictive and do not accurately reflect the variability present in the Pan-Grave ceramic tradition.

More recent is the SJE ware classification system in which pottery is sorted following a three-tiered system.[189] First, the pottery is divided into a *type group*, which consists of a single ware type or a group of related wares that occur in a given area at a specific time. The second level comprises the individual *ware types* that make up the larger type groups. The final level further divides the wares into *form groups*, which refer to a particular form in a given ware, shape, and size.[190] The benefit of the SJE system is that it is rigorous and thorough, but it has an in-built flexibility, allowing for variation and making it more applicable to material from different sites and regions. Unlike Bietak's overly-prescriptive typology, the SJE system breaks down the ware description into component parts that can be selected and combined to suit a particular vessel or assemblage. Decoration is effectively taken out of the equation and is only explicitly identified in one ware type (black-incised wares).[191] Instead, the SJE system handles decoration separately and details the occurrence and type of decorative motifs within each ware type as and when it occurs. Although complex and somewhat unwieldy,

[183] Wainwright, *Balabish,* 35-41, pl. XIV.

[184] Wainwright, *Balabish,* 86.

[185] Brunton, *Mostagedda,* 124-5.

[186] Bietak, *Ausgrabungen,* 53-5.

[187] Bietak, *Studien zur Chronologie,* 119-21.

[188] Type P/XX (Bietak, *Studien zur Chronologie,* 119).

[189] Originally devised by Nordström for Early Nubian pottery (Nordström, *Neolithic and A-Group Sites,* 57-68 (vol. 1)), and extended to Middle Nubian Pottery (Säve-Söderbergh, *Middle Nubian Sites*, 53-6 (vol. 1)).

[190] For a more detailed explanation of the SJE system, see Nordström, *Neolithic and A-Group Sites,* 57-68 (vol. 1). For concise definitions of type groups, wares, and form groups, see Säve-Söderbergh 1989, p. 42 (vol. 1).

[191] i.e. Pan-Grave Type PIII / Ware Type H3.03. See Säve-Söderbergh *Middle Nubian Sites*, 55 (vol. 1).

the flexibility of the SJE system is an important feature that is carried through to new classification system that is presented below. As part of her PhD research, Giuliani revised the SJE classification system and presented a ware typology comprising five groups that was intended to encompass the Pan-Grave tradition as a whole:[192]

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 colour and whether or not the vessel is coated or slipped. These are certainly important aspects, but the divisions are perhaps too broad. Giuliani made two further observations that should be corrected; first, it was observed that Nordström's black-incised ware (SJE Type Group PIII) does not occur outside the SJE Concession,[193] and second, that red-coated ware (Giuliani's Group IV) is absent from the SJE Concession.[194] A renewed examination of these assemblages by the current author has identified that both of these assertions are not correct. Black-incised vessels are attested outside the SJE Concession at Qau,[195] Hierakonpolis,[196] and in the Nag el-Qarmila,[197] and red-coated vessels are indeed present in the SJE assemblages. Overall, the ware typology proposed by Giuliani is perhaps over-simplified and does not adequately account for the variety and complexity present in the Pan-Grave tradition.

The most recent ware typology is that devised by Gatto for the AKAP Concession, in which six ware types were identified:[198]

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

Gatto's ware typology was the first to incorporate colour, coatings *and* surface textures (i.e. smooth, burnished). Decorated vessels are separated from other ware types and form their own category, which Gatto justifies on two grounds: first is that decoration is an added element *applied to* the surface treatment rather than itself being an aspect of surface treatment, and second is that the possible meanings associated with the decoration dictates that it cannot be treated in the same way as other surface treatments from an anthropological perspective.[199] Both of these points are generally valid, however this does not deny the fact that incised decoration is in and of itself a deliberate and conscious manipulation of the vessel surface and therefore can be considered as a form of surface treatment. Regarding the second assertion, while it is true that decoration may be culturally meaningful, one could also speculate that a specific surface treatment, colour or finishing technique, may be equally culturally significant.

Whether or not there is any cultural meaning connected to decoration is debateable, but the point remains that it is a useful aspect for the classification of ware and surface treatment. Moreover, in treating decorated

[192] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 648-50.
[193] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 648.
[194] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 650.
[195] Petrie Museum, London, UC 17922.
[196] Giuliani conducted the first season of excavations at the Pan-Grave sites at Hierakonpolis in 2001.
[197] Gatto, *JAEI 6:1,* 23, fig. 10.12. It must be acknowledged that Giuliani could not have known about the material from Nag el-Qarmila, as this material had not yet been discovered at the time of her research.
[198] Gatto, *JAEI 6:1,* 23-4.
[199] Gatto, *JAEI 6:1,* 23.

vessels separately, information pertaining to the surface treatment onto which the decoration was applied is effectively lost. For example, 69% of vessels at site SM14 are decorated. However, if these vessels were categorised by their overall surface treatment, a portion would fall into Gatto's ware type RCBBT, while others would be placed into 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.

The above discussion of past attempts at ware classification have outlined the difficulties involved in devising an all-inclusive system that can be applied to Pan-Grave pottery in its broadest sense. It has also become clear that there are six key points that should be addressed in devising a new system of ware classification:

1. The system must be flexible, with the possibility of application to any Pan-Grave vessel or assemblage.
2. The system should not be overly descriptive and must avoid establishing rigid types with limited applicability.
3. Each aspect of surface treatment should be treated separately and be equally weighted.
4. Decoration should be included as an aspect of surface treatment, but should not be prioritised.
5. The system should be able to account for and express variation within the Pan-Grave ceramic tradition.
6. The method of description should be consistent to facilitate cross-regional comparison.

With these principles as a foundation, the system proposed here aims to provide the tools with which to construct ware types that account for the full range of Pan-Grave pottery.

3.4.1 The ware aspects

The first step in the process of identifying the ware types in the Pan-Grave ceramic tradition is to establish the key characteristics that form the foundation for the ware classification system—*the ware aspects.* A series of six aspects has been identified:

1. Black-top treatment
2. Surface coating
3. Colour – interior
4. Colour – exterior
5. Surface texture
6. Decoration

In turn, each ware aspect occurs in a range of states, from which the analyst can select as appropriate to suit any given vessel or assemblage. Each aspect is defined below, identifying the states in which each occurs:

3.4.1.1 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,[200] Pan-Grave black-tops are mostly well defined and do not extend far below the rim edge. Giuliani further stated that the black zone is confined to the rim band on vessels with band or recessed 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. Renewed analysis of the pottery has shown that defined black-tops are in the minority and are far outnumbered by irregular black-tops. This distinction suggests that defined black-tops could be useful for identifying regional and chronological variation, which will be explored later. Upon reviewing the available data, the following types of black-top were identified within the Pan-Grave tradition, each of which is described below:

[200] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology*, 652.

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 (**Fig. 30-31; Plate F**). They can be present on 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 creating a 'smoked' appearance. There is often a transitional zone between the black and red sections, which can occasionally be a pale yellowish-brown in colour. Irregular black-tops on Pan-Grave vessels generally do not extend far below the maximum point of the vessel, but broader examples do occur.

Defined black-top
Defined black-tops are carefully executed and confined to a restricted area below the rim (**Fig. 32**). The black colouring does *not* extend beyond the rim band on vessels with band, modelled, or recessed rim profiles. For vessels with direct rims, the black-top forms a distinct and well-defined band with a clear lower boundary that runs parallel to the rim edge.

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. Two types of applied black-top have been identified—pre-firing and post-firing.

Pre-firing applied black-tops
This type of black-top is extremely well-defined, and the black colouring is solid and opaque. In many cases, the black zones are so 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 G**). 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 (**Fig. 32b; Plate H**). An isolated example from the Northern Dongola Reach has a similar rim (**Fig. 32c**).[201]

Some examples from sites in Upper Egypt show a narrow line of the uncoated oxidised vessel surface between the red-coated body and the black rim (**Plate I**), 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 as black streaks below the rim zone where the pigment has been dragged onto the vessel body (**Plate J**).

The black pigment is permanently fixed to the vessel and cannot be removed using distilled water or acetone. The black pigment on an archetypal example of the type from Mostagedda appears to be flaking away from the surface, indicating that it is very likely to be a pigment applied to the surface of the vessel (**Plate H**).

'Post-firing' applied black-tops
Post-firing applied black-tops also have a crisply defined boundary, but they are technologically different to other types, and the nature of these black-tops strongly suggests that they were applied to the vessel *after* it was fired. A number of vessels were only red-slipped up to a certain point below the rim, leaving a band of uncoated clay around the rim where a black-top ought to have been, and it was thus inferred that the black-top could have worn away (**Plate K**).[202]

The black colour on the vessel rim is fugitive and is soluble in distilled water, suggesting that it has not been permanently fixed to the vessel, and hence it can be inferred that it was not fired. 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. The fugitive nature of the black pigment was first noticed by Gait

[201] British Museum EA81928.

[202] This same feature has been identified on a single sherd at Tell Edfu, which is described as having a "tan rim" (Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 109, fig. 4e).

during his analysis of early Nubian pottery,[203] and its occurrence on Pan-Grave pottery in the assemblage from SJE Site 47 has been confirmed by this author.

Solubility tests were conducted on some examples to verify the presence of post-firing black-tops. It is assumed that the black pigment on post-firing examples had not been made permanent through the firing process, and so could be removed easily using distilled water. However, because solubility tests are minimally destructive, permission to conduct solubility tests has been granted for only a selection of pottery from the SJE Concession,[204] and on newly excavated vessels from Hierakonpolis HK21A[205] and Tell Edfu.[206]

In the case of SJE Site 47 specifically, a total of 12 vessels were tested. Of these, six samples yielded positive results for post-firing applied black-tops, equating to 50% of the sample (**Table 2)**.

Three examples should be discussed in further detail. Vessels 47/109:3h and 47/77:6a are bowls with band rims marked by incised lines. The rim is black above the incised line and there are visible brush marks below the incised line, clearly demonstrating that a pigment was applied. The black colouring *above* the line is soluble in distilled water, while the black colouring *below* the line is 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 above the incised line. To date, this phenomenon has only been positively confirmed at SJE Site 47.

Vessel number 47/30:1(a) also has a band rim, but in this case the incised line has been almost entirely obliterated by the burnishing process, which is further evident by oblique black streaks below the incised line. Solubility tests yielded a positive result both above *and* below the band line, suggesting that the black pigment was applied after firing. However, burnishing is usually executed before firing, so it is possible that there is an underlying fired black-top that was augmented after firing. Alternatively, it may be that the black pigment was not fired at a high enough temperature to render it permanent.

The phenomenon of 'post-firing' applied black-tops warrants further research using scientific methods to establish the chemical composition of the black colouring, and initial XRF analyses have been conducted by the current author on a set of samples from the SJE concession.[207] Given the small sample size (six sherds), the preliminary results are largely inconclusive but there is some evidence to suggest that the composition of the black pigment is chemically different to that of the red-coated exterior. The veracity of these initial observations can only be confirmed by further analyses, ideally using material from a number of sites.

3.4.1.2 Surface coatings

As with colour, coatings of Pan-Grave pottery can simply be divided into two broad groups: coated and 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 exceptionally rare. The easiest ways to identify a slip are when it erodes or flakes away from the vessel surface, or by observing the slip in the cross section of the vessel wall where it is visible as a thin layer that sits on either the exterior or interior surface. It should also be noted that, in cross section, Pan-Grave sherds frequently display a very thin oxidised zone on the exterior surface that may be mistaken for a slip, so care must be taken to consider both the cross section and surface of the vessel.

The colour of the slip can vary from light orange-red through to a dark red-brown, the most common colour being a dark red, roughly equivalent to Munsell 2.5YR 3/6 or 10R 3/6. Once again, it must be reiterated that

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[203] Gait, *The A-Group/C-Group Transition,* 123–5. Gait's project focused on A-Group and early C-Group pottery, but his work crossed over into Middle Nubian material for technological comparisons.

[204] 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.

[205] Conducted with assistance from conservator, Lamia el Hadidi, and with permission from Dr Renée F. Friedman.

[206] Conducted with assistance from Dr Natasha Ayers.

[207] 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.

colour is highly variable and dependent on firing conditions as well as the mineral composition of the raw materials. Slipped vessels are very often burnished, producing a smooth and reflective surface (see below).

Three states have been identified for coatings, each defined by the presence or absence of a slip and the atmosphere in which the vessel was fired. Using the *chaîne opératoire* as the basis for classification aims to neutralise identification and description, circumventing a reliance on subjective descriptions (e.g. brownish-red vs reddish-brown).

Uncoated oxidised
This category encompasses 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 producing varying shades of red and brown. Coated vessels are often burnished, but may also be simply smoothed or lightly compacted.

Black
This category accounts for any vessel that is uniformly black on all surfaces as a result of being fired in a reducing atmosphere. In most cases, it is not possible to determine whether or not the vessel is coated as a reduced black slip would be indistinguishable against the groundmass of the fabric, which is almost always black.

3.4.1.3 Colour (exterior and interior)
Surface colour, as defined in the SJE typology, is the colour of the uncoated vessel surface—that is, the colour of the fired clay itself.[208] 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, the temperature and duration of firing, and the firing atmosphere.[209] Furthermore, Pan-Grave pottery is very often coated with a thick slip that obscures the underlying matrix of the vessel, and care must be taken to distinguish between the slip and the fabric of the vessel itself.

Another fundamental issue that needs to be considered when describing colour is that Pan-Grave pottery is produced exclusively from alluvial silt,[210] meaning that the colours range from black, through brown, to light red depending on firing conditions. 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, which are themselves a reflection of the firing conditions. In the simplest of terms, an oxidising atmosphere results in shades of red, orange, or brown, while a reducing atmosphere results in black and dark grey. In order to simplify description, only two states have been identified for this ware aspect:

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 brown to light red. In effect, the term oxidised applies to any vessel that is *not* black or grey all-over.

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

[208] Nordström, Neolithic and A-Group Sites, 44 (vol. 1).
[209] Shepard, *Ceramics,* 102–7.
[210] The term "alluvial" has been used here to encompass Nile river silt, oasis silt, and silts from other rivers in desert regions.

Shepard has warned against simplifying colour descriptions in this way,[211] but because Pan-Grave pottery is produced from Nile silt almost exclusively, it may be assumed that the paste will react in consistent ways dependant on firing conditions. 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 and avoids subjective descriptions of colour (e.g. red vs. red-brown).

Finally it should be noted that the colour of the exterior and interior surfaces of Pan-Grave pots are rarely the same. Interior surfaces are almost invariably black, indicating that a localised reducing atmosphere was created, probably by inverting the vessel during firing. As a result, both the exterior and interior surfaces must be considered in ware identification.

3.4.1.4 Surface texture

Surface texture describes the tactile properties of a vessel surface, resulting from finishing techniques employed by the potter. In this classification system, texture refers specifically to the *exterior* surface of a vessel, which generally speaking is more diagnostic for classification purposes than the usually black interior.

The following states have been identified in surface texture in the Pan-Grave tradition:

Rough

Vessels in this category are defined by an uneven surface showing prominent scraping marks, pits and voids from burnt temper or spalling, or large particles of sand grit in the fabric that are visible at the surface. Such vessels are rare in Pan-Grave pottery from cemetery contexts, however it is commonly found on Pan-Grave cooking pots from settlement sites. [212]

Smoothed / wet-smoothed

Smoothed vessels have surfaces that have been evened out by wiping with a wet hand, cloth, or other soft tool before firing. The resulting surface is smooth and even, but not compacted, non-reflective, and may be gritty to the touch depending on the qualities of the fabric. The vessel may be covered with a slip that further refines the surface, but retains a matte finish as it has not been burnished. Smoothed surfaces occur on plain, black-top, and decorated vessels.

The tactile properties of a smoothed vessel are also 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.[213] Wet-smoothed vessels made in the sandy fabric PG.5 are gritty to the touch, and depending on the finishing methods employed, the sand particles may be clearly visible on the surface and may leave shallow gouge marks where they have been dragged through the wet clay during smoothing.

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.[214] This is especially noticeable when compared with the polished surfaces of Classic Kerma beakers with their highly reflective and almost metallic sheen with all burnishing strokes carefully polished away.

Giuliani made two statements regarding Pan-Grave burnishing that require review in light of renewed

[211] Shepard, *Ceramics*, 104–5.

[212] For example at Elephantine (Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 12) and Tell Edfu (Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 4b, f). See also Chapter 6 of the current study.

[213] Säve-Söderbergh, *Middle Nubian Sites,* pl. 29.1-4 (vol. 2); Williams, *C-Group, Pan-Grave and Kerma,* pl. 68-70.

[214] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 648.

investigations. First, it was stated that burnishing marks on Pan-Grave pottery are broader and more roughly executed than those found on C-Group pottery, claiming that C-Group burnishing is more compact and refined.[215] This statement is something of an oversimplification; while it is true that Pan-Grave burnishing is often noticeably streaky, one only need consider the carefully burnished surfaces of Pan-Grave pottery from sites in Middle Egypt such as Mostagedda and Qau to see that high-quality surface finishes are indeed present in the tradition.

Giuliani also observed that burnishing marks on Pan-Grave vessels tend to be oblique between rim and base,[216] but this is another generalisation. Oblique burnishing does occur in the Pan-Grave tradition, but so does horizontal and vertical burnishing. The direction of burnishing seems to be directly related to the part of the vessel to which the technique was applied, and multiple burnishing directions may be present on a single vessel. Horizontal strokes were generally used for the area immediately below the rim band, vertical, horizontal or oblique burnishing could be used for the upper body (**Fig. 33a**), and the base of Pan-Grave bowls could be burnished using strokes radiating outwards from the base point (**Fig. 33b**). Burnishing direction cannot therefore be used as a diagnostic feature for 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 is here termed *Pan-Grave fine burnish* (**Pls. F, H, N.iii**). 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 thinned or rubbed away to expose the underlying surface, creating a variegated and streaky appearance.

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. 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.

As a general note on surface texture, observations relating to interior surfaces may be made on a case-by-case basis wherever there is a distinctive quality or feature that warrants attention. For the most part, the interior surfaces of Pan-Grave vessels fall into the wet-smoothed category often with some efforts made to compact the surface evident in random and widely spaced burnished streaks. More thorough burnishing of the interior surface is infrequent.

3.4.1.5 Decoration

In relation to ware classification, decoration will be considered only as being absent or present in its capacity as a form of surface manipulation. The inclusion of decoration in the ware classification system permits observations of how decoration is combined with other elements of surface treatments. A classification system for decoration is presented later in this chapter.

3.4.2 A revised ware typology for Pan-Grave pottery

The ware typology applied to this study is organised into three tiers:

1. Ware type
2. Ware group
3. Ware family

[215] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 657.

[216] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 653–7.

Ware types are the fundamental building blocks of this typology, each of which is defined by the combination of the six aspects as outlined above. In defining ware types, a numerical ware code is constructed by selecting the relevant aspect state, each of which is numbered from 0 to 2 (**Table 3**).

The resulting six-digit code denotes the ware type and encapsulates the information required for higher-level classification. As an example, the ware code *100101* would be expanded as follows:

1. Black-top
2. Uncoated
3. Oxidised exterior surface
4. Reduced interior surface
5. Smoothed exterior
6. Decorated

Ware groups are the second tier, into which the ware types are collated according to shared aspects and states. 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 decoration remains statistically meaningful as a form of surface treatment.

Ware families are the highest tier of classification, and each is defined by the absence or presence of a black-top and by the overall surface colour, which are the most visually distinctive and defining features for each family.

In all, there are a total of four ware families, each of which is described below along with a list of their associated ware groups and ware types. The ware classification system as a whole is summarised in **Table 4**.

3.4.2.1 Ware family BT - Black-top ware

Ware family BT is defined by the presence of a black-top. Interiors are invariably reduced and black in colour. The BT ware family comprises two ware groups and a total of seven ware types:

Black-top uncoated ware - BT.u ***(Plate F.i)***
100100: Black-top; uncoated; oxidised ext; reduced int; smoothed ext; undecorated
100101: Black-top; uncoated; oxidised ext; reduced int; smoothed ext; decorated
100111: Black-top; uncoated; oxidised ext; reduced int; burnished ext; decorated

Black-top coated ware - BT.c ***(Plate H-K, F.ii)***
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

3.4.2.2 Ware family B - Black wares

Black wares are characterised by a uniformly black colouring on both the exterior and interior surfaces. In all cases it is unclear if any coating has been applied as it would be indistinguishable from the black groundmass. Ware family B is divided into two groups defined by surface texture, each group comprising two types.

Black smoothed ware - B.s ***(Plate L.i)***
121100: Black-top; black ext; reduced int; smoothed ext; undecorated
121101: Black top; black ext; reduced int; smoothed ext; decorated

Black burnished ware - B.b ***(Plate L.ii)***
121110: Black-top; black ext; reduced int; burnished ext; undecorated
121111: Black-top; black ext; reduced int; burnished ext; decorated

3.4.2.3 Ware family RB – Red-and-black wares

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:

*Red-and-black uncoated ware - RB.u (**Plate M**)*
000100: No black-top; uncoated; oxidised ext; reduced int; smoothed ext; undecorated
000101: No black-top; uncoated; oxidised ext; reduced int; smoothed ext; decorated

Red-and-black coated ware - RB.c
010100: No black-top; coated; oxidised ext; reduced int; smoothed ext; undecorated
010101: No black-top; coated; oxidised ext; reduced int; smoothed ext; decorated
010110: No black-top; coated; oxidised ext; reduced int; burnished ext; undecorated

3.4.2.4 Ware family R - Red wares

Red Wares are defined by oxidised exterior *and* interior surfaces. In most cases where the section is visible, the vessel is fully oxidised suggesting more controlled firing conditions. Ware family R comprises three groups and a total of six types:

*Red uncoated ware - R.u (**Plate N.i**)*
000000: No black-top; uncoated; oxidised ext; oxidised int; smoothed ext; undecorated
000001: No black-top; uncoated; oxidised ext; oxidised int; smoothed ext; decorated

Red coated ware - R.c
010000: No black-top; coated; oxidised ext; oxidised int; smooth ext; undecorated
010001: No black-top; coated; oxidised ext; oxidised int; smooth ext; decorated

*Red burnished ware - R.b (**Plate N.ii**)*
010010: No black-top; coated; oxidised ext; oxidised int; burnished ext; undecorated
010001: No black-top; coated; oxidised ext; oxidised int; burnished ext; decorated

3.5 Decoration

Decoration is arguably the most recognisable aspect of Pan-Grave pottery and the one that is most often employed to identify a Pan-Grave vessel. However, not all Pan-Grave vessels are decorated, nor is decoration always the most diagnostic characteristic of Pan-Grave pottery. Nevertheless, decoration is one of the key factors that differentiates Pan-Grave pottery from that of the C-Group, Kerma, or any other tradition, but decoration must always be considered in association with other morphological aspects.

To date, no dedicated system of description or classification exists for Pan-Grave pottery decoration. 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. Therefore, the aim of this chapter is to identify the decorative elements and motifs that occur across the Pan-Grave tradition and to present a typology that can be applied to Pan-Grave pottery wherever it is found.

Previous site-specific attempts at defining and classifying Pan-Grave pottery decoration have varied in approach and applicability. As has already been discussed, Bietak's typology combined specific decorative motifs with specific shapes and specific wares,[217] which implies that certain decorative motifs only occur on particular vessel shapes and ware types.

The SJE system sorted decorative motifs based on three aspects: (1) the arrangement of the design elements, (2) the techniques and methods used to execute the decoration, and (3) the shape of the individual elements.[218]

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[217] Bietak, *Ausgrabungen,* 53-5; Bietak, *Studien zur Chronologie,* 119-21.

[218] Nordström, *Neolithic and A-Group Sites,* 74-7 (vol. 1), pls. 24-6 (vol. 2); Säve-Söderbergh, *Middle Nubian Sites,* 34-7 (vol. 1).

A total of fifteen decorative motifs were identified as occurring in the Pan-Grave tradition.[219] There are some questionable aspects of the SJE system, not least that three of the motifs are in fact not attested in any of the Pan-Grave assemblages in the SJE concession or elsewhere. There is also some over-classification in the SJE system, best illustrated by the five types of herringbone motif that were identified, between which the differences are based on the thickness or spacing of the lines. Such variations may have more to do with the tools used, the wetness of the clay, or the skill and aesthetic sensibilities of the individual potters than with any deliberate or meaningful stylistic variation. Despite these setbacks, 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.

Although published only in brief form, Giuliani's typology for Pan-Grave decoration comprises a set of nine motifs in what is essentially a simplification of the SJE system, for example by condensing the herringbone motifs into one category.[220] 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, however some of the definitions are open to subjectivity, e.g. definitions for "quadrant" and "incised panel" are unclear.

Giuliani attempted to identify some differences between Pan-Grave, Kerma, and C-Group decoration, for example noting that Pan-Grave herringbone differs from C-Group and Kerma herringbone in that it includes a central line from which the oblique lines radiate.[221] 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 (§3.5.2.4). 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.[222] Renewed research by the current author has shown that both regional *and* chronological signals can be detected in some Pan-Grave pottery decorative motifs—a point that will be discussed further in Chapter 7.

While not devised for the Pan-Grave tradition specifically, Gratien's survey of Nubian cooking pots and decorated Nubian pottery from the first half of the second millennium BC is an important part of the discussion.[223] Her analysis incorporated pottery attributed to the Pan-Grave, C-Group and Kerma cultures from sites in Upper Egypt to Kerma in the south, which provides a solid foundation upon which to develop a cross-regional and cross-cultural comparison of decoration applied to Nubian pottery. It should be noted that Gratien's typology includes cooking pots from settlement contexts as well as decorated pottery from cemeteries, and the problems with comparing assemblages from such different contexts were acknowledged even by Gratien herself.[224] Cultural identification can be difficult to establish in settlement contexts, where it is often not possible or even advisable to assign pottery to any particular culture at all. Nevertheless, Gratien's analysis presents an important and useful comparative study of Middle Nubian ceramic traditions, offering a broad overview of Nubian pottery styles and the connections between them.

3.5.1 A revised approach to Pan-Grave pottery decoration

Using the previous attempts as a foundation, the classification system devised here aims to comprehensively represent the range and diversity of decorative motifs present in the Pan-Grave tradition as a whole. The proposed system is based on the most frequently recurring motifs and it is assumed that motifs occurring multiple times across a number of sites can be considered as being characteristic for the Pan-Grave tradition. Unique motifs will also be considered not for purposes of classification, but with the intention of accounting for the full spectrum of styles and motifs that occur in the Pan-Grave tradition.

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[219] Säve-Söderbergh, *Middle Nubian Sites,* 39-40 (vol. 1).

[220] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 651-53.

[221] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 653.

[222] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 653.

[223] Gratien, *CCE 6,* 113-48.

[224] Gratien, *CCE 6,* 123-5.

3.5.1.1 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,[225] Pan-Grave pottery decoration is simple, linear, and mostly organised into horizontal registers around the upper body and rim band of a vessel. Where present, decorative motifs are most commonly organised into one of the following arrangements (**Fig. 34**):

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

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 are very often demarcated by an incised line, a row of impressed dots, or a string impression. Decoration may also be applied to the rim edge, usually occurring in association with other decorative motifs elsewhere on the vessel, and most frequently on 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 is possible that base decoration is under-represented given that the vast majority of the Pan-Grave pottery is fragmentary and most often identified using rim and diagnostic body sherds.

Decoration of the interior surface is especially common on horned bowls where both the exterior and interior surfaces are often decorated with corresponding designs. The decorative elements applied to horned bowls 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.[226]

3.5.1.2 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 as incised *and* impressed decoration.[227] 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.[228]

3.5.1.3 Incised decoration

Incised decoration is by far the dominant decorative technique in the Pan-Grave tradition, with motifs comprising straight, usually parallel lines drawn in various directions and arrangements. Curved[229] and wavy lines[230] occur rarely, and there are also examples on which a single continuous line spirals up and around vessels from the base point to the rim. In most cases, the decoration was executed using a single pointed tool or stylus. Giuliani proposed that the bone points found in Pan-Grave burials may have been used to execute the incised decoration,[231] which is certainly possible but is difficult to demonstrate based on the available evidence.

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[225] Säve-Söderbergh, *Middle Nubian Sites,* 34-7 (vol. 1); Williams, *C-Group, Pan-Grave and Kerma,* 40-5.

[226] Interior decoration was included as a separate feature in the SJE system (Säve-Söderbergh, *Middle Nubian Sites,* 41-2 (vol. 1)).

[227] Petrie Museum UC43309.

[228] Coloured decoration is assigned to Phase IIB of the C-Group. See Säve-Söderbergh *Middle Nubian Sites,* 36 (vol. 1); Williams, *C-Group, Pan-Grave and Kerma,* 36; Weigall, *Antiquities of Lower Nubia,* pl. A.

[229] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 122, fig. 6a; Brunton, *Mostagedda,* pl. LXXII.6.

[230] Museum Gustavianum SJE 47/82:4.

[231] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 652.

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 most likely 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 incised lines have ragged edges where the still wet clay was pushed aside as the stylus was drawn across the surface.

It is often possible to deduce the order in which the decorative elements were executed 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 such variation may be likened to differences in handwriting. As an example, the 'feather' motif 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 that the final appearance of the motif was more important than the process.

3.5.1.4 Combed decoration

Irrefutable evidence for the use of combs or multi-toothed implements in Pan-Grave pottery decoration is rare in cemetery contexts, but is very common on coarse cooking pots from settlements. The use of combs in the Pan-Grave tradition has been disputed by Giuliani, who has stated that combed decoration is unknown, and that no combs had been found in Pan-Grave burials.[232]

In fact, combed decoration is certainly attested and has been identified on vessels from Mostagedda, Rifeh, and Hierakonpolis HK21A, all of which have comb impressed decoration applied to the rim bands (**Fig. 35a**). Pan-Grave cooking pots frequently have extensive comb scraping to the exterior surfaces. Usually these combed marks are randomly arranged, but in other examples the marks are deliberately arranged and may legitimately be considered decorative.

3.5.1.5 Impressed decoration

Impressed decoration occurs infrequently on Pan-Grave pottery, which is an important point of distinction from the C-Group tradition where impressed marks were used extensively. In the Pan-Grave tradition, impressed decoration is most frequently used to create boundary lines that demarcate a band of incised decoration. The most common type of impressed marks are simple circular dots created by pressing the tip of a single-pointed tool into the wet clay, presumably the same tool used to create the incised lines. The tool could also be pressed into the clay at an oblique angle, creating a drop-shaped impression.[233] 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, and 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 bone (**Fig. 35b**).

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 unrestricted simple (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 (§ 6.8). The decoration consists of a continuous spiralling groove, within which are shallow, wedge shaped impressions (**Fig. 51, Plate O**). Another bowl also decorated with similar impressed grooves is also known, but this is supposedly from an A-Group context near Sayala.[234]

As noted above, comb impressed decoration occurs rarely and is most commonly used to decorate small areas such as rim-bands or rim edges, where the toothed implement was pressed into the wet surface to create lines of impressed marks. Two archetypal examples come from Hierakonpolis HK21A (**Fig. 35a**), both of which have rim bands decorated with very fine comb-impressed decoration. Significantly, the pattern of the

[232] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 652.
[233] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 652.
[234] Firth, *ASN 1910-11,* pl. 19.e.

impressions on both sherds are identical and it is therefore highly likely that they were produced by the same potter using the same tool. This would further support the idea that Pan-Grave pottery was produced on a small scale for localised distribution and use, in this case for the community buried at HK21A.

An unusual example of impressed decoration comes from Rifeh on a pot that has a rim band decorated with impressed marks made using an implement with a rippled edge, possibly a shell (**Fig. 35c**).[235]

String-impressed decoration is rarely attested in the Pan-Grave tradition. Unlike Egyptian pottery where string impressions are often an incidental result of cords wrapped around the vessel for support during the drying process, string impressions on Pan-Grave pottery are used primarily as a means of demarcating the upper and/or lower limits of a band of incised decoration. Given this apparently deliberate and careful placement, string impressions on Pan-Grave pots may be considered decorative elements rather than a product of the manufacturing process. However, it should also be considered that the strings may have been wound around the vessel to support the walls and the incised decoration was applied between the strings during the drying process.

Mat or basket-impressed wares have not been positively identified among Pan-Grave pottery, whereas the technique is well attested in the Kerma tradition.[236] Mat impressions are not, strictly speaking, decoration, but a result of the manufacturing process whereby the pot was built on a woven reed mat.[237]

3.5.2 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, each with its own range of motifs and variants. The three categories are:

- body and rim-band decoration
- rim edge decoration
- border-line decoration

3.5.2.1 Body and rim-band decoration

Ten main decorative motifs have been identified as occurring on the vessel body and rim:

1. Hatched decoration (motif H)
2. Cross-hatched decoration (motif C)
3. Herringbone decoration (motif HB)
4. Feather decoration (motif F)
5. Lattice decoration (motif L)
6. Quadrilateral decoration (motif Q)
7. Braid decoration (motif B)
8. Zig-zag decoration (motif Z)
9. Spiral decoration (motif S)
10. Complex / Unique decorative motifs (motif X)

These motifs are most frequently arranged into a single register that runs around the upper body of a vessel, but they can also be used on a smaller scale to decorate the rim band only. The "Motif X" group acts as a supplementary category for any unique designs that do not fit into any other category.

Extended descriptions of each of the ten motif types are given below, and schematic illustrations of all motifs and their variants are presented in **Figs. 36-37**.

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[235] Petrie Museum UC17908.

[236] Gratien, *CCE 6,* 122-3, fig. 19; Rose, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 18-21; Forstner-Müller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 66, fig. 13.27; Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 111, fig. 4d, fig. 9.

[237] Rose, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 18.

3.5.2.2 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 almost invariably arranged in bands around the upper body of a vessel.[238] In the C-Group and Kerma traditions, hatched decoration is most commonly used to fill design elements such as triangles descending from the vessel rim.[239]

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

H.o*:* Oblique hatch (**Fig. 38**)

Incised lines that are drawn at an oblique angle to the rim. The angle of the lines varies from vessel to vessel. This is the most common of the Motif H variants.

H.v*:* Vertical hatch (**Fig. 39a**)

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 (**Fig. 39b**)

Horizontal lines running around the vessel body, parallel to the rim. This motif is very rare in the Pan-Grave tradition, occuring more frequently in the C-Group repertoire.[240]

3.5.2.3 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.

In the Pan-Grave tradition, cross-hatched decoration is used as a standalone motif, whereas in the C-Group and Kerma traditions it is used as a fill pattern for triangles, lozenges, or other bounded zones below the vessel rim.[241] Vessels from Upper Nubia with cross-hatched decoration around the upper body have been attributed to the Kerma tradition, but it is equally likely that they are Pan-Grave vessels based on their overall morphology.[242] Four variants of cross-hatched decoration have been identified in the Pan-Grave tradition:

C.r: Regular cross-hatch (**Fig. 40**)

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

C.i:Irregular cross-hatch (**Fig. 41**)

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

C.b: Grouped cross-hatch (**Fig. 42**)

Two sets of opposing oblique lines in which one set of lines is evenly spaced, while the lines of the opposing set are grouped into bands. The banded groups can consist of anywhere between two to six lines, sometimes more, and the number of lines in each band is not necessarily consistent on one vessel.

[238] Gratien, *CCE 6,* 119-20, fig. 16.

[239] Gratien, *CCE 6,* 116-7, fig. 4-6.

[240] Gratien, *CCE 6,* fig. 17.

[241] Gratien, *CCE 6,* 117-8, fig. 7

[242] Gratien, *CCE 6,* fig. 14/1.B. Examples from Wadi el Khowi Site P37 are discussed in Chapter 5; the current author prefers a Pan-Grave identification for these vessel.

C.x: Complex cross-hatch (**Fig. 43**)

Complex cross-hatch describes all other kinds of cross-hatched motifs that do not fit into one of the above variants. Two main variants of Motif C.x have been identified: one comprises *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.

3.5.2.4 Motif HB: Herringbone decoration

Herringbone motifs comprise 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. 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[243] or as fill decoration in triangles and lozenges descending from the vessel rim.[244] 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.[245] Two variants of herringbone decoration are included in this classification system:

HB.b: Banded herringbone (**Fig. 44a**)

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

HB.f: Free herringbone (**Fig. 44b-c**)

The same motif as HB.b but *without* the incised line at the points of intersection.

3.5.2.5 Motif F: Feather decoration

This motif consists of two sets of short, incised oblique lines radiating at an angle from a central incised line, arranged into standalone elements that 'float' on the surface of the vessel. Feather motifs also occur most frequently on horned bowls. Two variants have been identified:

F.l: Long feather (**Fig. 45**)

The short oblique lines are evenly distributed along the length of the central line. On horned bowls, 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 (**Fig. 46**)

The short oblique lines are grouped at one or both ends of the central line and are graduated to create a triangular feather-like shape. This motif is attested both as a floating element or may 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 applied to C-Group and Kerma cooking pots with triangles descending from the vessel rim filled with concentric V-shaped lines and a central line drawn through the vertices and extending beyond the apex of the triangle.[246]

3.5.2.6 Motif L: Lattice decoration

Lattice motifs consist of oblique parallel lines drawn in groups forming bands, the bands in turn crossing over one another creating diamond-shaped zones (**Fig. 47**). In a sense, this motif is like a scaled-up version of cross-

[243] Gratien, *CCE 6,* 114-5, fig. 1B-E.
[244] Gratien, *CCE 6,* 116 fig. 3.
[245] Petrie, *Qurneh,* pl. XXVIII.
[246] Gratien, *CCE 6,* 116, pl. 4B.

hatching and may be interpreted as a representation of string nets that were used to suspend vessels.[247] 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 total width of the bands on a single vessel is consistent. L-Type motifs appear to be unique to the Pan-Grave tradition.

3.5.2.7 Motif Q: Quadrilateral zones

For this motif, the surface of the vessel is divided into quadrilateral zones that are filled with hatched lines, which themselves are drawn in opposing directions for adjacent zones. In each of the cases identified, the motif covers the entire exterior surface of a vessel (**Fig. 48**).[248] Like herringbone and lattice motifs, quadrilateral decoration may be interpreted as a representation of woven matting or basketry, however actual matting from Pan-Grave burials shows a different weave pattern.[249]

3.5.2.8 Motif B: Braid decoration

Braid motifs are composed of oblique hatching arranged into triangular or rhomboid 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 (**Fig. 49**). Some crossing may occur, but the lines in each zone do not *fully* cross one another (**Fig. 49b**). The zones in braid decoration are not clearly delineated, and instead the hatched lines are graduated in such a way to form the geometric zones, and in some cases the lines in one zone cross those in the next.

Gratien has identified two variants of this motif that are culturally indicative: The first type, *les triangles imbriqués,* is assigned to the C-Group and Kerma traditions and has clearly delineated triangular zones.[250] The second type, *les hachures contraries,* which Gratien assigns to the Pan-Grave tradition, is defined by triangular zones that are *not* delineated but are formed simply by the graduated lengths of the hatched lines themselves.[251] Gratien's *hachures contraries* is therefore the equivalent of the braid motif as it is defined here. Two types of braid design have been identified:

B.h: Horizontal braid

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

B.b: Banded braid

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

3.5.2.9 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 two to five lines. Comparable motifs are attested on Nubian cooking pots that may be assigned to the C-Group and Kerma traditions.[252]
In the Pan-Grave tradition, this motif is found mostly on fine wares and occurs in two variants:

[247] Examples of such nets were used to hold Kerma beakers and Egyptian jars in the well-known rishi burial from Qurneh (Petrie, *Qurneh,* pl. XXVII).

[248] For comparison see: Gratien, *CCE 6,* 120, fig. 15A.

[249] For examples of Pan-Grave matting from Moalla, see Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 121, fig. 4. Reed matting was also found at the Pan-Grave cemeteries at Hierakonpolis, and the weave is much simpler than the decorative motifs applied to pottery vessels.

[250] Gratien, *CCE 6,* 118, fig. 10

[251] Gratien, *CCE 6*, 119, fig. 12

[252] Gratien, *CCE 6,* 115-6, fig. 2.

Z.f: Filled zig-zag (**Fig. 50a**)
This motif is defined by the incised, usually horizontal hatching that fills the interstitial triangular zones left by the zig-zag motif itself.

Z.pPlain zig-zag (**Fig. 50b**)
This motif consists of the zig-zag bands of parallel lines as described above, but without the hatched fill in the interstitial triangular zones.

3.5.2.10 Motif S: Spiral decoration
Spiral decoration consists of deeply incised grooves that spiral around a vessel from the base point to the rim (**Fig. 51, Plate O**). This motif is rare and occurs mainly in Upper and Middle 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. Additionally, all examples have the same complex rim profile and all have a hole at the very base of the vessel, the function of which remains unknown (**Fig. 52**).[253] A unique example from Site 24-I-4 at Faras West decorated with a single continuous groove that spirals all the way from the base point to the rim[254] has been dated to the so-called 'Transitional Period' between the late Second Intermediate Period and the early Eighteenth Dynasty in Lower Nubia.[255] The distribution of this motif is discussed in more detail in Chapter 7.

3.5.2.11 Motif X: Complex/unique motifs
As the motifs in this category are unique, they are of limited use for chronology and regional comparisons. Nevertheless, they extend the range of variation present in the Pan-Grave repertoire and demonstrate the extent to which Pan-Grave potters could deviate from the set repertoire of decorative motifs. These vessels are recognisably Pan-Grave based on their overall morphology.

3.5.2.12 Rim edge decoration
Decorative motifs applied to vessel rim edges are limited in range and, for the Pan-Grave tradition, occur almost invariably on horned bowls. Three variants have been identified:

Notched rim edge
Notched rim decoration comprises indentations on the rim edge that are perpendicular to the direction of the vessel rim. The notches vary from shallow incised dashes to deep notches that give the rim edge a crenelated appearance. This type of rim edge decoration is almost exclusive to horned bowls (**Fig. 44b-c**) but is also infrequently attested on other forms.

Incised rim edge
Incised decoration on rim edges is infrequent and only occurs on examples for which wall thickness is sufficient to allow for the application of incised decoration. Because of the extremely low frequency, 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 incised oblique lines, zig-zags, (**Fig. 44a**) or incised crossing lines (**Fig. 49a**).

Impressed rim edge
To date, impressed rim edge decoration has only been attested at one site, namely HK21A. On both of these vessels, the impressed marks were created using the same toothed implement (i.e. comb) that was used to decorate rim bands of the same vessels (**Fig. 35a**).

[253] 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 lumps of clay pushed inwards show that the vessel was pierced from the outside while the clay was still wet (Susan Allen, personal communication). The hole in the example from Mostagedda is much larger and appears to have been created after firing.
[254] Nordström, *West Bank Survey,* pl. 24c.
[255] Säve-Söderbergh, *Middle Nubian Sites,* 23 (vol. 1).

3.5.2.13 Border lines

A border line is a linear element that demarcates a zone, and they are counted as a decorative element *only* if they are something other than a simple continuous incised line. Therefore, the incised lines that define band rims (rim type D3) are excluded as decoration. Two types have been identified, each defined by the technique used to produce them:

Dotted Line (D) (**Fig. 53**).

The marks are created by pressing a single pointed tool into the wet surface of a vessel. 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)

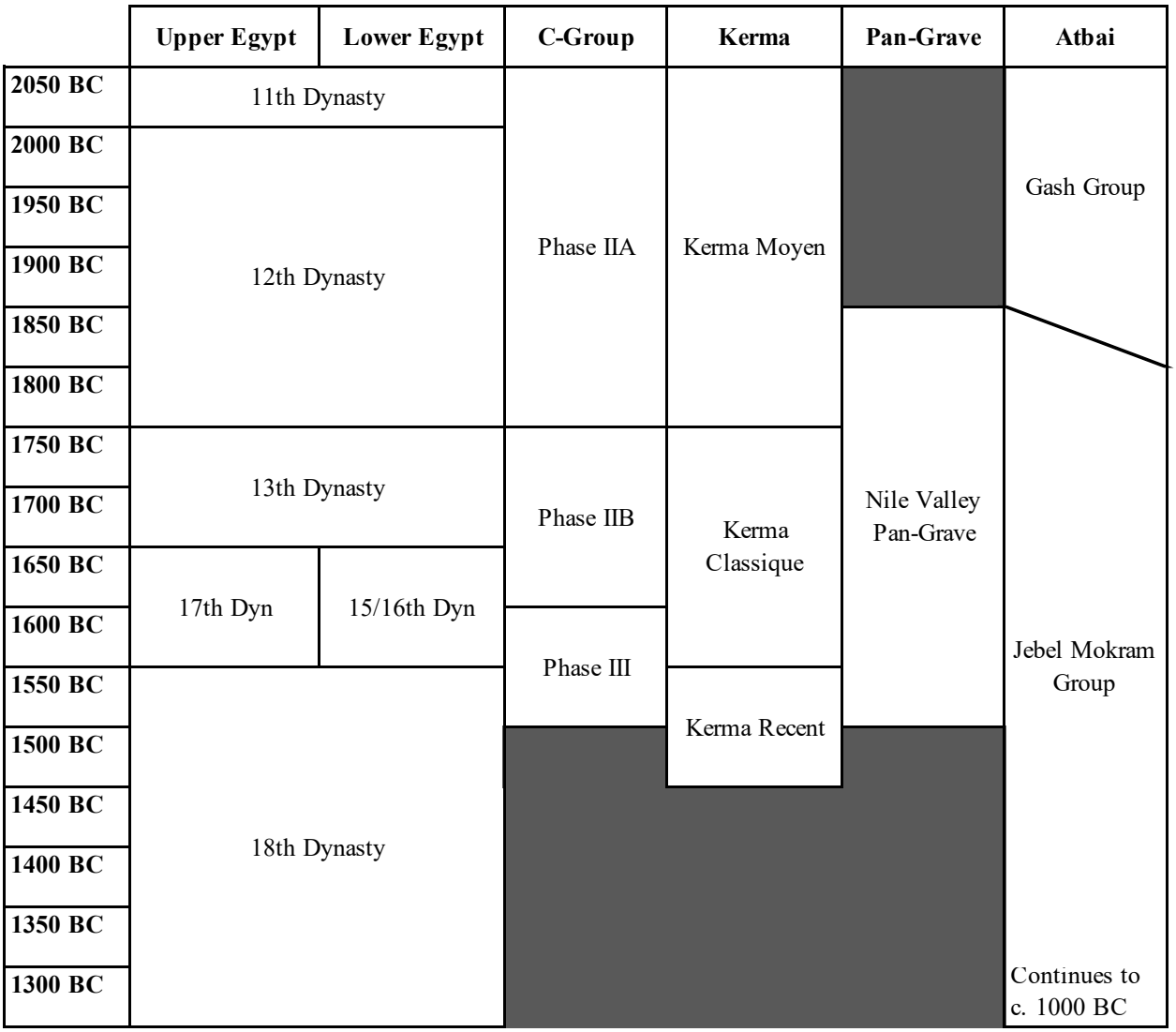
An impressed mark made by pressing a string or cord into the surface of the wet clay (**Fig. 54**). This technique is rare and is attested mainly in Upper Egypt. Examples from Lower Nubia have not yet been identified.

3.5.2.14 Base decoration

Base decoration in the Pan-Grave tradition is relatively rare, although this may be a product of fragmentary preservation and the prioritisation of diagnostic rim sherds. On complete vessels, base decoration generally does not occur in isolation and is invariably applied to vessels that also have decoration elsewhere on the vessel body. The decorative motifs applied to a vessel's base are limited in range and generally consist of a design that resembles a 'spider web' pattern (**Fig. 55**) composed of incised lines crossing through the base point and extending upward toward the rim, the triangular zones in between being filled with horizontal hatching.

Part II:

The Pan-Grave Ceramic Tradition in Context



Chronological table for Egypt and Nubia.

4.
Pan-Grave Sites in Upper Egypt and Lower Nubia

With the defining characteristics of the Pan-Grave ceramic tradition now set in place, Part Two of this volume considers Pan-Grave pottery within the context of the archaeological record in Egypt and Nubia. The overarching aims of the following chapters are to identify where Pan-Grave pottery occurs, to describe the assemblage at each locality, and to record and interpret any variations seen across the spectrum of the Pan-Grave ceramic tradition. The sites included in the survey are divided into three groups, each having its own dedicated chapter:

1. Pan-Grave sites in Upper Egypt and Lower Nubia, up to the Second Cataract.
2. Pan-Grave pottery south of the Second Cataract and from the desert regions east of the Nile.
3. Pan-Grave pottery in Egyptian cultural contexts.

The current chapter focuses on sites that have long been associated with the Pan-Grave tradition, and by which our current understanding of the culture was developed. All of the sites are cemeteries; confirmed Pan-Grave settlement sites are unknown.

Regarding chronology, no single work has considered the sequence for the Pan-Grave tradition in its broadest sense, hence a key aim of this chapter is to establish a chronological framework for the Pan-Grave tradition. Individual sites have been dated, and it is widely accepted that the culture is most active during the Second Intermediate Period in Egypt, but a more detailed sequence has yet to be devised. Bietak's theory that the Wadi Allaqi was the entry point to the Nile Valley implies that the earliest sites should be in that region,[256] Williams assigned tentative dates to many Pan-Grave sites,[257] and Gatto has identified certain differences between the cemeteries near Aswan that may be chronologically significant.[258] These precedents offer a starting point from which to formulate a broader sequence that encompasses the full spectrum of the Pan-Grave tradition as it is currently understood.

In terms of how the various periods have been defined in this volume, the tangled web of regional sequences during the Second Intermediate Period means that reigns and Dynasties are effectively meaningless.[259] The lines between phases are very blurred, and the conflicting sequences in Lower versus Upper Egypt only compound the issue. So, in an effort to simplify the problem, the following three broad date-ranges have been employed (**see Table (i)**):

- "Late Middle Kingdom" refers to the period from the late Twelfth Dynasty (c. the reign of Amenemhat III onwards) and the early Thirteenth Dynasty.
- "Early Second Intermediate Period" means the later part of the Thirteenth Dynasty in Upper Egypt,

[256] Bietak, *Ausgrabungen*, 71.
[257] Williams, Archaeology and Historical Problems, 194-216.
[258] Gatto, *JAEI 6:1*, 18-25.
[259] Bourriau, in Marée (ed.), *Second Intermediate Period*.

specifically the period between the appearance of the 'new' Upper Egyptian material culture tradition (which occurs at different times at a given site or region) and the beginning of the Seventeenth Dynasty in Upper Egypt.

- "Late Second Intermediate Period" refers to the Seventeenth Dynasty in Upper Egypt, in archaeological terms here defined as the period during which the new Upper Egyptian material culture traditions are the dominant style for a given assemblage.

The following descriptions of Upper Egyptian and Lower Nubian Pan-Grave cemetery sites focus primarily on three aspects that have been deemed to be chronologically meaningful—grave shape, Egyptian pottery, and Pan-Grave pottery. Other chronological data, such as inscribed objects or scarabs, will also be included if and when they occur. The sites are presented in geographic order from north to south, Rifeh being the northernmost and continuing south to the Second Cataract, and each is assigned a relative date or date range that will be synthesised into a chronological sequence (**Fig. 73**).

4.1 Rifeh

Cemetery S

- No. of excavated units: 13+
- Date: Late Second Intermediate Period (Seventeenth Dynasty)

Rifeh Cemetery S is located on the west bank of the Nile, approximately 2km west of the town of Rifeh, near the village of Zawiyeh.[260] The site is the northernmost known Pan-Grave cemetery and, unfortunately, one of the most poorly published; Petrie dedicated only two pages to the Pan-Grave contexts at Rifeh in his report.[261] No grave lists or maps were published, and no diaries or field notes are known to have survived. The following discussion is therefore based on what could be gleaned from the published record and material that could be located in museum collections.

The number of Pan-Grave burials at Rifeh is not specified, but thirteen graves are explicitly referenced in Petrie's report. No indication of grave shape is given, but Petrie does tell us that all are "irregular pits, mostly five or six feet deep" with none of the shallow pan-shaped graves that Petrie had identified at Hu only a few years prior. It was only diagnostic finds including Pan-Grave pottery, plaque beads, and painted frontal bones and horns that made the cultural affiliation clear.

Egyptian pottery found at the site follows Lower Egyptian traditions and displays a continuation of earlier Middle Kingdom styles (**Fig. 56**), which is in stark contrast to the pottery from Mostagedda, located opposite Rifeh on the east bank of the Nile (see below).[262] Bourriau has presented two possibilities for explaining this discrepancy, either that the continuation of earlier forms could point to a date in the Thirteenth or Fifteenth Dynasty, or that the Pan-Grave community buried at Rifeh was somehow more closely connected to Lower Egypt than to Upper Egypt.[263] Pan-Grave cooking pots found in Thirteenth Dynasty settlement remains at Memphis make a Lower Egyptian connection a distinct possibility (§6.9.1). Fragments of Tell-el Yahudiyeh ware juglets found at the site also support a date in the later stages of the Second Intermediate Period,[264] however the poor preservation limits possibilities for dating. A scarab of the Hyksos ruler, Sheshi, is a further connection to the north, however Bourriau has expressed some caution in relation to the scarab, noting that it may have been a surface find and therefore is not chronologically helpful.[265] Additionally, the regnal dates for Sheshi are unknown.

Analysis of the Pan-Grave pottery is hindered by the simplified illustrations in Petrie's report, but the

[260] Petrie, *Gizeh and Rifeh,* pl. viii.

[261] Petrie, *Gizeh and Rifeh*, 20-1.

[262] Bourriau, in Marée (ed.), *Second Intermediate Period,* 22-3, fig. 8.

[263] Bourriau, in Leahy, Tait (eds.), *Studies*, 43-8.

[264] Petrie, *Gizeh and Rifeh,* pl. 26.90-4.

[265] Bourriau, in Arnold (ed.) *Altägyptischen Keramik*, 25-6.

vessels that could be securely located in museum collections are quite distinct in appearance. Examples of deep US bowls with applied black-tops support a late date for the site (§7.2.4).[266] There are also unusual types of impressed decoration that are not known from any other Pan-Grave assemblage, for example a sherd with deep circular impressions,[267] and a bowl with what appears to be shell-impressed decoration around the rim band.[268] Pan-Grave fine burnish was not observed.

Overall, the cemetery most likely dates to a period that coincides with the Seventeenth Dynasty in Upper Egypt, in spite of the presence of Lower Egyptian ceramics. Williams also concluded that the earliest evidence from Rifeh dates to the mid-Second Intermediate Period,[269] and morphological features of the Pan-Grave pottery sighted by the author, such as applied black-tops, would also support a date in the mid to late Second Intermediate Period.

4.2 Mostagedda

4.2.1 Cemetery 3100/3200

- No. of units: 107[270]
- Probable date: Second Intermediate Period (Seventeenth Dynasty)

Cemetery 3100/3200 at Mostagedda is situated on the east bank of the Nile, near the town of Deir Tasa, and comprises the largest known concentration of Pan-Grave contexts in Egypt. The site was heavily plundered with only 19 burials more or less intact.

Four grave types were recorded at the site—circular (24), oval (45), circular or oval with shelf (2), and rectangular (32). Shallow circular graves were recorded, although sand graves were entirely absent, and the high number of deep rectangular graves suggests a strong Egyptian influence at this site. No evidence of any superstructures was recorded.[271] Brunton recorded 24 graves as containing wooden coffins,[272] however a revision of these contexts shows that only five may be confidently attributed to the Pan-Grave tradition on the basis of their assemblages, the others appear to be Egyptian.[273]

The Egyptian pottery assemblage also dates predominately to the Second Intermediate Period after the break from Middle Kingdom ceramic traditions (**Fig. 57**).[274] Earlier types, such as hemispherical cups with vertical walls[275] and ovoid jars with corrugated neck,[276] are present but rare.[277] Key types include marl biconical jars of varying sizes (Brunton types 52, 54, 55, 57, and 59, and their associated variants),[278] slender drop-shaped beakers (Brunton type 22 and variants),[279] and carinated bowls with incised 'scrabble' decoration (Brunton types 5, 6, 8, and 9, and variants).[280] Bourriau noted that the Upper Egyptian character of the assemblage

[266] e.g. Petrie Museum UC17927.

[267] Petrie, *Gizeh and Rifeh*, pl. 26.108. Petrie Museum UC17904.

[268] Petrie, *Gizeh and Rifeh*, pl. 26.117. Petrie Museum UC17908.

[269] Williams, *Archaeology and Historical Problems,* 199-203.

[270] Three other burials are described as being 'unregistered'. See Brunton, *Mostagedda*, 114-5.

[271] Brunton, *Mostagedda,* 123.

[272] Brunton, *Mostagedda*, 123-4.

[273] The most striking context is grave 3143, which contained a coffin painted white on the interior and what Brunton identified as pieces of a cartonnage mask with gold leaf (Brunton, *Mostagedda*, 117). Only a single Pan-Grave black-topped bowl (Brunton, *Mostagedda*, pl. lxxii.19, lxxiv.4) is listed in the tomb register, but is not referenced in the written description, so it is unclear if the bowl was found in the grave or on the surface. If the bowl were found on the surface, its association with this disturbed grave may be questioned.

[274] Bourriau, in Marée (ed.), *Second Intermediate Period,* 22-3, fig. 8.

[275] Brunton, *Mostagedda*, pl. lxxiii. types 18a and 18g.

[276] Brunton, *Mostagedda*, pl. lxxiii. Type 40h.

[277] Williams, *Archaeology and Historical Problems*, 196.

[278] Brunton, *Mostagedda*, pl. lxxiii. Other examples are illustrated in Brunton, *Qau and Badari III*, pl. xvi.

[279] Brunton, *Mostagedda*, pl. lxxiii.

[280] Brunton, *Mostagedda*, pl. lxxiii.

from Mostagedda contrasts sharply with that from nearby Rifeh, suggesting differing political allegiances or interactions with different Egyptian communities.[281]

A number of features in the Pan-Grave assemblage lend further support to a late Second Intermediate Period date. The pottery is generally much finer and thinner-walled than that from other sites, and the surface treatments are more carefully executed. The exceptionally smooth and glossy Pan-Grave fine burnish is a notable feature. Polished red pottery with fully oxidised interior surfaces attest to firing technologies different to those used in other regions. Exceptionally well-defined pre-firing applied black-tops (**Plate H**) are found in all graves types, but occur most frequently in oval and rectangular graves—a strong indicator that this feature is a later development.

Other evidence for a date in the Second Intermediate Period are the ten bronze axes, which Davies has dated to the late Middle Kingdom and Second Intermediate Period.[282] The best preserved example from grave 3135 is still attached to its wooden haft, and is inscribed with the royal name *Nebmaatre* inscribed in a cartouche.[283] The regnal dates for this king are disputed, however the Seventeenth Dynasty seems most likely.[284] Although heavily stylised, the soldier depicted on the painted bucranium from 3252 appears to carry a similar type of axe.[285] The bucranium itself, and the Egyptian style in which the individual is depicted, are strong evidence for Egyptian influence and, subsequently, a later date.

Taking all of the evidence into account, Cemetery 3100/3200 most likely dates to the Seventeenth Dynasty with some minimal evidence of earlier activity. Williams has previously identified four phases for the Egyptian ceramics at Mostagedda,[286] and he also noticed a general pattern of increasing complexity in assemblages, followed by simplification, and then virtual disappearance of Pan-Grave pottery at a time that he calls the "Age of Expulsion" (i.e. the end of the Seventeenth Dynasty).[287]

4.2.2 Mostagedda – Isolated burials

At least three other isolated graves containing Pan-Grave objects were found in other cemeteries at Mostagedda,[288] however in most cases their cultural association is questionable. Grave 423 is described only as containing sherds of a red bowl with incised decoration. Grave 1810A, which Brunton identified as a reused First Intermediate Period tomb,[289] contained six pottery vessels in the fill of the tomb shaft; five Egyptians vessels that may be dated to the Twelfth Dynasty, and a large, coarse, handmade Nubian cooking pot with irregular combed 'decoration' on the exterior (**Fig. 21**).[290] No human remains are listed from this tomb, so its identification as a Pan-Grave burial is tenuous. The third burial, Grave 1895, was also dug into the shaft of an earlier tomb, and the black-topped bowl placed near the head of the deceased is the only connection between this grave and Nubian culture.

4.3 Hemamieh, Qau, and Badari

Pan-Grave remains were found at numerous localities in this region, each of which will be presented individually in order to better illustrate the distribution of the evidence.

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[281] Bourriau, in Marée (ed.) *Second Intermediate Period*, 22-3; Bourriau, in Leahy, Tait (eds.), *Studies on Ancient Egypt*, 43-8.

[282] Davies, *Tools and Weapons*, 22-3, 43.

[283] Brunton, *Mostagedda*, pp., pl. lxxvii.9; Davies, *Tools and Weapons*, 43, 48, pl. 18 and 30. Davies catalogue entry 102.

[284] Davies, *Tools and Weapons,* 48-9; Ryholt, *Political Situation*, 168, 400.

[285] Brunton, *Mostagedda,* LXXVI.66. See also Cooper, Barnard, *AAR 34,* 363-76.

[286] Williams, *Archaeology and Historical Problems*, 194-9.

[287] Williams, *Archaeology and Historical Problems,* 198-9. The "expulsion" that Williams refers to is the expulsion of the Hyksos. A small number of scarabs found at the site also point toward the Second Intermediate Period (Brunton, *Mostagedda*, pl. lxix).

[288] Brunton, *Mostagedda*, 114-5.

[289] Brunton, *Mostagedda,* 114.

[290] Brunton, *Mostagedda,* pl. lxxv.1-6.

4.3.1 Hemamieh, Cemetery 1900

- No. of units: 1
- Probable date: uncertain (Late Second Intermediate Period?)

Only one Pan-Grave burial has been identified (grave 1989, **Fig. 58**) in what is otherwise an Egyptian cemetery of the late Old Kingdom and First Intermediate Period.[291] The burial is of a female, lain in a semi-contracted position in a very shallow oval grave, approximately only 18cm in depth. Three Pan-Grave vessels were associated with the grave.[292] Two US bowls with recessed rims and defined black-tops, at least one of which has the Pan-Grave fine burnish surface treatment (**Plate F.i**).[293] The third vessel is a scoop in black burnished ware with Pan-Grave fine burnish on both the exterior and interior surfaces (**Fig. 17a**).[294] The context does appear to be Pan-Grave, but its location in a much earlier cemetery is highly unusual, and there is nothing in the grave that is indicative of a particular date.

4.3.2 Qau, Cemetery 1300

- No. of units: 7
- Probable date: early Second Intermediate Period

Cemetery 1300 is situated on the east bank of the Nile at a relatively isolated location in the low desert northeast of Qau.[295] Goat skulls, horns, ostrich eggshell disc beads, and pieces of patchwork leather garments clearly express a Pan-Grave affiliation for the site. All seven graves are circular with depths of up to 1.7m.[296] No superstructures were recorded, but Brunton notes the presence of thorny sticks in the graves, which may have served to protect the human remains from scavenging animals.[297]

The minimal Egyptian pottery from this locality follows Upper Egyptian traditions of the Second Intermediate Period, and Bourriau's chronology for the marl biconical jars places Qau Cemetery 1300 at the earlier end of the sequence.[298] It is on this basis that this cemetery is dated to the early Second Intermediate Period, i.e. the late Thirteenth or early Seventeenth Dynasty.

The Pan-Grave pottery does not display later characteristics such as well-defined or applied black-tops. Two vessels from grave 1303 warrant further description. One is a small US bowl with spiral decoration and a complex rim profile,[299] and the other is a black-topped US bowl with a slightly conical profile (**Fig. 58**).[300] Both vessels are noted as having holes in the centre of the base, which sounds as though the vessels have been killed. The vessel with spiral decoration has the additional detail of the hole being "drilled", though it is unclear if this was done before or after firing.

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[291] Brunton, *Qau and Badari I*, pl. i.

[292] Brunton, *Qau and Badari III*, pl. ix.11, 15–6.

[293] Petrie Museum UC17889.

[294] Brunton, *Qau and Badari III*, pl. ix.11. Petrie Museum UC17888.

[295] Brunton, *Qau and Badari I*, pl. i.

[296] Brunton, *Qau and Badari III,* 6; de Souza, *BACE 24,* 112-3.

[297] Brunton, Qau and Badari III, 6.

[298] Bourriau, in Arnold (ed.) *Studien*; Williams (*Archaeology and Historical Problems,* 206-7) has similarly placed the Pan-Grave pottery from Qau and Badari in his earlier phases corresponding to the mid-Second Intermediate Period. See Brunton, *Qau and Badari I,* pl. xvi.46K.

[299] Brunton, *Qau and Badari III,* pl. ix.5.

[300] Brunton, *Qau and Badari III*, pl. ix.9.

4.3.3 Badari, Cemetery 3800

- No. of units: 1
- Probable date: uncertain

Brunton identified only one Pan-Grave burial (3834) at this locality, situated at the top of a desert spur.[301] The oval grave was badly plundered and the pierced nerita shell listed in the tomb register is presumably the only indication of a possible Pan-Grave association. No pottery was recorded.

4.3.4 Badari, Cemetery 3900

- No. of units: 1
- Probable date: Thirteenth Dynasty?

A single Pan-Grave burial (3918) was identified on this desert spur, which lies just north of the possible Pan-Grave villages at Badari.[302] The burial of a child was in an elongated grave and the body was placed lying on its side with knees slightly bent in a wooden coffin. No Pan-Grave pottery was found, but frontal bones and horns (identified by Brunton as gazelle) support a Pan-Grave association. Egyptian pottery includes two hemispherical cups (one with red rim) and a collared jar, suggesting a late Middle Kingdom date (i.e. Thirteenth Dynasty). [303]

4.3.5 Badari, Cemetery 4500

- No. of units: 2
- Probable date: uncertain

Cemetery 4500 is located on a desert spur that lies just south of the possible Pan-Grave villages.[304] Two badly plundered Pan-Grave burials were identified (4512, 4523), both of which were assigned to the culture based on associated pottery. The report is unclear, but both graves are assumed to be oval and quite deep. Grave 4512 contained sherds of red incised ware,[305] and grave 4523 contained one small black-topped bowl[306] as well as a blue glazed and eggshell beads. A Pan-Grave identification is possible, but cannot be verified.

4.3.6 Badari, Cemetery 5200

- No. of units: 2
- Probable date: uncertain

Two possible Pan-Grave burials are listed in Brunton's tomb register but only one (5226) can be assigned to the culture based on the presence of mother-of-pearl plaque beads.[307] No other dateable objects are recorded. A Pan-Grave association for the other burial (5289) cannot be supported as no finds are listed and Brunton notes that the grave itself is a reused Badarian pit.

4.3.7 Badari, Cemetery 5300

- No. of units: 1
- Probable date: uncertain

[301] Brunton, *Qau and Badari I*, pl. vii.

[302] Brunton, *Qau and Badari I,* pl. vii; Brunton, *Qau and Badari III*, pl. v.

[303] Brunton, *Qau and Badari III,* pls. xiii.18F, xiv.25L.

[304] Brunton, *Qau and Badari I*, pl. vii.

[305] These sherds are not pictured in the published report, however Brunton compares them to sherds from Cemetery 1300 (Brunton, *Qau and Badari III*, 5, pl. x.9).

[306] Brunton, *Qau and Badari III,* pl. ix.12.

[307] Brunton, *Qau and Badari III*, pl. vi.

Two ox horns, both painted in red and black stripes were found in the shaft fill of grave 5337,[308] which is identified as a reused Old Kingdom tomb. No burial was associated with the horns and as such it may be an offering pit.

4.3.8 Badari, Cemetery 5400

- No. of units: 20
- Probable date: Late Middle Kingdom - early Second Intermediate Period

Cemetery 5400 comprises the greatest concentration of Pan-Grave burials in the Qau-Badari region. All graves are either circular or oval, suggesting minimal Egyptian influence. Two graves (5467, 5478) had 'chambers', which were defined by a 'shelf' that left a deeper section in the grave floor.[309] The burials contained the key diagnostic features for the Pan-Grave tradition, and at least six graves had associated deposits of painted frontals from goats and sheep, in one case numbering nine individuals (5482).[310] A copper axe with haft attached is of the same type as that seen at Mostagedda was found in grave 5462.[311]

The few pieces of Egyptian pottery support the evidence from the graves themselves, suggesting a date between the late Middle Kingdom and the early Second Intermediate Period (i.e. Thirteenth to Seventeenth Dynasty).[312]

Pan-Grave pottery is equally scarce but what could be identified shows characteristics that suggest an early Second Intermediate Period date, namely recessed rims with defined black-tops (**Fig. 58**),[313] and black-burnished ware[314].

4.3.9 Badari, Cemetery 7400

- No. of units: 2
- Probable date: late Middle Kingdom (Thirteenth Dynasty)

Two possible Pan-Grave burials were identified at this locality. Grave 7453 contained one sherd of incised pottery bearing what may be the braid motif,[315] and an Egyptian ovoid jar with ribbed neck that can be dated to the late Middle Kingdom.[316] The second grave (7486) was only recorded as having "one pan-grave [sic.] pot at the waist", with no further details or illustrations.[317]

4.4 Balabish

- No. of units: 57 (49 graves + 6 "sundry" groups[318] + 2 deposits)
- Probable date: Second Intermediate Period (Seventeenth Dynasty)

The Pan-Grave cemetery at Balabish is situated in the low desert located on the east bank of the Nile. Three types of grave were identified: circular (21), oval (13) and rectangular (15 units) (**Fig. 3**). No evidence of any

[308] Brunton, *Qau and Badari III,* 5.

[309] Brunton, *Qau and Badari III*, 6.

[310] Brunton, *Qau and Badari III,* pl. x.7.

[311] Brunton, *Qau and Badari III*, pl. ix.7; Davies, *Tools and Weapons*, 22-3, 43.

[312] e.g. Brunton, *Qau and Badari III,* pl. xvi.46k. Bourriau assigned this same vessel to her Phase B, defined as Pan-Grave burials in mixed cemeteries (Bourriau, *Nubians in Egypt*, fig. 3).

[313] Brunton, *Qau and Badari III,* pl. ix.17.

[314] Brunton, *Qau and Badari III*, pl. ix.13.

[315] Brunton, *Qau and Badari III*, pl. ix.4

[316] Brunton, *Qau and Badari III,* pl. xv.34d. See also Schiestl, Seiler, *Handbook,* 614–7 (vol. 1).

[317] Brunton, *Qau and Badari III*, p. 5.

[318] Wainwright, *Balabish,* pl. xvii. The "sundry" Pan-Grave groups may be surface finds. They are listed as being plundered, but no dimensions are given. Finds include pottery, beads, and faunal remains.

superstructures was observed.[319] The variation in grave shape and the changes in burial position demonstrate an advanced degree of Egyptian influence at the site. No maps were published, but Wainwright notes that the rectangular graves are mixed among the circular and oval graves, but perhaps more importantly, the rectangular graves are said to continue into the area where the Pan-Grave and New Kingdom Egyptian cemeteries merge, further supporting that such graves are a later development. Bronze axe heads,[320] archers' wrist-guards[321] and possible bow strings[322] all suggest a close connection with Egyptians and the possibility that *some* of the people buried here may have served a military function.

The only types of Egyptian pottery recorded by Wainwright are his "Buff Ware", which is equivalent to the Marl A2 biconical jars that so characterise the Upper Egyptian tradition of the Second Intermediate Period (**Fig. 59**).[323] The vessels from Balabish fall at the end of Bourriau's sequence for this type.[324]

The Pan-Grave pottery from Balabish displays later characteristics including recessed rims and well-defined black-tops,[325] which appear to be applied, judging from the original photographs. This places them in the later stages of the Pan-Grave presence in Egypt.

Brunton noted the general 'poverty' of the Balabish burials in relation to those from Mostagedda,[326] which Williams used as a criterion for his allocation of a mid-Second Intermediate Period date,[327] however I would prefer to avoid conclusions based on such qualitative judgements. Based on the distribution of the different grave types, the proximity to Eighteenth Dynasty Egyptian burials, and late characteristics in the Egyptian and Pan-Grave ceramic assemblages, it seems like that activity at the cemetery was at its peak during the Seventeenth Dynasty.

4.5 Hu

Pan-Grave remains were identified at three locations—Cemeteries B, X, and Y/YS. The Pan-Grave presence at Cemetery B was mentioned only very briefly in the published report and, as such, that site has been excluded from the following discussion.[328]

4.5.1 Hu, Cemetery X

- No. of units: >50 (inclusive of 22 non-burials).
- Probable date: Thirteenth - Seventeenth Dynasty

Cemetery X at Hu was the first Pan-Grave cemetery to be identified and excavated, and the 'pan-shaped' graves found at the site are what gave the culture its name.[329] All of the graves were circular or oval, 75–100 cm in diameter, and extremely shallow being only 25-40 cm deep. The site was heavily plundered, and body position could only be determined in nine cases, all of which were in a contracted or semi-contracted position, lying on the right side, head west facing south. Petrie also noted evidence of what he interpreted as post-mortem mutilation such as strings of beads wrapped around human bones.[330] Such practices are not attested at any other Pan-Grave site and cannot therefore not be verified in the absence of further information. In addition to the graves,

[319] Wainwright, *Balabish*, 3.

[320] Wainwright, *Balabish*, p. 10, pls. III.2.8, VI.1, XIII.1–2.

[321] Wainwright, *Balabish*, p. 30–1, pls. III.2.12, XII.1–3.

[322] Wainwright, *Balabish* , pl. III.2.11.

[323] Wainwright, *Balabish*, 37-41.

[324] Bourriau, in Arnold (ed.), *Altägyptischen Keramik,* fig. 3.

[325] Wainright, *Balabish*, pl. V.2 (181).

[326] Wainwright (*Balabish,* 6) notes that rectangular graves at Balabish were less well-equipped than the presumably earlier circular graves.

[327] Williams, *Archaeology and Historical Problems*, 204.

[328] Petrie (*Diospolis Parva,* 45) mentions finding black-topped sherds and "slips of shell" at the "top edge of cemetery B". No further details are given.

[329] Petrie, *Diospolis Parva*, 45.

[330] Petrie, *Diospolis Parva*, 45-6.

22 deposits of painted animal skulls and horns were reported, for example X57, in which the skulls from 138 goats, five oxen, five calves, and one sheep were deposited.[331] Other typical Pan-Grave features include copious amounts of ostrich eggshell beads, mother-of-pearl plaque beads, and Pan-Grave bowls filled with scented fat.[332]

The Egyptian pottery includes late Middle Kingdom forms,[333] but also Upper Egyptian styles of the Second Intermediate Period, most notably marl biconical jars that are early in Bourriau's sequence.[334]

The Pan-Grave pottery also shows characteristics that suggest an extended period of activity. An unpublished photograph in the EES archives shows a marl biconical jar alongside a Pan-Grave bowl with what appears to be a defined black-top, which supports activity into the Second Intermediate Period,[335] however it cannot be guaranteed that these pots come from a single context as no tomb number accompanies the photograph. Recessed rims could not be identified in the published records or museum collections.

Collectively, the evidence suggests an extended period of activity spanning the transiton from the Thirteenth to the Seventeenth Dynasty.[336] It is important to note that rectangular graves with extended burials were not reported at the site, suggesting that the Pan-Grave community buried here was less affected by Egyptianisation, or if they were that it was not materially expressed.

4.5.2 Hu, Cemetery Y/YS[337]

- No. of units: approx. 31[338]
- Probable date: Seventeenth and early Eighteenth Dynasty

The expansive cemetery Y/YS is situated adjacent to Cemetery X and comprises burials spanning the period from the Sixth to the Eighteenth Dynasty. The site was only briefly published by the excavators,[339] but Bourriau's painstaking reconstruction of the site based on original notebooks, photographs, and museum collections has identified at least 31 graves said to contain Pan-Grave objects.[340] Bourriau divided these 31 graves into two groups, namely graves containing Pan-Grave pottery (21 graves), and graves containing Pan-Grave artefacts (e.g. painted animal skulls) but *not* Pan-Grave pottery.[341] All graves were rectangular, and the second of Bourriau's grave types (i.e. those that did *not* contain Pan-Grave pottery) were all extended burials, suggesting an advanced degree of Egyptianisation and hence a later date in the Second Intermediate Period. A 'hybrid' vessel from grave Y344, handmade in a typically Nubian black-topped red ware but with a distinctly Egyptian carinated shape and ring-base, is clear evidence of cross-cultural exchange (**Plate P**).[342] Egyptian pottery from the same grave places this 'hybrid' bowl firmly in the late Second Intermediate Period.[343]

A re-examination of the groups identified by Bourriau as containing Pan-Grave pottery shows that many of these contexts were recorded by Mace simply as containing fragments of "pan" pottery.[344] It must be remembered

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[331] Petrie, *Diospolis Parva*, 46, see also pl. xxxix.

[332] Petrie, *Diospolis Parva,* 47. Pots filled with scented fat/ointment were also reported at Balabish and Mostagedda. One such pot is now held in the collection of the Oriental Institute Museum, Chicago (Object OIM E5567).

[333] Petrie, *Diospolis Parva*, pl. xxxix (see graves X48, 61, and 74).

[334] Petrie, *Diospolis Parva,* pl. xxxix (see graves X47, 58, and 62); Bourriau, in Arnold, *Studien,* 37, fig. 3.

[335] EES Negative no. DIOS.NEG.122.

[336] Williams reached a similar date in his analysis (Williams, *Archaeology and Historical Problems,* 215-6).

[337] Cemetery YS comprises the southern parts of Cemetery Y. The division was employed by the excavators to differentiate the noticeably shallower graves in cemetery YS (Mace, in Petrie, *Diospolis Parva*, 50). Bourriau disregards the division and refers only to Cemetery Y in her reconstruction.

[338] Bourriau, in Bourriau, Quirke (eds.), *Sitting Beside Lepsius*, 50.

[339] Petrie, *Diospolis Parva* 39-41, 44, 50-3.

[340] Bourriau, in Bourriau, Quirke (eds.), *Sitting Beside Lepsius,* 39-94. Mace also identified connections bewteen the assemblages from Cemetery Y and the Pan-Grave burials in Cemetery X (Mace, in Petrie, *Diospolis Parva,* 51).

[341] Bourriau, in Bourriau, Quirke (eds.), *Sitting Beside Lepsius*, 50.

[342] Petrie Museum UC 19021. The term "hybrid" is here used to describe the distinct combination of Egyptian vessel shape with a Nubian *châine opératoire* (de Souza, *CCE 11,* 81-4).

[343] Petrie Museum UC 18523 and UC 18525.

[344] e.g. in graves Y97, 165, 419, 420, 427, 455, 459, 485, and 537. See the tomb list provided by Bourriau, in Bourriau, Quirke (eds.), *Sitting Beside Lepsius,* 52-90.

that this was the first time Pan-Grave material had been identified and that the term "pan" was applied to all Nubian pottery at Diospolis Parva, including Kerma-ware beakers from Abadiyeh grave E2. As such, the cultural affiliation should remain speculative in the absence of actual sherds for verification. Nevertheless, the collective evidence points to a date in the Seventeenth Dynasty for the Pan-Grave activity at the site, which is the same date reached by Williams in his survey.[345]

4.6 Karnak

The presence of a Pan-Grave cemetery at or near Karnak is yet to be confirmed, but there is mounting evidence in favour of a Pan-Grave presence. Weigall refers to the identification of a plundered Pan-Grave cemetery "opposite Karnak",[346] and he also notes fragments of Pan-Grave pottery on the east side of Karnak temple.[347] More recently, a possible Pan-Grave cemetery has been identified under the porch of the Mut Temple complex.[348] None of this material nor the contexts could be verified by the author and, as such, no further observations can be made. Pan-Grave pottery has also been found at various locations around the temple itself, which will be discussed further in Chapter 6.

4.7 Armant

Cemetery 1900

- No. of units: 86
- Probable date: Early Second Intermediate Period (i.e. Thirteenth Dynasty)

The Pan-Grave cemetery at Armant remains unpublished, however a draft manuscript and photographs survive in the archives of the Egypt Exploration Society,[349] and some sherds and illustrations are held by the Egypt Centre in Swansea.[350] As was normal for Pan-Grave cemeteries, the site was located at some distance from the edge of the cultivation on the east bank of the Nile and was subject to extensive plundering in ancient and modern times. Other scattered Pan-Grave remains in the vicinity are mentioned in the study of the faunal remains from the site.[351]

All graves were circular or, more frequently, oval in shape, but the orientation of the bodies could not be ascertained. The absence of rectangular graves suggests a lesser degree of Egyptian influence and, as such, an earlier date. Egyptian pottery associated with the graves is said to be of the early Second Intermediate Period, and the few illustrations that survive support a date of approximately the Thirteenth Dynasty.[352] Likewise, the Pan-Grave pottery does not display any of the characteristics that may be identified as later developments, e.g. defined or applied black-tops.

4.8 Tod

North Cemetery

- No. of units: 7
- Probable date: late Twelfth – Thirteenth Dynasty

Seven graves were found at the small and briefly published cemetery at Tod,[353] and in many cases the date and

[345] Williams, *Archaeology and Historical Problems*, 214–5.

[346] Weigall, *Antiquities of Lower Nubia*, 25.

[347] Weigall, *Antiquities of Lower Nubia*, 25.

[348] Betsy Bryan, personal communication. Study of this material was ongoing at the time of writing.

[349] Myers, *A Pan-Grave Cemetery*. The unpublished manuscript and associated illustrations are held in the EES Lucy Gura Archive. Thank you to Kate Liszka and Carl Graves for their assistance.

[350] Sincere thanks to Renée Friedman and Carolyn Graves-Brown for providing access to this material.

[351] The faunal remains from Armant were studied by J. Wilfred Jackson of the Manchester Museum, and his draft report forms part of the unpublished manuscript.

[352] One sherd of Egyptian pottery from Armant Cemetery 1900 is located at The Egypt Centre, Swansea (Cat. No. 50/2946).

[353] Barguet, *BIFAO 50*, 17-31.

cultural association is unclear.[354] With the exception of Tombs 1 and 3, all of the graves may be assigned to the Pan-Grave tradition based on characteristic finds such as incised pottery, plaque beads, and painted frontal bones from goats. A remarkable feature of this site is that the small circular graves all had a low mud brick wall on their northern sides (**Fig. 60**).

Egyptian pottery is minimal. Two globular storage vessels and two conical bowls[355] placed near the head end of Tomb 1 find parallels in the mid-Twelfth Dynasty.[356] A small ovoid marl jar and two Nile silt carinated bowls stacked one inside the other were found just outside the wall of Tomb 5,[357] all of which also find parallels in the late-Twelfth Dynasty.[358] Fragments of an Egyptian pot associated with Tomb 6 were dated by Barguet to the Eighteenth Dynasty, but no image or illustration was published.[359] Fragments of two small marl Egyptian jars were found with Tomb 7, but the date cannot be verified.[360]

Pan-Grave pottery is low in quantity and there is little among this material that is chronologically meaningful. A single Pan-Grave bowl with a killing hole was found in fragments among the bricks above Tomb 4.[361] Fragments of a Pan-Grave pot with cross-hatched decoration was found among the loose bricks above Tomb 7,[362] and a black-topped Pan-Grave bowl with killing hole at the base was also found with the same context.[363]

Overall the available evidence suggests the people buried in this small cemetery underwent minimal Egyptianisation in terms of burial practices, but the use of mud-bricks and the killing holes on two of the Pan-Grave bowls suggests some level of contact. It is equally possible that the people who dug these graves salvaged old mud-bricks from a nearby locale. Additionally, the killing of vessels is found with relative frequency in Pan-Grave contexts and may therefore be an inherent part of both the Pan-Grave and Egyptian funerary traditions. The date of the cemetery is unclear, and may be anywhere between the late Twelfth Dynasty and the beginning of the Eighteenth Dynasty.

4.9 Moalla

Area H3

- No. of units: 5
- Probable date: Thirteenth Dynasty – Seventeenth Dynasty

The Pan-Grave cemetery at Area H3 is located on a desert spur connected to a larger slope (Areas H1 and H2), which itself is the location of tombs dated to the Middle Kingdom.[364] Five graves have been identified thus far, all either circular or oval in form. Superstructures were not preserved, however Manassa implies that these may have been lost in ancient times.[365] Orientation of the burials could not be determined.

The limited amount of Egyptian pottery restricts dating possibilities. The most diagnostic vessels are two Nile B2 storage jars and a Marl A3 cup,[366] which may be dated to the period spanning the Thirteenth to Seventeenth Dynasty.

The Pan-Grave pottery is equally uninformative, comprising black-topped bowls with modelled rims and bowls with incised decoration in a range of motifs.[367] Recessed rims and defined black-tops have not been identified in the area excavated thus far. An unusual sherd with wide cross-hatched decoration and a modelled

[354] With the exception of Tomb 3, Barguet assigned all graves to the Pan-Grave tradition and the Second Intermediate Period. Tomb 3 was dated to the Eighteenth Dynasty (Barguet, *BIFAO 50*, 18).

[355] Barguet, *BIFAO 50*, fig. 5.

[356] Schiestl, Seiler, *Handbook*, 412-3 (vol. 1).

[357] Barguet, *BIFAO 50*, fig. 13.

[358] Schiestl, Seiler, *Handbook*, 237 (vol. 1).

[359] Barguet, *BIFAO 50*, 28-9, fig. 16. The Egyptian pot is not pictured.

[360] Barguet, *BIFAO 50*, 31, fig. 23.

[361] Barguet, *BIFAO 50*, 25, fig. 12.

[362] Barguet, *BIFAO 50*, fig. 18.

[363] Barguet, *BIFAO 50*, fig. 22.

[364] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 119. See also Manassa, *JARCE 45*, 66-8.

[365] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 119.

[366] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, fig. 7.

[367] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, fig. 6.

zig-zag that defines the rim band[368] finds its closest parallels in pottery from the Eastern Desert, in the regions of Kassala and Agordat,[369] which may hint at the presumed eastern origins of the Pan-Grave tradition.

4.10 Ed Deir

- No. of units: Unknown
- Probable date: Uncertain

Only fleeting references have been made to supposedly Pan-Grave pottery near the Twelfth Dynasty cemetery at Ed Deir,[370] but these sherds cannot be verified. Moreover, it must be remembered that, at that time, the terms "Pan-Grave" or "Pan" were indiscriminately applied to any black-topped and/or incised non-Egyptian pottery.

4.11 Esna

- No. of units: Unknown
- Probable date: Uncertain

Pan-Grave pottery was found during Garstang's excavations at Esna, however the nature and number of the contexts could not be determined from the available published record.[371] Based on the published pottery and material in museum collections, only two tombs can be identified (Tombs 154 and 297) but nothing more is known about them or their location.

Three Pan-Grave vessels from Esna have been identified, however only one can confidently be attributed to the tradition by its recessed rim and defined black-top.[372] The other two are less distinct; one bowl has randomly arranged scratches to its exterior,[373] and the second is roughly made, black-topped, with an incised coiled line around the rim.[374] No date can be attributed to the tombs or these vessels without any further data, however the recessed rim and well-defined black-top suggests a date in the Second Intermediate Period.

4.12 Hierakonpolis

Two Pan-Grave cemeteries have been identified at Hierakonpolis—HK47 and HK21A. The two seasons of excavation conducted in 2001 and 2017 constitute some of the most extensive excavations at Pan-Grave sites since the UNESCO salvage operations of the early 1960s.[375]

4.12.1 HK47

- No. of units: 17
- Probable date: Late Twelfth – Thirteenth Dynasty

HK47 is situated on a low sandy rise near the southern edge of the Hierakonpolis concession. The surface scatter of Pan-Grave material suggests that the cemetery is extensive, covering an area of approximately

[368] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, fig. 8.

[369] Manzo, *BMSAES 18,* fig. 11; Arkell, *Agordat*, pl. x. Manassa makes reference to similar impressed triangular motifs on C-Group and Kerma parallels, but the execution in those cases is distinctly different from the Moalla sherd (Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 124).

[370] Sayce, *ASAE 6*, 163; Weigall, Report on the Antiquities of Lower Nubia, 25; Bietak, Ausgrabungen, 65; Manassa, JARCE 45, 68.

[371] Downes, *Excavations at Esna*, 27, 31 (nos. 26a-b). See also Manassa *JARCE 45,* 68.

[372] Garstang Museum, University of Liverpool, Object no. E6139.

[373] Garstang Museum, University of Liverpool, Object no. E4968.

[374] West Australian Museum, Object no. ACA280. Dr Moya Smith, pers. comm.

[375] The author was a co-excavator during the 2017 season, supported in part by a Michelle McLean Travelling Scholarship for Egyptian Archaeology, awarded by Macquarie University, with additional support provided by the Hierakonpolis Expedition. Sincere thanks to Renée Freidman (Director, The Hierakonpolis Expedition) for her support and generosity, and to the many other collaborators, in particular Xavier Droux, Lamia el Hadidi, Liam McNamara, Joel Paulson, Anna Pieri, and Jim Rossiter.

50 x 100m,[376] of which only a portion has been excavated (**Fig. 61**). The graves excavated thus far at HK47A are of shallow and roughly circular form, dug into loose sand, and appear to have been covered with tumuli composed of amassed sand mixed with Predynastic Egyptian sherds and lithic material (**Fig. 6**).[377] The largest grave, B23, preserves what appears to be a mud platform on its northeastern side (**Fig. 4**). A unique and highly unusual feature of HK47 is the so called 'pavement', which is a natural layer of mud that has been culturally modified through the addition of finger, hand, and foot imprints and the deposition of offerings on the surface between graves (**Fig. 62**).[378] Many of the burials at the site are placed either directly adjacent to or cut through the pavement, and at least three infant graves were placed directly upon it.

Egyptian pottery from HK47 is minimal, but forms date consistently to the late Twelfth and Thirteenth Dynasty (**Fig. 63-64**). Large, bag-shaped beaker jars and zir fragments may be as early as the reign of Amenemhat III, and six hemispherical cups of varying forms are similarly indicative of a date no later than the Thirteenth Dynasty.[379] Sherds of Marl C pottery suggest that the site was active when contact and trade between Upper and Lower Egypt was still active,[380] further supporting a date in the late Middle Kingdom (**Fig. 63**).

On the whole, the character of the Pan-Grave pottery is consistent with the early phases of Pan-Grave activity in the Nile Valley (**Fig. 65**). The pottery is generally relatively coarse, thick walled, highly variable, and is more akin to assemblages from Lower Nubia than from Middle Egypt.[381] Black tops are invariably irregular, although one sherd has an uncoated rim band that may have been an applied black-top that has since worn away.

Evidence for a merging of traditions such as incorporation of Egyptian vessels and killing of Nubian vessels would indicate extended contact, long enough for exchange of intangible cultural elements to take place.

The excavated portion of HK47 reflects a peak of activity during the late Middle Kingdom and early Second Intermediate Period. The shallow circular graves, and the character of the Egyptian and Pan-Grave ceramic assemblage are all consistent with the period *before* the break from Middle Kingdom traditions that occurred in Upper Egypt, namely the Thirteenth Dynasty.[382]

4.12.2 HK21A

- No. of units: 2
- Probable date: Thirteenth Dynasty?

HK21A is situated near the northern edge of the Hierakonpolis concession on the edge of the Wadi Tarifa, and is spread over two high mounds and the saddle between them (**Fig. 66**).[383] The surface of both mounds was covered with large, flat pieces of limestone in roughly circular arrangements that are presumably the remnants of loose stone rings or tumuli that originally covered the now plundered burials. Only two burials have so far been identified on the north mound, both being circular pits cut into the hard silty matrix (**Fig. 5**). The larger of the two burials, Burial 2017B, was still covered by portions of its stone tumulus that appears to have been pushed to one side by looters.

Egyptian pottery is minimal,[384] but the neck and shoulder of a Marl A2 jar from Burial 2017A finds parallels

[376] Friedman, *S&N 5,* 34. Surface surveys conducted in 2015 and 2016 reconfirmed the volume of Pan-Grave material on the surface.

[377] Friedman *S&N 5*, 33-6.

[378] Friedman, *S&N 5*, 34; de Souza, *NN 29,* 19.

[379] Giuliani, *S&N 5*, 43l; Giuliani, in Caneva, Rocati (eds.), *Acta Nubica*, 223.

[380] Giuliani, *S&N 5*, 42.

[381] Giuliani, *S&N 5,* 41-2. See also de Souza *NN 28*, 24–5.

[382] The chronology of the cemeteries at Hierakonpolis was the subject of a paper presented by the author at the workshop, *Second Intermediate Period Assemblages. The Building Blocks of Local Relative Sequences of Material Culture,* hosted by the Austrian Academy of Sciences, Vienna, 21–23 June, 2017. A contribution to the proceedings was in press at the time of writing – de Souza in Bader, Knoblauch and Hulkova (eds.).

[383] Friedman, *S&N 5*, 33-4; de Souza, *NN 29*, 20.

[384] de Souza in Bader, Knoblauch and Hulkova (eds.).

in the Thirteenth Dynasty.[385] Fragments of a Marl C jar associated with Burial 2017B are also suggestive of a date before the break from Middle Kingdom traditions (**Fig. 67**).

The Pan-Grave pottery is generally much finer than that from HK47, having thinner walls, more carefully burnished surfaces, and more intricate and stylistically more consistent decoration (**Fig. 68**).[386] At least one sherd with a recessed rim was recorded, and two of the Pan-Grave bowls associated with Burial 2017B have post-firing applied black tops (**Plate Q**), which otherwise does not fit chronologically with the rest of the ceramic evidence. This being the case, the overall differences between HK21A and HK47 in general may have deeper implications. Both sites appear to be roughly contemporary (i.e. Thirteenth Dynasty), and so the differences between the two are more likely to result from internal variation within the Pan-Grave tradition rather than any chronological developments.[387]

4.13 Genemiya

- No. of units: Unknown (not excavated)
- Probable date: Uncertain

Weigall makes brief reference to a Nubian cemetery on the north side of the pyramid at Genemiya.[388] The site was not excavated, has not since been relocated, and may now lie below a modern road or a modern Islamic cemetery. Based on the published illustrations,[389] the pottery recorded by Weigall can be assigned to the Pan-Grave tradition on the basis of form, decoration, and characteristics such as band rims. Weigall recorded at least three fragments of horned bowls, which indicates that the locality was indeed a cemetery as such types are not known to occur in settlement contexts.[390] The simplified illustrations do not permit the identification of features such as defined or applied black-tops and hence no date can be attributed to the assemblage.

4.14 Zenigla

- No. of units: Unknown (not excavated)
- Probable date: Uncertain

Weigall briefly mentions extensive Nubian cemeteries at Zenigla, but no further details are given.[391] The published illustrations of pottery sherds clearly show that the material is attributed to the Pan-Grave tradition,[392] and a single sherd from a horned bowl points toward a mortuary context.[393] No date can be established.

4.15 Aswan - Kom Ombo

The Aswan - Kom Ombo Archaeological Project (AKAP) has identified at least three Pan-Grave cemeteries on the West Bank of the Nile, which were not fully excavated at the time of writing, and so the comments below are only preliminary.[394] The survey has also identified remains of possible campsites and a rock shelter attributable to the Pan-Grave tradition on the basis of ceramics.[395]

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[385] Schiestl, Seiler, *Handbook,* 431 (vol. 1) Type II.B.5.a; Rzeuska, in Schiestl, Seiler (eds.), *Handbook,* fig. 10.59 (vol. 2).

[386] de Souza, *NN 28,* 24–25; Giuliani, *S&N 5*, 43.

[387] de Souza, *NN 29*, 21; de Souza in Bader, Knoblauch and Hulkova (eds.).

[388] Weigall, *Antiquities of Upper Egypt,* 348.

[389] Weigall, *Antiquities of Lower Nubia,* pl. lxxvii-iii;

[390] Weigall, *Antiquities of Lower Nubia,* pl. lxxviii.41, 45–6.

[391] Weigall, *Antiquities of Upper Egypt,* 349.

[392] Weigall, *Antiquities of Lower Nubia*, pl. lxxviii-ix.

[393] Weigall, *Antiquities of Lower Nubia*, pl. lxxix.20.

[394] Gatto, *JAEI 6.1;* Gatto et al, *MDAIK 65;* Gatto, Giuliani, Roma in Forstner-Müller, Rose (eds.) *Nubian Pottery*. Sincere thanks to Maria Gatto for permission to study the Pan-Grave pottery in November 2018. Publication is underway by the AKAP team.

[395] Gatto, *JAEI 6.4,* 39.

4.15.1 Nag el-Qarmila, WK11

- No. of units: at least 5 (+ approx. 15 unconfirmed)
- Probable date: Late Middle Kingdom (i.e. early/mid Thirteenth Dynasty)

WK11 appears to be the largest and best preserved of the three cemeteries in the AKAP concession.[396] Five graves were identified in test excavations, all of which are circular and thus in keeping with the traditional Pan-Grave type. The largest grave (Tomb 9) was surrounded by a superstructure consisting of two concentric rings of sandstone slabs approx. 7 m in diameter set upon a purpose built foundation of mud mixed with gravel.[397]

The Egyptian pottery from WK11 can be consistently dated to the late Twelfth and Thirteenth Dynasty. Hemispherical cups are of the open variety, suggesting a relatively early date.[398] Marl C medium-sized jars are the most common form, the fabric indicating an ongoing connection to the Memphite region, while Marl A3 and A4 may mark links to more northern regions.[399]

The Pan-Grave pottery from the site is generally of a very high quality, with well burnished surfaces inside and out, and carefully executed decoration.[400] Defined black-tops and recessed rims were absent.[401] Gatto has observed that the overall character of WK11 finds its closest parallels at Sayala B and Serra C, both of which are of a similarly early date (see below).[402] I would also add that the WK11 assemblage is comparable to that of Hierakonpolis HK47, which appears to be roughly contemporary.

4.15.2 Sheikh Mohammed, SM14

- No. of units: approx. 18 (not excavated)
- Probable date: Thirteenth Dynasty / early Second Intermediate Period

SM14 was unexcavated at the time of writing,[403] but 18 burials could be identified according to surface finds of pottery sherds remains of the stone circles around the larger tombs.[404]

Egyptian pottery is low in quantity; Marl C pottery is attested only as a few body sherds, but fragments of pattern-burnished vessels and a Nile B2 vessel with possible white-spot decoration may suggest limited during the early Second Intermediate Period.[405] The Pan-Grave pottery is described as being mostly comparable to that from WK11 but is generally less refined in terms of surface treatment.[406] Gatto notes that defined black-tops are absent, as are recessed rims.

4.15.3 Wadi el-Tawil, WT1

- No. of units: At least 4 graves (not excavated)
- Probable date: Uncertain

WT1 is also unexcavated, but at least three large graves were identified near the centre of the site with one additional grave at the southeastern periphery.[407] Only three diagnostic Egyptian sherds were found,[408] which

[396] Gatto, *JAEI 6.1,* 18, fig. 2a-b; Gatto et al, *MDAIK 65*, 32-3, fig. 5.
[397] Gatto, *JAEI 6.1,* 18.
[398] Gatto, *JAEI 6.1,* 19.
[399] Gatto, *JAEI 6.1,*18-9; Gatto et al, *MDAIK 65*, 35-8, fig. 7.1-16.
[400] This author examined the pottery from WK11 at the Kom Ombo magazine in November 2011 and can confirm the consistently high quality of the assemblage from this site.
[401] Gatto, *JAEI 6.1,* 21-4, fig. 10-1; Gatto et al, *MDAIK 65*, 39-42, fig. 8-9.
[402] Gatto et al, *MDAIK 65*, 33.
[403] New excavations were conducted in November 2018, and publications by AKAP are forthcoming.
[404] Gatto et al, *MDAIK 65*, 33; Gatto, *JAEI 6.1,* 20.
[405] Gatto, *JAEI 6.1,* 21, fig. 3; Gatto et al, *MDAIK 65,* 38-39, fig.17.17-9.
[406] Gatto et al, *MDAIK 65*, 42, fig. 10; Gatto, *JAEI 6.1*, 21-4, fig. 12.
[407] Gatto, *JAEI 6.1,* 21.
[408] Gatto, *JAEI 6.1*, 21.

limits the possibility of assigning a date to the site. A single faience scarab inscribed with the words *rDi rA* was found at the small grave near the southeastern periphery, and is of a type that dates to the late Middle Kingdom and Second Intermediate Period.[409] For the Pan-Grave pottery, one sherd appears to have a defined black-top,[410] and the assemblage is of inferior quality to WK11 but is noticeably more fine that SM14.[411]

4.16 Shellal

Cemetery 7, Knoll B

- No. of units: 25
- Probable date: Uncertain (Second Intermediate Period?)

The Pan-Grave burials at Shellal are located in the western part of Knoll B, which is part of the larger Cemetery 7 that includes Early Dynastic and New Kingdom burials, as well as some evidence of Ptolemaic and Roman activity.[412] Reisner identified Knoll B as a C-Group cemetery but acknowledges the frequent occurrence of distinctly Pan-Grave items such as mother-of-pearl plaque beads.[413] It is clear from the descriptions of the tombs, their contents, and the illustrated pottery that the site is a Pan-Grave cemetery.[414]

All but two of the graves are circular or irregular, the remaining two being rectangular, and there is virtually no indication of any grave preparation or superstructures. Three stone slabs in grave 174 may be remnants of some form of superstructure or tomb architecture.[415]

The Pan-Grave pottery from this site has been published only as line drawings, but the decorative motifs leave little doubt as to the Pan-Grave identification.[416] Egyptian pottery is virtually absent apart from a few sherds.

The date of the site is unclear. The circular graves would ordinarily indicate an early date, but the two rectangular graves and certain characteristics in the Pan-Grave ceramic assemblage such as recessed and complex rim profiles suggest a date later in the Second Intermediate Period.[417]

4.17 Ginari

4.17.1 Cemetery 58:1

Bietak attributed this small cemetery of 20 burials to the Pan-Grave tradition,[418] but there is little definitive evidence to support this. There is nothing in the graves themselves that can obviously be identified as Pan-Grave, and the illustrated pottery shows more affinity with C-Group production.[419] A sherd from Grave 58:4 bearing serpentine motifs is unmistakeably C-Group.[420]

[409] Gatto, *JAEI 6.1*, 21, fig. 8.
[410] Gatto, *JAEI 6.1*, fig. 7.9.
[411] Gatto, *JAEI 6.1,* 23-4.
[412] Reisner, *ASN 1907-08*, 17-74, plan ix (vol. 2).
[413] Reisner, *ASN 1907-08*, 52-3; Bietak, *Ausgrabungen,* 65.
[414] Reisner, *ASN 1907-08*, fig. 37.
[415] Reisner, *ASN 1907-08*, 54.
[416] Reisner, *ASN 1907-08*, 53, fig. 37.
[417] Reisner, *ASN 1907-08*, fig. 37.4, 10, 11.
[418] Bietak, *Ausgrabungen*, 65. Note: Firth originally identified this cemetery with the C-Group (Firth, *ASN 1908-09*, 55-7).
[419] Firth, *ASN 1908-09*, fig. 15.
[420] Firth, *ASN 1908-09*, fig. 29.

4.17.2 Cemetery 58:100

- No. of units: 30
- Probable date: Late Seventeenth Dynasty - early Eighteenth Dynasty

The cemetery Ginari 58:100 can be divided into two distinct halves;[421] the northwestern 'Egyptian' half consists exclusively of rectangular graves with extended burials and Egyptian objects, and the south-western 'Nubian' half comprises mostly circular graves containing a mix of Pan-Grave and Egyptian objects, and a few rectangular graves are interspersed throughout (**Fig. 69**).[422] Ginari 58:100 is not included in Bietak's 1966 list of Pan-Grave sites, and he instead assigned the site to his C-Group Phase III, which corresponds to the transition from the Second Intermediate Period to the early New Kingdom.[423] Bietak interpreted the stark division between the two halves of the cemetery as evidence of the rapid Egyptianisation of the local Nubian (i.e. C-Group) population.[424]

Following a renewed study of the site and its assemblages, it is here proposed that the distinct division in grave types should instead be interpreted as two discrete but contemporary cemetery populations—one Pan-Grave, one Egyptian[425]—and that Bietak's C-Group identification should be corrected to Pan-Grave, particularly based on the pottery.[426] Diagnostic Pan-Grave objects are absent (e.g. painted animal skulls, mother-of-pearl plaque beads), but the published pottery is distinctly Pan-Grave in character. Pot no. 58:114.i bears feather motifs,[427] and a rim sherd from grave 58:108 carries incised oblique lines, a recessed rim, and defined black-top,[428] all of which are diagnostic for the Pan-Grave ceramic tradition.

Egyptian pottery such as bag-shaped jars[429] and globular vessels with incised wavy lines on the shoulder[430] all point towards a date in the late Seventeenth or early Eighteenth Dynasty. The defined black top of the Pan-Grave sherd from Grave 58:108 further supports a late date. If correct, this would make 58:100 one of the latest Pan-Grave sites in the Nile Valley.

4.18 Moalla

Cemetery 68

Bietak included Cemetery 68 in his list of Pan-Grave sites,[431] however its cultural association is unclear based on the published data.[432]

4.19 Kubban

Cemetery 110

- No. of units: Uncertain.
- Probable date: Seventeenth Dynasty?

Kubban Cemetery 110 was not included in Bietak's list of Pan-Grave sites, but a review of Firth's original report shows that undeniably Pan-Grave elements were recorded in at least two graves that were originally

[421] Firth, *ASN 1908-09*, plan vii.
[422] Firth, *ASN 1908-09*, pl. 4.d.
[423] Bietak, *Studien zur Chronologie*, 45–6.
[424] Bietak, *Studien zur Chronologie,* 45–6.
[425] de Souza, in Honegger (ed.), *Nubian Archaeology.*
[426] Firth, *ASN 1908-09*, fig. 15 and 29.
[427] Firth, *ASN 1908-09*, fig. 15.
[428] Firth, *ASN 1908-09*, fig. 29.
[429] Firth, *ASN 1908-09*, fig. 22.1-2 and 4.
[430] Firth, *ASN 1908-09*, pl. 49.a.6.
[431] Bietak, *Ausgrabungen*, 65.
[432] Firth, *ASN 1908-09*, 64-6.

assigned to the Late C-Group culture: mother-of-pearl spacer beads were found in Grave 225,[433] and four Pan-Grave bowls, each of which has a hole at the base, were found in Grave 253.[434] A single sherd from Grave 234 also seems characteristically Pan-Grave, with its complex rim profile and incised oblique line decoration.[435]

The pottery from Grave 253 displays hallmarks of the Pan-Grave tradition, including defined and applied black-tops, and Firth himself makes a special note that the black-tops were added artificially.[436] Egyptian pottery and other dateable objects are absent, but what does remain of the Pan-Grave pottery suggests a date in the late Second Intermediate Period (i.e. the Seventeenth Dynasty).

4.20 Qurta

Cemetery 118

- No. of units: large cemetery, but only approx. 3 Pan-Grave burials
- Probably date: uncertain

This large cemetery was composed mostly of C-Group burials that encroached upon an earlier A-Group cemetery.[437] Overall the cemetery spans a period from the Middle Kingdom through to the early Eighteenth Dynasty based on the presence of *Kerma classique* beakers and Egyptian pottery.[438] Most graves were disturbed, but there is also some, though minimal, evidence of Pan-Grave activity in the form of mother-of-pearl plaque beads found in at least three graves.[439]

Probable Pan-Grave pottery was found in two graves, identified on the basis of what are described as "evenly made" black tops.[440] Three of the bowls from grave 48 also had holes at their bases, which are shown in the published illustrations.[441] The defined black tops suggests that the Pan-Grave contexts date to the later stages of the Second Intermediate Period, but this is difficult to confirm based on the available evidence.

4.21 Sayala

4.21.1 Cemetery B

- No. of units: 12[442]
- Probable date: Seventeenth Dynasty?

All of the 12 graves at Sayala Cemetery B were circular, and eight preserved remains of a stone-ring superstructure usually only one course in height.[443] The structures were covered with sand, and sometimes layers of pebbles. Most graves were equipped with the usual Pan-Grave objects including Pan-Grave pottery and mother-of-pearl plaque beads.

Bietak tentatively dated the cemetery to the late Second Intermediate Period based on a single Egyptian jar, but only the base of the jar is preserved and the date cannot be verified based on the published illustration.[444] Bietak also cites faience bead types that he claims are attested during the Middle Kingdom in Egypt, but that are otherwise not known in Nubia until the Eighteenth Dynasty.[445] A globular jar from Grave B/5 is comparable to

[433] Firth, *ASN 1910-11*, 51.

[434] Firth, *ASN 1910-11*, 52 (and associated figure).

[435] Firth, *ASN 1910-11*, Fig. 1.13.

[436] Firth, *ASN 1910-11,* Fig. 1.

[437] Firth, *ASN 1910-11,* 140, plan X.

[438] Firth, *ASN 1910-11,* 142-3.

[439] In graves 15, 106, and 115 (Firth, *ASN 1910-11,* 143 & 145).

[440] In grave 22 (Firth, *ASN 1910-11,* 143) and grave 48 (Firth, *ASN 1910-11,* 144).

[441] Firth, *ASN 1910-11,* 144.

[442] Bietak, *Ausgrabungen*, 43-7. Bietak states that twelve graves were found, but his list includes thirteen graves (B1-13). Grave B7 does not preserve a superstructure and there were no human remains, and as such was presumably not counted as a burial.

[443] Bietak, *Ausgrabungen,* 49, Taf. 20.

[444] Bietak, *Ausgrabungen*, 61.

[445] Bead types 1a-b (Bietak, *Ausgrabungen*, 57-8).

Middle Kingdom types, suggesting that the cemetery may have been in use over a long span of time.[446] Defined black-tops are also present in burials B/1, 5 and 10, further supporting a later date.[447]

The circular graves themselves appear to be of the more 'traditional' Pan-Grave type, and comparison has already been drawn with early Pan-Grave sites in Upper Egypt such as WK11.[448] However, it should not be assumed that Pan-Grave communities in Lower Nubia followed the same developmental paths as those in Egypt, and earlier burial traditions may have persisted further away from direct Egyptian influence. In spite of the very limited available evidence, Bietak's dating in this case seems to be relatively secure.

4.21.2 Cemetery G

- No. of units: 8
- Probable date: Uncertain (Second Intermediate Period)

The less well preserved of the two cemeteries at Sayala, only eight graves were found at Cemetery G, all but three of which (G/6-G/8) were almost entirely looted.[449] Those three graves are all circular, and each preserved what were likely to be remains of loose stone superstructures.[450]

Chronological data is virtually absent. Bietak tentatively assigns the same late Second Intermediate Period date that he gave to Cemetery B.[451] With the absence of evidence, the site is here assigned a more general date of the Second Intermediate Period.

4.22 Tumas

Cemetery 189

- No. of units: 372 graves, but only a few likely to be Pan-Grave burials
- Probable date: uncertain (late Second Intermediate Period?)

This is a large cemetery, and the published map makes it clear that it should be considered in two distinct halves.[452] The eastern half is dominated by circular graves with stone superstructures, while the western half comprises mostly rectangular pits with no superstructures. The boundary between the two halves is abrupt, with no clear evidence of any transition. Based on this alone, it can be deduced that the western half is a C-Group cemetery and that the eastern half is either culturally different, chronologically later, or a combination of both of these factors. Emery and Kirwan concluded that the site shows continuity from the C-Group into the early New Kingdom, but the poor preservation of the site overall makes it difficult to offer any alternate observations.

Pan-Grave objects are low in number and were identified only in the western half of the cemetery. Offering pits containing multiple painted animal skulls and horns (identified as gazelle)[453] are well known from other Pan-Grave sites (e.g. Mostagedda, see §2.3), and in each case they appear to be associated with rectangular graves.

Pottery that can be confidently attributed the Pan-Grave tradition occurred only in grave 61, where a bowl

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[446] For example: the globular jar from Grave B/5 (Bietak, *Ausgrabungen*, Taf. 28.76021). Parallels for this form occur in Egypt, but in Marl clays, see Schiestl, Seiler, *Handbook*, 373 (vol. 1). Bietak does not describe the fabric or technology so the vessel could also be a handmade Nubian form, comparable to the red-slipped example from Hierakonpolis HK47.

[447] B/1 (Bietak, *Ausgrabungen,* Taf. 25.76000); B/5 (Bietak, *Ausgrabungen*, Taf. 27.76019/a); B/10 (Bietak, *Ausgrabungen*, Taf. 30.76046).

[448] Gatto et al., *MDAIK 65,* 33.

[449] Bietak, *Ausgrabungen*, 46-8.

[450] Bietak, *Ausgrabungen*, Taf 24.

[451] Bietak, *Ausgrabungen*, 61.

[452] Emery, Kirwan, *Excavation and Survey,* pl. 49.

[453] e.g. graves 24 (Emery, Kirwan, *Excavation and Survey*, fig. 221, pl. 20) and 50 (Emery, Kirwan, *Excavation and Survey,* 19).

with band rim and incised lattice decoration was recorded.[454] Another other possible Pan-Grave vessel is a deep bowl from grave 47 with what might be a defined black-top, however this cannot be confirmed from the published illustration.[455]

4.23 Aniba

4.23.1 Cemetery N

- No. of units: 16
- Probable date: uncertain (Thirteenth Dynasty?)

A cluster of at least 16 Pan-Grave burials is situated at the northeastern fringe of what is otherwise an extensive C-Group cemetery.[456] Bietak associated 21 graves with the Pan-Grave tradition (Grave numbers N60-67, 69, 70-80, and 87) based on the grave type and presence of diagnostic features.[457] A review of the published report shows that graves 71-73 and 75-76 were virtually empty (according to Steindorff) and have hence been ruled out of this survey.[458] All but three of the graves retained part of their stone superstructure, and virtually all contained the ostrich eggshell disc bead, and mother-of-pearl plaque beads. A few examples of Pan-Grave pottery, including a diagnostic horned bowl, were also associated with this group of burials, but there is nothing in the assemblage that is immediately chronologically informative.[459]

Following Bietak's analysis of the spatial distribution of grave types and ceramics at the site, the Pan-Grave burials are located near C-Group graves dating to C-Group Phase IIB[460] (i.e Second Intermediate Period) and are a considerable distance from the earliest C-Group graves, which are at the centre of the cemetery.[461] It is therefore probable that the Pan-Grave burials were originally some distance from the core of the C-Group cemetery, which expanded over time to fill the intervening space.

Chronologically informative data from both the Nubian and Egyptian sides is minimal for this site, but the apparent absence of later Pan-Grave ceramic features suggests an earlier date.[462] If the scenario of an expanding C-Group cemetery is accepted as described above, then the Pan-Grave cemetery could have established during C-Group Phase IIA, which by all indications is the earliest date that the Pan-Grave tradition is attested in the Nile Valley. At that time, there would still have been considerable space between the C-Group and Pan-Grave burials at Aniba N, before the C-Group cemetery expanded to fill the void.

4.23.2 Cemetery C

- No. of units: 13
- Probable date: Thirteenth Dynasty?

Aniba Cemetery C is situated approximately 150 m to the north of the southern end of the large Cemetery S.[463] All of the graves are circular and all are surrounded by stone-ring superstructures, many of which had painted bucrania and frontal bones arranged outside them.[464]

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[454] Emery, Kirwan, *Excavation and Survey*, fig. 233.

[455] Emery, Kirwan, *Excavation and Survey*, 218.

[456] Bietak, *Ausgrabungen*, 68-9, fig. 6.

[457] Bietak, *Ausgrabungen*, 69.

[458] Steindorff, *Aniba I*, 130-1. It should also be noted that mother-of-pearl spacer beads were found in five graves in the main C-Group part of the cemetery (Graves N22, 27, 29, 30, and 32), however no other obviously Pan-Grave objects were recorded in any of these cases (see Steindorff, *Aniba I*, 127-8).

[459] Steindorff, *Aniba I*, pl. 58.1-6.

[460] Bietak, *Studien zur Chronologie*, 23-34.

[461] Bietak (*Ausgrabungen*, 69) described the graves as being "etwas abgesondert" from the C-Group cemetery.

[462] Steindorff *Aniba I*, Taf. 58.

[463] Steindorff, *Aniba I*, 193-6.

[464] Steindorff, *Aniba I*, Taf. 79-82.

Steindorff dated Cemetery C to the "Hyksos Period" or just before the New Kingdom, but his conclusions were based on the early assumption that the Pan-Grave tradition dated only to that period.[465] In fact, the Egyptian pottery from Cemetery C dates to the Middle Kingdom,[466] which corresponds to the more 'traditional' grave types, all of which suggests a date during the Thirteenth Dynasty. 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.[467] The absence of later features among the Pan-Grave pottery also suggests an early date.

4.24 Masmas

Cemetery 201

- Number of units: 86, of which 16 are likely to be Pan-Grave
- Probable date: late Seventeenth – early Eighteenth Dynasty

Emery and Kirwan attributed this cemetery to the late C-Group and the transitional period spanning the late Second Intermediate Period and early New Kingdom.[468] Their date is well supported by Egyptian pottery typical of the early Eighteenth Dynasty,[469] *Kerma classique* beakers,[470] and the predominance of rectangular graves, however there is no obvious evidence for C-Group activity. In fact, the Nubian evidence shows more affinity with the Kerma and Pan-Grave traditions.

There is clearly some Pan-Grave activity at this site, and of the total 86 graves, at least 16 contained Pan-Grave objects. including painted animal horns and skulls (reportedly gazelles),[471] mother-of-pearl plaque beads,[472] and footed horned-bowls (see also §3.2.1.2).[473] Importantly, this is the only site at which footed horned-bowls have been identified (**Fig. 16**). The association between the Pan-Grave and Kerma culture is seen at other sites in the region (e.g. Kubban, Cem. 110), and may speak of a chronological or cultural links between the two groups.

4.25 Toshka

Cemetery D

- No. of units: Unknown
- Probable date: Unknown (Seventeenth Dynasty?)

At the time of writing, the Pan-Grave evidence from Toshka is currently being prepared for publication by Maria Gatto, therefore the brief comments presented here are preliminary and based on currently available publications.

The Pan-Grave cemetery at Toshka (Cemetery D) is situated on a desert ridge south of a C-Group cemetery (Cemetery C).[474] The date of the site is uncertain based on available data; inscribed objects naming Senwosret I and II serve as *termini post quem*, and a bronze dagger of late Second Intermediate Period type sets the later chronological limit. A deposit of Pan-Grave sherds was found in a rock shelter at nearby Gebel Agg, where a rock inscription depicts Senwosret III,[475] but the sherds found in this deposit display features including defined black-tops, which suggests a possibly later date.[476] An intact Pan-Grave bowl with a defined, possibly applied

[465] Steindorff, *Aniba I,* 194.

[466] Steindorff, *Aniba I*, Taf. 81.

[467] Steindorff, *Aniba I*, Taf. 81.15.

[468] Emery, Kirwan, *Excavation and Survey*, 312.

[469] Emery, Kirwan, *Excavation and Survey*, fig. 318-320.

[470] e.g. in grave 6 (Emery, Kirwan, *Excavation and Survey*, 312).

[471] In grave 22, 23, and 34 (Emery, Kirwan, *Excavation and Survey*, 317, 319, pl. 20).

[472] In graves 10, 33, 34, 58, 71, 74, 75, 77, and 78. A belt made of plaque beads was found in grave 42 (Emery, Kirwan, *Excavation and Survey,* 321).

[473] In graves 21 and 86 (Emery, Kirwan, *Excavation and Survey,* 316, 327, and fig. 322).

[474] Simpson, *Expedition* 1962, 4.4, 42.

[475] Simpson, *Heka-Nefer*, 36-7, fig. 32.

[476] Simpson, *Heka-Nefer*, pl. xxii.

black-top was also found, but the context is not known.[477] On the weight of the currently available evidence, the cemetery is likely to date to the Second Intermediate Period (i.e. the early Seventeenth Dynasty), however this remains to be confirmed.

4.26 Adindan

Cemetery K

- No. of units: 16
- Probable date: Second Intermediate Period (c. Seventeenth Dynasty)

At least 16 Pan-Grave burials are clustered in a group situated approximately 25 m to the southeast of the larger C-Group cemetery at Adindan Cemetery K.[478] The majority of the graves are circular or roughly so, apart from five that are rectangular. None preserved any trace of a superstructure, although the burial in grave K74 was covered with large, flat slabs of stone.[479] Most of the graves were badly looted, but finds including horned bowls, nerita shells, and painted animal skulls clearly associate these graves with the Pan-Grave tradition.

Pan-Grave pottery is low in quantity, and the published illustrations appear to show defined black-tops.[480] None of the graves incorporated Egyptian pottery, but K91 and 92 are recorded as including C-Group sherds.[481] This may not be chronologically significant, and instead may simply result from the incidental transfer of objects from the nearby C-Group cemetery through plundering or other actions.

It is difficult to attribute a date to this site in the absence of associated Egyptian finds, however the occurrence of rectangular graves suggests that the cemetery was in use into the later stages of the Second Intermediate Period, as do the well-defined black-tops.

4.27 Serra East

Cemetery C

- No. of units: 6
- Probable date: Thirteenth – Seventeenth Dynasty?

Located on the crest of a hill in the low desert, Cemetery C at Serra East consists of only six graves (four circular, two almost rectangular), all of which were badly plundered.[482] All of the graves are shallow and preserve traces of loose stone-ring superstructures.

Five complete Pan-Grave vessels are published, all of which appear to be of the earlier variants with irregular black-tops.[483] Only one Egyptian vessel was found in the rectangular grave C6, simply described as a "brownware cup" comparable in form to hemispherical cups of the Middle Kingdom.[484]

Gatto noted the similarities between Nag el-Qarmila WK11 and Serra C, suggesting that the sites may be roughly contemporary.[485] The two almost rectangular graves point toward some degree of Egyptian influence, however it should be noted that the two rectangular graves are immediately adjacent to one another and there is a small but noticeable gap between these and the circular graves. It is therefore possible that the site was used in two separate phases, first during the late Middle Kingdom, and then during the Second Intermediate Period.

[477] Gatto, *JAEI 6.1,* fig. 9b.
[478] Williams, *C-Group, Pan-Grave and Kerma*, pl. 3.
[479] Williams, *C-Group, Pan-Grave and Kerma*, 221-2.
[480] Williams, *C-Group, Pan-Grave and Kerma*, pl. 57c, f.
[481] Williams, *C-Group, Pan-Grave and Kerma*, 226.
[482] Williams, *Serra East*, 124-32, fig. 83b.
[483] Williams, *Serra East* 128, 132.
[484] Williams, *Serra East,* 131-2.
[485] Gatto et al., *MDAIK 65*, 33.

4.28 Serra East (Shirfadik)

SJE Site 193

- No. of units: 4
- Probable date: Second Intermediate Period – early Eighteenth Dynasty?

The four Pan-Grave burials at SJE Site 193 are divided between a group of three (two oval, one rectangular), and one isolated grave.[486] All were plundered, and piles of stone are likely to be remains of superstructures now in a secondary position.[487] Three black-topped Pan-Grave bowls were found along with other sherds,[488] some of which showed evidence of killing at the base. The only Egyptian vessel is a small carinated jar that dates to the transition between the Second Intermediate Period and early Eighteenth Dynasty.[489]

4.29 Debeira East (Nag' el-Leithi)

4.29.1 SJE Site 170

- No. of units: 48
- Probable date: late Second Intermediate Period – early Eighteenth Dynasty?

Site 170 was described by its excavators as a Pan-Grave cemetery, but one that is heavily affected by external influence and hence late in date.[490] The site certainly has some Pan-Grave characteristics, but overall it displays a marked cultural mixture, including at least two undoubtedly *Kerma classique* burials,[491] and a number of features that are highly unusual for the Pan-Grave tradition.

Of the 48 graves, only 13 are circular. The remainder are narrow elongated ovals, and at least one (Grave 9) is almost rectangular. Most graves had no superstructures, but eight were surrounded by a stone ring, and five were covered by a rectangle of mixed materials (mud-brick and stone). One of the most remarkable examples is a single large mud brick structure that covered three graves (27A, 27B, and 28) creating what may be a group burial.[492] The spatial distribution of the various grave types does not display any discernible pattern.[493]

Obvious Pan-Grave characteristics are few. Only two offering troughs containing fragments of painted animal bones were identified, and further fragments were found with a third grave.[494] Only one nerita shell was found in Grave 24, and the diagnostic mother-of-pearl plaque beads were entirely absent.

Pottery that can be attributed to the Pan-Grave tradition was associated with only 7 graves,[495] all of which are elongated or irregular in shape, with only one (Grave 10) preserving remains of a stone superstructure. Egyptian pottery is minimal; two globular jars were found in Grave 30 but neither is published, and a squat jar from Grave 31 dates to the late Seventeenth or early Eighteenth Dynasty.[496] Overall the evidence is meagre, and the mixed nature of the cemetery means that neither a date nor a cultural association can be securely attributed to the site. The elongated graves attest to activity during the transition into the early New Kingdom, and presumably somewhat later.

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[486] Säve-Söderbergh, *Middle Nubian Sites*, 218 (vol. 1), pl. 130 (vol. 2).

[487] Säve-Söderbergh, *Middle Nubian Sites*, pl. 130 (vol. 2).

[488] Säve-Söderbergh, *Middle Nubian Sites,* 219 (vol. 1).

[489] Säve-Söderbergh, *Middle Nubian Sites*, 218-9 (vol. 1); Holthoer, *The Pottery*, 143, pl. 32.

[490] Säve-Söderbergh, *Middle Nubian Sites*, 194 (vol. 1).

[491] Burials 170/37 and 170/11, both of which are associated with *Kerma classique* beakers.

[492] Säve-Söderbergh, *Middle Nubian Sites*, 194 (vol. 1), pl. 101 (vol. 2).

[493] Säve-Söderbergh, *Middle Nubian Sites,* 193 (vol. 1), pl. 99 (vol. 2).

[494] Troughs were associated with burials 170/31 and 170/33. Fragments were found in grave 170/10.

[495] Graves 5, 10, 13, 27B, 30, 31, and 46. For descriptions of contexts, see Säve-Söderbergh, *Middle Nubian Sites*, 194-5 (vol. 1). For examples of the pottery see Säve-Söderbergh, *Middle Nubian Sites*, pl. 21-2 (vol. 2).

[496] Holthoer, *Pottery*, pl. 40.

4.29.2 SJE Site 47

- No. of units: 159
- Probable date: Second Intermediate Period - early Eighteenth Dynasty

SJE Site 47 at Debeira East is the second largest and by far the best recorded Pan-Grave cemetery currently known with 159 graves, and the scale of the cemetery alone suggests an extended period of activity (**Fig. 70**).[497] The site displays a broad variety of grave types, from simple roughly circular pits, to rectangular graves, to graves with stone-lined chambers. Superstructures range from simple stone rings, piles of stones over the grave, to rectangular mud-brick walls.[498]

The variety in the Pan-Grave ceramic assemblage likewise reflects an extended period of use (**Fig. 71**). The full range of black-top techniques is present, and Egyptian pottery, though minimal, includes examples that may be dated to the Seventeenth and early Eighteenth Dynasty such as a Marl A2 biconical jar (**Fig. 72**).[499]

It is not possible to identify when the cemetery was established, but its scale and the nature of the assemblage suggests that it was in active use throughout the Seventeenth Dynasty and into the beginning of the New Kingdom. Burial and cult activity appears to have continued at the site in some form into the Eighteenth Dynasty. A detailed chronological case-study of SJE Site 47 is presented in Chapter 7 (§7.2.3).

4.30 Debeira East (Hillet Kukai)

SJE Site 172

- No. of units: 6
- Probable date: Second Intermediate Period?

Six graves at this site were attributed to the Pan-Grave tradition, however this cannot be verified based on the published record.[500] The graves form a linear group running in a north-south direction, with Grave 28 being the only outlier.[501] The shapes of the graves vary from roughly circular to slightly oblong, and at least three of the pits are stone-lined.[502] None of the pottery has been published, however there is reference to sherds with band rims.[503] The date is uncertain, but as the Pan-Grave burials are in the vicinity of New Kingdom Egyptian burials, the Second Intermediate Period seems likely, that is to say the Seventeenth Dynasty.

4.31 Debeira East (Komangana)

SJE Site 65

- No. of units: 18[504]
- Probable date: Second Intermediate Period?

A cluster of 18 Pan-Grave burials was located at the northwestern side of this large C-Group cemetery, in what Säve-Söderbergh called a "pure Pan-Grave intrusion".[505] All of the graves are roughly circular or oval in shape, and only one (Grave 79) has remains of a superstructure made of mud bricks.[506] Although not specified in the

[497] Säve-Söderbergh, *Middle Nubian Sites*, pp. 166-74 (vol. 1), pls. 80-87 (vol. 2).

[498] Säve-Söderbergh, *Middle Nubian Sites*, 166-7 (vol. 1).

[499] Säve-Söderbergh, *Middle Nubian Sites*, 170.

[500] The six Pan-Grave burials are SJE 172/18-21, 23, and 28. One of the Egyptian graves at the site (Grave 12) preserved possible traces of a stone ring and may actually be Pan-Grave, but this could not be verified. See Säve–Söderbergh, *Middle Nubian Sites*, 199.

[501] Säve-Söderbergh, *Middle Nubian Sites*, pl. 102 (vol. 2).

[502] Säve-Söderbergh, *Middle Nubian Sites,* 199 (vol. 1).

[503] Säve-Söderbergh, *Middle Nubian Sites*, 200 (vol. 1), pl. 102 (vol. 2).

[504] A total of 200 burials was recorded at the site, but only units 64-82 were associated with the Pan-Grave tradition. See Säve-Söderbergh, *Middle Nubian Sites*, 174-5.

[505] Säve-Söderbergh, *Middle Nubian Sites*, 175 (vol. 1), pl. 88 (vol. 2).

[506] Säve-Söderbergh, *Middle Nubian Sites*, 175 (vol. 1).

written description,[507] the map of Grave 71 shows a circle of stones around the edge of the grave pit.[508] Neither Pan-Grave nor Egyptian pottery from the site is illustrated, and hence a date for the site cannot be verified. A scarab from Grave 71 was dated to the late Middle Kingdom or Second Intermediate Period.[509]

4.32 Debeira East (Nag' Kuga)

SJE Site 99

- No. of units: 33 (of which 29 were burials)
- Probable date: Uncertain (Second Intermediate Period)

This cemetery, identified as purely Pan-Grave by the excavators, comprises roughly circular graves cut into gravely ground.[510] Traces of superstructures do survive, despite the excavators' comment that none were recorded.[511] In fact, Grave 11 was covered by nine stone slabs,[512] and large stones were found above other graves.

What is published of the Egyptian pottery may be dated to the late Seventeenth and early Eighteenth Dynasty,[513] but images or illustrations of the Pan-Grave pottery have not been published and the written descriptions do not offer any information that is chronologically significant.[514]

4.33 Ashkeit (Amintobirki)

SJE Site 95

- No. of units: 169?
- Probable date: Second Intermediate Period - early Eighteenth Dynasty

A total of 176 graves were recorded at this site, of which 169 were identified as "Middle Nubian Pangrave [sic]".[515] The site was fully excavated but its heavily plundered state means that the finds were only briefly published in the SJE reports.[516] Unmistakeably Pan-Grave objects are reported: painted skulls and frontal bones in graves 74, 132, and 122; plaque beads with 72, 77, 99, and 136; and Pan-Grave pottery in graves 37, 28, 48, 46, and 133. Sherds from *Kerma classique* beakers were also scattered across the site, which the excavators claim does not change the cultural affiliation.[517] At best, only those graves listed above that are confirmed as including Pan-Grave objects should be attributed to that culture. In spite of the preservation and limited publication, some comments may be made regarding the nature of the assemblage and possible dating criteria.

In terms of grave shape, oval is by far the most common, numbering at 118 graves across the site, and the remainder are rectangular or circular. This suggests some degree of Egyptian influence and hence a date somewhere in the Second Intermediate Period. The excavators identified what may be interpreted as horizontal stratigraphy in the distribution of grave shapes, with a core of circular graves from which the cemetery expanded outwards along a roughly north-south axis.[518]

Egyptian pottery from the site is low in quantity, considering the size of the cemetery. The published

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[507] Säve-Söderbergh, *Middle Nubian Sites*, 176 (vol. 1).
[508] Säve-Söderbergh, *Middle Nubian Sites*, pl. 90 (vol. 2).
[509] Säve-Söderbergh, *Middle Nubian Sites,* pl. 41 (vol. 2).
[510] Säve-Söderbergh, *Middle Nubian Sites*, pl. 98 (vol. 2).
[511] Säve-Söderbergh, *Middle Nubian Sites*, 190 (vol. 1).
[512] Säve-Söderbergh, *Middle Nubian Sites*, 190-1 (vol. 1), pl. 98 (vol. 2).
[513] Holthoer, *Pottery*, pls. 29, 34.
[514] Säve-Söderbergh, *Middle Nubian Sites*, 191 (vol. 1).
[515] Säve-Söderbergh, *Middle Nubian Sites,* 181 (vol. 1). The remaining seven graves were identified as A-Group burials.
[516] Säve-Söderbergh, *Middle Nubian Sites,* 181-5 (vol. 1), pls. 92-4 (vol. 2).
[517] Säve-Söderbergh, *Middle Nubian Sites,* 181-5 (vol. 1).
[518] Säve-Söderbergh, *Middle Nubian Sites,* Fig. 50 (vol. 1).

examples may be dated to the late Seventeenth or early Eighteenth Dynasty,[519] and the complete assemblage may span a period from the late Middle Kingdom through to the beginning of the New Kingdom.[520]

Only seven Nubian vessels from the site have been published, and each displays characteristics of the Pan-Grave tradition in terms of shape, surface treatment and ware,[521] in particular the narrow and well-defined black top and distinctively streaky burnish on a bowl from Grave 8.[522] These latter features also suggest a date at the later end of the sequence, which corresponds well with the occurrence of rectangular graves at the site and also the dates of the Egyptian pottery vessels.

Although the excavators dismissed the *Kerma classique* pottery found at this site, I rather suggest that it should be included as both a chronological marker and also as an indicator of the scope of cultural activity at the site.

4.34 "Transitional" sites in the SJE Concession

Also at Debeira East is SJE Site 35, dated by Säve-Söderbergh to the so-called "Transitional Period", corresponding to the beginning of the Eighteenth Dynasty.[523] This date is supported by the predominance of Egyptian pottery dating from the late Seventeenth Dynasty to the early Eighteenth Dynasty,[524] as well as scarabs inscribed with the names of Amenhotep I and Tuthmosis III.[525] The grave types and mode of burial are emphatically Nubian and it was therefore suggested that the population buried here represents Egyptianised Nubians.[526] Assuming that this site is actually a late 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.

SJE Site 176 was also dated by Säve-Söderbergh to the Transitional Period,[527] but more recent research suggests that the bulk of non-Egyptian pottery from this site should instead be assigned to the much later Napatan Period.[528] This author has analysed the ceramic assemblage from this site and confirms that Napatan material is indeed present in the assemblage, but there is also pottery that may be dated to the New Kingdom.[529]

4.35 Towards a chronological framework for Pan-Grave sites

As is clear from these preceding descriptions, it is difficult to assign even a relative date to most Pan-Grave sites. Dateable Egyptian objects are often lacking, and any archaeological manifestation of Egyptian influence (i.e. Egyptianisation) varies from one site to another. Nevertheless, it is possible to make some preliminary inferences regarding chronology based on the distribution patterns of chronologically informative material.

Fig. 73 lays out those sites for which a reasonably secure relative date can be assigned, organised from north to south. The darkest grey bars indicate a greater degree of chronological certainty, the pale grey indicating probable activity. The following general trends can be observed:

- Sites showing the earliest activity are concentrated in two areas—(1) Upper Egypt south of Thebes, and (2) the southern half of Lower Nubia.

[519] Holthoer, *Pottery,* pl. 34. Type GJ 1 IIR/0/a-c.

[520] Säve-Söderbergh, *Middle Nubian Sites*, 95 (vol. 2).

[521] For examples, see Säve-Söderbergh, *Middle Nubian Sites,* pls. 16-9 (vol. 2).

[522] Säve-Söderbergh, *Middle Nubian Sites,* pl. 30:3 (vol. 2).

[523] Säve-Söderbergh, *Middle Nubian Sites,* 161-162 (vol. 1).

[524] Säve-Söderbergh, *Middle Nubian Sites,* pl. 39 (vol. 2)

[525] Säve-Söderbergh, *Middle Nubian Sites,* pl. 41 (vol. 2).

[526] For photographs of the cemetery showing the distinctly un-Egyptian graves with stone tumuli see Säve-Söderbergh, *Middle Nubian Sites,* pls. 78-79 (vol. 2).

[527] Säve-Söderbergh, *Middle Nubian Sites,* 200-205 (vol. 1).

[528] For further notes on the possible Napatan date for SJE Site 176 see: Kendall, in Wenig (ed.), *Studien zum Antiken Sudan,* 17-8, 21-3, 52-3; Török, in Wenig (ed.), *Studien zum Antiken Sudan,* 152-5.

[529] For a representative sample of the pottery from SJE Site 176 see: Säve-Söderbergh, *Middle Nubian Sites*, pl. 36-8 (vol. 2).

- Activity at these same sites is at its peak during the Thirteenth Dynasty and seems to cease before the Seventeenth Dynasty.
- The majority of sites in Middle Egypt and Lower Nubia show no signs of activity *before* the Second Intermediate Period (i.e. the Seventeenth Dynasty).
- Evidence for Pan-Grave activity into the early Eighteenth Dynasty exists, but is minimal and concentrated mostly in Lower Nubia.

The distribution is therefore not chronologically uniform. Not every site was active at the same time, and the overall impression is that bearers of the Pan-Grave cultural tradition moved into the Nile Valley at different places rather than via a single route, and that they subsequently spread north and south along the Nile Valley from those entry points. Based on *only* the mortuary evidence from Upper Egypt and Lower Nubia, there appear to be at least three phases of Pan-Grave activity:

1. Late Twelfth – Thirteenth Dynasty: Adherents of the Pan-Grave cultural tradition settle in the Nile Valley.
2. Seventeenth Dynasty: The Pan-Grave tradition spreads north and south from their original points of entry.
3. Early Eighteenth Dynasty: The final archaeological attestations of the Pan-Grave tradition in the Nile Valley.

The reasons for the Nile-ward migration and the mechanisms that drove the subsequent north/south movement are not clear, but it is worth speculating that the distribution of later sites seems to mirror Egyptian activities, which has already been noted by Ryholt. The latest Pan-Grave sites in Egypt are close to what is thought to be the northern frontier between Theban and Hyksos territory, and those in Lower Nubia are located either near the Second Cataract or the Wadi Allaqi, both of which are strategic locations from which Egyptians could undertake the re-stabilisation of Nubia at the beginning the Eighteenth Dynasty. This would in turn support the old theory that at least some Pan-Grave people worked as mercenary soldiers alongside Egyptians, which could also explain the seeming abandonment of the early Pan-Grave sites by the beginning of the Seventeenth Dynasty as they followed their Egyptian leaders north and south. These preliminary phases form a basic framework into which evidence from further afield and from settlement contexts will now be integrated.

5.
Beyond the Second Cataract: 'Pan-Grave' pottery from Upper Nubia and the desert regions

The idea that the Pan-Grave tradition originated outside the Nile Valley has been a central tenet of scholarship on this topic almost since it was first identified, but this theory was largely unsupported by archaeological evidence for much of the Twentieth Century. Bietak included only unverified ceramics from Kassala, Erkowit and Khor Arbaat in his 1966 survey of the Pan-Grave tradition,[530] which was later expanded by Sadr in his studies of the Jebel Mokram Group.[531] The CeRDO expeditions to the Eastern Desert gathered significant information pertaining to the history of the region,[532] but it was with survey and excavation in the Kassala region by Manzo from 2010 onwards that the Pan-Grave tradition's connection to the deserts of northeastern Sudan became archaeologically undeniable.

As for the Nile Valley south of the Second Cataract, that region is traditionally viewed as the territory of the Kerma culture, however there is scattered evidence at a number of sites along the Upper Nubian Nile Valley that suggest some level of Pan-Grave activity—or rather, Pan-Grave *related* activity—in Upper Nubia, at least up to the Fourth Cataract of the Nile.

This chapter expands the search for pottery displaying hallmarks of the Pan-Grave ceramic tradition to the Upper Nubian Nile Valley and the desert regions to the east—that is, from areas not usually associated with the Pan-Grave tradition. The ultimate aim in doing so is to identify the widest possible geographic extent across which the Pan-Grave ceramic tradition might be identified. In existing scholarship, finds from sites outside the usual sphere of Pan-Grave activity are only rarely explicitly described as being of the Pan-Grave tradition and are more often tentatively identified as "Pangrave [sic.] style"[533] or as Pan-Grave 'related'.[534] Pottery from the Eastern Desert is generally attributed to one or another desert culture, such as the Jebel Mokram Group, in spite of irrefutable similarities to the Pan-Grave tradition.

Pottery included in this chapter meets many of the key diagnostic criteria for Pan-Grave pottery as outlined in Chapter 3, and therefore it is here approached as if it were Pan-Grave pottery. Two key assertions underpin the exploration:

1. Pottery bearing the hallmarks of the Pan-Grave ceramic tradition can be attributed to the culture, even if it were found at sites outside of what is traditionally considered Pan-Grave territory.[535]
2. The Pan-Grave tradition's sphere of activity should be expanded.

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[530] Bietak, *Ausgrabungen*, 70.

[531] Sadr, *Territorial Expanse*.

[532] For example, see: Castiglioni, Castiglioni, Vercoutter, *Das Goldland der Pharaonen;* Castiglioni, Castiglioni, Bonnet, in Godlewski, Lajtar (eds.), *Between the Cataracts*, 263-70; Sadr, Castiglioni, Castiglioni, in Wenig, *Neuste Feldforschungen,* 191-204.

[533] For example Säve-Söderbergh, *Middle Nubian Sites,* 15 (vol. 1).

[534] Bietak, in Hägg (ed.), *Nubian Culture,* 123; Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 253.

[535] This concept of 'territory' in relation to the nomadic Pan-Grave people is explored extensively by Sadr (Sadr, *Territorial Expanse,* 267-9, 279-89) in his investigation of Bietak's concept of "*Aktionsradius"* (Bietak, *Ausgrabungen,* 71).

With this in mind, occurrences of pottery that may be associated with the Pan-Grave tradition are presented in the sections that follow, beginning with the Upper Nubian Nile Valley before extending the search outward to the desert regions to the east of the Nile. Pan-Grave evidence from the western desert oases also form part of the picture and will be handled in Chapter 6. The sites and the pottery will be described, before the body of evidence is synthesised into an interpretive discussion, considering how this pottery may be interpreted in an otherwise non-Pan-Grave context.

An important caveat is that much of the pottery presented in the chapter includes material found during surface surveys and from settlement contexts, which is a significant deviation from the use of only cemetery material in defining the Pan-Grave ceramic tradition. That approach was necessary, as in order to establish the defining characteristics of Pan-Grave pottery, it was essential that the dataset could confidently be attributed to the Pan-Grave tradition. For this part of the study, the aim is to consider the cultural attribution of pottery displaying clearly Pan-Grave characteristics that does *not* come from an obviously Pan-Grave context.

Most importantly, the pottery discussed throughout this chapter is not being used to define the Pan-Grave tradition; that has already been done in Chapter 3. Instead, those predetermined criteria are now being applied to pottery from other regions in order to support or oppose an association with the Pan-Grave ceramic tradition. It is also important to recognise that surface survey material is all that is currently available for many sites in the Eastern Desert, where extensive excavation is yet to be conducted. This material cannot be excluded; in order to properly establish the widest possible geographic reach of the Pan-Grave tradition, *all* of the material must be considered. This being said, the interpretational issues associated with using surface material are acknowledged and taken into account.

5.1 Wadi el Khowi, Site P37

5.1.1 Overview

Wadi el Khowi Site P37 was recorded as part of the Northern Dongola Reach Survey (NDRS), which aimed to record sites and artefacts in that region that were deemed at high risk of loss or destruction.[536] Site P37 is situated on the east bank of the Nile and has been divided into two parts, a north mound[537] and south mound,[538] with a total of 53 features 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; the graves in the northern part are dug into loose sand that in places was so soft that 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. This difference in grave structure can be directly compared with the differences observed between HK47 and HK21A at Hierakonpolis.

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. 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.[539] Similar features have been identified at Pan-Grave sites in Upper Egypt; at Hierakonpolis HK47, a layer of burnt dung was placed in offering pits between the graves,[540] and Myers also observed burnt dung and ash deposits associated with Pan-Grave contexts at Armant.[541] In the case of Site P37, these two pits

[536] For a detailed discussion of the survey, excavation and recording methods and rationale, see Welsby, *Life on the Desert Edge,* 1-6. A large portion of the material is housed at The British Museum, London. Sincere thanks to Derek Welsby for access to the NDRS pottery at the British Museum, 7 October, 2014.

[537] Welsby, *Life on the Desert Edge*, 206.

[538] Welsby, *Life on the Desert Edge*, 215.

[539] Welsby, *Life on the Desert Edge*, 206.

[540] Friedman, *S&N 5,* 35.

[541] Myers, *A Pan-Grave Cemetery*. Courtesy the Lucy Gura Archive, Egypt Exploration Society. Thank you to Kate Liszka for providing scans of these documents.

do not appear to have been used for burial and may simply be remains of hearths. Unmistakeable evidence for a Pan-Grave presence at the site such as mother-of-pearl spacer beads is otherwise entirely absent.

The Kerma attribution applied by the excavators is based primarily on nature of the graves, their material assemblages, and the location not far to the south of the site 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 is 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,[542] however the use of whole skulls is more suggestive of a Kerma association.[543]

5.1.2 Pottery

The pottery from the survey was analysed and published by Welsby-Sjöström, who acknowledges the presence of Pan-Grave style decoration but does not explicitly assign the pottery to the Pan-Grave ceramic tradition. Pottery attributed to the *Kerma ancien* tradition was collected from the northern part of the cemetery, while the pottery from the 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 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 (**Fig. 74**), assigned by the excavators to the Kerma tradition.[544] The bowl is of the NDRS shape type B20.11[545] with NDRS decoration type D41.1, which is equivalent to a simple restricted bowl (RS form) with irregular cross-hatch decoration (motif C.i) in the current system.[546] The most striking feature of this bowl is the well-defined black-top that appears to have been artificially applied and burnished before firing, which is uncannily similar to Pan-Grave pottery from sites as far north as Mostagedda in Middle Egypt.

A close parallel for this vessel in terms of shape and decoration comes from SJE Site 47, although that example is uncoated and the black rim band is not burnished (**Fig. 40a**).[547] A further three vessels from the same context at Site P37 also show strong similarities to Pan-Grave pottery.[548] 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 black rim bands were also found in the following contexts at Site P37:

P37(G3)3: one bowl, NDRS form type BU5.8[549]
P37(G3)28: one bowl, NDRS form type BO20.5[550]
P37(G4)2: one bowl, NDRS form type BO8.5[551]
P37(G4)8: one bowl, NDRS form type BU5.5[552]
P37(G4)31: one bowl, NDRS form type B20.18[553]

[542] Welsby, Life on the Desert Edge, 217.

[543] Bangsgaard, *Anthropozoologica 48:2,* 290-291; Brunton, *Mostagedda,* 130. The ox skull with the painted human figure is the best known example (Brunton, *Mostagedda,* pl. LXXVI). A painted bovine horn from Mostagedda grave 3114 is held in the British Museum, accession no. EA63201.

[544] The British Museum, accession no. EA81932.

[545] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 308 fig. 5.39; Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 350.

[546] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 343, fig. 5.62.

[547] Museum Gustavianum SJE 47/A.

[548] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 350 fig 6.2.

[549] Welsby-Sjöström, in Welsby, *Life on the Desert Edge*, 350 fig. 6.3.

[550] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 352 fig. 6.6.

[551] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 352 fig. 6.7.

[552] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 354 fig. 6.9.

[553] Welsby-Sjöström, in Welsby, *Life on the Desert Edge* 354 fig. 6.10.

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, and it generally appears that pottery showing Pan-Grave characteristics does not occur in association with pottery showing C-Group characteristics.[554] Decorative motifs such as inverted triangles filled with incised or impressed decoration occur equally in the Kerma and C-Group repertoires[555] 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 simultaneous presence of Kerma, C-Group and Pan-Grave elements in the assemblages at Site P37.[556] Importantly, there appears to be a connection between Pan-Grave and Kerma pottery that does not exist between Pan-Grave and C-Group pottery, which is in keeping with the same pattern observed 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.

Welsby-Sjöström also suggests that it may not be possible to draw clear distinctions between ceramic traditions in Upper Nubia, where mixed assemblages are often the norm.[557] She also rightly observes that the Pan-Grave, Kerma, and C-Group cultures are materially quite distinct in Lower Nubia, whereas the boundaries between the different traditions is less clear in Upper Nubia.[558] The collective evidence from Wadi el Khowi could therefore suggest that the shared heritage of the Middle Nubian cultures was more visible in Upper Nubia than at sites further north, or that there was wide-reaching and varied cultural contact and exchange between Nile Valley and desert groups in this region.[559] As will be seen, this pattern occurs repeatedly at many of the sites in Upper Nubia, and is also observable at sites near the Second Cataract.

5.2 Shemkhiya

5.2.1 Overview

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, spanning all chronological phases thereof.[560] Pottery bearing Pan-Grave characteristics was found in contexts dated to the *Kerma ancien* and *Kerma moyen* phases in cemeteries described as tightly clustered groups of a few dozen graves with tumulus superstructures, which in some cases may suggest social hierarchy, or clan groups.[561] Virtually all of the tumuli had been disturbed either in ancient times or more recently. The burial pits are circular or oval in shape and in some cases there is evidence that the deceased was covered or wrapped in a woven mat.[562] Grave goods were minimal and generally included only pottery and beads. Emphatic identifiers of a Pan-Grave presence, such as painted animal skulls and plaque beads, are absent.

5.2.2 Pottery

Sherds showing Pan-Grave characteristics were found in two contexts dated to the *Kerma ancien* phase. Three

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[554] Welsby-Sjöström (in Welsby, *Life on the Desert Edge*, 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.

[555] Gratien, *CCE 6,* 116-9.

[556] Welsby-Sjöström, in Welsby, *Life on the Desert Edge*, 253.

[557] Welsby-Sjöström, in Welsby, *Life on the Desert Edge*, 253.

[558] Welsby-Sjöström, in Welsby, *Life on the Desert Edge,* 252-3.

[559] Pottery showing strong similarities to Pan-Grave material from Lower Nubia and Upper Egypt was also identified as part of the Amri to Kirbekan Survey (AKS), although to a lesser extent than in the Northern Dongola Reach. See Welsby, *Survey*. Sincere thanks to Derek Welsby for allowing me access to the AKS pottery at the British Museum on 7 October, 2014.

[560] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract,* 321. Only one of these cemeteries, MW2, was fully excavated. See also: Wlodarska, Orzechowska, *GAMAR 11, 113-118.*

[561] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract,* 321.

[562] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract*, 325.

rim sherds of a black-ware bowl with incised decoration were found in Tomb 3 at site BTŻ2.[563] The decoration of incised parallel grooves crossed by pairs of incised oblique lines corresponds to the filled zig-zag motif (Z.f) in the system applied to the present study.[564] The Shemkhiya example is comparable to a sherd from SJE Site 47 in terms of ware and decoration, and other comparable sherds with virtually identical decoration were also recorded by Weigall at Gerf Hussein[565] and Tomas.[566] Other sherds, collected from Tomb 1 at site BTŻ18, also carry incised decoration with striking similarities to Pan-Grave pottery from further north.[567] Those sherds are also in a black smoothed ware (B.s) and the decoration consists of triangular zones filled with incised hatching, corresponding to the braid motif (motif B) in the system applied to the current study. Of course the early date of these contexts is problematic, but at the very least it may suggest that the Pan-Grave origins in this region extend back to the *Kerma ancien* phase.

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:

- BTŻ11/T3:[568] red-coated and burnished black-topped bowl, black interior. Externally modelled rim with incised line. Irregular black-top. Restricted simple contour, bag-shaped form with maximum diameter at lower half of body.
- SH4a/T4:[569] red-coated and burnished black-topped bowl, black interior. Externally modelled rim with incised line. Well defined (augmented?) black-top. Restricted complex contour with sharp carination and nearly flat base.
- SH4a/T2:[570] red-coated and burnished black-topped bowl, black interior. Externally modelled rim with incised line. Partially defined black-top. Unrestricted simple contour, vertical walls and round base. Horizontal streaky burnish to exterior.

Each of the above vessels shares numerous characteristics with better-known Pan-Grave pottery from Upper Egypt and Lower Nubia. All have externally modelled rims delineated by an incised line, and the surface treatment 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 well-defined black-tops. A bowl with the same type of black-top was found at the site designated El Ar 1, approximately 100 km upstream.[571] 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 Upper Egypt or Lower Nubia, but shares some similarity with vessels from El Widay I (see below).

All of the sherds listed above could easily be identified as Pan-Grave, however the excavators have assigned a Kerma attribution. The criteria for this identification are not made explicitly clear, but is most likely due to geography and to the character of the graves themselves. The site is well outside of what is traditionally viewed as the Pan-Grave zone of activity, and the graves do not otherwise show Pan-Grave characteristics. Nevertheless, the vessels show greater affinity with the Pan-Grave tradition than with any other Middle Nubian culture, according to the criteria laid out in Chapter 3 of this volume and hence should more likely be attributed to that tradition. The occurrence of what is ostensibly Pan-Grave pottery in otherwise non-Pan-Grave contexts is seen at other sites in the region, where it has been interpreted as evidence for contact and trade between cultures, and between river and desert-based communities.

[563] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract,* pl. 9.
[564] Gratien calls this design 'Le décor a base de chevron en bande' (Gratien, *CCE 6,* 115).
[565] Weigall, *Antiquities of Lower Nubia,* pl. LXXX; Gratien 2000, 115.
[566] Weigall, *Antiquities of Lower Nubia*, pl. LXXXVIII.
[567] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract*, pl. 10.
[568] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract*, pl. 16.
[569] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract,* pl. 18.
[570] Wlodarska, in Anderson, Welsby (eds.), *The Fourth Cataract*, pl. 20.
[571] Paner, in Anderson, Welsby (eds.), *The Fourth Cataract,* pl. 26.

5.3 Al-Widay I

5.3.1 Overview

The site of al-Widay I was excavated as part of the Oriental Institute Nubian Expedition (OINE) in 2007 and 2008.[572] A total of 112 graves were recorded, and the dateable evidence suggests a date range from the *Kerma moyen* to *Kerma classique* phases, with the earlier graves located at the northern end of the cemetery, the later to the south (**Fig. 75**).[573] The graves and burials are entirely Nubian in character, being shallow pits averaging 50 cm in depth, into which the deceased was placed on their side in a contracted position.[574] Most of the graves are roughly circular, although some of the later examples are slightly rectilinear in shape.[575] 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,[576] and many of the pits were stone-lined. Almost one third (28%) of the graves included a complete caprid burial,[577] and most burials were placed on leather mats sprinkled with red ochre. Despite the obviously Nubian appearance of the graves themselves, the assemblages from al-Widay are of a mixed character with Kerma, Pan-Grave, and Egyptian elements, as well as material that is comparable to pottery from the Eastern Desert. This has been interpreted as a reflection of connections between the Nile-based Kerma culture and desert groups, in this case the Pan-Grave.[578]

5.3.2 The Pottery

The ceramic assemblage from al-Widay has been studied by the current author, and the following constitutes a preliminary discussion.[579] A considerable portion of the assemblage can be attributed to the Pan-Grave tradition on the basis of ware and decoration and, significantly, the excavators have chosen to associate this pottery directly with the Pan-Grave tradition, reinforcing the possibility of a Pan-Grave connection at this location.[580] This being said, the material is unique; the ware types and surface treatments are familiar and comparable to pottery from Upper Egypt and Lower Nubia, but overall the material is entirely idiosyncratic.

One of the most noticeable and distinctive characteristics of the pottery is its fabric. Virtually all of the handmade Nubian pottery is made in a very coarse, heavily sand-tempered fabric with no visible organic material (**Plate S**). The sand is mostly rounded, suggesting that it is alluvial in origin, and the grain size is medium with some larger stony inclusions. The mica content of the pottery is also especially high, giving the surfaces a glittering appearance. In spite of the coarseness of the fabrics, the pottery is carefully finished with well smoothed, compacted, and often lightly burnished surfaces. This suggests that the visual appearance of the vessel was of greater importance and concern to the potters than the raw materials.

Of the pottery that can be attributed to the Pan-Grave tradition, the undecorated vessels are most distinctive. As noted, the wares are characteristic of the Pan-Grave tradition. The exterior surfaces are red-coated and lightly burnished with obviously streaky marks, but most telling is that the rim band is often left uncoated, which is a technological link to sites in Upper Egypt and Lower Nubia. There are also clear examples of black rims that have been artificially applied to the vessels by the addition of a black pigment (**Plate R.i**).

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[572] Emberling, Williams, *GAMAR 7*; Emberling et al, in Anderson, Welsby (eds.), *The Fourth Cataract*). A second site, al-Widay II, was excavated but finds were minimal and the date could not be determined (Emberling, Williams, *GAMAR 7,* 23).

[573] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract* fig. 2.

[574] Emberling, Williams, *GAMAR 7,* 24, figs. 15-17.

[575] Emberling at al., in Anderson, Welsby (eds.), *The Fourth Cataract,* pls. 5-6.

[576] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract*, 331.

[577] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract,* 330; Emberling, Williams, *GAMAR 7,* 25, fig. 20.

[578] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract,* 333–4.

[579] The author's analysis of the ceramics from al-Widay I was supported by a Collection Research Grant awarded by the Oriental Institute of the University of Chicago. The analysis was conducted during March/April 2018 and publication is currently in preparation.

[580] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract,* 333.

Morphologically, the rim profiles are also characteristic of the Pan-Grave tradition; band rims defined by incised lines are common, as are externally modelled rims with rounded or triangular profiles.

The shape of the vessels themselves is also unusual, but clearly seems related to more familiar examples of Pan-Grave bowls. Of particular note are deep bag-shaped beakers with vertical walls that are sometimes slightly concave, with a low maximum point and shallow convex base (**Fig. 76a,c**). In terms of form, these vessels are like an exaggerated version of the restricted inflected (RI) bowls from sites further north, and an almost exact parallel has been recorded at SJE Site 47 (**Fig. 71**). All of the examples from al-Widay have modelled rims, and at least two show highly unusual and distinctive black painted decoration. A vessel from Tomb 67 bears a broad black panel extending down from the rim to the point where the vessel wall curves to the base (**Fig. 76a, Plate R.ii**).[581] A second example from Tomb 87 survives only as sherds but displays a broad black stripe painted around the body (**Fig. R.iii**). Other vessels may be compared to the bag-shaped bowls from sites in Lower Nubia and Middle Egypt, but once again these have a more exaggerated form with a low maximum point and more marked carination at the transition to the base (**Fig. 76b, Plate R.iv**).

Decorated examples that can be attributed to the Pan-Grave tradition are few in number. A bowl from Tomb 14 has an irregular black-top and is decorated with an incised braid motif (motif B) around the upper body and a circular motif on the base,[582] both of which are typical features for the Pan-Grave tradition. There is extensive secondary burning to the base of this vessel, suggesting that it was used over a fire, presumably for cooking. A second example is a burnished red-coated black-topped ware bowl, decorated with a band of the grouped cross-hatch motif bounded by lines of short incised dashes that are likely intended to imitate string impressions.[583] The well-defined black-top and carefully burnished exterior suggest a Pan-Grave attribution, but the shape and overall impression of the vessel could indicate a Kerma association.

Generally speaking, the al-Widay pottery that can be attributed to the Pan-Grave ceramic tradition is both familiar and unfamiliar at the same time. The shapes, wares and decoration are broadly comparable with pottery from further north, but they are distinctly unique in their more exaggerated forms and unusual fabrics. The association of this pottery with material that is obviously Kerma (e.g. *Kerma classique* beakers) is worth nothing as it continues a pattern seen across sites in Upper Nubia. 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, who may have followed Pan-Grave traditions.[584] Williams noted that the pottery found at el Widay and neighbouring Hosh al Guruf (see below) forms part of what he describes as the "*Pan-Grave complex*, whose influence spread from Middle Egypt to the Ethiopian Plateau."[585] It is also suggested that Pan-Grave pottery in the assemblages from al-Widay reflects a communication between river-based populations and nomadic groups,[586] which may be connected to the gold mining activities at Hosh al Guruf (§5.4).

5.4 Hosh al Guruf

5.4.1 Overview

The site of Hosh al Guruf, located only a few kilometres upstream from al-Widay, was heavily disturbed but appears to be of an industrial nature, possibly for the processing of gold ore.[587] There are also traces

[581] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract,* pl. 11b.

[582] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract* , pl. 8C; Paner, in Anderson, Welsby (eds.), *The Fourth Cataract,* pl. 21 (top right).

[583] Paner, in Anderson, Welsby (eds.), *The Fourth Cataract,* pl. 21 (top left).

[584] Emberling at al., in Anderson, Welsby (eds.), *The Fourth Cataract,* 333-334.

[585] Emberling, William, *GAMAR 7,* 35 (emphasis added).

[586] Emberling et al., in Anderson, Welsby (eds.), *The Fourth Cataract,* pp. 333-334.

[587] Emberling, Williams, *GAMAR 7,* 20-23.

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, and a clay seal of a Twenty-Fifth Dynasty queen suggests that there was some small-scale reuse during the Napatan Period.[588]

5.4.2 Pottery

More variety was identified in the pottery from Hosh al Guruf than at nearby al-Widay, which is most likely due to activity 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.[589] Some sherds have decoration applied only to the rim band, usually consisting of cross-hatching[590] or a banded zig-zag motif.[591] At least three decorated sherds have a band rim demarcated by a line of impressed dots,[592] which is a recognised feature for Pan-Grave pottery. Undecorated pottery from the site also resembles well-known Pan-Grave types with band and modelled rims and black-tops.[593]

5.5 The Eastern Desert

Based on their acceptance of the connection between the Pan-Grave, the Medjay and the Eastern Desert, Sadr and the Castiglionis were surprised at what they saw as the absence of archaeological evidence for the Pan-Grave tradition in the Eastern Desert of northern Sudan. In their view, the desert "should have been littered with pan-graves."[594] Bietak included Eastern Desert sites in his list of Pan-Grave attestations, but he also acknowledged that the evidence is too scant for any definitive identification.[595] However, new investigations of legacy material together with recent excavations and surveys have shown that there is, in fact, substantial evidence to support a Pan-Grave presence in the desert regions of northeastern Sudan, which will now be outlined.

5.6 Kassala

Surveys and small-scale excavations have been conducted periodically in the region surrounding Kassala since the early Twentieth Century. Early surveys were undertaken by Crowfoot,[596] after which the area has been surveyed by the Italian Archaeological Mission to Kassala Province led by Rodolfo Fattovich,[597] and most recently by the Italian Archaeological Mission to Sudan, Kassala (IAMS) under the direction of Andrea Manzo.[598]

Crowfoot's two surveys at the town of Kassala took place in 1917 and 1926.[599] The sherds collected by Crowfoot were divided into two groups: Group I, which he 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 tradition in his report, but a glance at the published sherds shows that there are clear morphological connections with the Pan-Grave tradition.

The pottery bearing the most noticeable Pan-Grave characteristics was classified by Crowfoot into his

[588] Emberling, Williams, *GAMAR 7,* 20-21, fig. 6.
[589] Emberling, Williams, *GAMAR 7,* fig. 25, fig. 32b.
[590] Emberling, Williams, *GAMAR 7,* fig. 32a & d.
[591] Emberling, Williams, *GAMAR 7,* fig. 32c.
[592] Emberling, Williams, *GAMAR 7,* fig. 25d, fig. 32b & d.
[593] Emberling, Williams, *GAMAR 7,* fig. 32f-j.
[594] Sadr, Castiglioni, Castiglioni, *ANM 7*, 204. See also Sadr, Castiglioni, Castiglioni, in Wenig (ed.), *Neuste Feldforschungen*, 197-198.
[595] Bietak, *Ausgrabungen*, 70.
[596] Crowfoot, *JEA 14*, 112-6.
[597] Fattovich, Sadr, Vitagliano, *Origini 14*, 330-3; Fattovich, Marks, Mohammed-Ali, *AAR 2*.
[598] Manzo, *Eastern Sudan*; Manzo, *S&N 21,* 98-112; Manzo, *NA-CISA 4;* Manzo, *NA-CISA 5;* Manzo, *NA-CISA 6*; Manzo et al., *2010 Field Season;* Manzo et al., *2011 Field Season.*
[599] Crowfoot, *JEA 14,* 112; Bietak, *Ausgrabungen,* 70.

second and apparently more African group because it was handmade and the fabrics and wares resembled East African pottery known to him at the time.[600] 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.[601] It was also noted that pottery bearing Pan-Grave characteristics stood out from the group of sherds collected by Crowfoot for its uniformity of style and decoration.[602] All but one of these sherds shows an undecorated rim band, below which is an area ornamented with incised oblique hatching or various cross-hatched motifs (**Fig. 78**). These types of decoration are present at every Pan-Grave site in the Upper Egyptian and Lower Nubian Nile Valley, and may hence 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 Kerma.[603] Unfortunately it is not possible to assign a reliable date to these sherds.

5.7 Jebel Mokram pottery in the Southern Atbai

The Jebel Mokram Group is an archaeological culture attested in the Kassala region and the southern Atbai generally during the second millennium BC, making it contemporary with the Pan-Grave tradition in the Nile Valley. There are irrefutable similarities between the Jebel Mokram and Pan-Grave ceramic traditions,[604] which Manzo has described as a "*strong Pan-Grave imprint*".[605]

Our understanding of the possible connections between the Pan-Gave culture and the Jebel Mokram Group has changed considerably in recent years. Sadr had first proposed that both groups are associated with the Medjay of ancient Egyptian texts,[606] based on his observation that the Jebel Mokram Group seems to arise suddenly in the Southern Atbai at around 1500 BC, after the Pan-Grave tradition 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.[607]

Sadr's theory has recently been turned on its head as a result of new radiocarbon dates indicating a short transition from the earlier Gash Group to the Jebel Mokram group c. 1800 BC,[608] which is roughly the same time that the Pan-Grave tradition appears archaeologically in the Nile Valley. It now seems that the Jebel Mokram Group and the Pan-Grave tradition were present and active *simultaneously* in the Nile Valley and the Kassala region, and that their "appearance" at sites near Kassala was just as sudden as it was in the Nile Valley. This point has significant implications for explorations into the origins of the Pan-Grave tradition as well as any investigations of how the culture fits within the broader cultural ecosystem of northeast Africa during the Second Millennium BC. We will return to this theme at the end of this chapter (though in truth this theme constitutes a research project of its own!), and will now return our focus to the pottery.

5.7.1 Identifying Jebel Mokram Pottery

Before focussing on specific sites and assemblages, the current definition of the Jebel Mokram ceramic tradition must be established in order to set a foundation for comparison with the Pan-Grave tradition.[609]

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[600] Crowfoot, *JEA 14,* 113.

[601] Crowfoot, *JEA 14,* 113.

[602] Crowfoot, *JEA 14,* pl. XIII.1-10.

[603] Crowfoot, *JEA 14,* 114-5.

[604] Fattovich et al., *AAR 2,* 182-2; Sadr, *ANM 2,* 269-83; Sadr, *Development of Nomadism,* 47.

[605] Manzo, *S&N 21*, 103.

[606] Sadr, *ANM 2,* 283; Liszka, *JAEI 7.2*, 46.

[607] Sadr, *ANM 2,* 283-90; Sadr, *Development of Nomadism,* 106-8. Marks follows the immigration theory, stating that "a new people enter the area [i.e. the Southern Atbai]" around 1500 BC (Marks, in Davies (ed.), *Egypt and Africa*, 35).

[608] Manzo, *Eastern Sudan*, 43, note 7; Manzo, *S&N 21,* 104.

[609] Manzo, *Eastern Sudan*, 43-4.

Pottery of the Jebel Mokram Group is part of what is known as the Atbai Ceramic Tradition,[610] however it was noted that Jebel Mokram pottery differs from other ceramic productions in that tradition, namely the Gash and Butana Groups. Together with the ephemeral nature of these sites,[611] the Jebel Mokram ceramic record is thought to represent seasonal movements of mobile groups from areas outside the Kassala region, possibly as far as Eritrea.[612] Manzo noted that the colour difference between Gash and Jebel Mokram pottery suggests technological or processual differences,[613] which may be further evidence for varied and widespread sources of raw materials and production.

Pottery in the Jebel Mokram tradition is divided into seven types that Sadr correlated to Bietak's 1966 classification of Pan-Grave pottery,[614] which served to reinforce the assumed equation between the two traditions. It is not here attempted, nor is it possible, to directly relate the two traditions following the definition for Pan-Grave pottery as devised in this study, as each of Sadr's types would correspond to more than one of the newly proposed wares, often with some cross-over. Instead, each of the Jebel Mokram types are described below and, where possible, concordances with the present system are given.

Banat Fine ware denotes small, thin-walled vessels that are red-slipped and burnished.[615] Half of the known examples have a black interior and black rim zone. Decoration is restricted to the rim zone and consists of hatching or cord impressed decoration. Banat Fine ware corresponds to four 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[616] are coarser and thicker walled than Banat Fine ware, have wet-smoothed unburnished surfaces, and are only occasionally red-slipped. Black-tops are rare. These two ware types correspond to the coarser 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,[617] defined by incised cross-hatched decoration in a band around the upper body of the vessel. Kubdai incised cannot be equated to any single ware type in the Pan-Grave typology as it is defined by its decoration.

Gulsa Groove-Carved ware[618] 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,*[619] and considers it to be diagnostic for Jebel Mokram pottery. Once again, because Gulsa Grooved ware is defined by a particular decorative motif (in this case oblique hatching) it may correspond to any ware type in the present system that bears the same motif.

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[610] Fattovich et al, *AAR 2*, 182.
[611] Manzo, *S&N 21*, 104.
[612] Fattovich et al, *AAR 2,* 182.
[613] Manzo, *S&N 21,* 103.
[614] Sadr, *ANM 2,* 270-9.
[615] Sadr, *ANM 2,* 272-3.
[616] Sadr, *ANM 2,* 273.
[617] Sadr, *ANM 2,* 273.
[618] Sadr, *ANM 2,* 273.
[619] Bietak, *Ausgrabungen,* 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 includes pottery decorated with oblique hatching.

Avitola Punctate and *Garatit Complex-Impressed* wares do not have any equivalent in the Pan-Grave ceramic tradition, and the latter may be compared to C-Group or early Kerma pottery based on its decoration.[620]

With this background in place, the following sections consider Jebel Mokram pottery in the context of the numerous localities at which it has been identified to date.

5.8 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 (**Fig. 79**),[621] with the stratigraphy and radiocarbon dates indicating a rapid transition from the former to the latter as noted above. The contexts designated K1 VI, VII, VIII, and IX all show evidence of occupation during the second millennium BC and hence much of the pottery from these contexts has been attributed to the Jebel Mokram Group.

Sherds found at K1 VI and VIII display distinctly Pan-Grave elements such as bands of incised decoration around the upper body (**Fig. 80a,b**)[622] and externally modelled rims defined by an incised line.[623] Where present, the black-tops appear to be irregular, extending slightly below the rim band. The sherds are mostly uncoated and fairly coarse in texture, comparable to Middle Nubian pottery found in Egyptian settlements such as Tell Edfu[624] and Elephantine.[625]

The decorative motifs are comparable to material from the Nile Valley: one sherd from K1 VI has parallel oblique lines,[626] another from the same context has irregular cross-hatching,[627] and a sherd from K1 VIII appears to have grouped cross-hatched decoration,[628] all of which are attested in Pan-Grave assemblages from further north. Grouped cross-hatch motifs are also well represented and are a recurrent motif in the Pan-Grave tradition.[629]

5.9 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 (Fifteenth–Eighteenth Centuries AD),[630] and the northeastern section of the site (excavation unit UA53 II) includes eroded tumuli that may be dated 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.[631] 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.[632] This is in keeping with the culturally mixed character of the cemeteries in Upper Nubia.

Much of the pottery from UA53 displays Pan-Grave-like characteristics, in particular simple incised hatched and cross-hatched motifs,[633] band rims and modelled rims,[634] and decorated rim bands (**Fig. 81**).[635] A notable example with an inflected triangular rim decorated with an incised herringbone motif bounded by a line

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[620] Sadr (*ANM 2*, 273) links these types to pottery in the Butana and C-Group traditions.

[621] Manzo et al, *2010 Field Season*, 27-30; Manzo, *2013 Field Season*, 376-9; Manzo, *2014 Field Season*, 231-3.

[622] Manzo et al, *2010 Field Season,* fig. 48; Manzo, *S&N 21*, fig. a-e; Manzo,. *Eastern Sudan*, fig. 37a-c.

[623] Manzo, *S&N 21*, fig. 6a-e; Manzo, *Eastern Sudan*, fig. 37.

[624] Ayers/Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 4.

[625] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, fig. 6-12.

[626] Manzo et al., *2010 Field Season,* fig. 48a. Motif H.o in the current system.

[627] Manzo et al., *2010 Field Season,* fig. 48b. Motif C.i in the current system.

[628] Motif C.g in the current system.

[629] Manzo, *S&N 21*, fig. 6a-c; Manzo, *Eastern Sudan*, fig. 37 b-c.

[630] Manzo et al, 2011 Field Season, 6-22; Manzo, *NA-CISA 4*, 257; Manzo, *NA-CISA 5*, 379.

[631] Manzo et al, *2011 Field Season,* 11.

[632] Manzo et al, *2011 Field Season*, 11-3.

[633] Manzo et al, *2011 Field Season*, fig. 87; Manzo, *BMSAES 18*, fig. 28b.

[634] Manzo, *BMSAES 18*, fig. 28b.

[635] Manzo et al, *2011 Field Season*, fig. 90b-c & g.

of impressed dots[636] finds an almost exact parallel at Hierakonpolis HK21A. All sherds appear to be uncoated and at least three have narrow black-tops.[637]

5.10 Site UA 100

This site has been damaged by vehicular traffic, but a large number of sherds was collected,[638] many of which could be attributed to the Jebel Mokram Group (**Fig. 82**). Pan-Grave characteristics present in this assemblage include modelled and band rims[639] and incised hatched decoration around the upper body.[640] Two sherds with a raised zig-zag line below the rim recall examples found at the Pan-Grave cemetery at Moalla,[641] in a First Intermediate Period settlement context at Tell Edfu,[642] and also attested at site SEG 14 (see below) and Agordat,[643] which supports a strong connection between the Pan-Grave and Mokram traditions and the Eastern Desert. Rows of interlocking impressed triangles are also a feature of C-Group and *Kerma ancien* pottery traditions,[644] which may reflect a shared cultural heritage for the various ceramic traditions in both the Nile Valley and the surrounding desert regions.

5.11 Shurab el Gash, Site SEG 13

Only a small number of sherds from site SEG 13 have been published,[645] and these are somewhat ambiguous in terms of cultural affiliation (**Fig. 83**). The sherds may be compared to Pan-Grave cooking pots on the basis of the coarse fabric and simple decoration of roughly executed cross-hatching, the best parallels for which come from settlement contexts in Upper Egypt.[646] A sherd with deep horizontal grooves and oblique notches at the rim zone[647] has parallels at Elephantine[648] and Wadi es Sebua, the latter of which suggests a connection to the C-Group culture.[649] The horizontal groove decoration may also be compared to pottery of the Jebel Moya tradition, in particular *Kannelierte Ware*, which dates to the mid first Millennium BC.[650] The similarity to Jebel Moya pottery could be a reflection of the universality and wide distribution of this type of incised linear decoration in desert regions of northeast Africa over a long span of time.

5.12 Shurab el Gash, Site SEG 14

Two of the published sherds have been compared to Gash Group, Jebel Mokram Group, and Fourth Cataract Kerma pottery (**Fig. 84**).[651] Both sherds have an undecorated band rim, incised oblique lines on the vessel body, and a distinctive raised 'zig-zag' that functions as the line delimiting the rim zone. The same feature is attested at sites UA 100 (see above) and Agordat,[652] and at Moalla in Upper Egypt.[653]

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[636] Manzo et al, *2011 Field Season*, fig. 90g.

[637] Manzo, *BMSAES 18*, fig. 28a & c; Manzo et al, *2011 Field Season,* fig. 87.

[638] Manzo et al, *2011 Field Season*, 34.

[639] Manzo et al, *2011 Field Season*, figs. 86, 88 & 92.

[640] Manzo et al, *2011 Field Season,* figs. 85-6.

[641] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 124, fig. 8.

[642] Sighted by the author at Tell Edfu.

[643] Arkell, *Kush 2*, pl. VII.4.

[644] C-Group examples are known from the SJE Concession (Säve-Söderbergh, *Middle Nubian Sites,* pl. 25.4-6 [vol. 1]); Kerma examples are known from Sai Island (Gratien, *Sai I*, fig. 308a, 309a).

[645] Manzo, *BMSAES 18*, fig. 10.

[646] For example at Aswan (Forstner-Müller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 14.29 and 14.30); Tell Edfu (Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 4b); Deir el Ballas (Bourriau, in Lacovara (ed.), *Deir el Ballas*, fig. 4.1.2); and Memphis, Kom Rabia (Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* figs. 4-5).

[647] Manzo, *BMSAES 18,* fig. 10b.

[648] Raue, Elephantine und Nubien, Abb. 100.

[649] Gratien, *CRIPEL 7,* fig. 12.

[650] Gerharz, *Jebel Moya,* 140, Abb. 54; Addison, *Jebel Moya,* pl. C.D1, 3.

[651] Manzo, *BMSAES 18,* 78, fig. 11.

[652] Arkell, *Kush 2*, fig. VII.4.

[653] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 124, fig. 8.

5.13 Site R 49

Site R 49 is located in the Sudanese Eastern Desert and was investigated by the CeRDO expedition. Only a small selection of pottery from Site R 49 is published, two of which are comparable to the Pan-Grave tradition (**Fig. 85**).[654] Both have band rims 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 attested at Pan-Grave sites including Debeira East SJE Site 47,[655] Hu Cemetery X,[656] and Hierakonpolis HK47.

5.14 Site AL

Site AL was investigated by the CeRDO mission and is located in the desert 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,[657] none of which are obviously Pan-Grave in character (**Fig. 86**). One may be compared to Pan-Grave pottery from the Nile Valley on the basis of its undecorated rim zone with incised vertical hatching below (**Fig. 86a**).[658] The rim zone appears to retain traces of black, suggesting it once had a black-top that has worn away. Comparable pottery is attested at Pan-Grave sites Debeira East SJE Site 47[659] and Shellal Cemetery 7.[660] Another sherd is more unusual in that it retains part of its undecorated black-top, which is delimited by a line of impressed triangles, below which are rows of seed-shaped impressions (**Fig. 86d**)[661] that find exact parallels on pottery from al-Widay I.[662]

5.15 Site ED 16

A small group of sherds from Site ED 16 has been published, three of which show strong similarities to Pan-Grave pottery from the Nile Valley.[663] One sherd is uncoated and decorated with incised oblique lines below the rim (**Fig. 87c**),[664] and an entirely black sherd is decorated with regular cross-hatching (**Fig. 87d**).[665] The third example has a complex rim that is recessed but thickened at the edge (**Fig. 87f**), which is comparable with examples from Cemetery 7 at Shellal,[666] and from settlement contexts at Aswan,[667] both of which are also decorated with incised oblique lines.

The remaining published material from ED 16 comprises decorated body sherds. A coated and burnished sherd decorated with bands of incised oblique dashes all running in the same direction (**Fig. 87a**) is not unlike the banded herringbone motif attested in the Pan-Grave tradition (Motif HB.b),[668] and an uncoated sherd is decorated with what could be the incised braid motif (**Fig. 87b**).[669]

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654 Manzo, *BMSAES 18,* fig. 19c and 19d.

655 SJE 47/14:10, SJE 47/3:3(b), SJE 47/20:4, and SJE 47/6:1. All examples are unpublished and held in the collection of the Museum Gustavianum, Uppsala.

656 This vessel, from grave X52, is unpublished. A photograph is in the Lucy Gura Archive, Egypt Exploration Society (DIOS.NEG.124).

657 Manzo, *BMSAES 18,* Fig. 16a-d.

658 Manzo, *BMSAES 18,* fig. 16a.

659 SJE 47/74:6 and SJE 47/106:2. Both examples are unpublished and held in the Museum Gustavianum, Uppsala.

660 Reisner, *ASN 1907-08,* fig. 37.10.

661 Manzo, *BMSAES 18,* fig. 16d.

662 Sighted by the author at the Oriental Institute, University of Chicago.

663 Manzo, *BMSAES 18,* fig. 17c, d & f.

664 Manzo, *BMSAES 18,* fig. 17c.

665 Manzo, *BMSAES 18,* fig. 17d.

666 Reisner, *ASN 1907-08,* fig. 37.10. Reisner assigned Shellal Cem. 7 to the C-Group, however it is almost certainly a Pan-Grave site.

667 Forstner-Müller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 10.14. Note that Forstner-Müller follows Reisner's erroneous C-Group identification.

668 Manzo, *BMSAES 18*, fig. 17a.

669 Manzo, *BMSAES 18,* fig. 17b.

5.16 Agordat

5.16.1 Overview

Surface finds from Agordat, in the foothills of the Eritrean plateau, were collected and sent to the Khartoum Museum in 1942 by Major J. S. Last, then Political Officer to Agordat, and were studied later that same year by Arkell while on military leave of absence.[670] Arkell later went to the site himself and conducted two days of survey and a single test excavation at Kokan, after which he concluded that the area was a heavily eroded and disturbed occupation site.[671]

Although the site was not systematically excavated, Bietak included Agordat in his survey of the Pan-Grave tradition, citing the similarities to Pan-Grave material as evidence for an Eastern Desert origin.[672] It was not until 1994 that the site was revisited, but work was permitted for just two days owing to security concerns. Only a small test trench of 1 m^2 could be opened at a rock shelter in Kokan Hill, which confirmed Arkell's observation that it is a heavily disturbed occupation site.[673]

5.16.2 Pottery

Pottery found during both surveys presents a mixture of ceramic traditions spanning a period of approximately 2000 years.[674] The traditions identified include all phases of the Gash Group, C-Group Phase IIB/III, Pre-Aksumite pottery, and most importantly for this study, pottery attributed to the Jebel Mokram and Pan-Grave traditions.[675] There are also links to the Kerma tradition in the applied "*Linsen-Muster"* decoration,[676] and other sherds are comparable to Jebel Moya pottery,[677] demonstrating extensive links to both desert and river-based cultures at this location.

Pottery showing Pan-Grave characteristics, especially in terms of decoration, is present in both Arkell's sample and that from the Kokan rock shelter. The relevant pottery is most easily distinguished by simple incised cross-hatched decoration comparable to pottery from sites in Upper Egypt and Lower Nubia.[678] There are also more specific details that have parallels at other sites, in particular the lines of impressed opposing triangles as seen at UA 100, SEG 14, and Moalla in Upper Egypt (see above).[679] Little more can be said of this assemblage given the limited evidence, but it seems clear that there was some form of contact with the Pan-Grave tradition at this site.

5.17 Mersa Gawasis

A collection of one hundred sherds was collected at Mersa Gawasis on the Red Sea coast, which were described as "exotic" to denote their non-Egyptian character displaying features of Nubian and other desert ceramic traditions.[680] This broad range reflects far-reaching maritime contacts converging on this Middle Kingdom harbour.

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[670] Arkell, *Kush 2*, 33.

[671] Arkell, *Kush 2*, 33-4. For a re-examination of some material from Agordat, see Belados, Haaland, Magid, *Nyame Akuma* 68, 4-11.

[672] Bietak, *Ausgrabungen,* 70.

[673] Brandt et al., in Schmidt, Curtis, Teka (eds.), *Ancient Eritrea,* 33-47.

[674] Brandt et al., in Schmidt, Curtis, Teka (eds.), *Ancient Eritrea,* 36.

[675] Brandt et al., in Schmidt, Curtis, Teka (eds.), *Ancient Eritrea,* 44.

[676] Arkell, *Kush 2,* pl. VI.1-3. This type of decoration is also attested at Sai Island, where it is described as *"décor de pois"* (Gratien, *CRIPEL 7,* 405, fig. 303) and also in the settlement remains at Aniba (Steindorff, *Aniba I,* pl. 91).

[677] For comparisons to Jebel Moya pottery see: Addison, *Jebel Moya,* pls. XCIV-CV (vol. 2).

[678] Arkell, *Kush 2,* pl. VII.4, pl. IX.3, 6, and pl. X.1; Brandt et al., in Schmidt, Curtis, Teka (eds.), *Ancient Eritrea,* fig. 3.9.8.

[679] Arkell, *Kush 2,* 58, pl. VII.4.

[680] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 213; Manzo, *BMSAES 18,* 76; Manzo, in Godlewski, Łajtar (eds.), *Between the Cataracts,* 439-41.

Manzo identified twelve ceramic types, all but two of which have parallels in multiple Middle Nubian and/or desert cultures (**Table 5**).[681] For example, Manzo's type 5, a brown-red ware with incised herringbone decoration,[682] could be associated equally with the Kerma, C-Group, Pan-Grave, Gash Group, Jebel Mokram Group, or pottery from the Sudanese Eastern Desert in terms of decoration. The only distinguishing feature is the mineral temper, which likely indicates its desert-based production. Similarly, Manzo's type 2 is characterised by closely spaced incised cross-hatching,[683] which is common to all Middle Nubian cultures as well as the Jebel Mokram tradition. All of the other types are equally ambiguous. Further evidence for complex cultural exchange comes in the form of two marl sherds that Manzo interprets as imitations of Nubian wares,[684] which may be compared with Raue's LaMNI ware at Elephantine, and the Nubian imitation wares from Tell Edfu and Umm Mawagir.

Only one sherd, Manzo's type 10,[685] can be assigned to the Pan-Grave tradition with any degree of confidence based solely on the presence of what appears to be a band rim, possibly a defined black-top, and traces of incised cross-hatch decoration. Manzo has dated this sherd to the early Thirteenth Dynasty on the basis of associated Egyptian material, which, if verified, would place it among the earliest archaeological evidence for Pan-Grave activity,[686] and speaks strongly of a long history in the deserts east of the Nile Valley.

5.18 Re-contextualising data from Upper Nubia and the Eastern Desert

It now seems clear that the Pan-Grave ceramic tradition—or at least elements of it—is present at sites as far south as the Fourth Cataract and eastward into the deserts of northeastern Sudan and Eritrea. Pan-Grave decorative motifs, wares, and shapes are all attested, and the similarities with assemblages from Pan-Grave sites in the Upper Egyptian and Lower Nubian Nile Valley are undeniable. Therefore it is this author's opinion that the reach of the Pan-Grave ceramic tradition must now be extended beyond Upper Egypt and Lower Nubia, confirming the long held assumption that the culture finds its ancestral home in the desert regions east of the Nile. Based on the striking similarities, and with the exception only of Mersa Gawasis, the pottery presented in this chapter should now be integrated into the Pan-Grave tradition.

Expanding the reach of the Pan-Grave tradition has implications for our understanding of the culture and its interactions with other groups in Egypt and Nubia. The association of Pan-Grave pottery with Kerma burial traditions at Wadi el-Khowi, Shemkhiya, and al-Widay, is mirrored to a lesser extent in Upper Egypt and Lower Nubia, where Kerma pottery has occasionally been found at Pan-Grave sites. As has already been noted in earlier chapters, this connection between Pan-Grave and Kerma material is directly contrary to earlier studies that declared the two cultures do not occur in association.[687]

In reality, there does appear to be a connection of sorts between the Pan-Grave and Kerma cultures, but the nature and mechanisms are unclear.[688] Manzo has suggested that the overall distribution of pottery with Pan-Grave characteristics suggests that the culture had contact with Egypt, Lower Nubia, Upper Nubia, and also with southeastern Sudan.[689] The assemblages at al-Widay are a clear example of the complex cultural mixing that occurred in Upper Nubia. Overall, the evidence from Upper Nubia and the surrounding deserts clearly shows that variants of the Pan-Grave tradition were widespread across Egypt *and* Sudan in both desert and riverine environments.

A fundamental question remains for the sites in Upper Nubia: if the Pan-Grave tradition was an active component in the socio-cultural landscape of Upper Nubia, then where are the Pan-Grave cemeteries? None

[681] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 214-24, table 1.
[682] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 219, fig. 2e.
[683] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 2b.
[684] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 223, fig. 3e-f.
[685] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 221, fig. 3b.
[686] Manzo, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 229.
[687] Bourriau, in Arnold (ed.), *Studien,* 25l; Weschenfelder, in Anderson, Welsby (eds.), *The Fourth Cataract,* 363.
[688] Edwards, *The Nubian Past*, 100.
[689] Manzo, in Krzyzaniak, Kroeper, Kobusiewicz (eds.), *Interregional Contacts,* 18.

have been identified in this region to date, but this of course does not mean that they do not exist. It must also be acknowledged that our current understanding of what constitutes a Pan-Grave site is based on evidence from Upper Egypt and Lower Nubia only, but it is now expressly clear that each and every Pan-Grave assemblage is unique, and broad variation occurs even at a single site. Therefore, we should not, and cannot expect a Pan-Grave cemetery at the Fourth Cataract or in the Atbai to look like a Pan-Grave cemetery in Upper Egypt.

Perhaps then the Jebel Mokram Group presents the path by which the Pan-Grave tradition may be linked to both the Nile Valley and the Eastern Desert regions. As has already been explained above, the similarities between the Jebel Mokram and Pan-Grave ceramic traditions are remarkable, so much so that they have been interpreted as variants of the same cultural entity occurring in two areas.[690] Although the similarities in ceramics are undeniable, other markers of Pan-Grave identity such as mother-of-pearl spacer beads or painted animal skulls have not been found in Jebel Mokram contexts, and as such the available archaeological evidence is insufficient to support such a connection. With this being said, we must return to the point that no two Pan-Grave sites are alike, and, if the Jebel Mokram Group and the Pan-Grave tradition are indeed variants of one another, then perhaps we should not expect the same cultural markers to occur in their respective regions.

[690] Sadr, *ANM 2,* 280.

6.
Pan-Grave Pottery in Egyptian Cultural Contexts

6.1 Nubian pottery in an Egyptian world: a question of interpretation

The question of how Nubian pottery should be interpreted when found in Egyptian cultural contexts is as complex as it is unavoidable, and Bourriau perfectly sums up the issue by stating that "a scatter of Nubian sherds in an Egyptian settlement poses questions rather than answers."[691] Nubian pottery itself is easily distinguished from Egyptian material, but difficulties arise when attempting to establish to which Nubian tradition a sherd or vessel might be attributed. Cultural identification is usually based on comparisons with pottery from cemetery contexts, but caution must always be exercised when attempting to relate mortuary and settlement evidence. Egyptian pottery sequences can also guide Nubian cultural attributions, but one must account for the complexities of Egyptian ceramic sequences during the Second Intermediate Period, as well as the fact that the Middle Nubian cultures overlap chronologically and do not appear to have a clear diachronic relationship. Difficulties in cultural attribution also stem from the intense and complex multicultural interactions between Nubians and Egyptians, Nubians and other Nubians, and riverine with desert-based cultures, all of which resulted in a mixed archaeological record in which cultural boundaries are blurred.

Problems of identification aside, a fundamental question is *how* this Nubian pottery came to be found in Egyptian cultural contexts in the first place. Often there is little other evidence of a Nubian presence at these locations, but it goes without saying that it cannot and should not be assumed that the presence of Pan-Grave pottery at a site is an indication that Pan-Grave people were actually present – *pots do not equal people*. This is certainly the case for seemingly Nubian pottery in Egyptian settlements, which can, at best, only be accepted as evidence that there was some level of contact between Egyptian and Nubians. This contact may have been as indirect as trade,[692] but earlier studies have suggested that the pottery found its way into Egyptian towns as a result of a Nubian servant class working and cooking for Egyptians (a rather colonial view),[693] or that the pottery is diplomatic gifts or exotic curiosities.[694] In certain instances where cultural and technological traditions merge into 'imitation' wares (see §6.4), one might even ask if the pottery should even be considered 'Nubian' in the truest sense. What is clear in the end is that there was material exchange between Egyptian and Nubian communities, even if not between the people themselves.

A general discussion of key assemblages in which Nubian pottery is attested is essential to fully contextualise the Pan-Grave ceramic tradition, particularly from the perspective of chronology and regional variation. With this in mind, this chapter has two aims: (1) to establish how much of the pottery from Egyptian cultural contexts may be attributed to the Pan-Grave tradition based on the criteria set out in Part Two; and (2) 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 tradition, its ceramic tradition, and its place in the world of Ancient Egypt and Nubia. The sites selected for inclusion in this chapter are discussed in order from south to north, and then outward from the Nile to the Western Desert oases.

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[691] Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 149.

[692] Raue, *S&N 6,* 22-3; Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 149.

[693] Bourriau, in Lacovara (ed.), *Deir el Ballas,* 17.

[694] Aston, in Bader, Ownby (eds.), *Functional Aspects,* 389.

For reasons of clarity, the more gnereal term "Nubian" is used throughout this chapter in reference to the pottery unless a Pan-Grave attribution is assured and well-supported.

6.2 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 Kerma culture.[695] Unlike in Egypt, there is additional non-ceramic evidence of a Nubian presence at the sites, which attests to more complex interactions between Egyptians and local Nubian communities. The quantity and range of Nubian material is not surprising given the site's location in Lower Nubia and the fact that Askut was brought under the control of the ruler of Kush during the Second Intermediate Period.[696] According to Smith, the mixed assemblage of Egyptian and Nubian material reflects a "peaceful" co-existence between Egypt and Kerma at that time.[697]

A small quantity of possible Pan-Grave sherds was found in contexts dated to the Second Intermediate Period. All are decorated with incised motifs and have band rims, and three of the published examples carry either irregular or complex cross-hatching,[698] and another fragment is decorated with the braid motif.[699] No indication of the ware type or fabric is offered. Other pottery from Second Intermediate Period contexts is clearly Kerma in character, with fine beakers and mat-impressed wares also present. This mixing of Kerma and Pan-Grave elements can be compared to similar patterns seen at Elephantine and Tell Edfu, illustrating the difficulties associated with assigning generically Nubian pottery to one culture or another.

6.3 Elephantine

Spanning four millennia, the stratified sequence of Nubian pottery at Elephantine is so-far unparalleled and is one of the best sites at which to observe chronological developments in Nubian pottery. This is hardly surprising given its location at the frontier between Egypt and Nubia, and the archaeological record reflects intense exchanges between the two regions. Pottery that can be associated with the Pan-Grave tradition is found in 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.[700] Chronologically, this phase therefore encompasses the late C-Group, Pan-Grave, *Kerma moyen* and *Kerma classique* cultures, allowing for a consideration of cross-cultural influence and chronological developments.

Pottery that may be Pan-Grave is first identified in *Bauschicht 13*, corresponding to to Phase ELE-7A, dated to the late Twelfth and early Thirteenth Dynasty.[701] In this sub-phase, Pan-Grave characteristics such as streaky burnished surfaces and rim-bands decorated with incised motifs are identifiable.[702] Shapes are mostly globular or hemispherical,[703] and are comparable to cooking pots from other settlement contexts. Decorative motifs include incised regular cross-hatching, at least one example has a banded zig-zag motif applied to the rim band, and a large cooking pot from *Haus 84* has a circular spider-web motif applied to the base and shows clear evidence of secondary burning on the exterior surface.[704] Raue has observed that both fine and coarse wares have been used as cooking pots during this phase,[705] which is consistent with the settlement evidence from Tell Edfu (see below).

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[695] Smith, *Askut,* 78-80, 100-6.

[696] Smith, *Askut,* 104.

[697] Smith, *Askut,* 106.

[698] Smith, *Askut,* 100, fig. 4.10A, B, G.

[699] Smith, *Askut,* fig. 4.10E.

[700] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 154, fig. 10.

[701] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 52, 54, fig. 10; Raue, *S&N 6,* 22.

[702] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 53, fig. 9.

[703] von Pilgrim, *Elephantine XVIII,* 343, fig. 152a. See also Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 53

[704] von Pilgrim, *Elephantine XVIII,* 342-3, fig. 152a.

[705] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 53. The same phenomenon has been observed at Tell Edfu, in which a black-topped, coated and burnished bowl with a recessed rim from context US 2754 is covered in soot. The date of that context is yet to be established (Natasha Ayers, pers. comm.).

Phase ELE-7B sees the appearance of new forms that have been connected with regions south of the Third Cataract,[706] but earlier forms from Phase 7A are still present.[707] Other new forms appear, including inflected squat bowls similar to those found at sites near the Second Cataract. Decoration still consists of incised regular and irregular cross-hatched motifs. Other Pan-Grave characteristics such as band [708] and recessed rims[709] are also present in this phase. One sherd of black-topped red-coated pottery has a well-defined and burnished black-top,[710] but the black-top does not appear to be augmented and is not as crisply defined as examples from Mostagedda and Rifeh. 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 more clearly visible in Phase ELE-7B, during which features and styles from the south continue to be present.[711] Pottery that can be identified as being of the Pan-Grave tradition declines in quantity by Phase ELE-7C and the assemblage begins to show more affinity with the Kerma culture. The decline continues into Phase ELE-7D, where Nubian pottery is present but in far lower quantities than previously.[712]

Late Middle Nubian Imitation ware (LaMNI) occurs in almost every household from the late Thirteenth Dynasty until the early Eighteenth Dynasty,[713] 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.

6.4 Tell Edfu

Substantial volumes of Nubian pottery have been uncovered at Tell Edfu from settlement contexts spanning the period from the late Old Kingdom to the early Eighteenth Dynasty.[714] As would be expected, pottery that can be attributed to the Pan-Grave tradition is limited to contexts dated to the late Middle Kingdom and Second Intermediate Period.[715]

The pottery most relevant for this study comes from contexts 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, during which time the surrounding area shows evidence of temporary domestic activity, possibly occupied by squatters,[716] which was replaced by a silo complex constructed during the Seventeenth Dynasty. Much of the Nubian pottery from the temporary occupation layers is of the coarse cooking-pot type seen at most Egyptian settlements, but some of the pottery stands out for its fineness and higher quality finish. Overall, the characteristic wares and decorative motifs allow for a confident association with the Pan-Grave tradition.

One of the earliest contexts with Pan-Grave evidence, US 2079, coincides with the abandonment of the southern part of the columned hall complex, dated by the associated Egyptian pottery to the late Twelfth and early Thirteenth Dynasty (**Plate T**).[717] A black-topped vessel with an externally modelled rim is in a typical

[706] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 53-4.

[707] Residual pottery from earlier phases continues to present through all stages of Phase ELE-7. See Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 55; Raue, S&N 6, 23.

[708] von Pilgrim, *Elephantine XVIII,* 331, fig. 146o; Raue, *S&N 6,* 23, pl. 7.

[709] Raue, *Elephantine und Nubien,* Abb. 134-I.1; von Pilgrim, *Elephantine XVIII,* 325, fig. 143d.

[710] Raue, *Elephantine und Nubien,* Abb. 134-II.13.

[711] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 55.

[712] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 55, fig. 10.

[713] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 55.

[714] The author continues to study the Nubian pottery at Tell Edfu. Heartfelt thanks to Nadine Moeller, Gregory Marouard, and Natasha Ayers for their ongoing assistance and permission to include the pottery in this volume.

[715] For focused studies of the Egyptian pottery see: Moeller, Marouard, Ayers, Ä&L 21, 112-9; Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 103-15.

[716] Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 103.

[717] Ayers, in Forstner-Müller, Moeller (eds.), *The Hyksos Ruler Khyan*.

Pan-Grave red-slipped and burnished ware with an undefined, irregular black-top. A coarse, soot-covered sherd decorated with what appears to be the filled zig-zag motif and a band rim defined by a line of impressed dots also fits within the Pan-Grave tradition, and unusually it preserves traces of red slip on the inside edge of the rim. Overall, the ware and decoration of the vessels in this context are broadly comparable to the Pan-Grave tradition more than any other.

The succeeding context, US 2654, marks the final abandonment of the columned hall and has been dated to the late Thirteenth Dynasty and early Second Intermediate Period based on the associated Egyptian pottery. It is in this layer that the break from Middle Kingdom pottery traditions is first noticeable, accompanied by a corresponding decrease in the quantity of Middle Kingdom styles.[718] The bulk of the Nubian pottery from this context is quite typical of the type found in Egyptian settlements, all of the vessels being in coarse fabrics, thick-walled, and with soot-covered exteriors that confirm 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 slightly recessed rim defined by an incised line.

From US 2654, at least three sherds with Nubian-style decoration appear to be wheel-made, suggesting a merging of Pan-Grave and Egyptian *châines opératoires*. As such, these examples may be technologically and chronologically compared to Raue's LaMNI ware at Elephantine (**Plate U**).[719] All of the examples from Edfu are decorated with variations on the cross-hatched motif that is typical for Middle Nubian pottery, but the way in which the decoration has been executed is unlike 'true' Nubian pottery. The lines appear to have been produced using a comb and so are technologically different from true Pan-Grave pottery. Moreover, all of the examples have oxidised exterior *and* interior surfaces. Some sherds show narrow oxidisation zones at the surfaces with a black core, suggesting short firing at a high temperature, while others are thoroughly oxidised through the entire section, suggesting a more controlled atmosphere. It therefore seems that the exchanges taking place at Edfu were not only stylistic but also technological, however the intention of these vessels is not clear—it may be a case of Egyptian imitation of Nubian wares, or Nubian adoption of Egyptian technologies.

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, and both contexts were in use for a very limited period of time during the transition to the late Second Intermediate Period,[720] i.e. during the break from earlier Middle Kingdom traditions. The Nubian pottery from these levels displays the most obviously Pan-Grave characteristics thus far recorded at Tell Edfu, most notably black-topped red-coated vessels with recessed rims and well defined black-tops (**Plate V**).[721] A rim sherd with a recessed rim but irregular black-top was recorded in US 2548, and decorated body sherds from this same context carry typical Pan-Grave motifs including the braid and lattice patterns. Two sherds of LaMNI ware were found in US 2543, both with band rims and decorated with incised cross-hatched motifs.

The pottery from these two contexts stands out from the rest of the assemblage in its strong resemblance to that from Pan-Grave mortuary contexts, so its occurrence in a settlement context has significant implications for how this material might be interpreted. While it is sometimes dangerous to conclude that pottery indicates actual presence of the people who made it, the unmistakeably Pan-Grave nature of the pottery from US 2543 and US 2548 and its stark contrast with other Nubian pottery from the site suggests to the author that people who identified with Pan-Grave traditions were actually living (i.e. 'squatting') in this part of the town, namely the abandoned and dismantled columned hall. The possibility of an actual Pan-Grave presence at Tell Edfu is amply supported by at least three Pan-Grave cemeteries at neighbouring sites—two at Hierakonpolis and a third (but now lost) cemetery at Genemiya.[722] The Pan-Grave pottery from US 2543 and 2548 is stylistically and chronologically comparable to that from the cemeteries at Hierakonpolis, which is strongly suggestive of

[718] Ayers, in Forstner-Müller, Moeller (eds.), *The Hyksos Ruler Khyan.*

[719] Ayers, *Cultural Change,* pls. 8-10.

[720] Ayers, *Cultural Change,* 195-7.

[721] Ayers, *Cultural Change,* fig. 75a-b.

[722] Weigall, *Antiquities of Upper Egypt,* 348.

widespread Pan-Grave activity in this region during the early Second Intermediate Period, before the break from earlier Middle Kingdom ceramic traditions.

Moving forward in time, the Egyptian pottery from US 2659 dates to a period *after* the break from Middle Kingdom traditions; that is, the late Second Intermediate Period.[723] This context also yielded pottery that can be associated with the Pan-Grave tradition, but all examples are coarse cooking pots with soot-covered exterior surfaces. A near-complete example of a large, globular restricted cooking pot, has a band rim and incised lattice decoration (motif L).[724] The same pot also has a separate base decoration comprising closely spaced cross-hatching in an irregular arrangement.[725] A rim sherd from a thick-walled cooking pot with a recessed rim and deeply incised oblique grooves (**Fig. 88**)[726] has a direct parallel at Debeira East SJE Site 47 (**Fig. 38b**).

Pottery that can be associated with the Pan-Grave tradition becomes less frequent in later contexts, in which pottery better attributed to the Kerma tradition becomes more dominant.[727] Cooking pots from these layers are noticeably coarser with thicker walls and decoration that is more irregular, usually roughly incised hatching or combed scraping that does not appear to follow any regular pattern. This apparent decline in Pan-Grave evidence during the transition into the Eighteenth Dynasty follows the same general pattern seen at other mortuary and settlement sites along the Nile Valley.

6.5 El Kab

Weigall identified and recorded an "enormous number of fragments" of Pan-Grave pottery,[728] and while some of the sherds do show Pan-Grave characteristics such as band rims and grouped cross-hatch,[729] the majority of the published illustrations are somewhat ambiguous and mostly decorated with irregular scraping and combing.[730] There are also a handful of sherds that display C-Group characteristics,[731] and an Egyptian marl ovoid jar is decorated with incised lozenges that are very likely to be in imitation of C-Group pottery decoration.[732] It is highly likely that there was a Pan-Grave presence at El Kab, especially given the Pan-Grave evidence from nearby Hierakonpolis, Edfu, and Genemiya, however the mixed nature of the available evidence means this cannot be verified.

6.6 The Theban region

6.6.1 Karnak North: 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 Eighteenth Dynasty.[733] In total, 90 sherds have been reported—25 from 'Strata A' associated with bakeries, and the remaining 65 from 'Strata B', below levels dated to the reign of Hatshepsut.

The pottery finds its closest parallels in the Pan-Grave tradition; all vary in size with rim diameters ranging from 16-40 cm, and the thick-walled restricted bowl forms suggest a utilitarian function, and published examples are all decorated with roughly executed incised designs including the braid, lattice, grouped cross-

[723] Ayers, in Forstner-Müller, Moeller (eds.), *The Hyksos Ruler Khyan*.

[724] Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 108, fig. 4f.

[725] Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 108, fig. 4g.

[726] Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 110, fig. 6.

[727] Ayers, Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 111-5.

[728] Weigall, *Antiquities of Lower Nubia*, 26.

[729] Weigall, *Antiquities of Lower Nubia,* pl. LXXVI.22, 46.

[730] Weigall, *Antiquities of Lower Nubia*, pl. LXXVI-LXXVII

[731] Weigall, *Antiquities of Lower Nubia*, pl. LXXVII.55.

[732] Weigall, *Antiquities of Lower Nubia,* pl. LXXVII.56; Quibell, *El Kab*, pl. XVI.59; Bourriau, *Umm el Ga'ab*, 57; Rzeuska, in Godlewski, Łajtar (eds.), *Between the Cataracts*, 4304.

[733] Jacquet-Gordon, *Karnak Nord X,* 83-5 (vol. 1). Pottery attributed to Kerma was found to a lesser extent in contexts of the same date (Jacquet-Gordon, *Karnak Nord X,* 85-8 (vol. 1)).

hatch, and irregular cross-hatch motifs.[734] Features such as band rims and externally modelled rims support the Pan-Grave identification, and the Second Intermediate Period and early Eighteenth Dynasty date fits well with the culture's timeline in Upper Egypt. The association of Nubian sherds with bakeries is also seen at South Abydos and Ayn Asil (see below), suggesting a possible link between Nubians and food preparation.

Weigall also 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.[735] No images of this pottery have been published and the current whereabouts are unknown.

Further Nubian pottery and what has been described as a possible Pan-Grave cemetery have recently been excavated near the Mut Temple Complex at Karnak, however this material is yet to be published and could not be verified by the author.[736]

6.6.2 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 Seventeenth Dynasty,[737] and all were assigned by Seiler to the Kerma culture.[738] 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.[739] Both vessels are of a shape that is more reminiscent of Pan-Grave bowls rather than Kerma, and therefore the current author suggests that these two smaller bowls should instead be assigned to the Pan-Grave tradition.

If this is the case, we are then faced with pottery from two different Nubian cultures represented in one Egyptian tomb. Kerma and Pan-Grave pottery is well attested *separately* in Egyptian graves, for example the well-known *rishi* burial at Qurneh that contained four Kerma beakers,[740] and Pan-Grave pottery with well defined and augmented black-tops has also been recorded in a number of Egyptian tombs at Abydos (see §6.8). Interpretation of Nubian pottery in such contexts is problematic; considering that it is outnumbered by Egyptian pottery, the Nubian vessels could simply be an exotic luxury item, or they could be markers of status and the tomb owner's ability to access objects from far-off lands. However there is also the possibility that the pottery signifies a more direct connection to Nubia, perhaps even indicating that the individual may themselves be Nubian in origin, but of course this cannot be proven.

6.7 Dendara

Two sherds of Nubian pottery bearing Pan-Grave characteristics have recently been identified in two separate contexts at Dendara,[741] both inside the temple enclosure. These are the first Nubian sherds to be identified at the site, allowing a new locality to be added to the map of Nubian pottery attestations in Egypt.

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 (**Fig. 89**). The sherd is from a large black-topped, uncoated, restricted bowl made in a coarse chaff-tempered fabric, and its band rim marked with an incised line strongly suggests a Pan-Grave identification. Below the rim, it is decorated with what could be the irregular or grouped cross-hatched motif. There is no evidence of secondary burning, but the vessel is comparable to cooking pots found at Tell Edfu and Elephantine.

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[734] Jacquet-Gordon, *Karnak Nord X,* 39, fig. 39 (vol. 2).

[735] Weigall, *Antiquities of Upper Egypt,* 86. Weigall's own quotation marks.

[736] Betsy Bryan presented these finds at the ARCE conference in April 2015. Analysis of the full assemblage was ongoing at the time of writing.

[737] Seiler, *Tradition und Wandel,* 4-11.

[738] Seiler, *Tradition und Wandel*, 84.

[739] Seiler, *Tradition und Wandel,* 85.

[740] Petrie, *Qurneh,* 6-10, pls. XXII-XXIX.

[741] The Nubian sherds were sighted by the author on-site in December 2015, courtesy of the Dendara Project of the Oriental Institute, University of Chicago. Thank you to the project director, Gregory Marouard, for permission to include this pottery.

A further handmade body sherd decorated with incised lines in a randomly crossing arrangement was found amongst loose fill adjacent to the remains of an enclosure wall to the west of the Hathor Temple. The exterior surface of this sherd shows signs of secondary burning indicating use as a cooking pot. Unlike the example from the Isis Temple, the cultural affiliation of this sherd is unclear and, at best, it should only be described as 'Middle Nubian'. The associated Egyptian pottery dates to a period spanning the Middle Kingdom through to the Eighteenth Dynasty, further hindering any cultural attribution.

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,[742] however these recent finds indicate that there is indeed material to be found. It certainly appears that there was a Pan-Grave presence at Dendara at least during the Second Intermediate Period,[743] which would fit well with the Nubian pottery found nearby at the Palace complex Deir el Ballas,[744] and in the Pan-Grave and Kerma burials at Diospolis Parva.[745]

6.8 Abydos

Bietak cited only one instance of Pan-Grave pottery at Abydos,[746] but in fact there are numerous occurrences across the Abydene region. These attestations were recently collated and critiqued by Liszka in an effort to correct the false impression created by Bietak's report.[747] Many of the cases cited by Liszka are only briefly mentioned in excavation reports or are otherwise unpublished, and upon re-examination it became clear that Liszka's critique itself requires some review.[748]

6.8.1 The Mortuary Temple of Senwosret III

Pan-Grave pottery is recorded in low quantities in many of the contexts at the Senwosret III mortuary temple (Wegner's Type 32: "Pangrave [sic.] Bowls/Cooking Vessels").[749]. Pan-Grave cooking pots account for approximately only 1% of the assemblage in the East Block refuse deposit,[750] and a further five examples have been recorded at the so-called *shena.*[751] All of the published examples have band rims demarcated by an incised line and incised cross-hatching around the upper body, which are all hallmarks of the Pan-Grave tradition.[752] The exterior surfaces of the pots are covered in a thick layer of soot and the examples from the *shena* were associated with oven installations, indicating that the pots were used as cooking vessels. All examples are described as being made in Nile D fabrics,[753] which is in keeping with the coarse, chaff tempered fabrics of Nubian cooking pots at other sites.[754] The associated Egyptian forms include cylindrical bread moulds, small flat-based cups, flat-based beaker jars, *zirs* and necked bottles ('beer jars'), repeating the association with the production, storage and supply of food (i.e. bread and beer), in this case most likely for offerings in the temple.

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[742] Marchand, Laisney, *CCE 6,* 267-8; Marchand, in Schiestl, Seiler (eds.), *Handbook,* 275 note 14 (vol. 2).

[743] Nubian sherds were also found in the First Intermediate Period settlement area, outside the Temple enclosure, but these have not been sighted by the author (Gregory Marouard and Nadine Moeller, pers. comm.).

[744] Bourriau, in Lacovara (ed.), *Deir el Ballas,* 16-7.

[745] Petrie, *Diospolis Parva,* 45-9; Bourriau, in Magee, Bourriau, Quirke (eds.), *Sitting Beside Lepsius.*

[746] Bietak, *Ausgrabungen,* 64.

[747] Liszka, *We have come to serve Pharaoh,* 440-7. See also Liszka, *JAEI 7.2,* 48, fig. 2.

[748] The author has prepared a full analysis of the Nubian evidence at Abydos for a forthcoming volume (de Souza, in Knoblauch, *Abydos*).

[749] Wegner, *Mortuary Temple,* 239, 241.

[750] Wegner, *Mortuary Temple*, 271.

[751] Williams, *Modeling the Mechanics,* 152–3.

[752] Wegner, *Mortuary Temple,* fig. 101.32, fig. 124.85-8.

[753] It is my opinion that it is inappropriate to apply the Vienna System to non-Egyptian pottery. In the absence of a Nubian fabric classification system, I would prefer to describe these pots simply as being made in a coarse, chaff-tempered fabric.

[754] For details of Nubian cooking pot fabrics, see Ayers/Moeller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 115; Forstner-Müller, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 63; Rose, in Forstner-Müller, Rose (eds.), *Nubian Pottery* 18-9.

6.8.2 The Pyramid of Queen Tetisheri

Budka reported that Nubian pottery occurs "quite regularly" in this assemblage, however the actual amount is not specified,[755] and the only published example is one of apparently many small and worn sherds that were incorporated into the building materials of the pyramid complex of Queen Tetisheri. The published sherd is very small, but it certainly appears to be Pan-Grave based on the band rim and incised cross-hatched decoration.[756] Budka proposed that these sherds might have come to the site as inclusions in mud-bricks, and that their use in brick production points toward a possible Nubian settlement on the periphery of the town where the bricks were made.[757]

Given that the sherd selected for publication was so small, it may be assumed that other sherds were even smaller or less informative, and the apparently worn nature of the sherds suggests that they may have been old by the time they were incorporated into the bricks. It must also be remembered that the Pan-Grave tradition had effectively 'disappeared' from Egypt by the time this pyramid was constructed at the beginning of the Eighteenth Dynasty. Whatever the case, the suggestion that these small sherds are evidence of a Nubian settlement in a particular part of the town is difficult to support. The nature of the sherds themselves suggests that they were discarded long before their reuse, making it unlikely that they are contemporary with the construction of the pyramid.

6.8.3 The Cemeteries at Abydos

Pan-Grave pottery was recorded in a number of cemetery contexts at Abydos, but curiously all were found in what are ostensibly Egyptian-style shaft-and-chamber graves. The following briefly summarises confirmed attestations that have been identified both in published records and in museum collections:

- Tomb D60 (D68?)[758]: The exact number is unclear, but at least three Pan-Grave vessels were found in this tomb, all characterised by recessed rims and defined black-tops (**Plate W**).[759] Based on these features, the vessels are likely to date to the late Second Intermediate Period.
- Tomb D79: A small squat jar with globular body, inflected neck and flared rim is not a typical Pan-Grave shape but is made in a distinctly Pan-Grave ware.[760] The body is red coated but the rim band is uncoated and shows traces of blackening.
- Tomb C56: A likely Pan-Grave bowl was reported from this shaft-and-chamber tomb. The vessel was described by Peet as *"a tall bowl with hemispherical bottom and very high walls sloping inwards a little. About a centimetre below the rim a furrow ran round the vase, and below this the whole outer surface except the base was covered with a lattice pattern, incised with a blunt point before the clay was dry. The upper part of the vase is, as usual, black."*[761] This is almost certainly a Pan-Grave bowl, probably of the bag-shaped RI form, with a band rim and incised lattice motif decoration.
- Tomb C64: A shallow, Pan-Grave bowl with band rim and irregular black-top was reported by Peet,[762] however the vessel could not be identified in any museum collection. A bowl matching the description is in the collection of the British Museum,[763] but it is not clear if this is the same bowl from C64.
- Tomb C91: A Pan-Grave sherd was found in this shaft-and-chamber tomb, easily identifiable from Peet's description of a "*rebated band at the rim"* and a black top that was confined to the recessed area.

[755] Budka, *Ä&L 16,* 86. See also Liszka, *We have come to serve Pharaoh,* 444.
[756] Budka, *Ä&L 16,* 85, fig. 1.1.
[757] Budka, *Ä&L 16,* 109, note 152.
[758] The actual tomb number is unclear as there is a discrepancy in the museum records.
[759] Fitzwilliam Museum, E73-1901.
[760]Ashmolean Museum, E2246.
[761] Peet, *Abydos II,* 67.
[762] Peet, *Abydos II,* 66, pl. XXIX.
[763] The British Museum, EA51112.

In most of these cases, the few pots and sherds were the only objects that could be attributed to the Pan-Grave tradition, the remainder of the tomb contents being Egyptian. In only one case (Tomb W12) can non-ceramic Pan-Grave objects be identified, namely a deposit of portions of ox skulls and horns, two of which bore traces of red paint.[764] These are almost certainly fragments of Pan-Grave painted horns and bucrania; their occurrence in an Egyptian-style tomb is remarkable and is paralleled only at Deir el Bersha, tomb 6L25/2.[765]

6.8.4 Unverified Pan-Grave attestations

Before concluding the review of the Abydene region, a few questionable attestations must be identified and addressed in order to correct the existing record.

Snape reported what he identified as Pan-Grave pottery found during Garstang's excavations in the North Cemetery at Abydos.[766] 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.[767] 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.

Kemp refers to Pan-Grave sherds found as part of the Pennsylvania-Yale excavations at Abydos, however these remain unpublished and hence cannot be verified.[768] It is also not clear exactly where the sherds were found, however it is known that the expedition worked in the town mound (Kom el-Sultan) and an area outside the enclosure walls of the Osiris Temple.[769]

Patch recorded two possible Pan-Grave cemeteries during a survey of the Abydene region as part of her doctoral research on the Predynastic and Early Dynastic evidence in the area.[770] Only one of these sites, S83-34, was briefly mentioned as being on the east bank of the river,[771] and the location of the second site is unknown. Neither site can be verified and they have hence been excluded from this study in the absence of more definitive evidence.

Possible Pan-Grave pottery has also been identified in deposits associated with the so-called mayor's house, near to a deposit of cattle horns, however this pottery is as yet unpublished.[772] There are at least two unverifiable sherds from royal graves; a single sherd with cross-hatched decoration associated with the tomb of Senwosret III may or may not be Pan-Grave,[773] and the Pan-Grave attribution for a sherd from the late Middle Kingdom tomb S9 could not be confirmed.[774] Finally, there are the two spiral decorated bowls in the Boston Museum of Fine Arts, which are said to come from Abydos, however their true provenance is uncertain.[775]

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[764] Peet, *Abydos II,* 63.

[765] de Meyer et al., *JARCE 42,* 51–5.

[766] Snape, *Mortuary Assemblages*,130-1.

[767] Snape, *Mortuary Assemblages,*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 located, neither by Snape nor by the current author.

[768] Kemp, *JNES 36.4,* 190. See also Snape, *Mortuary Assemblages,* 131.

[769] O'Connor, *Expedition 12.1*, 29; O'Connor, *Expedition 21.2* 46-9; Liszka, *We have come to serve Pharaoh*, 442–3.

[770] Patch, *NARCE,* 14-20; Liszka, *We have come to serve Pharaoh,* 443.

[771] Patch, *Origin and Early Development,* 150, note 96. Patch describes the site as a *"Pan-Grave cemetery?"*, with question mark included. Curiously, Patch states that the unexpected discovery of two Pan-Grave cemeteries will "*yield new insights into settlements in the eighth nome during the Predynastic period through the Old Kingdom",* which casts doubt over her identification of these cemeteries as Pan-Grave given that the culture is not otherwise attested during the Old Kingdom.

[772] Liszka, *We have come to serve Pharaoh,* 446. Liszka gained this information via personal communication with Josef Wegner.

[773] Ayrton, Currely, Weigall, *Abydos III,* pl. 40.

[774] Landua-McCormack, *Dynasty XIII Kingship,* 344.

[775] Boston Museum of Fine Arts, 03.1615 and 03.1616

6.8.5 Re-evaluating the evidence from Abydos

It is now clear that evidence for Pan-Grave activity at Abydos extends back to the late Middle Kingdom, specifically during and following the reign of Senwosret III. The Pan-Grave cooking pottery associated with the mortuary complex of that king is not the only instance of Pan-Grave pottery occurring in a food production area, comparable assemblages having been found at Karnak North[776] and possibly also at Ayn Asil.[777] This could also be evidence for a small resident staff of Pan-Grave people working at the temple, which may have important implications for the connection with the Medjay, who are known to have worked as temple personnel.[778] Wegner also suggests that these vessels could either be evidence of a Pan-Grave element in the population at South Abydos, or that it may represent trade or exchange resulting from interest in Nubian vessels for cooking.[779]

In the cemeteries, the Pan-Grave material from Abydos dates consistently to the late Second Intermediate Period (i.e. the Seventeenth Dynasty) based largely on the associated Egyptian material as well as characteristics of the Pan-Grave pottery that seem to be later developments, namely recessed rims and well-defined black-tops. This date is toward the end of the Pan-Grave timeline as we currently understand it, and the distinctly Egyptian style of the tombs and contents strongly suggests that the pots should not be directly associated with Pan-Grave people. All of the contexts are shaft-and-chamber tombs, which contrasts markedly with even the most 'Egyptianised' rectangular Pan-Grave graves. Bourriau has suggested that the Pan-Grave material at Abydos may represent re-use of Middle Kingdom tomb shafts by Pan-Grave people, however the occurrence of Pan-Grave sherds in the chambers of some tombs seems to contradict this idea.[780] It is equally, if not more likely that the pots were simply property of the people who were buried in the chambers, and they were acquired by trade or some other indirect means.

The closest known Pan-Grave cemetery to Abydos is at Balabish, where deep rectangular Pan-Grave burials have been recorded that are roughly contemporary with the tombs at Abydos, but the graves at Balabish are emphatically Pan-Grave in terms of material culture. The graves at Hu Cemetery YS offer an interesting parallel; Bourriau divided these tombs between two groups, one which contained only Pan-Grave pottery, and another that contained other Pan-Grave items (e.g. painted animal skulls) but *not* pottery.[781] It is therefore possible—though, I would argue, unlikely—that the graves at Abydos may represent Egyptianised Pan-Grave people, who buried themselves in an Egyptian manner, but with an object that communicates their cultural heritage. It is also possible—and more likely, in my opinion—that the pots may simply be objects that were included in the assemblage without any connection to cultural or ethnic identity.

The possibility that the tomb occupants had some connection to a Pan-Grave community cannot be entirely ruled out, and evidence from the temple and town contexts at Abydos would seem to support the idea that Pan-Grave people actually lived and worked in the area. If that is the case, then they must be buried somewhere! The quantity of Pan-Grave pottery in the Senwosret III temple is minimal, but is in keeping with the similarly low quantities of Pan-Grave pottery found at other temple complexes such as Karnak.[782] A possible connection to the Medjay as temple personnel has already been raised, but this conclusion accepts the problematic link between the Pan-Grave tradition and the Medjay, which has already been addressed and will be discussed in following chapters.[783]

The contrasting compositions of the mortuary and non-mortuary corpora at Abydos are also worth noting, the former being almost entirely fine wares, the latter solely soot-covered cooking pots. This difference between cemetery and settlement assemblages reflects differences in the Pan-Grave ceramic tradition—certain types for

[776] Jacuet-Gordon, *Karnak Nord X,* 83–8 (vol. 1), 39 (vol. 2).

[777] The sherds from Ayn Asil have been identified as Classic Kerma (Marchand, Soukiassian, *Balat VIII,* 206–7. See also §6.10.2).

[778] Liszka, *We have come to serve Pharaoh*, 260–5.

[779] Wegner, *Mortuary Temple,* p. 241.

[780] Bourriau, *Umm el-Ga'ab,* 101.

[781] Bourriau, in Magee, Bourriau, Quirke (eds.), *Sitting Beside Lepsius,* 50.

[782] Jacquet-Gordon, *Karnak Nord X,* 83–5 (vol. 1)

[783] Liszka, *JAEI 7.2,* 47–51; Liszka, de Souza, in Emberling, Williams (eds.), *Handbook*.

everyday life, and certain types for the grave. The same distinction is seen at other locations where Pan-Grave pottery found in Egyptian settlements can be compared with nearby Pan-Grave cemetery data, for example Tell Edfu/Hierakonpolis and Elephantine/Nag el-Qarmila. In both of those cases, as at Abydos, the distinction between everyday and funerary pottery is distinct.

6.9 Pan-Grave Pottery in Lower Egypt

6.9.1 Kom Rabia (Memphis)[784]

A total of 120 Nubian sherds identified as "Pan-Grave in character" were found in Levels VI/VII and VI at Kom Rabia,[785] with the highest concentration in sub-phase VIe in the NE sector of the site, dated to the second half of the Thirteenth Dynasty.[786]

The Pan-Grave identification of the pottery from these contexts was based on Giuliani's typology, and three of her ware types were present in the assemblage: red-coated ware, uncoated ware, and black-topped red ware.[787] All sherds are burnished on both surfaces, and three quarters were decorated with incised cross-hatching. The decorated sherds all have plain rim-bands, and some have a band rim delineated by an incised line. All appear to be utilitarian forms comparable with those seen at other settlement sites, and most sherds showed signs of secondary burning from use over a fire.

The published examples show a broad variety of forms, ranging from wide, basin-shaped types to restricted, over-hemispherical forms.[788] The wide, shallow type is highly unusual for the Pan-Grave tradition and is not attested at any other site,[789] and as such these may represent a local variant of Pan-Grave cooking pots.

The combination of attributes certainly points toward a Pan-Grave attribution. The Thirteenth Dynasty date seems early for Pan-Grave pottery in Lower Egypt, and all other sites of a comparable date are much further to the south, the closest being Cemetery 1300 at Badari. There are no *known* Pan-Grave cemeteries of the same date in the Memphite area, and the scattered attestations of Pan-Grave pottery at other settlement sites in the region are meagre (see below). It is possible that this collective material may represent an isolated group who reached the Nile Valley via routes leading into the Memphite region, but this is difficult to support based on the available evidence.

6.9.2 Kahun

Kemp has described a single body sherd of Middle Nubian pottery from Kahun as of the Pan-Grave tradition,[790] which has been verified by the current author following first hand examination of the sherd at the British Museum.[791] The sherd's original context is unknown, but it is thought to originate from Petrie's 1889 excavations at the site. It is a body sherd in a coated and lightly burnished ware, decorated with what appears to be the grouped cross-hatch motif. As an isolated sherd without reliable contextual information, it is impossible to assign even a relative date, but its very occurrence is significant for investigating the potential reach of the Pan-Grave tradition and its connections with Lower Egypt.

6.9.3 Dashur

Fleeting references have been made to an alleged Pan-Grave cemetery south-west of the Pyramid of Senwosret

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[784] Special thanks to Carla Gallorini for guidance in preparing this section.

[785] Bourriau, Giuliani, in Bourriau, Gallorini, *Memphis VIII,* 239-40; Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 149-50.

[786] Carla Gallorini, pers. comm. See also Bourriau, Gallorini, *Memphis VIII,* 208.

[787] Bourriau, Giuliani, in Bourriau, Gallorini, *Memphis VIII,* 38, pl. IIIc-g.

[788] Bourriau, Giuliani, in Bourriau, Gallorini, *Memphis VIII,* fig. 123-4; Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 154-5, fig. 4d and fig. 5d.

[789] Bourriau, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 155, fig. 5b. This shape is especially unusual for its wide and shallow profile. See also Bourriau, Giuliani, in Bourriau, Gallorini, *Memphis VIII,* figs. 123c, 124a.

[790] Kemp, *JNES 36.4,* 289-92.

[791] British Museum, EA55289.

III. Excavations conducted by an Egyptian team are said to have uncovered a cemetery of 160 graves, which, if verified, would make it the largest known Pan-Grave cemetery in Egypt.[792] Unfortunately, however, no more than a brief mention of this discovery has been published and its true character cannot be confirmed. Bourriau was granted access to some of the pottery from this site in the late 1970s, and she followed the Pan-Grave attribution.[793] However, the current author has since viewed photographs of this material and instead proposes that a Pan-Grave identification may be ruled out.[794] This being said, if even some of the Dashur pottery can be linked to one of the Middle Nubian cultures, 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.

6.9.4 Lisht

Nubian pottery was found in domestic contexts at Lisht, dated to the late Middle Kingdom, most likely the late Thirteenth Dynasty. The pottery has been identified as Pan-Grave and was described as "necessary to the inhabitants as part of the household equipment."[795] Although the actual volume of material has not been made explicitly clear, the implication is that Pan-Grave (i.e. Nubian) pottery was found in considerable quantity in a number of domestic contexts. The only published example does bear some Pan-Grave characteristics, including a band and externally modelled rim and what looks like incised decoration in the grouped cross-hatch motif .[796] The line that defines the band rim appears to be further ornamented with impressed(?) 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 Thirteenth Dynasty context in Lower Egypt have already been raised and it is possible that the sherd could be contemporary with the Seventeenth Dynasty in Upper Egypt. Chronology aside, the published sherd from Lisht can be associated with the Pan-Grave tradition, but no further observations can be made without additional contextualising evidence

6.9.5 Qasr es Sagha

Middle Nubian pottery has been found in multiple domestic contexts at Qasr es Sagha.[797] 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.[798] 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 tradition. Only one rim sherd has a band rim delineated by an impressed string line, and part of a base is decorated with an incised spider-web motif,[799] all of which are features attested in the Pan-Grave tradition. On the whole, the Middle Nubian sherds from Qasr es Sagha resemble cooking pots seen at other Egyptian sites, and the relative date could indicate either a Pan-Grave or Kerma association, or possibly both.

6.9.6 Khatana L81 (Tell el Dab'a)

Nubian pottery has been found in numerous contexts in the Eastern Delta, and much of this material can be easily associated with the *Kerma classique* tradition based on the distinctive tulip-shaped beakers.[800] There is, however, a significant assemblage from Area L81 at Khatana that has been associated with the Pan-Grave tradition.[801] However, while there are clearly many elements that occur in the Pan-Grave repertoire, the author

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[792] Leclant, *Orientalia 43,* 185.

[793] Bourriau, in Arnold (ed.), *Studien,* 27-8.

[794] 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.

[795] Arnold, Arnold, Allen, *Ä&L* 5, 26.

[796] Arnold, Arnold, Allen, *Ä&L* 5, fig. 5.10.

[797] Arnold, Arnold, *Qasr el-Sagha,* 32, 36, fig. 21.1-3, pl. 21a-c.

[798] Arnold, Arnold, *Qasr el-Sagha*, pl. 21d; Sliwa, *SAAC 5,* 30, fig. 12.

[799] Arnold, Arnold, *Qasr el-Sagha*, pl. 21c.1; Sliwa, *SAAC 5,* fig. 12.3.

[800] Fuscaldo, *Ä&L* 12; Fuscaldo, *Ä&L* 14; Fuscaldo, *Ä&L* 18; Aston, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 166-9.

[801] Aston, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 164-6, 170-1, fig. 1.

is of the opinion that this material instead represents a more mixed tradition.[802] A detailed discussion of the assemblage has been prepared by Aston and Bietak,[803] and the following represents an overview of only material that may be connected to the Pan-Grave tradition.

The assemblage is dominated by red-coated burnished ware sherds with black interiors, but there are also a number of sherds that have red-slipped interiors, which is *not* characteristic for the Pan-Grave tradition. Decorative motifs such as incised cross-hatching, banded zig-zags, and complex designs of randomly arranged triangular zones filled with parallel grooves recall Pan-Grave types.[804] Black-topped vessels occur as do band rims, one of which is marked by a string-impressed line.[805] 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 feature of the Pan-Grave tradition, albeit uncommon and not exclusive.

With that said, the similarities between the L81 pottery and the Pan-Grave tradition do not go much further. Unique forms of decoration are attested: one motif comprises narrow trapezoidal zones filled with cross-hatching that extend upward from the base,[806] which is not attested at any other Pan-Grave location in Egypt or Nubia.[807] There is also an unusual impressed motif, created by pushing a pointed tool into, but not through, the wall of the vessel, creating a deep depression on one surface, and a corresponding raised bump on the other.[808] This type of decoration finds a possible parallel in the Kerma cemetery at Mirgissa,[809] but is otherwise unattested at any known Pan-Grave context.

Loop-handles occur in the L81 assemblage but are otherwise unknown in the Pan-Grave tradition. One such vessel is red-coated with a band of incised herringbone decoration that seems Nubian, but the horizontal loop-handle below the rim cancels out the possibility that this vessel is of 'native' Nubian manufacture.[810] A second example in an uncoated grey-coloured ware with the aforementioned trapezoidal decoration has attached lug handles or bosses with incised decoration on their ends.[811] A third example is itself part of a handle with a thickly applied red coating.[812] Whilst these three examples appear Nubian in terms of ware and technology, the loop-handles are, to this author's knowledge, unique to this assemblage and are not 'native' to any of the Middle Nubian traditions.

The pottery from Khatana is therefore Pan-Grave in some ways, but in other ways it is not Pan-Grave at all. In fact, in many ways it does not even seem Nubian. Some of the decorative motifs on the L81 pottery are certainly derived from Nubian traditions, while others are clearly not. Broadly speaking, the ware types look Nubian, but looking closer reveals that the forms and wares are atypical. The decorative motifs are often unique, and unusual features such as the loop and lug handles are better known from Levantine pottery at that time. 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 trade.

The general impression is one of dynamic and complex cultural exchange—a mixed culture—which would not be unexpected for the Eastern Delta, where multiple cultures were present and active and whose interactions

[802] Photographs of the pottery were kindly provided by David Aston, with permission from Manfred Bietak, and courtesy of the Austrian Academy of Sciences.

[803] Aston, Bietak, in Spencer, Stevens, Binder (eds.), *Nubia in the New Kingdom.*

[804] Aston, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 1.

[805] Aston, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 1. Pots 9014F, 9014H, 9033O and 9024B/9242S; Forstner-Müller, Rose, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 22.

[806] Aston, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 171, fig. 1. Pot nos. 9014G and 9023U.

[807] Aston, Bietak, in Spencer, Stevens, Binder (eds.), *Nubia in the New Kingdom,* fig. 14e-f. This motif is described by Aston and Bietak as "ladder" decoration. There is no published definition for Giuliani's "incised panel" motif.

[808] Forstner-Müller, Rose, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 191, fig. 21.1-2; Aston, Bietak, in Spencer, Stevens, Binder (eds.), *Nubia in the New Kingdom*, fig. 13B

[809] Vercoutter, *Mirgissa I,* pl. XXXIII.10

[810] Aston, Bietak, in Spencer, Stevens, Binder (eds.), *Nubia in the New Kingdom,* fig. 15n. Pot 9028F.

[811] Aston, Bietak, in Spencer, Stevens, Binder (eds.), *Nubia in the New Kingdom,* fig. 15m. Sherd no. 9023X.

[812] This sherd is unpublished but a photograph was provided to the author, with thanks to David Aston.

resulted in complex 'hybridised' objects. 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 as evinced by the occurrence of *Kerma classique* pottery in the assemblage. Therefore, it is very likely that the local potters in the Eastern Delta were exposed to both Levantine *and* Nubian ceramics and that all of these various influences merged into the mixed ceramic tradition seen in L81.

6.10 The Western Desert oases

6.10.1 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.[813] Precise dates for the site have not been established, but there is evidence for activity spanning the period from the late Twelfth Dynasty to the early Eighteenth Dynasty.[814]

The majority of what appears to be Nubian pottery from the site finds its closest parallels in the Pan-Grave tradition as far as shape, ware, and decoration are concerned.[815] Kerma pottery and Tell el Yahudiyeh ware was also found at the site, but in considerably smaller quantities than the Pan-Grave-related wares.[816] A restricted, undecorated black-topped bowl corresponds in shape to the restricted rounded bowls well-known in the Pan-Grave tradition,[817] and published examples either have a band rim marked by an incised line or, where the vessel is decorated, the rim band is left plain. Decorative motifs are also distinctly Pan-Grave, with irregular cross-hatching, braid, quadrilateral, and zig-zag motifs present.[818] Base decoration of the incised spider-web motif is also attested. 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.[819] Two vessels are said to be wheel-made evident in the pronounced rilling marks on their interior surfaces, and both are produced in an Egyptian-oasis fabric,[820] as are other handmade sherds.[821] 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,[822] signalling her implicit acceptance of the direct link between Pan-Grave tradition and the Medjay.

6.10.2 Ayn Asil, Dakhla Oasis

The small quantities of Nubian pottery found at Ayn Asil have been attributed to the *Kerma classique* tradition and come from contexts dating to the Second Intermediate Period, before 1600 BC,[823] which corresponds well with the Pan-Grave tradition. As at South Abydos and Karnak North, the Nubian pottery at Ayn Asil was

[813] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 131.
[814] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 132-3.
[815] 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.
[816] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 142-3.
[817] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 134, fig. 4a.
[818] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 136-7, figs. 5-6.
[819] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 135.
[820] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery*, 135-9, fig. 8.
[821] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 140-2, fig. 9d-e.
[822] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 143.
[823] Marchand, Soukiassian, *Balat VIII,* 141-3, 149, fig. 156.

found in association with bakery refuse, suggesting a link between Nubians and food production. Marchand identifies the pottery as being produced in Nile silt, but she does not rule out the possibility that some may have been produced at the oasis using local materials.[824] The overall character of the Nubian pottery at Ayn Asil is distinctly different from that seen at Umm Mawagir, where the assemblage shares more in common with the Pan Grave tradition, albeit in slightly modified form.

6.10.3 Site 32/390-15-1, Dakhla Oasis

Two small and very worn Pan-Grave sherds were found at this site, which appears to be a poorly preserved settlement.[825] They are described as thin walled, chaff tempered, and coming from deep bowls, the outer surface being dull brown in colour and the remainder being dark grey. Both sherds have incised oblique hatched decoration, and the lines on each sherd run in opposite directions. Overall, the sherds are more like Pan-Grave than other Nubian traditions. The poorly preserved context limits interpretation, but the fact that they exist at all seems to confirm some contact between Egyptian communities and Pan-Grave people or material in the western oases.

6.11 Interpreting Pan-Grave pottery in Egyptian cultural contexts

To briefly reiterate, the aim of this chapter was not to resolve the problems associated with Pan-Grave pottery (or Middle Nubian pottery generally) when it is found in an Egyptian cultural context. Instead, the intention has been simply to lay out the evidence, describe it, identify and highlight any associated issues, and consider how it might relate to mortuary contexts and contribute to our understanding of the Pan-Grave tradition within the broader social and historical context.

With regard to chronology, the archaeology of the Second Intermediate Period is complicated by the multiple developmental sequences that characterise different parts of Egypt at the same time, hindering attempts to link assemblages and sequences between regions. Bourriau has divided the ceramic traditions of the Second Intermediate Period into five regions—the Eastern Delta, Memphis/Faiyum, Middle Egypt, Upper Egypt, and Elephantine, to which the Oases and Lower Nubia might be appended.[826] Broadly speaking, a break from Egyptian Middle Kingdom ceramic traditions occurred in Upper Egypt at some point during the Thirteenth 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 Eighteenth Dynasty, when they were replaced with the Upper Egyptian types. Bourriau notes that the rapidity of this shift may be seen in the stratigraphy at Memphis, where the Upper Egyptian styles appear with little sign of any transition from earlier traditions.[827] This same stylistic break may not have occurred at the Western Desert oases, where pottery of the Seventeenth and early Eighteenth Dynasty are only attested in the uppermost levels and on the surface with no associated Nubian pottery.[828]

The appearance of Nubian pottery in Thirteenth Dynasty contexts at Memphis is surprising; it is a long way away from the core of early Pan-Grave activity in Upper Egypt and Lower Nubia. 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.[829] Linking the archaeological evidence to the Semnah Despatches is problematic, as it accepts that the Medjay referred to in the texts *are* Pan-Grave people, and it also assumes that *all* desert nomads were attempting to enter Egypt the 'official' way, i.e. by asking for permission. It is equally possible that bands of nomads were approaching the Nile unofficially via desert wadis, which fits better with the distribution of the archaeological evidence—a point which will be expanded later in the concluding sections of this volume.

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[824] Marchand, Soukiassian, *Balat VIII,* 154.

[825] Edwards, Hope, Segnit, *Ceramics from the Dakhleh Oasis*,26-7, pl. XXVIIIa.

[826] Bourriau, in Marée (ed.) *Second Intermediate Period*, 11.

[827] Bourriau, *Memphis IV,* 13.

[828] Manassa, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 133.

[829] Smither, *JEA 31,* 3-10.

In terms of function, the Pan-Grave pottery found in Egyptian settlements is almost invariably utilitarian, namely cooking pots. For the most part, these vessels are thick walled, made in one of the coarser chaff or straw tempered fabrics, rarely coated, and 'decorated' with roughly incised motifs or combed scraping. Pan-Grave pottery has also been associated with food production areas at South Abydos and Karnak North, and the presence of Kerma cooking pots at Deir el Ballas adds to the image of Nubian people preparing food in, and perhaps for Egyptian communities.[830] However, Nubians as domestic staff is not the only possible scenario. The dynamic, multi-cultural society that was Egypt during the Second Intermediate Period would undoubtedly have resulted in complex cultural connections—Egyptian people could have used Nubian cooking pots as much as Nubian people could (and did) use Egyptian storage vessels. The complex cultural and technological exchanges between the two populations is perfectly illustrated by the imitation wares attested at Elephantine and Tell Edfu, as well as the possible Nubian-Levantine-Egyptian 'hybrid' forms at Khatana.

An assessment of the functional aspects of Nubian pottery in Egyptian contexts is further hampered by difficulties in linking cemetery and settlement assemblages. 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 service or consumption of food. In mortuary contexts, the Pan-Grave ceramic repertoire is dominated by thin-walled fine wares with varying qualities of finish and decoration. Coarse utilitarian wares are almost entirely absent from cemeteries with only a few exceptions. The inverse is true for settlement contexts, where the coarse cooking pots dominate and fine wares are rarely found. Raue has observed that fine, black-topped vessels were used for cooking in the earliest levels at Elephantine (ELE-7A),[831] and burnished black-topped wares were also found in occupation levels at Tell Edfu. Additionally, fine black-topped vessels with repair holes have been found in graves at a number of sites, strongly suggesting that fine wares were used in daily life and were considered important enough to justify their repair.

Regarding the cultural attribution of Pan-Grave utilitarian wares in a domestic Egyptian context, the assessment was guided by characteristics that have been deemed diagnostic based on mortuary assemblages, e.g. band rim and specific decorative motifs. On the weight of evidence, there does appear to be a distinct difference between mortuary and quotidian pottery within the Pan-Grave tradition, however this boundary was not impenetrable. Fine wares were used in life and later deposited in a grave, and the same applies to coarse wares but to a lesser extent. It goes without saying that a deceased Pan-Grave person would be given the best that was available, and sometimes perhaps the 'best' happened to be a rough, utilitarian cooking pot. Ultimately, what seems to have been most important is that the cultural and social identity of the deceased was clearly expressed *in death*.

[830] Bourriau, in Lacovara (ed.), *Deir el Ballas,* 17.

[831] Raue, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 53.

Part III:

Distribution, Regional Variation and the Pan-Grave Horizon

7.
Distribution Analysis

The following sections consider the distribution of Pan-Grave pottery across Egypt and Nubia according to vessel shape, ware, and decoration. It must be stressed that the varied nature of the published record posed a challenge for quantification. For published material, in particular that which was excavated in the early half of the Twentieth Century, the number of vessels in the published report was counted as a total, but it must be remembered that these numbers could not be fully verified as assemblages have since been broken up and distributed. For whole assemblages personally studied by the author, the minimum number of individuals (MNI) method was employed. It should be stressed that this method can be difficult to apply to Nubian pottery owing to poor preservation and the general irregularity of Nubian pottery in general. It is often not possible to identify which rims go with which bases unless they join, as decoration and even the ware type may vary more than once on a single vessel. Therefore, the MNI was calculated based on rim counts only. The Estimated Vessel Equivalent (EVE) method was deemed inappropriate in this context; vessel diameters vary widely for Nubian pottery, even on a single vessel, and the it is impossible to calculate the EVE in the absence of a typology that can be applied across the board. It should also be considered that many sites in the survey have either not been fully published or are only partially excavated. Even when material is published, and especially for early excavation reports, it cannot be guaranteed that the full assemblage has been presented. Sherds were often not published, and in many cases only a single vessel was illustrated as a type-specimen that may in fact represent any number of individuals.

7.1 Distribution of vessel shape

With only a few exceptions, the vessel forms outlined in Chapter 3 occur at all sites with relative consistency (**Table 6**), meaning that shape is perhaps the least informative of the morphological aspects considered in this distribution analysis. Additionally, Pan-Grave pottery occurs mostly as sherds, hampering a thorough analysis of shape distribution. In spite of the setbacks, there are three form types and one rim type that may assist in identifying regional variation and chronological sequences—squat bowls, closed vessels, scoops, and recessed rims.

7.1.1 Squat bowls

Squat bowls have a very limited distribution, with only five individuals recorded over three cemetery sites—three examples at SJE Site 47, one at Adindan K, and one possible example at Hierakonpolis HK21A. All of the five examples differ from one another, each having a different rim form and surface treatment, and only the example from Adindan is decorated. This low number and the high variability indicates that the form is unusual in the Pan-Grave tradition overall, and with the exception of the questionable example from Hierakonpolis, all examples come from two sites near the Second Cataract, suggesting that the form may be specific to that area. A possible parallel from Elephantine has been dated to Phase ELE-7B,[832] dated to the late Middle Kingdom and early Second Intermediate Period, but not enough of the vessel is preserved to be certain of its form.

[832] Raue, *Elephantine und Nubien*, Abb. 133.5.

7.1.2 Closed forms

Closed vessel forms that may be attributed to the Pan-Grave tradition are few in number, which is in stark contrast to the Kerma and C-Group traditions, for which closed forms are well known and occur with relative frequency. Each of the Pan-Grave examples is unique, and their distribution is extremely limited in range. All but three of the closed Pan-Grave forms were found at SJE Site 47 (Debeira East), whereas at Pan-Grave sites in Upper Egypt, closed forms are almost invariably Egyptian products with only a very few exceptions. The concentration of closed forms at the Second Cataract and the corresponding absence of Pan-Grave closed forms in Upper Egypt suggests that Nubian-made closed forms are specific to Lower Nubia. This contrast between regions may be a direct product of availability; Pan-Grave people living in Upper Egypt would very likely have had more direct access to Egyptian closed vessels than their counterparts living in Lower Nubia, who therefore had to produce their own if they were required.

7.1.3 Scoops

Scoops do not appear to be a 'native' form for the Pan-Grave tradition, and their distribution is extremely limited, confined only to Mostagedda and Qau. Both sites are located in the heartland of the much earlier Badarian culture, and it has already been noted that scoop-shaped vessels are also attested in Badarian pottery (§3.2.1.3). In many ways, Pan-Grave pottery is not dissimilar to that of the Badarian culture; both cultures produced pottery that is thin walled, carefully burnished, and often black-topped. With this in mind, it is not out of the realms of possibility that the potters attempted to emulate Badarian forms (i.e. scoops) that they encountered at Mostagedda, Qau and Badari. This type of incidental and indirect influence is, of course, difficult to prove, but in this particular case, the correspondence between vessel form, ware, and distribution does strongly suggest some kind of connection.

7.1.4 Recessed rims

It has already been noted that, while they are diagnostic for the Pan-Grave tradition, recessed rims are not characteristic for the Pan-Grave tradition owing to their low frequency and limited distribution (**Table 7**). With regard to cemetery contexts, the highest concentration of vessels with recessed rims comes from Middle Egypt, namely Rifeh, Mostagedda, Qau, and Balabish. All of these sites (perhaps with the exception of Qau) show evidence of extended use up to the late Seventeenth Dynasty and the final phases of the Pan-Grave presence in Egypt. Vessels with recessed rims are also attested in Egyptian multi-chambered tombs at Abydos that may be dated to the early Eighteenth Dynasty. Curiously, there is a geographic gap in the distribution of recessed rims, and the next known occurrence south of Abydos is at Hierakonpolis HK21A, which mostly dates to the Thirteenth Dynasty.

Moving further south along the Nile, recessed rims are next attested at cemetery sites in Lower Nubia but 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.[833] The examples from Kubban Cemetery 110 occur in graves situated near *Kerma classique* burials, further suggesting a date in the Seventeenth Dynasty at least. The overall impression from the cemetery data is that recessed rims are a later development for the Pan-Grave tradition, and that they are best attested in Middle Egypt during the late Second Intermediate Period

The picture changes somewhat when the few, but well dated, recessed rims from settlement sites are incorporated. At Elephantine, examples are attested in Phases ELE-7B and 7C, and two further examples were recorded in context US 2543 at Tell Edfu, all of which has been dated to the early Second Intermediate Period. This together with the location in the south of Upper Egypt does not totally fit with the pattern seen in the mortuary data, where recessed rims are mostly associated with assemblages from the late Second Intermediate Period, after the break from Middle Kingdom traditions. It may be the case that recessed rims first appear in settlement contexts before appearing in cemeteries, which ties in with my earlier assertion that fine wares were first used in daily life before being deposited in graves, but this does not account for their almost total absence from cemeteries in southern Upper Egypt.

[833] Säve-Söderbergh, *Middle Nubian Sites,* 181.

7.2 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 (**Table 8**). Based on this broad distribution across space, time, and morphology, the BT-ware family might be assumed to be uninformative for identifying variation. In fact, there are clear patterns in the distribution for the different *types* of black-top identified in this survey. Irregular black-tops occur at all Pan-Grave sites, while defined and applied black-tops occur only in Middle Egypt and at scattered sites in Lower Nubia, and it has already been established that the latter two types appear to be later in date. Irregular black-tops occur at virtually all Pan-Grave sites and are hence uninformative from an analytical perspective. Therefore, only defined and applied black-tops will be included in the distribution analysis.

7.2.1 Defined black-tops

Defined black-tops are *not* attested at all sites. They are best attested at sites in Middle Egypt and Lower Nubia, are almost entirely absent from southern Upper Egypt with only a few exceptions, and their distribution appears to be linked to chronological developments. The distribution of defined black-tops is plotted on **Fig. 90** and the available evidence is presented and analysed below in regional groups.

7.2.1.1 Middle and Upper Egypt

Mostagedda offers the best available source as the largest and most extensively recorded Pan-Grave site in Middle Egypt. At Cemetery 3100, a total of 25 bowls with defined black-tops were identified based on the records as published by Brunton. Of that total, fourteen were found in elongated or rectangular graves, five in oval graves, one in a circular grave, two were found in offering pits, and the remaining three were not associated with any tomb. The record from Mostagedda therefore points toward a strong association between defined black-tops and rectangular graves, which are known to be a later development for the Pan-Grave tradition. 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 appears in graves 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, vessels with defined black tops are evenly distributed between the different grave types; of the total fourteen pots with defined black rims,[834] only two were found in rectangular graves, two in oval graves, four in circular graves, one in what Wainwright called a "sundry" pit, and the remaining six were found among the surface finds. Records for Qau are lacking, but three examples were published by Brunton, two of which came from a single elongated grave,[835] the third from an oval grave.[836] Defined black-tops do occur at Rifeh,[837] but field records are not known to have survived, and all information pertaining to grave shape and assemblage has presumably been lost. Two small sherds with a defined black-top have recently been found at Hierakonpolis HK21A and these currently constitute the only known examples from southern Upper Egypt. These two sherds are surface finds, but the graves that have been thus far excavated at HK21A are shallow and circular, and the site overall seems to date to the Thirteenth Dynasty.

Based on the assemblages from cemetery sites in Middle and Upper Egypt, defined black-tops appear to be a later development for the Pan-Grave tradition. They occur most frequently in rectangular graves, which are known to develop later in the Second Intermediate Period, but it should also be remembered that circular graves remained in use, which may explain the occurrence of defined black-tops therein. The important thing is that defined black-tops are virtually absent from sites where Pan-Grave activity seems confined to late Twelfth and Thirteenth Dynasty aside from the two sherds at Hierakonpolis. A later date is further supported

[834] Wainwright, *Balabish*, 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.

[835] Brunton, *Qau and Badari III,* pl. IX.15-16.

[836] Brunton, *Qau and Badari III* pl. IX.17.

[837] Three examples are held in the Petrie Museum collection (UC17927, 17928, 17929)

by the Egyptian ceramic assemblages from Pan-Grave sites in Middle Egypt, which is dominated by the Upper Egyptian style of the Second Intermediate Period. Bourriau's sequence for Marl A biconical jars further demonstrates that the Pan-Grave cemeteries in Middle Egypt are generally later in the sequence.[838]

Another important piece in the puzzle is that defined black-tops occur, though infrequently, in Egyptian settlement contexts 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,[839] and in US 2543 at Tell Edfu,[840] both of which can be dated to the early Second Intermediate Period. This corresponds to the distribution of recessed rims in settlement contexts (see above), and further supports the idea that Pan-Grave fine wares were used in domestic settings before being deposited in graves.

Bowls with defined black-tops have also been found in multi-chambered tombs at Abydos that may be dated to the late Seventeenth or early Eighteenth Dynasty on the basis of associated Egyptian pottery, coffins, and other objects (see above).[841] The two bowls found in Tomb K01.8 at Dra Abu el Naga have here been accepted as Pan-Grave vessels, and both have defined black-tops and their context is dated to the late Seventeenth Dynasty with relative assurance.[842]

7.2.1.2 Lower Nubia

Distribution patterns for defined black-tops in Lower Nubia are more difficult to identify and interpret, and investigations are hampered by the lack of published data for sites that are now underwater. Nevertheless, defined black-tops have been positively identified at a number of Lower Nubian sites in **Table 8**. Scattered examples have been identified at Sayala Cemetery B,[843] Adindan Cemetery K,[844] and Toshke Cemetery D,[845] and a higher concentration has been identified at sites around Debeira East.[846] A total of 43 defined black-tops were identified in the assemblage from SJE Site 47 alone, making up 30% of all black-topped vessels at that site.[847]

Dateable artefacts are mostly absent from Sayala B, but the limited Egyptian pottery has been dated by Bietak to the late Seventeenth or early Eighteenth Dynasty.[848] Egyptian artefacts are also few in number at Adindan K, although four of the published examples of defined black-tops come from rectangular or elongated graves suggesting a later date for this feature. Although low in quantity, the Egyptian pottery from SJE Site 47 consistently follows the new style of the Second Intermediate Period, placing it somewhere between the late Seventeenth Dynasty to early Eighteenth Dynasty.[849] Moreover, the majority of defined and applied black-tops from this site were mostly found in elongated graves, as will be outlined further in a case study presented below. Overall, the distribution and date for defined black-tops in Lower Nubia corresponds with that identified in Upper Egypt.

7.2.1.3 Upper Nubia and the Eastern Desert

Defined black-tops are also attested in Upper Nubia, although in far smaller quantities and from culturally mixed assemblages. Based on published data, at least five examples could be identified from sites south of the Second Cataract: one at Wadi el Khowi Site P37, at least one at Shemkhiya, one from el Ar I, and at

[838] Bourriau, in Arnold (ed.), *Studien*, 29-31, 37-8, fig. 3.

[839] Raue, *Elephantine und Nubien,* Abb. 134-II.21.

[840] The author has studied this pottery on site at Edfu.

[841] Peet, *Abydos II*, 61.

[842] Seiler, *Tradition und Wandel*, 84-5.

[843] Bietak, *Ausgrabungen,* Taf. 25-31.

[844] Williams, *C-Group, Pan-Grave and Kerma*, pl. 93.

[845] Gatto, Gallorini, Roma, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 6b.

[846] Säve-Söderbergh, *Middle Nubian Sites,* pls. 21-22, 32 (vol. 2).

[847] This number was confirmed by the author during a study of this material at the Museum Gustavianum, Uppsala University.

[848] Bietak, *Ausgrabungen,* 61.

[849] For example, see Säve-Söderbergh, *Middle Nubian Sites,* pl. 22 (vol. 2).

least two examples from al-Widay I. 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 and, in most cases, are roughly contemporary with the *Kerma classique* period. This being the case, the pottery from Upper Nubia could be contemporary with the late Second Intermediate Period in Egypt.

Defined black-tops have not yet been positively identified at sites in the Eastern Desert.

7.2.2 Applied black-tops

The difficulties in identifying applied black-tops have already been discussed (§3.4.1.1), and it is virtually impossible to identify this feature in published reports of early excavations for which illustrations and photographs are invariably black-and-white. Therefore, for this study, applied black-tops have been identified either through first-hand analysis of the pottery itself, by viewing high-quality photographs, or from undeniable occurrences in 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 burnished and its lower margin is crisply defined.
- Black brush-marks are visible around the rim.
- The black-top has worn away to reveal an uncoated surface beneath, while the body of the vessel is red-coated.
- A distinct but narrow zone of uncoated vessel surface between the lower margin of the black-top and the red-coated vessel body.
- The black-top is described in published reports as "artificial", or words to that effect.

The distribution of vessels that have been identified as having applied black-tops is shown in **Fig. 90**. As before, the evidence will be discussed by region.

7.2.2.1 Middle and Upper Egypt

Applied black-tops have been positively identified at Rifeh,[850] Mostagedda,[851] and two possible examples at Balabish.[852] At least two examples have been identified in Egyptian graves at Abydos, in Grave D 60,[853] and from Grave C91 in the North Cemetery.[854] Applied black-tops are effectively absent in southern Upper Egypt, mirroring the distribution for defined black-tops.

Applied black-tops are most frequent at sites that can be dated to the late Second Intermediate Period, suggesting that they are the last stage in the developmental sequence for the black-top technique. At Mostagedda, graves containing bowls with recessed rims and/or applied black-tops are mostly elongated or rectangular, further supporting a late date. That being said, the lack of contextual data for Rifeh means that any chronological observations based on grave shape must remain tentative. Egyptian pottery from Mostagedda and Balabish is predominately of the Theban style that appears in the Seventeenth Dynasty, and unpublished photographs from Balabish showing Egyptian bowls decorated with white spot decoration can be dated to the Seventeenth Dynasty.[855] Likewise, the vessels from Abydos with applied black tops were found in Egyptian multi-chambered tombs that can be dated to the late Seventeenth and early Eighteenth Dynasty.

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[850] Petrie Museum, UC17927, UC17928, UC17929.

[851] 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, *Mostagedda,* pl. LXXII.19. The vessel is held in the British Museum, EA63028.

[852] 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.

[853] 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.

[854] Peet, *Abydos III,* 61.

[855] 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, *Tradition und Wandel,* 80-8.

7.2.2.2 Lower and Upper Nubia

Applied black tops are uncommon in Nubia, and thus far the only confirmed examples come from Debeira East at SJE Site 47, where the author was able to verify their occurrence through solubility tests. Probable examples are also known at Kubban Cemetery 110, where Firth makes reference to black-tops that he described as having been "added artificially".[856] An example from Toshke Cemetery D also has an obviously applied black-top, however the full context is unknown.[857] In terms of chronology, the Egyptian pottery from SJE Site 47 suggests a late Second Intermediate Period to early Eighteenth Dynasty date, which is consistent with the evidence from Egypt.

In Upper Nubia, applied black-tops have been identified among the ceramic assemblage from al-Widay I in contexts dated to the *Kerma moyen* and *Kerma classique* phases.

The technique of augmenting a fired black-top by the addition of a black pigment has so far only been confirmed at SJE Site 47, and it is suggested that the technique was developed *after* defined black-tops had become a part of the repertoire. The logic here is that 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 proposed that applied black-tops are the latest stage of development for the black-top technique.

7.2.2.3 Overview: Egypt v. Nubia

There are noticeable differences in the quality of applied black-tops from Egypt and Nubia. Generally speaking, the examples from Lower Nubia are broader, less sharply defined, and not as highly polished as the examples from Egypt. Additionally, the examples from Debeira East show traces of light burnishing after the black pigment was applied, resulting in a slightly blurred transition between the red and black zones, with the black pigment being dragged into the red area (**Plate J**).[858] 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 Middle Egypt.[859]

By contrast, applied black-tops from Egypt are more intensely black, more crisply defined, and often more highly polished than their Nubian equivalents. This distinctive appearance can be seen most clearly on vessels from Mostagedda and Qau, where it is usually applied to vessels with band or recessed rims, the black colouring being carefully restricted to the rim band only and often burnished to a highly lustrous and almost metallic sheen. An exceptional example from Mostagedda Grave 3143 stands out for its carefully executed and highly polished black-top (**Plate H**), which in parts appears to be flaking away from the surface suggesting that it was applied as a separate coating before the vessel was fired.[860] Other examples from Rifeh are obviously painted on, and a tell-tale strip of uncoated surface between the black rim and red-coated body indicates that the rim zone was deliberately left uncoated. All of these micro-characteristics offer a glimpse into the cognitive processes of the Pan-Grave potters and the steps that were taken to achieve a predetermined outcome.

It is also worth noting that there is variation even within the applied black-topped technique itself, which is itself a variant— variation within a variation—and these differences 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 Seventeenth and early Eighteenth Dynasty. As was the case for defined black-tops, the applied black-top technique is notably absent from most sites in southern Upper Egypt, all of which date to the period *before* the break with Middle Kingdom Egyptian traditions. Conversely, those sites at which defined and applied black-tops *are* attested all date to a period *after* the break, i.e. the later Seventeenth and early Eighteenth Dynasty. The relationship certainly appears to be diachronic.

[856] Firth, *ASN 1910-11,* Fig. 1.9 and 10.

[857] Gatto, Gallorini, Roma, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* 94, fig. 6b.

[858] SJE 47/109:3(h).

[859] SJE 95/156:1.

[860] 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).

7.2.3 Case study: SJE Site 47, Debeira East

SJE Site 47 at Debeira East is one of the largest known Pan-Grave cemeteries and appears to have been in use over an extended period spanning almost the full duration of the Second Intermediate Period in Egypt and into the early Eighteenth Dynasty. All of the characteristic features of the Pan-Grave tradition are present at the site, including all types of black-top technique. The excavation records for this site are comprehensive, and all of the ceramic material is housed in a single collection, which the author has studied first hand.[861] The completeness of the archaeological record for this site and the recent re-analysis of the ceramic assemblage makes SJE Site 47 a prime candidate for testing the chronological sequence that has been proposed above, namely the development from irregular, to defined, and finally to applied black-tops.

Irregular black-tops are by far the most frequent type at SJE Site 47, and their predominance further supports the assertion that this type is the earliest form of black-top technique.

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 confirmed on only 26 individuals. Seven of these were confirmed through solubility tests using distilled water. The remaining 19 examples were identified through one of the other criteria as set out above (§7.2.2).

The distribution of vessels and sherds with defined and applied black-tops has been plotted on the map of the site (**Fig. 91**), showing only those examples that could be attributed to a specific burial. 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 the cemetery are also oriented differently to other graves at the site, further suggesting some temporal difference. It therefore seems clear that the earliest graves at SJE Site 47 form a central core from which the cemetery spread outwards.[862] It is also worth noting that the southern half of the cemetery was on higher ground than the north and that many of the largest graves in that portion are surrounded by rows of painted skulls, but this may reflect social differentiation rather than having any chronological significance.

When the black-top techniques are plotted onto the map, the distribution corresponds well with the different grave types. Defined and applied black-tops are largely absent from the central-south area of the cemetery, as is Egyptian pottery of the late Second Intermediate Period. By contrast, defined black-tops are concentrated in the northern half of the cemetery, with an additional scattering at the southern boundary. Both of these areas are believed to comprise later burials on the basis of grave shape and also on the assumption that the cemetery grew outwards from a central core. A date in the late Seventeenth and early Eighteenth Dynasty could also be deduced from the Egyptian pottery associated with many of these same contexts. As for applied black-tops, all but three occurrences are located in the northern half of the cemetery, and almost all were found in elongated graves.

The distribution of the different black-top techniques at SJE Site 47 therefore seems to reflect the general distribution patterns seen across Egypt and Nubia. Irregular black-tops are most common and associated with earlier contexts, whereas defined and applied black-tops are more frequently associated with later grave types, which is supported by associated Egyptian ceramics and other finds.

7.2.4 Towards a chronological sequence for Pan-Grave black-top wares

Using the SJE Site 47 case study and observations based on the distribution of the various types of black-top, the chronological development of the Pan-Grave black-top technique may now be tentatively summarised:

Irregular black-tops are the earliest type of black-top as demonstrated by their ubiquity, occurring at all known Pan-Grave cemetery sites as well as in Egyptian settlement contexts, and remaining in continuous use for the entire span of time that the Pan-Grave tradition is archaeologically attested in Egypt and Nubia. In this way, they may be viewed as the most ancestral form from which all others derived.

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[861] The current author studied and recorded the entire assemblage of pottery from SJE Site 47 at the Museum Gustavianum (Uppsala University) over two study seasons in 2013 and 2014.

[862] Säve-Söderbergh, *Middle Nubian Sites,* 166-8, fig. 48 (vol. 1).

Defined black-tops are a later development, occurring less frequently, at fewer sites, and associated mostly with elongated or rectangular graves. The earliest known examples come from Middle and Upper Egypt in settlement contexts dated to the early Second Intermediate Period. Associated Egyptian pottery indicates that the technique appears at a time during the transition from Middle Kingdom traditions to the new Upper Egyptian style.

Applied black-tops are the final development in the Pan-Grave black-top technique, with confirmed attestations at only a handful of sites. The technique could only be developed after defined black-tops were developed and identified by the potter as a desired outcome and hence must be the last stage in the sequence. This technique is attested only at the latest Pan-Grave sites in Middle Egypt and in Lower Nubia showing evidence of activity during the late Seventeenth and early Eighteenth Dynasty.

7.3 Distribution of black wares

Black ware vessels of the Pan-Grave tradition are rare and are scattered across a number of sites as listed in **Table 9**, and the two types of black ware—black smooth and black burnished—each have their own distinct distributions (**Fig. 92**).

7.3.1 Black smoothed ware (B.s)

Black smoothed ware is limited in quantity and is attested at only three sites: Mostagedda 3200, Nag el-Qarmila Site WK11,[863] and SJE Site 47 (**Plate L.i)**.[864] 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 and broad distribution makes this ware type largely uninformative for establishing regional or chronological variation. Additionally, the dates attributed to the sites at which this ware is attested range from the Thirteenth to the Eighteenth Dynasty.

7.3.2 Black burnished ware (B.b)

Black burnished wares are also rare but occur more frequently than black smoothed wares and are therefore 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 burnished ware as set out in Chapter 3.

Five examples have been identified at Mostagedda, three at Qau, and one at Hierakonpolis HK47. An additional seven vessels at Wadi Tawil WT1 have been classified by Gatto into her black burnished ware category, but these have not been sighted by the author.

The B.b ware vessels that have been sighted 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 (**Fig. 17a**) is the most finely burnished of all with the characteristic Pan-Grave fine burnish technique. The spouted bowl from Mostagedda and the bowl from Qau (**Plate L.ii**) both have a more streaky burnish, and the example from HK47 has a more even, satin-like sheen.

An unusual vessel is the small, footed bowl with a sinuous profile from Mostagedda grave 3211,[865] which finds a parallel at Rifeh that has been dated by Petrie to the reign of Hatshepsut.[866] This is not a Nubian form, and its similarities to Egyptian types apparently led Brunton to include it in his Egyptian corpus for Mostagedda, but the fabric, ware, and surface treatment are more akin to the finest Pan-Grave pottery. It is not clear if the bowl is handmade or wheel-made as any manufacturing 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, and the drips running from the base toward the rim suggest that the vessel was deposited

[863] Gatto, *JAEI 6.1,* 23.

[864] A second B.s ware sherd was found at SJE Site 47 (Sherd no. SJE 47/0:19b).

[865] Brunton, *Mostagedda*, pl. LXXIII.6p.

[866] Petrie, *Gizeh and Rifeh,* pl. XXVIIH.230.

upside down or was at least placed rim-side down when the liquid white coating was applied. It is possible that the application of a white coating to the footed bowl from Mostagedda Grave 3211 is an example of a practice known from Seventeenth 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,[867] 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 B.b wares have been found are largely unclear. Mostagedda and Qau have already been established 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 burnished wares and only Mostagedda grave 3211 could be dated to the late Second Intermediate Period based on associated finds.

7.3.3 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 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 is suggested that black wares may be associated with a later phase of the Pan-Grave tradition.

7.4 Distribution of red wares (R)

Red wares are difficult to identify by means other than first-hand examination of the vessel itself or of colour photographs—a red interior surface is the defining feature of this ware family, but unfortunately the vessel interior is rarely described or depicted in published sources. Despite the limited data for confirmed red-ware vessels, some observations may be made regarding regional groupings, possible chronological implications, and technological developments in Pan-Grave pottery production. The distribution is presented in **Table 10**, plotted on the map in **Fig. 93**, and discussed below by region from north to south.

7.4.1 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 and this number may be an understatement, as Brunton only published complete vessels. The numbers are much lower at Rifeh and Balabish, but this may once again be a product of selective and incomplete publication. Only twelve examples have been identified between the two cemeteries at Hierakonpolis—ten at HK47, and two at HK21A.

Unburnished red-ware 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 23 known examples coming from Mostagedda 3100 alone.[868] Moreover, all known examples of red wares with the distinctive Pan-Grave fine burnish also come from Mostagedda. The concentration of burnished wares at these northernmost sites, all of which date to the late Second Intermediate Period, could indicate that the ware is also a later development. In turn, it may be evidence that Pan-Grave potters acquired new finishing and firing techniques once they had settled in the Nile Valley.

[867] Seiler, *Tradition und Wandel*, 115-7.

[868] 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.

Pottery with oxidised (i.e. red) exterior and interior surfaces is also present in settlement contexts in Upper Egypt, most notably at Elephantine and Tell Edfu, where it can usually be associated with Raue's Late Middle Nubian Imitation ware (LaMNI) owing to the distinctly Egyptian manufacture (i.e. wheel-made). Once again, it is unclear if LaMNI wares were produced by Nubians or Egyptians, but at the very least its occurrence is further evidence for technological and stylistic exchanges taking place between Nubian and Egyptian potters.

7.4.2 Lower and Upper Nubia

The low frequency of red wares in Nubia is clearly illustrated by the assemblage from SJE Site 47, which is comparable to Mostagedda in terms of size and date, but only seven examples of red ware were identified among the 190 individual vessels studied by the author – less than 4% of that assemblage. 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. Moreover, none of the examples from SJE Site 47 are burnished, which is in stark contrast to those examples from 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. Fully oxidised pottery was well attested at al-Widay I, but in some cases the association with the Pan-Grave tradition is questionable.[869]

7.4.3 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 nature of the published record. The concentrations at the large sites in Middle Egypt, especially at Mostagedda, support the idea that red wares are a later development, but a scattering of red wares at sites that are supposedly early in date, (e.g. Nag el-Qarmila WK11) suggests that it was always present in the Pan-Grave tradition. It could also be the case that fully red-ware vessels were unintentionally fully oxidised, which may explain their rarity 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.

In the case of burnished red wares, the limited regional variation and their distinct appearance indicates that this technique was a deliberate choice on the part of the potter, not least because the extremely fine and carefully burnished surfaces would have required significant investment of time and energy. The concentration of burnished red wares at sites in Middle Egypt may therefore be viewed as a local variant, and it has already been observed that the fineness of much of the Pan-Grave pottery from the Mostagedda-Qau-Badari region is comparable to that of Predynastic Badarian pottery from the same region, so locally sourced raw materials with specific qualities may be a contributing factor. Regarding chronology, the association between burnished red wares and later sites in Middle Egypt suggests that this ware type may be a later development specific to that region.

7.5 General Remarks on the distribution of shape and ware types

Based only on the distribution of the 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, but they may also constitute their own discrete regional

[869] For example, see Emberling at al., in Anderson, Welsby (eds.), *The Fourth Cataract,* 330, pl. 3c. The author sighted numerous examples while studying the material. Analysis and publication was in progress at the time of writing.

groups. The four regional groups account for the detectable patterns in the distribution of features such as defined and applied black-tops, black wares, red wares, and closed forms, however the boundaries between the groups are not clearly defined and some overlap occurs. This being the case, there are sufficient similarities and differences that enable regional groups and relative chronological sequences to be refined.

It should now be expressly clear that sites in Middle Egypt are later in date than sites in southern Upper Egypt,[870] and the distribution of certain morphological features in Pan-Grave pottery aligns with these chronological patterns. Defined and applied black-tops, and red burnished ware are mostly associated with later sites and are therefore presumed to be later developments, appearing during the Second Intermediate Period at a point after the break from Middle Kingdom ceramic styles. However, it needs to be stressed that these developments are not uniform across the spectrum of Pan-Grave evidence and they may therefore be indicative of local chronological sequences.

Curiously, there appears to be a closer connection between assemblages from Middle Egypt and Nubia, with Upper Egypt as a geographic 'gap' between the two regions. This may simply be an archaeological illusion resulting from limitations of the published record, but a chronological explanation seems likely due to the dates indicated by Egyptian pottery. Pan-Grave cemeteries in the southern parts of Upper Egypt are almost invariably earlier, dating to the period before the break from Middle Kingdom traditions. The earliest evidence for Pan-Grave activity in the Nile Valley occurs in southern Upper Egypt and at scattered sites in Lower Nubia, so it appears that this is the 'heartland' from which the culture seems to have spread north into Middle Egypt and elsewhere in Lower Nubia. In Upper Nubia, it seems that there was an ongoing Pan-Grave presence in the archaeological record, perhaps as a result of continuous interactions between Nile Valley and desert-based communities. With this tentative sequence in mind, some links may be drawn between cemetery size, cemetery date, and the type and variety of ceramic forms and wares present.

The earlier Pan-Grave sites are generally small in size and show less internal variation than larger sites, however the sites themselves are often quite different from one another. Although each site is unique, the early Pan-Grave cemeteries—Aniba C, Serra C, Nag el Qarmila WK11, Hierakonpolis HK47 and HK21A, Moalla, and Armant—are all broadly comparable and consistent in terms of grave type and assemblage. The graves at all of these sites are circular, relatively shallow, and were topped with low tumuli of stone or other debris. The Egyptian pottery from these sites consistently dates to the late Middle Kingdom, and the Pan-Grave pottery is characterised by key features such as irregular black-tops and the almost total absence of defined black-tops and recessed rims. These sites are also quite isolated, but the presence of Egyptian artefacts such as pottery and faience beads indicates contact and exchange took place between the two populations.

By contrast, larger sites such as Mostagedda and SJE Site 47, show a broad range of internal variation in all aspects from grave shape to pottery forms and wares. The scale of these sites makes it clear that they were in active use over a prolonged period, making internal chronological variation inevitable. This extended lifespan and the greater quantity of Egyptian ceramics point toward increasing contact between Egyptian and Pan-Grave communities, which would undoubtedly have led to stylistic and technological developments resulting from intercultural exchange.

Then there are the small sites in Lower Nubia such as Cemetery 58:100 at Ginari and the cluster of Pan-Grave burials at Cemetery 110 at Kubban, both of which show later characteristics such as rectangular graves, defined and applied black-tops, and Egyptian pottery dateable to the late Seventeenth and early Eighteenth Dynasties. Based on their size, these two cemeteries seem to have been active for a limited period of time, but the consistency of their assemblages suggests that they were established at a time *after* later features had already developed.

These differences between earlier and later assemblages point 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 Pan-Grave (i.e. Nubian) pottery in Egyptian settlements hint at an increasingly sedentary lifestyle in the Nile Valley over the course of the Second Intermediate Period. Such changes in settlement strategy would have afforded Pan-Grave potters more time to refine their craft, leading to the exceptionally fine pottery found at sites such as Mostagedda, Rifeh, and Qau.

[870] DE SOUZA, *BACE 24,* 111-3.

Pan-Grave communities living in Egypt would inevitably have had more extensive contact with Egyptian goods and people, which in turn would have increased the potential for intercultural exchange. The higher frequency of fully oxidised red-ware vessels at sites in Middle Egypt also suggests new firing methods with higher temperatures and a more controlled 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 Seventeenth and Eighteenth Dynasties, namely black rims painted on to open vessel forms. The current author is of the opinion that black-rimmed Egyptian vessels signal two possibilities: that Egyptian potters were imitating Pan-Grave pottery, or that the Pan-Grave potters were appropriating Egyptian wares by painting a black-top onto them.[871] 'Hybrid' vessels displaying characteristics of both Pan-Grave and Egyptian traditions (e.g. the black-topped carinated bowl from Hu Cemetery Y) stand as undeniable evidence for stylistic exchange and imitation (**Plate P**).

How, then, should the settlement evidence be incorporated? The marked increase in quantity of Nubian pottery in Egyptian settlements during the Second Intermediate Period reflects the heightened intercultural contact taking place during that time. Perhaps the clearest evidence of this is the LaMNI ware attested at Elephantine and Tell Edfu, and the wheel-made Nubian-style pottery from Umm Mawagir. Not only does this demonstrate that Egyptian and Nubian ceramic traditions influenced one another in terms of style, but there is also clear evidence for technological developments in Pan-Grave pottery manufacture. LaMNI ware from Elephantine and Edfu is wheel-made, both the exterior and interior surfaces are oxidised, strongly suggesting that 'non-Nubian' firing technology was employed. The ethnic identity of the people who produced this pottery will never be known, but if it were produced by Nubians, LaMNI ware is strong evidence that they had adopted Egyptian manufacturing processes, and may even have been working in cooperation with Egyptian potters.

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 the same region at Hierakonpolis and Nag el-Qarmila. In the settlement record, defined black-topped vessels occur in contexts dated to the early Second Intermediate Period, which suggests that fine wares were used in daily life before being deposited in burials. This implies that there is no distinction between household and mortuary assemblages in the Pan-Grave ceramic tradition, but overall the archaeological evidence shows that large, coarse cooking pots dominate the settlement record while being virtually absent from burials. At the very least, it may be said that Pan-Grave dead were buried with pottery from the finer end of the spectrum.

The quantity of Nubian pottery in Egyptian settlements begins to decline by the early Eighteenth Dynasty, and indeed pottery that can be safely attributed specifically to the Pan-Grave tradition has almost entirely disappeared by that time. This decline and disappearance corresponds to the supposed 'disappearance' of the Pan-Grave tradition from the archaeological record of the Nile Valley, which is traditionally linked to Egyptianisation. This model no longer seems to fit so easily; Pan-Grave material culture retains its distinct character right up until the time that it is no longer attested, therefore other possibilities must be considered.

7.6 Distribution analysis of decorative motifs

When investigating Pan-Grave pottery decoration, an archaeological inheritance must be taken into account. By its very nature, decorated pottery was of greater interest to early twentieth century excavators simply because it was subjectively viewed as being visually more interesting. Decorated vessels were prioritised over undecorated vessels, and even decorated sherds were sometimes meticulously recorded while complete undecorated vessels were published only as a simple sketch or lumped into a broad type category. The surviving published record hence creates the false impression that decorated pottery is more common than it actually is. Even with the benefit of hindsight, it is acknowledged that decorated pottery has a unique capacity to communicate something of the cultural sphere in which it was created,[872] but this should not take precedence over undecorated pottery.

The remainder of this chapter investigates the distribution patterns evident in Pan-Grave pottery decoration. As stated previously, the *quantitative* aspects of this analysis (i.e. statistics and percentages) are based on the

[871] de Souza, *CCE 11,* 82-6.

[872] Gatto, *JAEI 6:1*, 23.

core dataset of sites from Upper Egypt and Lower Nubia as these sites are confirmed as being of the Pan-Grave tradition and the volume of material is far greater. Data from sites south of the Second Cataract, the Eastern Desert, and the Oases is too scant for meaningful statistical observations and has hence been excluded from the quantitative aspects of this analysis. Likewise, pottery from Egyptian cultural contexts is also not included due to the uncertainties associated with cultural identification, but also to maintain a degree of consistency by using only mortuary data. However, any *qualitative* observations on pottery decoration will incorporate the *entire* dataset 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 discernible distribution patterns. The thematic discussions will be followed by a series of case studies, focussing on certain decorative motifs that may further elucidate regional variation and chronological developments. A cladistics analysis of Pan-Grave pottery decoration will follow, before the chapter concludes with an overview and broad interpretation of the themes discussed.

7.6.1 Theoretical approaches to interpreting decoration and style

7.6.1.1 Decoration as a communicator of identity

In practical terms, decoration is a non-functional morphological element. On the one hand, fabric, shape, and surface texture can be manipulated to alter a vessel's function, e.g. 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. On the other hand, decoration is aesthetic, altering the *visual* appearance of a vessel without having a direct effect on its function. However, from a cultural perspective, decoration can serve an important cultural function, namely the communication of identity and membership of a particular group.[873] 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**.**"[874]

Pottery decoration may have communicated identity in the C-Group 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.[875] Steffensen has suggested that these similarities between pots and body art may indicate that pottery was used as a representation of the body,[876] but he is rightly cautious in making any conclusions based on modern parallels.[877] Nevertheless, the use of similar designs on pottery and on the body in the C-Group does support the idea that pottery decoration was linked to communicating identity. Tattoos have been identified on remains of skin from a male Pan-Grave individual at Hierakonpolis HK47, but there does not appear to be any direct comparison between the pottery decoration and the tattoo design, which is composed of an arrangement of dots.[878]

7.6.1.2 Style: emblemic vs assertive

As a concept, style can serve as a tool for identifying and establishing social and cultural boundaries that enable one group to be differentiated from another.[879] An analysis of style is a means by which to understand how identity may be communicated in a *non-verbal* way through conscious, deliberate choices that visually indicate difference and variation.[880] In her analysis of style, Wiessner identified two types of variation: *emblemic* style and *assertive* style, each of which communicated different aspects of cultural, individual, and group identity.

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[873] Jones, *Archaeology of Ethnicity*, 110-6; Rice, *Pottery Analysis*, 244-5.

[874] Sackett, *AmAnt 42,* 376.

[875] Keimer, *Remarques,* pp. 37-9; Steffensen, *ArchéoNil 17,* 141-5.

[876] Steffensen, *ArchéoNil 17,* 142.

[877] Steffensen, *ArchéoNil 17,* 144.

[878] Friedman, *NN 28,* 26-7. Friedman notes the similarities between the dotted triangular motif and decoration on bone plaques found in Pan-Grave burials and the tattooed marks from HK47.

[879] For a general discussion of this concept, see David, Kramer, *Ethnoarchaeology,* 168-224.

[880] Wiessner, *AmAnt 48.2,* 253-76. For a critique of Wiessner's theories see Sackett, *AmAnt 50,* 154-9.

Emblemic style communicates group identity and is intended to transmit a specific message to a target audience, e.g. a flag or coat-of-arms as an expression of national or clan identity.[881] In this way, emblemic style constitutes a conscious decision by a group and therefore is visually consistent and uniform in order to ensure that the intended message is clearly communicated. Emblemic style reinforces group identity within the entity that created it, whilst simultaneously marking that group as distinct from anyone outside of it. By contrast, assertive style reflects *individual* identity and may arise from conscious or unconscious processes.[882] 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—in other words, 'artistic licence'. Assertive style is therefore random and unpredictable, and its products are not necessarily indicative of a particular culture or group, but rather of the individual as a member of that group.

For the Pan-Grave ceramic tradition, the decorative motifs applied to vessels may be viewed as a primary means of communicating identity, and thus the motifs that are common to Pan-Grave assemblages across multiple sites may be interpreted as emblemic. These motifs are shared between communities, uniting them as members of a larger cultural entity while simultaneously setting that entity apart from others. Therefore, assertive style would constitute unique decorative motifs, site-specific variations, or unique vessel forms that occur under the umbrella of the Pan-Grave tradition. While these individual cases deviate from the core set of decorative motifs, they still occur within a range of what can recognisably be identified as Pan-Grave based on other identifying factors such as ware and shape. These unique variations also indicate a level of creative freedom and individuality was present and permissible among Pan-Grave societies.

7.6.1.3 Pottery and gender

Viewing ancient cultures through modern ethno-archaeological parallels is not without its problems, but a number of modern African parallels may open a path to better interpreting and understanding patterns seen in the archaeological record. This is especially the case for pottery in relation to gender roles and identity, specifically in the relationship between gender and pottery production.

In the Mesakin Qisar culture, pottery is produced exclusively by women, and the decorative motifs applied to the pottery incorporate the same designs as those found as scarification patterns on women's bodies within this culture.[883] 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.[884] 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.[885] In this case, the decoration is executed primarily by women and constitutes what Hodder refers to as "a silent discourse between women" that is not understood by the men in an otherwise male-dominated culture.[886] In this case, decoration serves as an expression of female identity within that culture.

While there are strong links between women and pottery production in modern African tribal communities, it is not possible to say if such links existed within the Pan-Grave tradition. Giuliani has suggested that bone points found in many Pan-Grave contexts *may* have been used to decorate pottery,[887] but this cannot be substantiated as these items are found in both female and male graves and their function is entirely unknown. Additionally, the fragmentary evidence makes it difficult to ascertain if decorated pottery is associated more frequently with graves of a particular gender. It is ultimately dangerous to draw parallels between modern and ancient cultures. If we look to the ancient Egyptian evidence from wall scenes and tomb models, pottery

[881] Wiessner, *AmAnt 48.2,* 257-8.

[882] Wiessner, *AmAnt 48.2,* 258-9.

[883] Hodder, *Symbols in Action,* 146.

[884] Grillo, *Materiality,* 162. Grillo outlines a range of taboos associated with women and pottery production.

[885] Hodder, *Symbols in Action,* 68-73.

[886] Hodder, *Symbols in Action,* 69.

[887] Giuliani, in Kroeper, Chłodnicki, Kobusiewicz (eds.), *Archaeology,* 652. For examples of the bone points, see Brunton, *Mostagedda,* pl. LXXIV.2.

production in Egypt appears to be an exclusively male task, and this should be taken into account when considering the social environment in which some members of the Pan-Grave tradition actually existed.

7.6.2 Decorated vs. undecorated pottery

It has already been stated that decorated vessels are far outnumbered by undecorated vessels. **Table 11** lists percentages of decorated pottery in the core dataset and clearly demonstrates that decorated pottery constitutes less than 50% of the total recorded assemblage at half of the sites. That being said, decorated vessels do form the majority at eight of the sixteen sites (**Fig. 94**), but this can be easily explained via the limitations of the published record together with the collecting and recording strategies of early excavations, which prioritised decorated pottery.

Rifeh is a prime example; 75% of the published pottery is decorated, and in the plates that accompany the excavation report, decorated pottery is fully illustrated with the motifs clearly depicted.[888] By contrast, undecorated vessels are mostly drawn as simple outlines and it is often unclear if the simplified outlines represent Pan-Grave vessels or Egyptian hemispherical cups or bowls. Weigall's report for Lower Nubia also shows a clear prioritisation of decorated over undecorated sherds, as the former would have been more distinctive and presumably more 'interesting'.[889] However, the report for Balabish implies that only five out of 33 published vessels were decorated (15.15%), but it is not made expressly clear if the five illustrated vessels are the only decorated examples from the site or if they are the only *intact* decorated vessels.[890] A stated aim of the Balabish excavations was to find museum quality items for American museums, so it may be assumed that sherds were either not recorded or were discarded, resulting in a published record that may not accurately reflect the archaeological reality.[891]

A more accurate reflection may be obtained from the assemblage at SJE Site 47 at Debeira East. The site was thoroughly excavated, and the entire ceramic assemblage (i.e. sherds and complete vessels) has recently been re-recorded by the author, making it the largest, most complete and most thoroughly studied assemblage included in this analysis. It is therefore remarkable that only 28% of the vessels are decorated, which strongly supports the assertion that decorated vessels are in the minority overall. The cemeteries at Hierakonpolis also reflect this pattern; of the 68 rim sherds recorded at HK47, only 28 were decorated, constituting 41% of the assemblage. It is therefore very likely that the high figures for decorated vessels at Rifeh, Aniba N, Armant, and Qau are over-inflated as a result of selective publication and prioritisation of decorated sherds.

7.6.3 Decorative variety, cemetery size, and date

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 Hierakonpolis and Nag el-Qarmila also fall within the higher ranges; although smaller sites, both were recently excavated using more thorough collection and recording 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. In all, the available data points to a positive relationship between the size of a site and the variety of decorative motifs that occur within its assemblage—the larger the site, the more frequent is decoration (**Table 12, Fig. 95**).

Chronology may also be a contributing factor. The sites with the lower ranges of decorative variety mostly date to an earlier phase of Pan-Grave activity in the Nile Valley, whereas the larger sites that are later in date display greater variety. This division may initially seem logical, but in reality the situation is not so clear. Sites such as HK21A, HK47, and WK11 sit at the high end of the scale in terms of decorative variety and all are

[888] Petrie, *Gizeh and Rifeh,* pl. XXVI.

[889] Weigall, *Antiquities of Lower Nubia,* pl. LXXVI-XCIV.

[890] Wainwright (*Balabish*, 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.

[891] See Thomas Whittemore's preface in Wainwright, *Balabish*, pp. v-vi.

early in date, but once again the more thorough recording strategies employed at these sites likely impacted on this result. Qau, Badari and Balabish seem somewhat anomalous; all date to a later phase of the Second Intermediate Period, but they sit at the lower end of the scale in terms of decorative variety, which is contrary to the observations that have just been made. Balabish may be explained through the museum-motivated collection strategies and limited publication, and the Qau–Badari region comprises small isolated cemeteries that each have a low range of variability.

7.6.4 Frequency of decorative motifs

The total number of attestations for each individual decorative motif across the sites is charted in **Fig. 96**, and the corresponding **Fig. 97** 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 variant. In total, one third of the entire sample (33.9%) carries cross-hatched decoration, which is almost three times that of the next most frequent motif, which is in fact the group consisting of 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 in the Pan-Grave ceramic tradition and may therefore be considered most emblemic for the Pan-Grave tradition. It must be stressed that cross-hatched decoration is also present in the Kerma and C-Group repertoires, albeit to a much lesser extent, and the way in which cross-hatched decoration is used differs between the cultures. Pan-Grave potters used the motif on its own, usually as a band around the vessel body, whereas cross-hatching is more often used as a fill pattern in the C-Group and Kerma traditions.[892]

The high frequency of complex and unique motifs (Motif X) is also worth noting, as it constitutes the second largest group in the corpus. It is important to note that these complex and unique decorative schemes still often incorporate the standard elements of Pan-Grave decoration. For example, the end-feather motif (F.e) may be combined with sinuous 'squiggly' lines that are not a regular feature in the Pan-Grave tradition (**Fig. 45c**). These combinations could thus be interpreted as assertive styles that represent individual innovations or 'artistic license'. An important note is that the most unique decorative schemes often occur on horned bowls, which are themselves unique to the Pan-Grave tradition. In this way, one could observe that the most assertive decoration is applied to the most emblemic of vessel types.

One might also assume that unusual decorative styles might reflect regional variations, 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 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 both Upper Egypt *and* Lower Nubia. Mention should be made of the spiral motif, which is the least frequent of all motifs, comprising only 1% of the total and *securely* attested at only Mostagedda and Qau in Middle Egypt. Two other spiral vessels are said to be from Abydos, but this provenance is anecdotal and could not be verified.[893]

7.6.5 Case study: impressed decoration

Overall, there does not appear to be any clear pattern of distribution for impressed decoration. Stylus-impressed decoration occurs infrequently, but is attested across Upper Egypt and Lower Nubia (**Table 13**). 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. Drop-shaped impressions are less common, attested as boundary lines only at Rifeh, Hierakonpolis, and SJE Site 47.

Comb-impressed decoration is also infrequent and is securely attested only on Pan-Grave vessels in

[892] Gratien, *CCE 6,* 117-8, fig. 7.

[893] 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, pers. comm.).

Middle and Upper Egypt, most commonly as rim-band decoration on vessels with band or externally modelled rims. The concentration of occurrences at sites in Middle Egypt, however small, may suggest that it is a later development. 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.[894] It also occurs at al-Widay, but the cultural attribution is unclear in that case.[895]

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 the rim zone.[896] The rarity of string-impressed decoration makes it difficult and inadvisable to form any observations relating to regional and chronological variation.

The use of impressed dots as boundary lines is also attested in assemblages from Upper Nubia and the Eastern Desert, for example at Hosh al Guruf and Site R49. String-impressions and notched lines that appear to imitate string impressions occur at Hosh al Guruf.[897] Triangular impressions are also present at Jebel Mokram sites (e.g. **Fig. 84**), the closest parallels for which can be identified in the Pan-Grave cemetery at Moalla and in the C-Group tradition.

Overall, there do not appear to be any discernible 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 desert-based cultures alike.

7.6.6 Case study: spiral decoration

Five vessels with spiral decoration have been identified, but only two have a secure provenance—one from Mostagedda, and one from Qau (**Fig. 51**).[898] 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 are deep cups with vertical walls and a rim diameter of 10-11 cm, the only exception being a restricted vessel with a tapered base, said to come from Abydos. 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 rather than incised, but unfortunately this example is unprovenanced.[899] Similar impressed marks are also visible in the grooves on one of the examples said to come from Abydos (**Plate O**).

Perhaps the most striking feature of the spiral decorated vessels is that each of the complete examples has a single hole at the centre of the base, and the nature of these holes differs in each case. The example from

[894] This type of comb-impressed decoration on the vessel rim is attested in all phases of the Kerma culture. *Kerma ancien* (Gratien, *Saï I,* fig. 303); *Kerma moyen* (Gratien, *Saï I,* fig. 313); *Kerma classique* (Gratien, *Saï I*, 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, in Forstner-Müller, Rose (eds.), *Nubian Pottery,* fig. 8), and are most likely to be identified with the Kerma tradition.

[895] This material is unpublished but was studied by the author at the Oriental Institute, Chicago, in April 2018.

[896] 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. Overall, its identification as a Pan-Grave vessel is questionable.

[897] Emberling, Williams, *GAMAR 7*, fig. 25-6.

[898] A related vessel comes from Site 24-I-4, Faras West, and has been attributed to the SJE's Transitional Phase (Nordström, *West Bank Survey,* pl. 24c).

[899] Petrie Museum, London, UC43309 and UC43310.

Mostagedda appears to have been ritually killed, i.e. the vessel was deliberately broken.[900] The example from Qau is described as having a hole "drilled" through the base[901] and was found in the same grave as a black-topped cup that also has a hole pierced through the base (Grave 1303).[902] Both of the examples said to come from Abydos have a very small 2mm hole at the base 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.[903] As pre-firing features, the holes on the Abydos vessels were likely intended to serve some unknown function. Whatever the case, the presence of holes at the base of all known spiral decorated vessels is striking and unlikely to be coincidental.

Chronological observations for spiral decoration cannot be substantiated due to the small quantity of evidence and unclear provenance. The example from Mostagedda is a surface find and is therefore of limited use for chronological purposes, and 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.[904] The questionable provenance for the two bowls said to come from Abydos is a problem, although there does seem to be a Pan-Grave presence in that area spanning the duration of the Second Intermediate Period.

The striking uniformity in terms of decoration, surface qualities, rim profile and the holes in the bases 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. It would not be out of the question for the examples from Mostagedda and Qau to have come from the same workshop as these sites are only approximately 20 km apart, which is an easy day trip along the river. 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 although not impossible, with only approximately 100 km separating Mostagedda and Abydos by river.

If indeed they were produced by the same hand, the distribution of these vessels would reflect some network of exchange between these communities, and a tentative explanation may be sought through anthropological parallels. In many modern tribal societies, women leave their family home upon marriage and join their new husband's family group.[905] If it is assumed that women produced Pan-Grave pottery, 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 sites that appear to be geographically unconnected. Of course this scenario is based on numerous assumptions, in particular that Pan-Grave pottery was produced by women, which is difficult to demonstrate archaeologically.

7.7 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.[906] The application of cladistics to archaeological material has gained popularity in recent years, being used to analyse

[900] 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, *Tradition und Wandel,* 161-84. For Nubian and modern African parallels see Steffensen, *ArchéoNil 17,* 145-50. For a general discussion of the killing of objects in the broader Egyptian belief system, see Ritner, *Ancient Egyptian Magical Practice*, 148-62.

[901] Brunton, *Qau and Badari III,* pl. IX.6. This vessel has not been sighted by the author.

[902] Brunton, *Qau and Badari III,* pl. IX.9.

[903] Susan Allen, pers. comm.

[904] Brunton, *Qau and Badari III,* pl. IX.18.

[905] For a discussion of the role of inter-tribal marriage in blurring social and cultural boundaries see Hodder, *Symbols in Action,* 27-31. The role of marriage in stylistic development was also discussed in relation to Turkmeni textile weaving patterns (Tehrani, Collard, *JAA 21,* 457) and Iranian weaving styles (Tehrani, Collard, *EHB 30,* 287-9).

[906] O'Brien, Lyman, *Cladistics,* 49-55; Hood, Valentine, in Knoblauch, Gill (eds.), *Egyptology in Australia and New Zealand,* 47.

Iranian textile designs,[907] the transfer of weaving techniques and styles,[908] Paleoindian arrow points,[909] the decoration of Neolithic pottery from the Merzbach Valley in Germany,[910] and the evolution of Early Dynastic Egyptian pottery.[911] Cladistics has also been successfully applied to the evolution of human populations, behaviours, and language.[912] To the current author's knowledge, this is the first time that the method has been applied to Nubian archaeological material of any kind.[913]

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."[914] In spite of its increasing use, the application of cladistics to archaeological material has not been immune to opposition.[915] 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.

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 to supplement or challenge conclusions reached using a more 'traditional' archaeological approach. The primary aim of this cladistics analysis is 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.

7.7.1 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.[916] 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

[907] Tehrani, Collard, *JAA 21,* 443-63.

[908] Tehrani, Collard, *EHB 30,* 286-300.

[909] O'Brien, Darwent, Lyman, *JAS 28,* 1115-36.

[910] Collard, Shennan, in Renfrew, Boyle (eds.), *Archaeogenetics,* 89-97.

[911] Hood, Valentine, in Knoblauch, Gill (eds.), *Egyptology in Australia and New Zealand*, 47-59.

[912] Examples include studies relating to the effects of trade and exchange on cultural evolution (Collard, Shennan, Tehrani, *EHB 27,* 169-84), the development of plant economies (Coward et al., *JAS 35,* 42-56), and the evolution of language and basketry techniques among Californian Native Americans (Jordan, Shennan, *JAA 22,* 42-74), among others.

[913] The cladistics analysis was conducted by the author in collaboration with Dr. James L. Valentine, Charles Darwin University (Australia). My sincere thanks to James for his considerable efforts and assistance with the analysis and for his contributions to this discussion.

[914] O'Brien et al., *JTheorBiol 215*, 145.

[915] O'Brien et al., *JTheorBiol 215,* 134-6.

[916] O'Brien et al., *JTheorBiol 215,* 144-5. See also O'Brien, Lyman, *Cladistics,* 137-43.

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.

7.7.2 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 that are meaningful and informative, but that will not manipulate the data to produce a desired predetermined outcome.[917]

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 14**.

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.

7.7.3 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.[918] 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, Nag el-Qarmila 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.[919] Within the context of this cladistic analysis, the assemblage from WK11 is presumed to be ancestral to all other sites included in the analysis.

7.7.4 Results

The analysis was run using specially developed computer software called PAUP* (Phylogenetic Analysis Using Parsimony) version 4.0 beta 10.[920] The programme processes data using the principle of parsimony,

[917] O'Brien, Lyman, *Cladistics,* 143-58.

[918] O'Brien, Lyman, *Cladistics,* 159-4; Hood, Valentine, in Knoblauch, Gill (eds.), *Egyptology in Australia and New Zealand*, 51-2; O'Brien et al., *JTheorBiol,* 141.

[919] Gatto, *JAEI 6.1,* 18-20.

[920] Swofford, *PAUP*. The test referred to in the current study was run on May 11, 2016 by James L. Valentine in collaboration with the author.

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.[921] 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 37 equally parsimonious cladograms. The initial results of this test are presented in **Fig. 98**.

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 order to resolve the collapsed nodes in the resulting strict consensus tree, the 37 equally parsimonious cladograms were also summarised by PAUP to produce a *50% majority rule consensus tree,* which is in keeping with standard practice for cladistics analyses.[922] 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 **Fig. 99**. 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.

7.7.5 Discussion

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 been shown throughout this chapter that the distribution of the various decorative motifs is fairly consistent across all sites in the sample. This lack of variety would correspond to an apparent lack of evolution or change within the Pan-Grave tradition, 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

Group 1 sites are all located in Middle Egypt, and it has been established that this region is defined by specific ware types and the higher frequency 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. Coincidentally or otherwise, the cladistic analysis of pottery decoration has reflected the generally later date for these sites and this region that was established using whole assemblages.

The sites in Group 2 are spread across southern Upper Egypt and Lower Nubia and all are identified as being among the earliest Pan-Grave sites currently known. All four can be linked by similar grave types, the

[921] O'Brien, Lyman, *Cladistics,* 63-4.

[922] Swofford, Bell, *PAUP* 4.0 Manual*, 217; Swofford, in Miyamoto and Cracraft, *Phylogenetic Analysis*, 297-8.

absence of defined black-tops, and the dominance of Egyptian Middle Kingdom pottery types. It was also noted earlier in this chapter (§7.8) that the Middle Egypt and southern Upper Egypt regions overlap at Hu, which is reflected in the cladistics results.

The relationship between the two sites in Group 3, HK47 and SJE Site 47, is not so clear. 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 spans the period from the early Second Intermediate Period to the early Eighteenth 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, thus the volume of data for both sites far outweighs that from other sites in the sample, and this may have impacted upon the results.

Having studied the pottery from both sites first-hand, the current author notes (from a purely *subjective* perspective!) that the assemblages from HK47 and SJE Site 47 are highly comparable in terms of surface qualities, burnishing techniques, fabrics, and the general 'feel' of the assemblages. These features were not included in the cladistic analysis of decoration, but it is worth acknowledging the overall similarities from a qualitative perspective.

Group 4 is something of an anomaly, consisting of only HK21A. There are a number of features in the assemblage from HK21A that are either unique in southern Upper Egypt, or unique in the entire dataset. Such features as these are methodologically 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 examples of comb-impressed decoration in this region comes from HK21A, the only confirmed recessed rim from a *mortuary* context in southern Upper Egypt occurs at this site, as does the only defined black-top attested at a cemetery in this region. All this compounds to make HK21A a unique assemblage, which appears to have been picked up by the cladistic analysis.

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 according to the associated assemblages.

7.8 General remarks on the distribution of Pan-Grave pottery decoration

One of the key points to come from this analysis is that decorated pottery, although it is 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, and in particular early excavation reports that prioritised decorated pots and sherds over undecorated examples. Decoration is of course important for identifying a vessel as being of the Pan-Grave tradition, but other characteristics including ware and surface treatment are equally informative and should be given equal consideration.

Regional distribution patterns such as those identified for ware and surface treatment are not evident for Pan-Grave pottery decoration, and the consistency of distribution across sites suggests a general lack of variation or change within the range of decorative motifs. This consistency may be linked to the role that decoration played in communicating identity, and it is here argued that Pan-Grave potters—consciously or otherwise—went to some lengths to ensure that their products were easily identifiable as Pan-Grave pots as opposed to that of some other culture. On a practical level, ware and surface treatment may differ depending on factors such as the physical properties of the raw materials and developments in forming and firing technologies, but decoration would have been less susceptible to change unless it was consciously affected by the potter.

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 preferences of the potter. For example, one potter may prefer a more densely spaced cross-hatched motif than another, and seemingly trivial factors such as time of day or even personal mood may have also been a factor; a tired potter eager to use up a

lump of clay at the end of a long day may have executed the decoration more carelessly than at the beginning of that day. Looking for patterns in such minor variations is virtually impossible and ultimately meaningless—it is the search for patterns in random and unpredictable human behaviour.

The cladistics analysis of Pan-Grave pottery decoration supports these observations, and the overall lack of decorative variation was clearly reflected in the corresponding lack of any clear evolutionary relationships in the strict consensus tree. The importance of considering decoration alongside other morphological factors, specifically ware and surface treatment, was expressed in the groupings in the 50% majority rule consensus tree. Overall, the cladistics process demonstrates the usefulness of incorporating quantitative methodologies to check and verify conclusions made through more traditional, qualitative approaches.

8.
Concluding Observations: From Culture to Horizon

A central theme of this volume has been to identify variation in the Pan-Grave ceramic tradition and, by extension, to make a case for the existence of multiple variants of the Pan-Grave tradition more broadly. For almost a century the culture has been portrayed as a monothetic entity defined by a set of diagnostic features in its material traditions. It is only recently that this image has begun to be challenged, and this study of just the ceramics alone has demonstrated that there is sufficient variation to justify breaking down the Pan-Grave tradition as we know it and reconstructing it from a new perspective. The foundation has been laid for new discourse relating to the Pan-Grave tradition as part of a larger cultural phenomenon, taking into consideration how its material expression changes and evolves according to time and place. Chronology, trade, external influence, intra-cultural divisions, and other factors may have impacted upon Pan-Grave identity and the material expression thereof. Indeed, if the Pan-Grave people did originate as bands of nomadic or semi-nomadic people, then it follows that each group would have produced its own material goods (inclusive of pottery), and each would have done so in a slightly different manner. In this concluding chapter, it is acknowledged that it is inappropriate to view cultures as immutable and monothetic entities, and the discussion considers both the similarities *and* the differences in the assemblages. These patterns in the ceramic evidence might well be a reflection of similar cultural patterns in the Pan-Grave tradition at large, and the multiple, noticeably different regional groups indicate that there is not a single Pan-Grave tradition, but rather a group of related sub-cultural units—a Pan-Grave *cultural horizon*.

8.1 Identifying regional variants in the Pan-Grave ceramic tradition

This study has shown that there is substantial evidence for broad variation across Pan-Grave ceramics but that overall this variation occurs within a narrow enough range that the pottery can still be recognised as belonging to the same tradition. Vessel shape, ware, and decorative motifs vary from one site to another, but this variation occurs within a recognisable range across a large geographic area. The variations and distribution patterns that have been identified allow for the corpus to be divided between five regional groups:

1. Middle Egypt: Rifeh to Hu.
2. Southern Upper Egypt: Hu to Elephantine.
3. Lower Nubia: between the First and Second Cataracts.
4. Upper Nubia: the Dongola Reach to the Fourth Cataract.
5. The Eastern Desert and the Atbai.

Each of the groups is defined by similarities in the Pan-Grave ceramic assemblages, and other aspects such as grave shape and associated Egyptian pottery have also been taken into account. Each region is presented below, summarising how it is defined, what features mark it out as being a variant, and how its distinct character may have arisen.

The Western Desert oases and Lower Egypt (i.e. The Memphite region and the Eastern Delta) may also

constitute regional groups, but at present the data is insufficient for to reliably define Lower Egyptian or Oasis regional groups. Nevertheless, the material from these regions is an important element to the story, and as such they will be included in the broader discussions that follow.

8.1.1 Middle Egypt: Rifeh to Hu

The Pan-Grave pottery from this region is defined by distinctive wares and surface treatments, and in many ways it is the most distinctive of the five groups. Vessels are often carefully burnished with fine strokes creating the streaky appearance that has here been called "Pan-Grave fine burnish" and which 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 or technologies specific to that region. Egyptian influences on Pan-Grave ceramic technology are also evident in the fully oxidised red wares that are attested in Middle Egypt more than in any other region.

Defined and applied black-tops from Middle Egypt are of a quality that is unparalleled in any region. Applied black-tops in particular are more carefully executed, sharply defined, and more finely burnished here than anywhere else, the pinnacle of this technique being the examples from Mostagedda (**Plate H**).

In terms of decoration, there does not appear to be any discernible distribution; the assemblages are quite homogeneous and the cladistic analysis of Pan-Grave pottery decoration reinforced the close relationship between the assemblages from this region. 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 questionable examples said to come from Abydos. Mostagedda, Hu, and Rifeh are all among sites showing the broadest variety of decoration, and in this way the sites in this region are perhaps unified by their decorative diversity.

Besides the Pan-Grave pottery, the grave types in this region are distinct from those at sites further south; rectangular graves without any trace of a superstructure are more common, which likely 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. Seventeenth 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 Middle Egypt date to the Second Intermediate Period proper, specifically the period following the break from Middle Kingdom ceramic traditions.

8.1.2 Southern Upper Egypt: 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 Pan-Grave fine burnish is absent. Defined black-tops are also virtually absent from *cemeteries* in this region apart from the few examples from Hierakonpolis, however they do occur in low quantities in *settlement* contexts at Elephantine and Tell Edfu. The general absence of this feature from cemetery sites in this region may reflect a chronological lag between its occurrence in settlement and cemetery assemblages.

There does not appear to be any obvious pattern in the range and distribution of decorative motifs. The variety of decoration at each site in this region is more limited than at sites in Middle Egypt, which may be due to the smaller size of the cemeteries or to their being earlier in date. Hierakonpolis and Nag el-Qarmila are exceptions with higher variability, but this may be a product of more thorough collection and recording strategies.

The graves are predominately circular, rectangular graves being almost entirely absent. The Egyptian pottery from these sites consists predominantly of forms from the repertoire *before* the break from Middle Kingdom traditions, indicating a date in the late Twelfth and early Thirteenth Dynasty. The only exception is Hu Cemetery Y/YS, where the Pan-Grave contexts may be dated to the late Seventeenth and early Eighteenth Dynasty. In settlement contexts such as Tell Edfu and Elephantine, Pan-Grave pottery is confirmed in contexts spanning a period from the late Middle Kingdom into the advanced Seventeenth Dynasty. It therefore seems that Pan-Grave/Egyptian encounters continued for most of the Second Intermediate Period, so the absence of late Pan-Grave cemeteries in the region is remarkable.

8.1.3 Lower Nubia: Between the First and Second Cataracts

The Pan-Grave pottery from Lower Nubia is more mixed in character and shows characteristics seen in both Middle Egypt and southern Upper Egypt. Many sites in Lower Nubia were in use over an extended period, while others seem to have been used for short periods, making it difficult to identify discrete groups. As such, all of the Lower Nubian sites have here been subsumed into one regional group. Perhaps the only part of Lower Nubia that can easily be identified as a sub-region is the area immediately surrounding the Second Cataract, but even here the assemblages are mixed in terms of date and composition resulting from extended periods of activity spanning the entire Second Intermediate Period.

The majority of the Pan-Grave pottery in Lower Nubia is well made and fine wares are common, but overall it does not reach the same level of quality as examples from Middle and Upper Egypt. Fabrics are generally coarser, and vessel walls tend toward being slightly thicker than examples from Upper Egypt. Defined and applied black-tops are attested but in small numbers and only at large sites near the Second Cataract and at small cemeteries that can be dated to the late Second Intermediate Period and early Eighteenth Dynasty. As in Egypt, there does not appear to be any clear link between decorative motifs and regional variation. Cemetery size is likely to be a factor; the range of motifs is more limited at the smaller sites, while SJE Site 47 has the greatest variety in the entire survey.

The variation in Pan-Grave pottery from Lower Nubia may be more closely linked to chronology than to regionality. Pottery from small, early cemeteries such as Aniba C and Serra C shares much in common with the small cemeteries in southern Upper Egypt, for example in the absence of defined and applied black-tops. By contrast, pottery from equally small but later Pan-Grave cemeteries 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, and the associated Egyptian pottery suggests a late Seventeenth or early Eighteenth Dynasty date. The large cemetery SJE Site 47 at Debeira East shows a mix of both early and late types, which is reflective of both the size of the cemetery and its extended period of activity.

8.1.4 Upper Nubia: The Dongola Reach to the Fourth Cataract

Curiously, and in spite of the vast distances separating the regions, the Pan-Grave pottery from Upper Nubia finds its closest parallels in Middle Egypt. The black-topped red wares are distinctly Pan-Grave in terms of technology and surface treatment, and the shapes are exaggerated variants of vessel forms known from sites further north. A striking connection to Middle Egypt and the Fourth Cataract is the presence of well-defined and applied black-tops. These are especially well attested at al-Widay I 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. Decorated pottery is uncommon, but the motifs attested are consistent with Pan-Grave pottery from sites in Upper Egypt and Lower Nubia.

Possibly the most important feature of this region is the cultural mixing evident in the graves, where Pan-Grave and Kerma elements are found in close association. This mixing seems to be especially apparent in this region more than any other and is likely to be a product of direct contact between the two cultures in what is otherwise the geographic sphere of Kerma influence.

8.1.5 The Eastern Desert and the Atbai

Although publication is limited, there is enough evidence to support the inclusion of this region in a survey of the Pan-Grave tradition. The striking similarities between the Pan-Grave and Jebel Mokram ceramic traditions are undeniable, in particular the decorative motifs, rim profiles, and vessel shapes. 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. Generally speaking, the pottery from this region bears characteristics that are present at Pan-Grave sites along the Nile Valley, and so it is here proposed that the Jebel Mokram and Pan-Grave traditions are variants of one another—they are two branches of the same tree. From that point of view, the discovery that the Jebel Mokram Group is contemporary with the

earliest Pan-Grave sites in the Nile Valley drastically alters our understanding of the Pan-Grave story, as will be discussed further below.

8.1.6 Lower Egypt

The scattered occurrences of Pan-Grave and Nubian pottery in Lower Egypt are difficult to interpret. The only securely Pan-Grave material from this region are the sherds from cooking pots at Kom Rabia, which indicate some form of contact with Pan-Grave traditions or objects during the Thirteenth Dynasty. This date is surprisingly early so far north, however if Pan-Grave people were moving toward the Nile Valley by the late Middle Kingdom (as seems to be the case), it is possible that some groups approached the river near the Memphite region. The absence of confirmed Pan-Grave cemeteries limits how far we can take this interpretation, as it is not clear whether or not the people were actually present in the area. The supposed Pan-Grave cemetery at Dashur could not be verified (§6.12.3).

Aside from the single sherd at Kahun (§6.12.2), Nubian pottery from elsewhere in this region could not be verified. Kerma material is certainly present in the Eastern Delta, but the other 'Nubian' pottery may be a blend of Egyptian, Nubian, and Levantine elements.

8.1.7 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 remains tentative. Whatever the case, the presence of Pan-Grave pottery in the Kharga Oasis would demonstrate the expansive reach of the Pan-Grave ceramic tradition, well beyond the Nile Valley. The use of local oasis silts suggests that Pan-Grave potters 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 communities, all of which hints at some level of contact between Egyptians and Pan-Grave people at sites a long way from the Nile Valley.

8.2 Towards a new framework for variation and chronology

It is now clear that the reach of Pan-Grave ceramic tradition extends well beyond Upper Egypt and Lower Nubia; pottery attributable to this culture is attested in the Nile Valley at least as far as the Fourth Cataract, and pockets of Pan-Grave pottery or variants thereof occur in the deserts and oases to the east and west of the Nile Valley. It must be acknowledged that Pan-Grave pottery found in contexts that are otherwise not Pan-Grave in character (e.g. al-Widay, Umm Mawagir, Tell Edfu etc.) may not necessarily indicate the actual presence of Pan-Grave people, but whether by trade, imitation, or some other process, it cannot be denied that the tradition is more widespread than previously thought.

The map on **Fig. 100** offers a representation of the hypothetical reach of the Pan-Grave ceramic tradition, the different shades of grey reflecting the varying densities of Pan-Grave evidence. As can be seen, the bulk of the Pan-Grave evidence is concentrated in the Upper Egyptian and Lower Nubian Nile Valley, which is in keeping with the traditionally accepted distribution. However, the present study identifies additional clusters at the Fourth Cataract, and secondary concentrations in the Memphite region and the Eastern and Western Desert regions, and the map will doubtlessly evolve as further survey and excavation is conducted, especially in the Eastern Desert. The possibility that the regional groups evident in Pan-Grave pottery may be connected with chronological developments has been addressed throughout this study. Even with the current state of knowledge, but based on the widespread distribution alone, it is inconceivable that regional variation would not be an inherent aspect of the Pan-Grave phenomenon. In order to fully investigate this possibility, the different lines of evidence must be brought together—every region, mortuary evidence, and settlement data.

There appears to be a clear diachronic relationship between Middle Egypt and southern Upper Egypt, the latter being earlier than the former, and there appears to be some degree of contemporaneity between Jebel Mokram sites and sites in southern Upper Egypt. The situation in Lower Nubia is more mixed and shows Pan-Grave activity spanning the entire Second Intermediate Period, and possibly into the early Eighteenth Dynasty. The same appears to be the case in Upper Nubia, where Pan-Grave evidence is associated with *Kerma moyen*

and *Kerma classique* material, indicating Pan-Grave activity spanning the duration of the Second Intermediate Period. The evidence from Pan-Grave cemetery sites may therefore be summarised as follows:

1. The earliest evidence for the Pan-Grave tradition is concentrated in southern Upper Egypt as well as at scattered sites in Lower Nubia, and is roughly contemporary with the Jebel Mokram Group at Mahal Teglinos (Kassala), c. 1850-1800 BCE.
2. The large Pan-Grave cemeteries in Middle Egypt and Lower Nubia appear to have been established later in the Second Intermediate Period (i.e. the Seventeenth Dynasty) and continued in use until the beginning of the Eighteenth Dynasty. The same appears to be the case at al-Widay and the Fourth Cataract region generally.
3. Pan-Grave activity in Egypt all but ceases by the beginning of the Eighteenth Dynasty, the only confirmed evidence coming from Hu Cemetery Y/YS. Likewise, a small number of sites in Lower Nubia appear to have a limited period of activity confined to the late Seventeenth Dynasty and the beginning of the Eighteenth Dynasty, e.g. Ginari 58:100.

Difficulties in correlating cemetery and settlement data notwithstanding, the chronological implications of stratified Egyptian settlement contexts are an avenue by which to refine even a preliminary chronology for Pan-Grave pottery. In Upper Egypt, the earliest evidence for Pan-Grave pottery in Egyptian settlement contexts dates to the very end of the Twelfth Dynasty at Elephantine and Tell Edfu, which is contemporary with the mortuary evidence near each site (i.e. at Nag el-Qarmila and Hierakonpolis respectively). The Pan-Grave pottery at Kom Rabia also dates to the second half of the Thirteenth Dynasty, but in this case, no corresponding mortuary evidence survives to fully interpret the scope of Pan-Grave activity in that region.

In Upper Egypt, pottery that can be confidently assigned to the Pan-Grave tradition becomes less frequent by the late Second Intermediate Period and effectively disappears by the beginning of the Eighteenth Dynasty. This general decline corresponds to the same pattern seen in Pan-Grave cemeteries in Egypt, which seem to fall out of use at around the same time. Curiously, however, there is little evidence for Pan-Grave mortuary activity in southern Upper Egypt during the late Second Intermediate Period, in particular at sites near Edfu and Elephantine, although it is possible that the evidence is yet to be discovered. The presence of Kerma sherds and defined black-tops at HK47 and HK21A suggests that activity at these sites may have continued well into the Second Intermediate Period.

With this overall framework in place, and in spite of the problems associated with the inconsistent record, a broad and preliminary chronological sequence can be constructed for the Pan-Grave ceramic tradition, and for the Pan-Grave tradition as a whole. Four phases have been identified, each of which is defined by the ceramic evidence as well 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 phases are:

1. Early Nile Valley Pan-Grave.
1. Transitional Nile Valley Pan-Grave.
1. Egyptianising Nile Valley Pan-Grave.
1. Late Nile Valley Pan-Grave.

The term "Nile Valley Pan-Grave" has been adopted here to account for the fact that the phases are built almost exclusively on evidence from the Egyptian and Nubian Nile Valley. This geographically anchors the material, acknowledges that the focus is on Pan-Grave tradition as it is manifested in the Nile Valley, and distinguishes the material in question from related cultures in the Eastern Desert, namely the Jebel Mokram Group. This does not mean that the Eastern Desert evidence is excluded. In fact, the opposite is true, and by referring specifically to Nile Valley Pan-Grave tradition, it acknowledges that there may be 'other' Pan-Grave traditions elsewhere. This is key to the discussion, and allows the links to the Eastern Desert and a nomadic past to be built into the interpretations.Each of the phases will now be discussed in turn, outlining their key defining features, and placing them both chronologically and geographically.

8.2.1 Phase 1: Early Nile Valley Pan-Grave

Phase 1 is dated to the late Middle Kingdom, specifically the period from the reign of Amenemhat III up to the beginning of the Thirteenth Dynasty. Sites assigned to this phase are identified by two main characteristics; the graves are all roughly circular and generally quite shallow, and the Egyptian pottery associated with the graves dates to the period *before* the break from Middle Kingdom traditions. In addition, the cemetery sites assigned to this phase are located in relative isolation, set apart from contemporary Egyptian and other Nubian sites. There is little evidence for mercenary activities; Egyptian-made weapons such as axes and daggers are entirely absent, and arrows such as those found at Hierakonpolis could have been tools rather than weapons.

Pan-Grave pottery across all Phase 1 sites is fairly consistent in character; black-tops are almost invariably irregular, and defined black-tops are attested only at Hierakonpolis. Restricted, rounded bowls with simple contours appear to be dominant, but vessels with inflected walls also occur. Horned bowls are also well attested. Pottery types from Phase 1 remain present in Pan-Grave assemblages until the culture is no longer attested in the archaeological record, demonstrating that they are the earliest and most ancestral forms of Pan-Grave pottery.

Pan-Grave pottery is rare in Egyptian settlement contexts, but examples are attested at Tell Edfu and Elephantine, mostly cooking pottery. Based on these criteria, the following sites show evidence of activity during Phase 1:

- Tod
- Hierakonpolis, HK21A
- Hierakonpolis, HK47
- Nag el-Qarmila, WK11
- Aniba, Cemetery C

The following sites may also have been active during this phase however there is insufficient evidence to support this conclusion:

- Moalla, Area H3
- Sayala, Cemetery G
- Aniba, Cemetery N
- Serra, Cemetery C

While all sites assigned to Phase 1 share many similarities, the overall nature of each site is archaeologically distinct from one another, highlighting that the Pan-Grave tradition is characterised by internal variation from its earliest days in the Nile Valley as exemplified by Hierakonpolis HK47 and HK21A. The differences may be a direct result of the nomadic lifestyle, and each cemetery could represent independent kin groups that expressed the same identity in a slightly different way. Clear indicators of internal variation include differences in superstructure (e.g. debris tumuli at HK47, mud-rings at WK11, mud-brick at Tod), slight variations in ceramic styles, and choice of different geological landscapes in which to locate cemeteries. The distribution of Phase 1 sites is quite scattered, further suggesting that each community is distinct.

Bietak proposed that the distinctive nature of Pan-Grave material culture overall was the result of a long period of isolated development in the desert,[923] and his proposal may now be taken one step further. It is here posited that each group or tribe followed its own developmental path in its own region of the desert, giving rise to the varying expressions of Pan-Grave identity, which thus explains the variation seen in the archaeological record for Phase 1. The possibility for internal variation is not a new one; Gatto has suggested that there could have been a level of intra-cultural variability reflecting divisions between family or clan groups, or environmental constraints,[924] and Cohen has also spoken of similar intra-cultural divisions that he

[923] Bietak, *Ausgrabungen*, 70, 73.
[924] Gatto, *JAEI 6.1,* 24.

interpreted as differing levels of Egyptianisation.[925] The full spectrum of evidence for this early phase verifies these theories, and it now seems clear that the early Pan-Grave tradition is characterised by its diversity.

8.2.2 Phase 2: Transitional Nile Valley Pan-Grave

Chronological parameters for Phase 2 are difficult to identify and, at best, only a relative date of the Thirteenth Dynasty through to the early Seventeenth Dynasty may be proposed for this phase. The sum of the evidence indicates that Phase 2 marks the transition between the distinctly Pan-Grave material culture of Phase 1 and the more Egyptianised character of the succeeding Phases 3 and 4. The defining feature of Phase 2 is the occurrence of circular *and* oval graves, as well as the continued presence of both Middle Kingdom pottery alongside pottery of the new Upper Egyptian style. Rectangular graves do not occur, and only one Egyptian-made weapon (an axe head) is known from this phase, at Badari cemetery 5400.

In Egyptian settlements, unmistakeably Pan-Grave wares with well burnished surfaces and defined black-tops occur in low numbers at Tell Edfu and Elephantine. At Tell Edfu, their short-lived presence and restricted spatial distribution associated with temporary occupation contexts suggests that Pan-Grave people were actually living in Egyptian towns by this time. It also suggests that fine wares were used in daily life before being deposited in Pan-Grave burials. Imitation wares (LaMNI ware)—that is Nubian-style cooking pots produced using Egyptian techniques—indicates that exchange between the two cultures began almost as soon as they came into contact with one another, strengthening the possibility that both communities were living in close proximity.

There is little to no development in Pan-Grave pottery from Phase 1 to Phase 2, black-tops are still mostly irregular, and the highly burnished wares occur at the small cemeteries in the Qau-Badari region only.

Only five cemetery sites can be firmly assigned to Phase 2:

- Qau 1300
- Badari 3900
- Badari 5400
- Hu, Cemetery X
- Armant 1900

It must be noted that two of these sites are very small—Qau 1300 comprises only seven graves, and Badari 3900 is a single isolated burial. The largest cemetery in this region, Badari 5400, comprises 20 graves but dateable evidence is minimal. Cemetery X at Hu may straddle Phase 1 and 2 as oval graves are not reported, but Upper Egyptian pottery types are present. It is also worth noting that Bourriau placed the sites attributed to this phase into the earlier stages of Pan-Grave presence in the Nile Valley based on her analysis of Egyptian biconical jars.[926]

Overall, Phase 2 sites seem to reflect continuity from the preceding phase but with less pronounced variation between sites. Graves are mostly shallow and either circular or oval, and there is no explicit reference to superstructures in any of the published reports. This increasing uniformity is perhaps a direct result of a more sedentary lifestyle in the Nile Valley and continuous contact with Egyptian communities.

8.2.3 Phase 3: Egyptianising Nile Valley Pan-Grave

Phase 3 sites are defined by advanced Egyptianisation, most evident in the occurrence of rectangular graves containing extended burials. It should once again be stressed that rectangular graves do not replace circular and oval graves, both of which continue in use during Phase 3. Also defining is the absence of Middle Kingdom Egyptian pottery, which has been replaced by the Upper Egyptian styles of the Second Intermediate Period. For Pan-Grave pottery, the most distinctive marker of a later date is the increased occurrence of defined and applied black-tops.

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[925] Cohen, *Egyptianization,* 38-48, 59-62.

[926] Bourriau, in Arnold (ed.), *Studien*, fig. 3. Many of the pots in Bourriau's Group A and A-B come from Hu X.

Other evidence for increasing Egyptianisation comes in the form of Egyptian-made weapons, suggesting that at least some Pan-Grave people had entered Egyptian employment. At Mostagedda, Egyptian motifs on Pan-Grave objects (i.e. lotus blossoms and hieroglyphic inscriptions on bucrania) and wooden coffins suggest even more advanced Egyptianisation for some of the Pan-Grave individuals buried at that site.

It is difficult to assign absolute dates to this phase, but it is clear that sites in this group were in active use throughout the Seventeenth Dynasty based on the styles of Egyptian pottery and weapons found in Pan-Grave contexts. The following cemeteries can be assigned to Phase 3:

- Rifeh, Cemetery S
- Mostagedda 3100/3200
- Balabish
- Shellal Cemetery 7
- Kubban Cemetery 110
- Debeira East, SJE Site 74
- Debeira East, SJE Site 170
- Adindan, Cemetery K

Phase 3 is the largest group of all four phases and most of these sites are large in size, indicating that they were in use over a long period of time, reflecting a greater population and a more settled lifestyle in the Nile Valley of Upper Egypt and Lower Nubia. It is clear that the Pan-Grave tradition had become a firm fixture in Egyptian society during the Second Intermediate Period, and that the people who maintained these traditions were living and probably working alongside Egyptians in their towns.

It is during this phase that Ryholt's observation that the distribution of Pan-Grave sites reflects populations of mercenary soldiers based near Egyptian urban centres appears to be most sound.[927] Mostagedda and Rifeh are the northernmost of all Pan-Grave sites and both are situated just south of Cusae, which, if the Kamose texts are to be believed, was the frontier between Theban and Hyksos territory.[928] Balabish is located at the northern end of the Qena Bend, not far from the route that bypasses the bend in the Nile and cuts through the desert to Thebes. In Lower Nubia, Pan-Grave sites are located near the First and Second Cataracts, which had always been strategic points for controlling movements into and out of Egypt via the Nile.

Following Ryholt's proposal, the northern sites at Mostagedda, Rifeh, and Balabish may have served to safeguard Thebes from the Hyksos in the north, while the Lower Nubian sites are evidence for garrisons set up to monitor threats from Kush in the south. However, if protecting the Egyptian stronghold at Thebes was a priority, then the absence of Phase 3 Pan-Grave sites in the Theban region itself is surprising. There are a number of cemeteries to the south of Thebes during earlier phases (i.e. Tod, Armant and Moalla), but there is little evidence for any military function from those assemblages. Definitive evidence for an established Pan-Grave presence at Thebes remains unverified (§6.9), but surely it must have existed, in which case one can only assume that it has been lost or remains undiscovered.

Ryholt's theory also inevitably accepts the traditional view that at least some Pan-Grave people were Medjay soldiers employed by Egyptians, but many of the axes and daggers that underpin this theory have been found in female and child burials, and so a military function should not automatically be accepted. None of this is to say that the Pan-Grave people were *not* Medjay in an occupational sense, but instead encourages a more balanced approach in which some Pan-Grave people may have served a military function while others did not.[929] All of these problems aside, the distribution of Phase 3 sites does suggest that Pan-Grave people moved north and south along the Nile Valley during the Seventeenth Dynasty, mirroring the movements of the Egyptians in their efforts to regain control of lost territory.[930]

[927] Ryholt, *Political Situation*, 178-9.

[928] Habachi, *Second Stela of Kamose,* 48-52; Smith, Smith, *ZASA 103,* 69-70.

[929] Liszka, de Souza, in Emberling, Williams (eds.), *Handbook.*

[930] de Souza, *BACE 24*, 110-3.

8.2.4 Phase 4: Late Nile Valley Pan-Grave

The existence of this phase is tentative, but the evidence suggests that Phase 4 most likely dates to a period spanning the last stages of the Second Intermediate Period and the very beginning of the Eighteenth Dynasty. It is unknown for how long a Pan-Grave presence continued in the Nile Valley, but so far there is little evidence for activity beyond the early Eighteenth Dynasty; certainly it seems to have disappeared from the record before the decline in Kerma evidence. Pan-Grave cemeteries in Egypt and Lower Nubia fall out of use, and pottery attributable to the Pan-Grave tradition has all but disappeared from Egyptian settlements by this time. However, this author has elsewhere suggested that a Pan-Grave element persisted in Egyptian society but that it was expressed in a new 'non-Nubian' manner, for example as black rims painted onto Egyptian vessels.[931] Phase 4 has so far only been identified at two sites:

- Hu Cemetery Y/YS
- Ginari 58:100

At Hu Y/YS, the 31 graves known to have included Pan-Grave material culture objects are rectangular and contained extended burials, indicating an advanced degree of Egyptianisation. Circular and oval graves are not known. At Ginari 58:100, there appears to be a close connection between the Pan-Grave portion of the cemetery and the early Eighteenth Dynasty Egyptian graves (§4.17.2). It is possible that a Pan-Grave presence persisted longer in Lower Nubia at sites such as SJE Site 47 and Kubban 110, however this remains to be confirmed.

8.3 A tentative new history of the Pan-Grave Tradition

So how, then, do these four phases assist in reconstructing the story of the Pan-Grave tradition? The following key events serve as anchor points around which a timeline can be built:

- The earliest evidence for the Pan-Grave tradition in the Nile Valley dates to the late Middle Kingdom at scattered sites, c. 1850 BC.
- The appearance of the Pan-Grave tradition in the Nile Valley is roughly contemporary with the earliest evidence for the Jebel Mokram Group in the Kassala region.
- The Pan-Grave assemblages from Middle Egypt are among the latest in the sequence in Egypt, with activity confined mostly to the Seventeenth Dynasty.
- Activity at Pan-Grave cemeteries in Egypt seems to cease by the beginning of the Eighteenth Dynasty.
- Cemeteries such as Hu Y/YS, Ginari 58:100, and possibly SJE Site 47 show signs of activity further into the early Eighteenth Dynasty. 'Transitional' sites at the Second Cataract may be further evidence for a modified Pan-Grave presence into the New Kingdom.
- Nubian pottery attributed to the Pan-Grave tradition is attested in settlement contexts at Tell Edfu and Elephantine from the Thirteenth Dynasty until the beginning of the Eighteenth Dynasty.

From this foundation, a picture begins to emerge by which bearers of the Pan-Grave cultural tradition first appear in the Nile Valley during the late Middle Kingdom, most likely from the Eastern Desert. This is reflected in the Phase 1 cemeteries displaying what may be the earliest and 'purest' form of the Pan-Grave tradition with little evidence of external influence. The key point for this phase is that each of these early sites is unique, so much so that Phase 1 is defined by its variation.

This points strongly toward a nomadic past, whereby different Pan-Grave kin or family groups with subtly different material traditions approached the Nile Valley following different routes out of the desert. This 'migration' into the Nile Valley, and thus into direct Egyptian contact, appears to be supported by the Semnah Despatches 3 and 5, which tell us that small family groups of desert-dwellers (Medjay) moved into the Nile

[931] de Souza, *CCE 11*, 82-6.

Valley to seek food and employment because the desert was dying from hunger.[932] The groups were turned away by the Egyptian authorities, but the very fact that Pan-Grave sites exist in the Nile Valley shows that others did get past the authorities, perhaps via other less monitored routes out of the deserts.

Of course, this is not necessarily the first time that these disparate groups approached the Nile Valley as they may have seasonally done so over a number of generations. What is important is that these people decided to settle in the Nile Valley at a point around 1850 BC, apparently abandoning their mobile way of life perhaps as the result of changing climatic conditions and a lack of food in the desert regions.[933] The use of multiple routes along the length of the Nile Valley contrasts with Bietak's proposal that the Wadi Allaqi was the main entry point and, instead, the distribution of sites better reflects a wave a migration toward the river. Whatever the case, it is now clear that multiple Pan-Grave groups were living, dying, and burying their dead in the Nile Valley before the end of the Middle Kingdom, and certainly by the Thirteenth Dynasty.

Once they had settled in the Nile Valley, it seems that people following Pan-Grave traditions began to integrate fairly rapidly into Egyptian society during the early Second Intermediate Period. Increasing quantities of Pan-Grave pottery in Egyptian settlement contexts suggest that these people were either living in Egyptian towns or were trading directly with them. The dominance of cooking pots, often found in association with food processing facilities, points toward possible service duties, which has been interpreted by others as evidence for Pan-Grave people working for Egyptians in a domestic capacity, however the colonial undertones of such an assumption should not go unnoticed. Contrary to traditional theories, there is little evidence that Pan-Grave people were involved in military service as mercenary guards (or something similar) during this early phase.

Contact and exchange with Egypt continued into the early Second Intermediate Period, and certain Egyptian objects and customs increasingly find their way into Pan-Grave cemeteries. Egyptian pottery becomes more common in Pan-Grave burials, and grave shapes begin to transition from uniformly circular and shallow to deeper more elongated pits. Defined black-tops and recessed rims develop and become more common, and there is some evidence that there were attempts to imitate Egyptian shapes using Pan-Grave ceramic wares and technologies.

The connections between Pan-Grave and Egyptian communities seem to have strengthened with the beginning of the *political* Second Intermediate Period, when communication between Upper and Lower Egypt all but ceased and a new style of Egyptian material culture arose in the south. At this point, the Pan-Grave tradition seems to spread northward; Pan-Grave cemeteries in southern Upper Egypt seem to have been abandoned, and others were established in Middle Egypt at Balabish, Hu, Mostagedda, and Rifeh. These sites would go on to become some of the largest Pan-Grave cemeteries known to exist, indicating intense Pan-Grave activity in this area over a number of generations. This northward movement mirrors the same progress made by the Theban rulers as they pushed back against the Hyksos and consolidated their northern frontier,[934] thought to be at Cusae.[935] The large Pan-Grave cemeteries near the Second Cataract dated to the same period suggest that efforts were also made to secure the southern frontier.

Contact between Pan-Grave and Egyptian communities reached its peak during the Seventeenth Dynasty. Rectangular graves with extended burials are undoubtedly a clear indicator of Egyptian influence, and increasing quantities of Egyptian artefacts in Pan-Grave burials reflect intense networks of trade and exchange. The Pan-Grave presence in Upper Egyptian settlements also appears to have reached its peak during this time. It is at this point that there is clear evidence that at least *some* Pan-Grave people served a military function; archery paraphernalia and Egyptian-made weapons in some Pan-Grave burials are a strong indicator, as is the image of a Pan-Grave warrior painted onto the famous bucranium from Mostagedda. Evidence for this military function is most common at those sites nearest to the frontier of Hyksos control, which supports the theory that Pan-Grave communities moved alongside Egyptians in their efforts to re-conquer the north.

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[932] Smither, *JEA 31,* 9; Gatto, *JAEI 6.1,* 24. Kraemer, Liszka, *JEH 9*, 45 (note 164).

[933] Meurer notes that there does not seem to have been a climate-driven motivation for migration into Egypt at the time (Meurer, *Nubier in Ägypten,* 127). There is also evidence for prehistoric cattle-herders migrating out of the desert as a result of environmental change (Bobrowski et al., *Studia Quaternaria* 30.2, 135-42).

[934] de Souza, *BACE 24,* 109-19

[935] Bourriau, in Leahy, Tait (eds.), *Studies on Ancient Egypt,* 43-8; Ryholt, *Political Situation,* 178; Bourriau, in Marée (ed.), *The Second Intermediate Period*, 22-3.

The storyline becomes murky after the defeat of the Hyksos and the reunification of Egypt. Pan-Grave cemeteries in Egypt seem to fall out of use entirely, and Pan-Grave pottery all but disappears from Egyptian settlement contexts. The reasons for this sudden decline in the Pan-Grave evidence from the archaeological record in Egypt are entirely unclear, but what is clear is that by the beginning of the Eighteenth Dynasty, the Pan-Grave tradition has effectively disappeared from the Nile Valley in Upper Egypt and Lower Nubia.

One possibility is that the Egyptians turned their attention to the south in order to re-secure their southern border against Kush.[936] The Pan-Grave population, or at least the portion of it that appears to have served as mercenary soldiers, may have been *deliberately* moved from Egypt and taken to Nubia to support the Egyptian campaign. This could explain the apparently sudden halt in activity at the latest Pan-Grave cemeteries such as Mostagedda, Rifeh and Balabish, but it appears that a small population may have stayed in Egypt to be buried at Hu Cemetery Y/YS. The small Pan-Grave cemeteries at Ginari (Cem. 58:100) and Kubban (Cem. 110), may have been established after this move back to the south. Both are situated adjacent to Egyptian cemeteries of the early Eighteenth Dynasty, and the Pan-Grave ceramic assemblages display strong affinities with those from sites in Middle Egypt. It therefore seems that the new ceramic styles of the Pan-Grave tradition moved south, namely defined and applied rims, highly burnished exteriors, and sharply recessed rims.

After this, the trail goes cold. There is no obvious evidence for Pan-Grave activity in Egypt or Nubia beyond the early Eighteenth Dynasty, but there is some suggestion that Pan-Grave and Middle Nubian traditions continued in Lower Nubia at sites like SJE Site 35,[937] however this remains to be verified. The last remaining bearers of a now modified Pan-Grave tradition may have returned to the desert, they may have moved into Upper Nubia, and those who remained in the Nile Valley may have continued to evolve toward more Egyptian traditions, eventually fading into the archaeological ether.

8.4 The Pan-Grave Horizon

So much for the story of the Pan-Grave tradition, its adherents, and their connection with Egypt, but what of the Pan-Grave tradition in relation to itself? A recurring theme of this survey has been the possibility that regional variants existed within the tradition, and this has been borne out through a deeper investigation of the ceramic evidence and of the sites and assemblages as a whole. This being the case, to what extent could the variation seen in Pan-Grave material culture reflect a corresponding variation within the Pan-Grave tradition itself? In other words, would it be more appropriate to speak of multiple Pan-Grave sub-cultures as part of a cultural complex than of a single Pan-Grave tradition or culture?

Key to this issue is the concept of archaeological cultures, which are defined according to the presence or absence of certain key diagnostic artefact types or characteristics.[938] This model proposes that cultures can be monothetic, uniform entities, and that the material expression of a culture remains consistent across space and presumably also time. The defining characteristics of an archaeological culture are usually established based on the assemblage of a 'type-site' or group thereof.[939] Other assemblages are then compared to the type-site(s) in order to assign or not assign that assemblage to the archaeological culture in question. For the Pan-Grave tradition, Hu Cemetery X could be considered the 'type-site' as it was the first Pan-Grave assemblage to be identified, and as such is the one against which all others were subsequently compared.

The assumption that cultures are uniform and monothetic is fundamentally flawed, a fact that has been long recognised in archaeological and anthropological theory. As early as 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"[940] and that polythetic culture groups are "defined by a range of variation between defined limits".[941] Earlier still in 1956, Childe also noted that all diagnostic types are unlikely to be present in all assemblages of an identified

[936] Edwards, *The Nubian Past,* 101-1.
[937] Säve-Söderbergh, *Middle Nubian Sites*, 159-65 (vol. 1).
[938] Jones, *Archaeology of Ethnicity*, 106-27.
[939] Jones, *Archaeology of Ethnicity*, 108.
[940] Clarke, *Analytical Archaeology*, 35-6.
[941] Clarke, *Analytical Archaeology*, 36-7.

culture and instead proposed that it is the repeated occurrence of a number of diagnostic characteristics that defines the culture.[942] As archaeologists, we are confined to an external *etic* perspective, and we can never presume to know how a person culturally or ethnically *self-identified*, but it is possible to infer what traditions a person may have followed or adhered to if the same traditions occur repeatedly and *en masse* in a given assemblage.

The issue is compounded by the often fragmentary record, where disturbed and partially preserved contexts present us with only a part of the picture, and Shennan has 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."[943] 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. Theoretically, then, it makes sense that Pan-Grave material culture is characterised by variation within an identifiable range, but how should this be interpreted?

Based on the distributions of Pan-Grave pottery alone, at least five regions were identified, each with its own distinct set of characteristics: (1) Middle Egypt; (2) Southern Upper Egypt; (3) Lower Nubia; (4) Upper Nubia; (5) the Eastern Desert. Two additional groups may be appended, namely (6) Lower Egypt, and (7) the Western Desert oases. At least in the case of the first three groups, the variations can be mostly explained through chronology— the sites in southern Upper Egypt are generally earlier than those in Middle Egypt, and Lower Nubia is contemporary with both. However, chronology cannot be the sole basis from which to speak in favour of intra-cultural variation. Most things—cultures, individuals, species of animal—change over time, dependent on any number of uncontrollable and unpredictable variables. External factors such as environmental changes, social interactions, and technological developments can all influence cultural development and evolution. For the Pan-Grave tradition, the shift from a nomadic to a sedentary lifestyle and varying interactions with Egyptian communities at different locations no doubt set in train the evolution and eventual demise of the Pan-Grave tradition that first entered the Nile Valley at the end of the Middle Kingdom.

Following the timeline back, the archaeological manifestation of the Pan-Grave tradition at the beginning of its time in the Nile Valley presents an image that is characterised and defined by variation. It has been noted throughout this chapter that all of the sites attributed to Phase 1 are unique, and that this is likely to reflect the existence of multiple kin or family groups that lived in different parts of the Eastern Desert, each one being mostly isolated from the others, and each having its own unique way of expressing a shared cultural heritage. Gatto observed similar patterns in the sites around Aswan, suggesting that internal conflict between Pan-Grave groups during this early phase may have exacerbated different modes of interaction, leading to different developmental trajectories.[944] This internal variation then becomes archaeologically visible with the establishment of Pan-Grave cemeteries in the Nile Valley at the end of the Twelfth Dynasty, effectively fossilising the varied material expressions of Pan-Grave identity and allowing archaeologists to compare one with the other. Of course, it is not possible, nor is it advisable to attempt to identify regional variants that may have existed before the first appearance of these traditions in the Nile Valley. What it is possible to say is that the *original* Pan-Grave tradition was certainly not uniform, and hence it no longer seems appropriate to speak of a single Pan-Grave "culture". An alternative should be found, but this is no easy task after more than a century.

The concept of the "*Nile Valley* Pan-Grave tradition" was introduced earlier in this chapter as a way of isolating that specific, geographically defined body of material on which our existing definition of 'Pan-Grave' is based. But at least two other cultural variants may be identified, the first being active in the deserts to the east of the Nile, and the second in Upper Nubia. The first brings us of the Southern Atbai and the Jebel Mokram Group. The similarities between ceramic traditions of the Nile Valley Pan-Grave tradition and the Jebel Mokram Group have already been acknowledged by many, and it was recently identified that the Jebel

[942] Childe, *Piecing Together the Past,* 124; Jones, *Archaeology of Ethnicity*, 108.
[943] Shennan, *Archaeological Approaches to Cultural Identity*, 13 (emphasis added); Jones, *Archaeology of Ethnicity*, 109.
[944] Gatto, *JAEI 6.1,* 24.

Mokram Group is roughly contemporary with the earliest attestations of the Nile Valley Pan-Grave tradition (c. 1800 BC). Although his work has been largely superseded, Sadr did put forward one significant hypothesis, namely that the Jebel Mokram Group *is* the Medjay (i.e. the Pan-Grave tradition) *in that region*. Given the newfound chronological synchronicity, such an equivalence is much easier to support. Sadr also put forward another hypothesis, namely that the Medjay (i.e. the Pan-Grave tradition) was *always* present in the Eastern Desert regions.[945] Not only does this link back to my earlier suggestion that there was a multiplicity of Pan-Grave groups active across the desert regions to the east of the Nile, resulting in the highly varied expression of that culture in its earliest phases, it also connects to what I suggest is a further variant of the Pan-Grave tradition in Upper Nubia.

Evidence for Pan-Grave activity in Upper Nubia (Chapter 5) points toward close links between Pan-Grave and Kerma communities along the Nile between the Third and Fourth Cataracts, and presumably also in the desert region in between. The unique and highly distinctive appearance of the Pan-Grave related pottery from this region, in particular that from sites around the Fourth Cataract, strongly suggests that this region constitutes its own variant group. The divergence from Pan-Grave material traditions in Lower Nubia and Upper Egypt is most likely the result of more intense interactions with Kerma culture rather than Egyptian. This in turn suggests that a population of bearers of the Pan-Grave tradition remained in this region and did not venture north, and thus they retained their distinctive material culture traditions. The gold mining activities at Hosh el Guruf near the Fourth Cataract may offer an explanation; it is possible that people following Kerma and Pan-Grave traditions encountered one another in the desert regions that were encircled by the bend in the Nile between the Third and Fourth Cataracts, and it is in that region that the exchanges took place.

All told, the broader archaeological picture of what has long been called the Pan-Grave tradition instead presents a more fragmented image in which three main groups can be identified:

1. Nile Valley Pan-Grave tradition: active in the Upper Egyptian and Lower Nubian Nile Valley.
2. Upper Nubian Pan-Grave tradition: active in the valley and desert regions between the Third and Fourth Cataracts of the Nile.
3. Desert Pan-Grave tradition: encompassing the desert regions to the east of the Nile, including the Red Sea Hills and the Southern Atbai.

These three regional variants collectively form what I propose should now be known as the ***Pan-Grave Horizon***, a designation that opens the door to re-formulating what was previously known as the Pan-Grave culture. It is now clear that the Pan-Grave phenomenon is bigger, more varied, further reaching, and more complex than previously thought, and it should not be considered as a single, uniform culture. Identifying it as a cultural horizon acknowledges that Pan-Grave evidence should be sought far beyond the limits of Egypt and Lower Nubia, opening the way for future research to look further afield and further back in time to seek the roots of the Pan-Grave phenomenon, and to look forward to surmise what it may have become.

It must also be remembered that the Pan-Grave tradition did not exist in a vacuum, and re-framing it as a cultural horizon provides a platform from which to reassess the relationships between the many Nubian and African cultures active at the time. The C-Group and Kerma cultures are the most obvious, but the search for cultural connections may be extended geographically to the Jebel Mokram and Jebel Moya traditions, and chronologically back to the A-Group and forward to the Blemmyes and Beja tribes of the Eastern Desert. Only by properly situating the Pan-Grave tradition into its broader historical, social, and geographic context can we fully understand the multicultural Nubian world of the time.

In the end, and even after this re-formulation, the Pan-Grave Horizon remains an enigma. We have come a long way after a century of scholarship, but their origins and 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. It is hoped that re-framing the Pan-Grave phenomenon as a cultural horizon will present a new way forward, providing a broader scope in which the surviving evidence can be reconsidered.

[945] Sadr, *Development of Nomadism*, 107-8.

They had no empire, no cities or towns, nor any discernible homeland, but the people of the Pan-Grave Horizon hold a position of importance in the history and archaeology of the second millennium in northeast Africa, 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, they speak to us through the objects they left behind, many of which lie silently in museum storerooms or in the ground waiting to be discovered. If nothing else, this ceramics-focussed investigation demonstrates the wealth of new information that can be gained from revisiting and reinterpreting old data in the light of new evidence. There is so much more to learn about the Pan-Grave Horizon, the people who lived within it, and, by extension, about the world in which they existed. We can move toward the horizon, but we can never reach it.

The horizon is infinite.

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TABLES and APPENDIX

Table 1: Closed vessels (all dimensions in cm)

Site/ Context	Object #	Shape code	Rim	Max D	Ware	Deco.	Notes
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 ext., horizontal burnish strokes. Int. black with horizontal burnishing and scraping. Rim band deco C.r.
Debeira East SJE 47	SJE 47/109:3j	RI	15	19.5	BT.r	C.r	Globular jar, vertical, inflected band rim making short neck. Irreg. black-top, red-slipped, horizontal burnish. Int. black, compacted. Incised C.r to rim band only.
Debeira East SJE 47	SJE 47/119:3g	RI	17	-	BT.r	-	Rim and shoulder of globular(?) jar, inflected band rim that creates the appearance of a neck. Irreg. black-top, red-slipped. Traces of oblique burnish visible on eroded surface. Int. black, well compacted with wiping marks.
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. Int. black, well compacted. Rim band decorated with incised braid pattern. Possibly Kerma?
Debeira East SJE 47	SJE 47/3:3a	RNI	9	11.7	R.b	-	Small spherical jar, short inflected neck, direct rim. Ext. eroded but traces of red-slip preserved. Int. black and well compacted but not burnished.
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. Irreg. black top. Red-slipped, vertical burnishing. Int. black, burnished horizontal.
Debeira East SJE 47	SJE 47/52:4	RNI	9	11.5	R.b	-	Globular jar, inflected neck, everted direct rim. Ext. red-slipped and burnished, horizontal strokes around rim, vertical strokes at neck, oblique strokes on body. Int. black, well compacted, some wiping marks inside rim.
Debeira East SJE 47	SJE 47/81:2	RNI	11	19.1	BT.r	-	Globular jar, inflected neck, everted direct rim. Irreg. black-top, red-slipped. Ext. eroded but traces of oblique burnish visible. Int. black, compacted.

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 ext. with vertical strokes. Int. black, well compacted but not burnished.
Debeira East SJE 47	SJE 47/119:3f	RNI	12	-	BT.u	-	Rim of a jar, short vertical neck and direct rim. Ext. uncoated, irregular black-top. Int. black with prominent scraping and wiping. Possibly Kerma?
Debeira East SJE 47	SJE 47/135:1	RNI	12	19	BT.r	-	Spherical jar, vertical neck and direct rim. Irreg. black-top covering neck. Ext. red-slipped, oblique burnishing visible. Int. black, compacted.
Hierakonpolis HK47	HK47 Pot 31	RNI	10	20	RB.c	-	Spherical jar, short inflected neck, everted and slightly modelled rim. Ext. red-coated, burnished, horizontal burnish marks to ext. Int. black, compacted.
Qau 1300	Brunton 1930, pl. IX.5	RNI	?	?	RB.?	C.r	Squat shouldered jar, short inflected neck. Uncoated. Incised closely spaced cross-hatching on body. Base and neck plain. Black interior. Possibly not Pan-Grave, but compare example from Mostagedda 3100. Description based on published drawing.
Mostagedda 3100	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.
Debeira East SJE 47	SJE 47/157:1	RS	5	9.2	R.c	-	Small drop-shaped jar, everted and flattened rim. Ext. red-slipped, smoothed. Int. black, compacted with finger marks visible.
Debeira East SJE 47	SJE 65/0:10	RS	5	8	BT.r	-	Beaker jar, band rim. Defined black-top and red-slipped exterior. Ext. well burnished. Burnishing has smoothed out set-off line. Int. black and compacted with some scraping.

Table 2: Results of solubility tests from SJE Site 47 (Positive result indicates water soluble pigment).

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

Table 3: The six ware aspects and their associated variants ('states').

Aspect	Black-Top	Coating	Ext. colour	Int. colour	Surface texture	Decoration
Variant	0. Absent 1. Present	0. Uncoated 1. Coated 2. Unknown	0 . Oxidised 1. Reduced	0 . Oxidised 1. Reduced	0. Smoothed 1. Burnished	0. Absent 1. Present

Table 4: The ware typology for Pan-Grave pottery

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 5: Distribution of vessel forms across Egypt and Nubia. Note: grey rows indicate that insufficient published data is available.

		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			
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	?	
Nag el-Qarmila	**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**									
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**			X						
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		
al-Widay	**al-Widay I**	X				X	X	X		X
Hosh al-Guruf										
Kassala										
Mahal Teglinos		X				X				
Agordat										

Table 6: Distribution of recessed rims.

		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
Nag el-Qarmila	WK 11	
Sheikh Mohammed	SM 14	
Wadi Tawil	WT 1	
Shellal	Cem. 7	X
Ginari	Cem. 58:1 + 58:100	
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 7: Distribution of black-top techniques.

	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	?	?	
Ginari Cem 58:1	?	?	
Ginari Cem 58:100	?	X	
Kubban Cem 110	?	X	X
Sayala B	X	X	
Sayala G	X		
Tumas Cem 189	X		
Aniba N	X	?	
Aniba C	X		
Toshke D	?	X	
Masmas Cem 201	X	X	
Adindan K	X	X	
Faras SJE 193		X	X
Serra C	X		
Debeira SJE 35	X	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	X	
El-Widay I	X	X	X
El-Ar I	?	X	

Table 8: Distribution of Black Ware types

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	
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 9: Distribution of Red Ware types.

	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**	**23 (26?)**	**3**	**62 (65?)**

Table 10: Proportion of decorated pottery at each site, expressed as a percentage of the total number of individual vessels in each assemblage, arranged from lowest to highest.

	%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
Nag el-Qarmila WK11	56.67
Qau	58.33
Armant	59.26
Tod	66.67
Rifeh	75.00
Aniba N	100.00

Table 11: Number of occurrences of each decorative motif at sites in Upper Egypt and Lower Nubia.

	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 12: Attestations of impressed decoration, arrange by site from north to south.

	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 13: The characters and character states applied to the cladistic analysis of Pan-Grave pottery decoration.

Line direction		
Horizontal 0. Absent 1. Present *Vertical* 0. Absent 1. Present *Oblique 1 (Ascending L-R)* 0. Absent 1. Present	*Oblique 2 (Descending L-R)* 0. Absent 1. Present *Crossing Lines – regular* 0. Absent 1. Present *Crossing Lines – irregular* 0. Absent 1. Present	*Curved lines* 0. Absent 1. Present *Boundary Lines* 0. Absent 1. Present – continuous 2. Present – broken 3. Present – string impression
Line arrangement		
Herringbone 0. Absent 1. Present – horizontal 2, Present – vertical *Quadrilateral Zones* 0. Absent 1. Present – Grid / Diamond 2. Present – Lattice *Horizontal band, below rim* 0. Absent 1. Present	*Feather* 0. Absent 1. Present – graduated 2. Present – even *Triangular zones* 0. Absent 1. Present *Fish Scale* 0. Absent 1. Present	*Zig-Zag* 0. Absent 1. Present *Pendant Triangles* 0. Absent 1. Present *Random Distribution* 0. Absent 1. Present

Impressed decoration			
Circular 0. Absent 1. Present	*Drop shaped* 0. Absent 1. Present	*Angular* 0. Absent 1. Present	*Oblique* 0. Absent 1. Present

Rim type		
Direct 0. Absent 1. Present *Modelled – internal* 0. Absent 1. Present *Modelled – external* 0. Absent 1. Present *Everted* 0. Absent 1. Present	*Recessed* 0. Absent 1. Presentt *Band rim* 0. Absent 1. Present *Rim edge notched* 0. Absent 1. Present *Hatched rim band* 0. Absent 1. Present	*Cross-hatched rim band* 0. Absent 1. Present *Zig-Zag rim band* 0. Absent 1. Present *Other incised rim band* 0. Absent 1. Present *Impressed rim band* 0. Absent 1. Present
Vessel Profile		
Restricted 0. Absent 1. Present	*Unrestricted* 0. Absent 1. Present	*Open (everted)* 0. Absent 1. Present

Appendix

Database of Pan-Grave pottery

Abbreviations used in database:

BM	British Museum, London
comb	combed
def	defined
Gust.	Museum Gustaviuanum, Uppsala University
imp	impressed
inc	incised
irr	irregular
Leip.	Museum Georg Steindorff, Leipzig
Man. Mus.	Manchester Museum
OI	The Oriental Institute Museum, University of Chicago
Pet. Mus.	The Petrie Museum of Egyptian Archaeology, UCL
surf	surface (i.e. surface find)
Swan.	The Egypt Centre, Swansea

Notes for using the database:

Entries in the database are organised first by site in alphabetical order, and thence by accession number / object number.

Where known, museum accession numbers are given.

In cases where pottery was identified in publications as a photograph or illustration, the author's surname and year of publication are given.

Only a general description is given in cases where pottery was recorded but no illustration or photograph was provided (e.g. Brunton at Mostagedda).

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	inflect-ed?	?	-	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	-	-	-	-	-	-	-	-	-	-	-	-	-

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 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	-	-	-	-
Armant 1947a	Swan(?)	P.766	-	-	-	-	-	-	-	-	-	-	-
Armant 1947A-C	-	-	-	-	-	-	-	-	-	-	-	-	-

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 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	?	?	-	-	-	-

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 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	-	-	-	-
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.

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
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	-	-	-	-

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
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	-	-	-	-
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	-	

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	HK47.23	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.imp		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	-	-	-	-

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	HK47.87	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.

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 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.comb	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 long	-	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.

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 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	-	-	-	-
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	-	-	-	-

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 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	-	-	-	-

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 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	-	-	-	-
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	-	-	-	-

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 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 long	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	-	-	-	-

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
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.
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 triangle	-		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.

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
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.

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 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.
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.

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.	47/019a	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	mod-elled	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.imp. triangles	-	-	imp.
SJE Site 47	Gust.	47/13:1b	11	PG.2	US cup	?	BT.c	erod-ed		-	-	-	
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.

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.	47/20:4a	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	13.3 wide	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	-	-	-	-
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) ra- dial 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 wide	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	-	-	-	-

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.	47/61:1a	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. trian-gles	-	-	-
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	-	ZZ	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	-	-	-	-

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.	47/91:3	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	erod-ed	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.
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	erod-ed	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	-	-	-	-

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.	47/121:1a	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.

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
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.
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.

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 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.

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Pl. L(ii): Photograph © A. de Souza, courtesy Petrie Museum of Egyptian Archaeology, UCL.
Pl. O(ii): Cup; Nubian (Pan-Grave); about 1700-1520 B.C.; Pottery; Height x width: 10.2 x 8.8 cm (4 x 3 7/16 in.); Emily Esther Sears Fund; 03.1615. ©2019 Museum of Fine Arts, Boston.
Pl. O(i): 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.); Emily Esther Sears Fund; 03.1616. ©2019 Museum of Fine Arts, Boston.
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Pl. W: Pan Grave Bowl / Museum accession number E.78.1911. © The Fitzwilliam Museum, Cambridge.

FIGURES

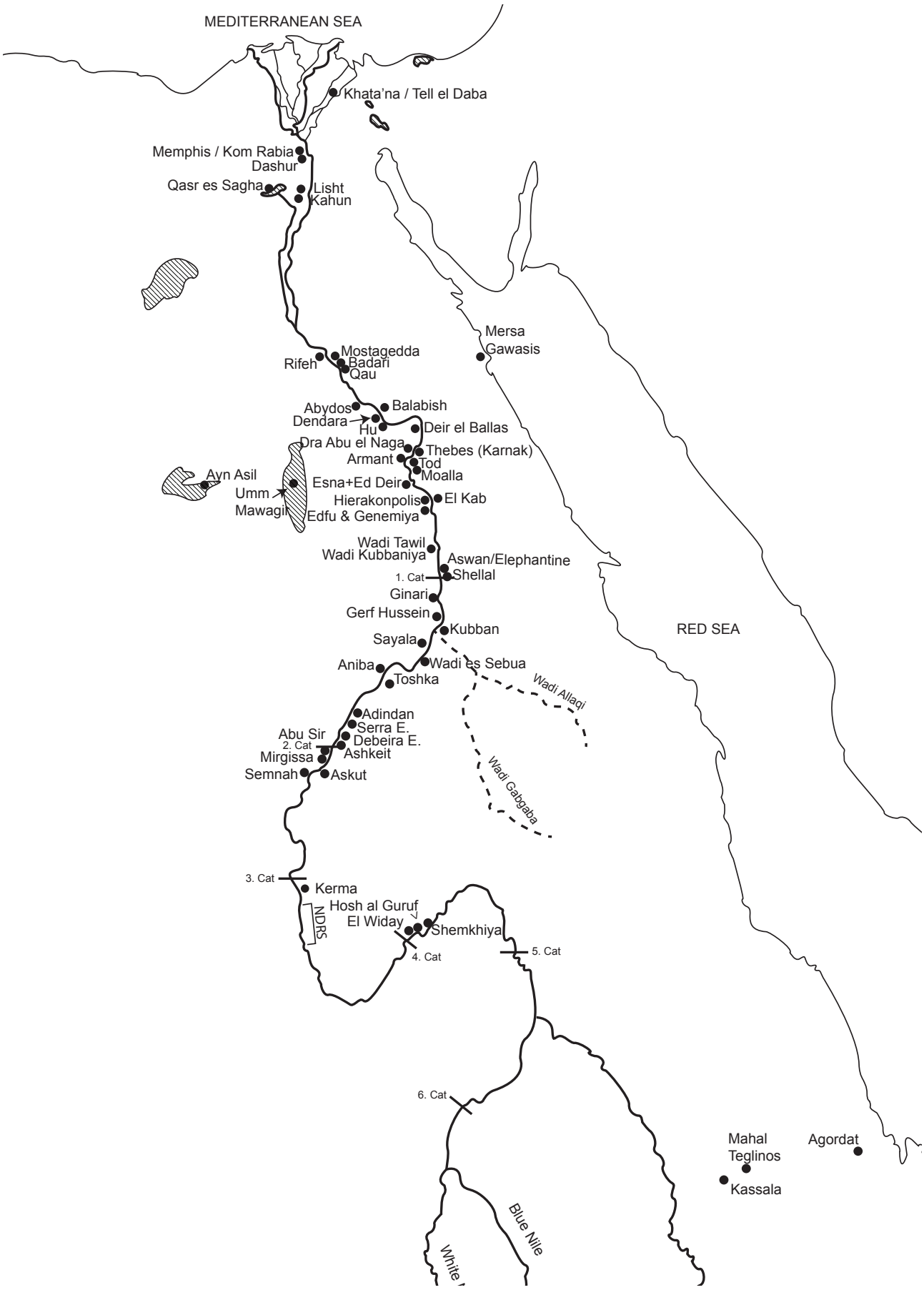


Fig. 1 Map showing all sites referenced in the text (Drawn by A. de Souza)

<table>
<tr><th></th><th>Upper Egypt</th><th>Lower Egypt</th><th>C-Group</th><th>Kerma</th><th>Pan-Grave</th><th>Atbai</th></tr>
<tr><td>2050 BC</td><td colspan="2">11th Dynasty</td><td rowspan="5">Phase IIA</td><td rowspan="5">Kerma Moyen</td><td rowspan="4"></td><td rowspan="4">Gash Group</td></tr>
<tr><td>2000 BC</td><td colspan="2" rowspan="5">12th Dynasty</td></tr>
<tr><td>1950 BC</td></tr>
<tr><td>1900 BC</td></tr>
<tr><td>1850 BC</td><td rowspan="6">Nile Valley Pan-Grave</td><td rowspan="6">Jebel Mokram Group</td></tr>
<tr><td>1800 BC</td><td colspan="2"></td><td rowspan="2">Phase IIB</td><td rowspan="3">Kerma Classique</td></tr>
<tr><td>1750 BC</td><td colspan="2" rowspan="2">13th Dynasty</td></tr>
<tr><td>1700 BC</td><td rowspan="3">Phase III</td></tr>
<tr><td>1650 BC</td><td rowspan="2">17th Dyn</td><td rowspan="2">15/16th Dyn</td></tr>
<tr><td>1600 BC</td><td rowspan="2">Kerma Recent</td></tr>
<tr><td>1550 BC</td><td colspan="2" rowspan="6">18th Dynasty</td><td rowspan="6"></td><td rowspan="6"></td><td rowspan="6"></td></tr>
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<tr><td>1450 BC</td></tr>
<tr><td>1400 BC</td></tr>
<tr><td>1350 BC</td></tr>
<tr><td>1300 BC</td><td colspan="2"></td><td colspan="3"></td><td>Continues to c. 1000 BC</td></tr>
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Fig. 2: Relative chronological table

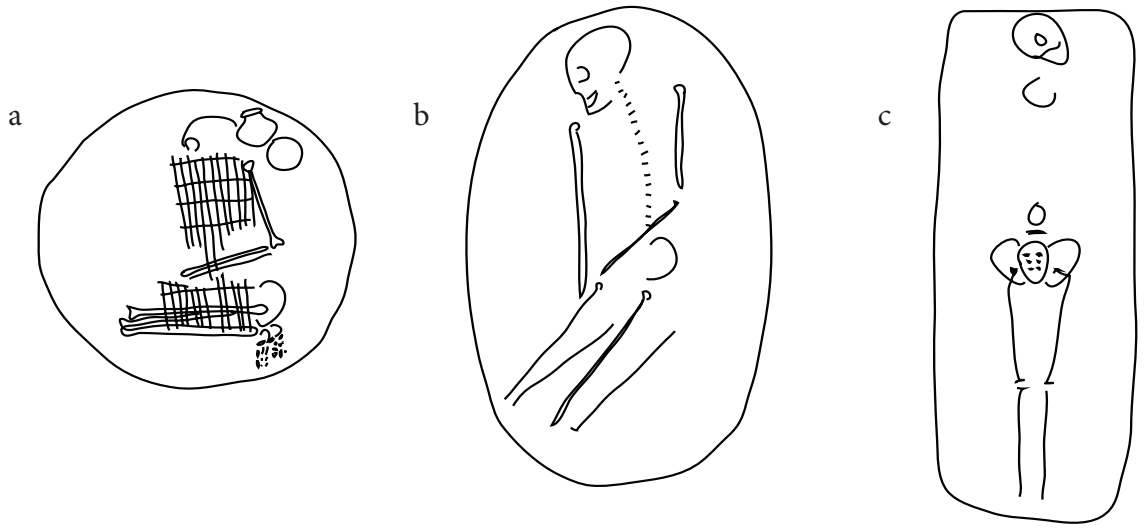


Fig. 3: The three different shapes of Pan-Grave burials showing the different modes of burial. Adapted from WAINWRIGHT, *Balabish*, pl. XV.



Fig. 4:
Burial B23 at Hierakonpolis HK47. A sand grave lined with animal hide and reed matting. Remains of consolidated sand visible in pit.
(Photo: A. de Souza)



Fig. 5:
Hierakonpolis HK21A, Burial 2017A.
(Photo: A. de Souza)



Fig. 6:
View of Hierakonpolis HK47 showing probable sand and debris tumulus in foreground
(Photo: A. de Souza)



Fig. 7: Decorated goat skull from SJE Site 47. (Photo: A. de Souza)

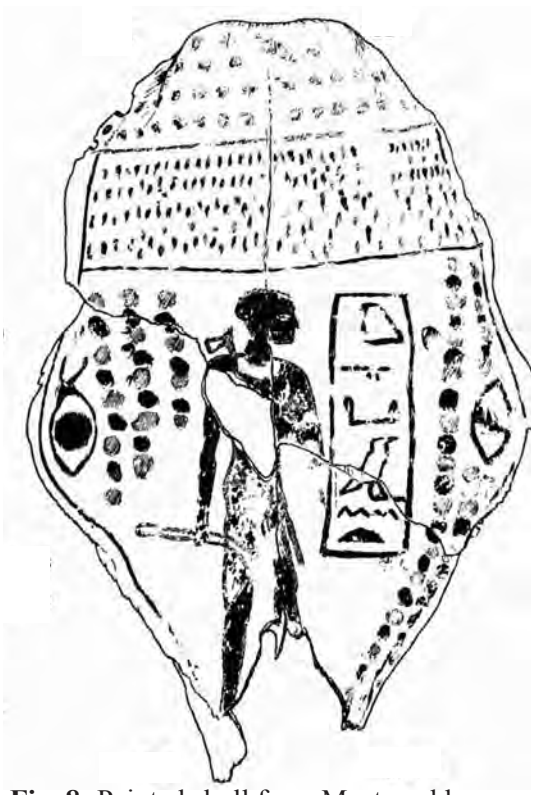


Fig. 8: Painted skull from Mostagedda Grave 3252 showing human figure and hieroglyphic text. Adapted from Brunton, *Mostagedda*, LXXVI.66.



Fig. 9: Burnt dung pellets associated with goat horns above Burial 2017B, Hierakonpolis HK21A. (Photo: A. de Souza)

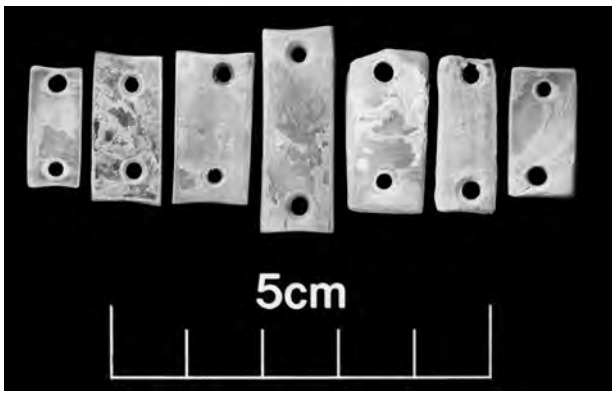


Fig. 10: Mother-of-Pearl plaque beads from showing various sizes. The smaller beads are from child and infant burials. (Photo: J. Rossiter, courtesy The Hierakonpolis Expedition)

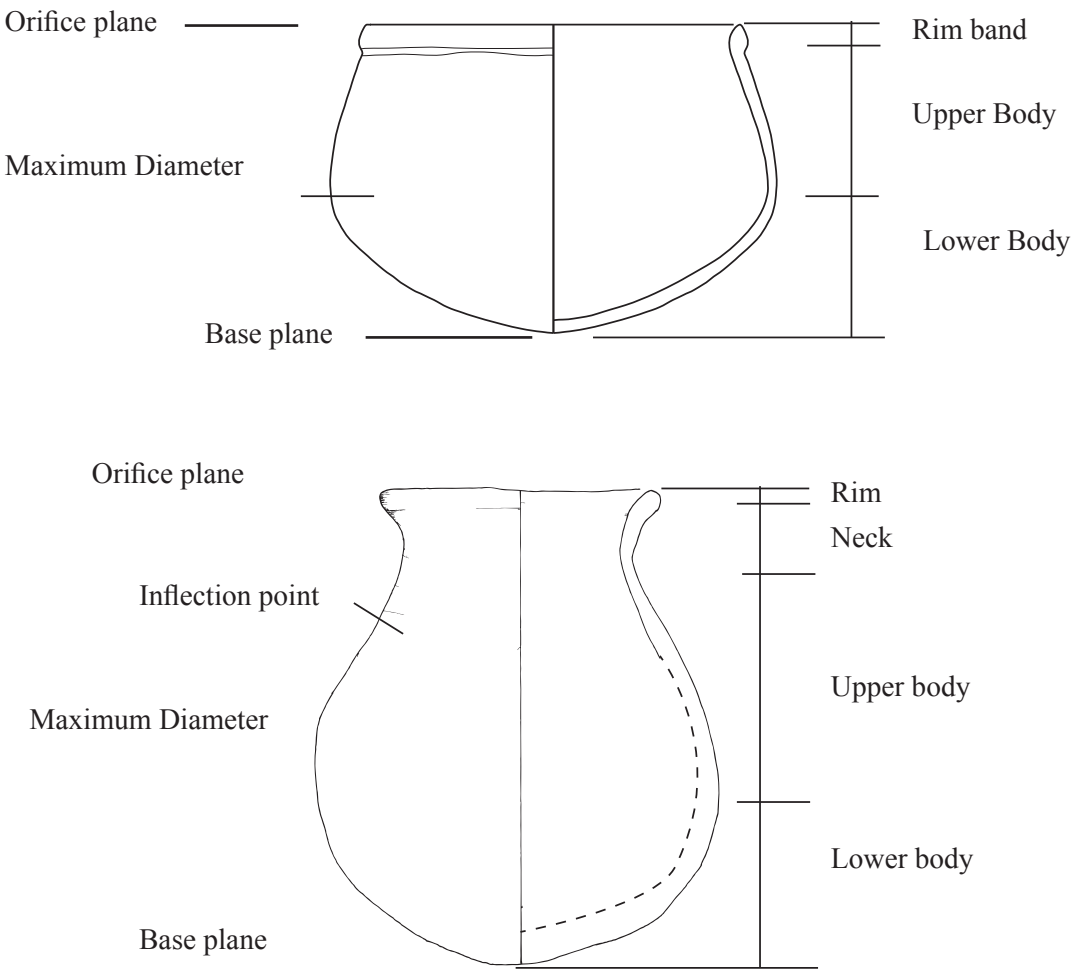


Fig. 11: Characteristic points and parts of a vessel.

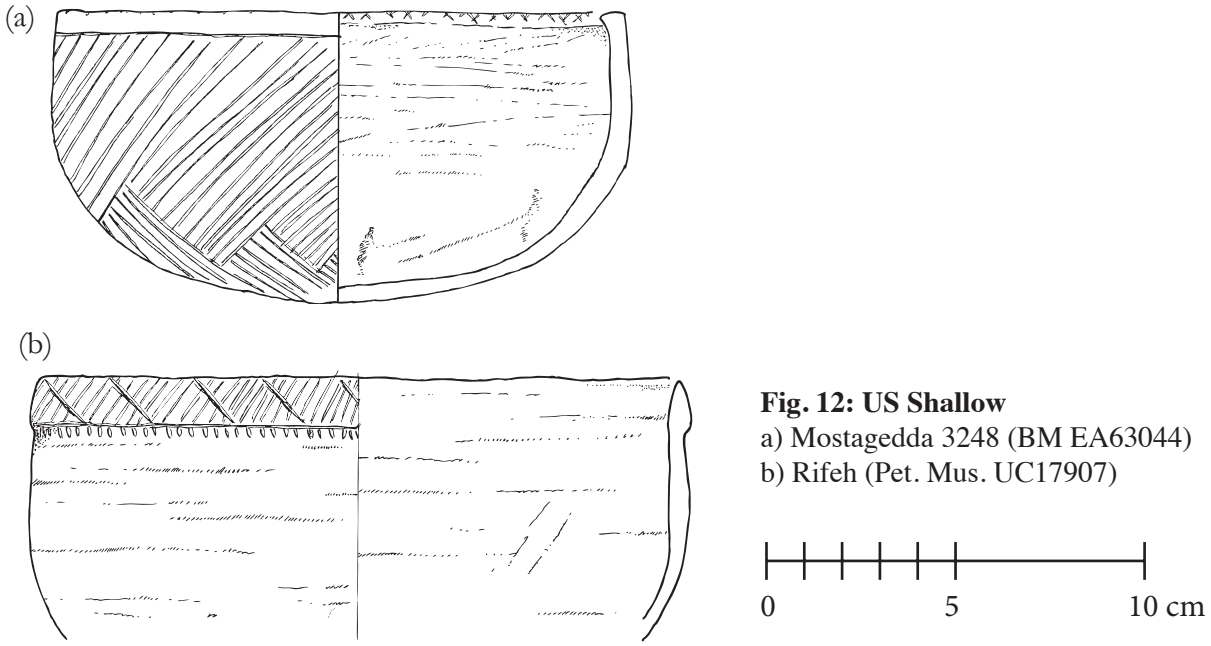


Fig. 12: US Shallow
a) Mostagedda 3248 (BM EA63044)
b) Rifeh (Pet. Mus. UC17907)

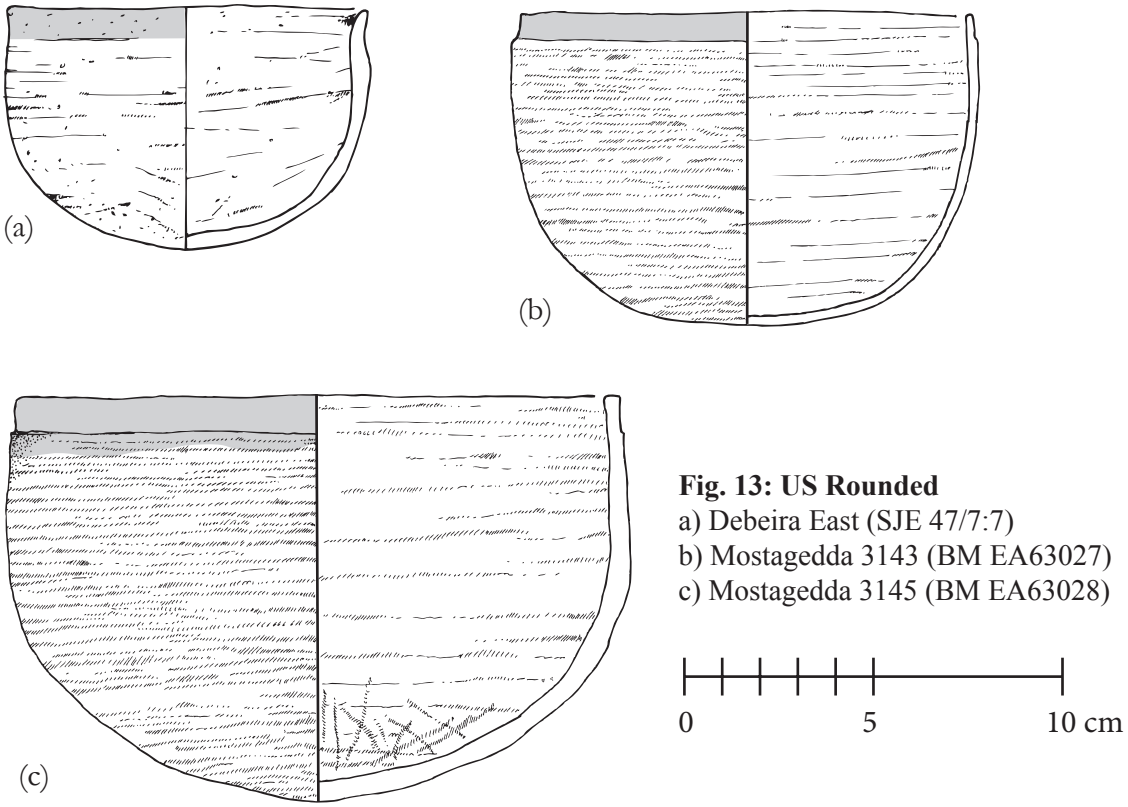


Fig. 13: US Rounded
a) Debeira East (SJE 47/7:7)
b) Mostagedda 3143 (BM EA63027)
c) Mostagedda 3145 (BM EA63028)

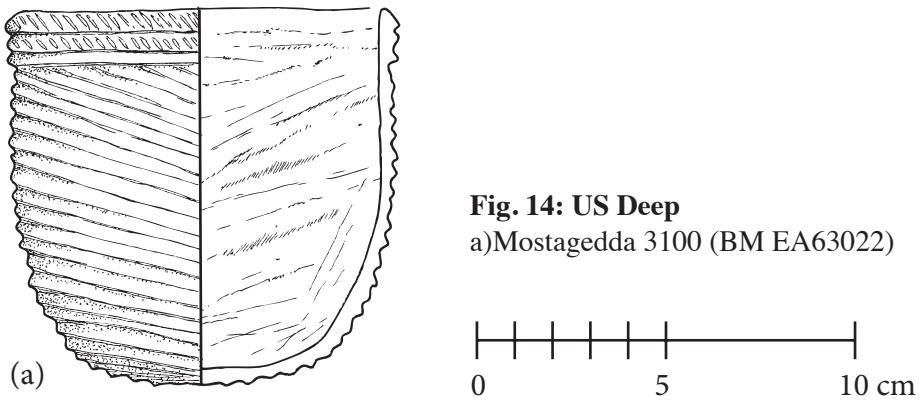


Fig. 14: US Deep
a)Mostagedda 3100 (BM EA63022)

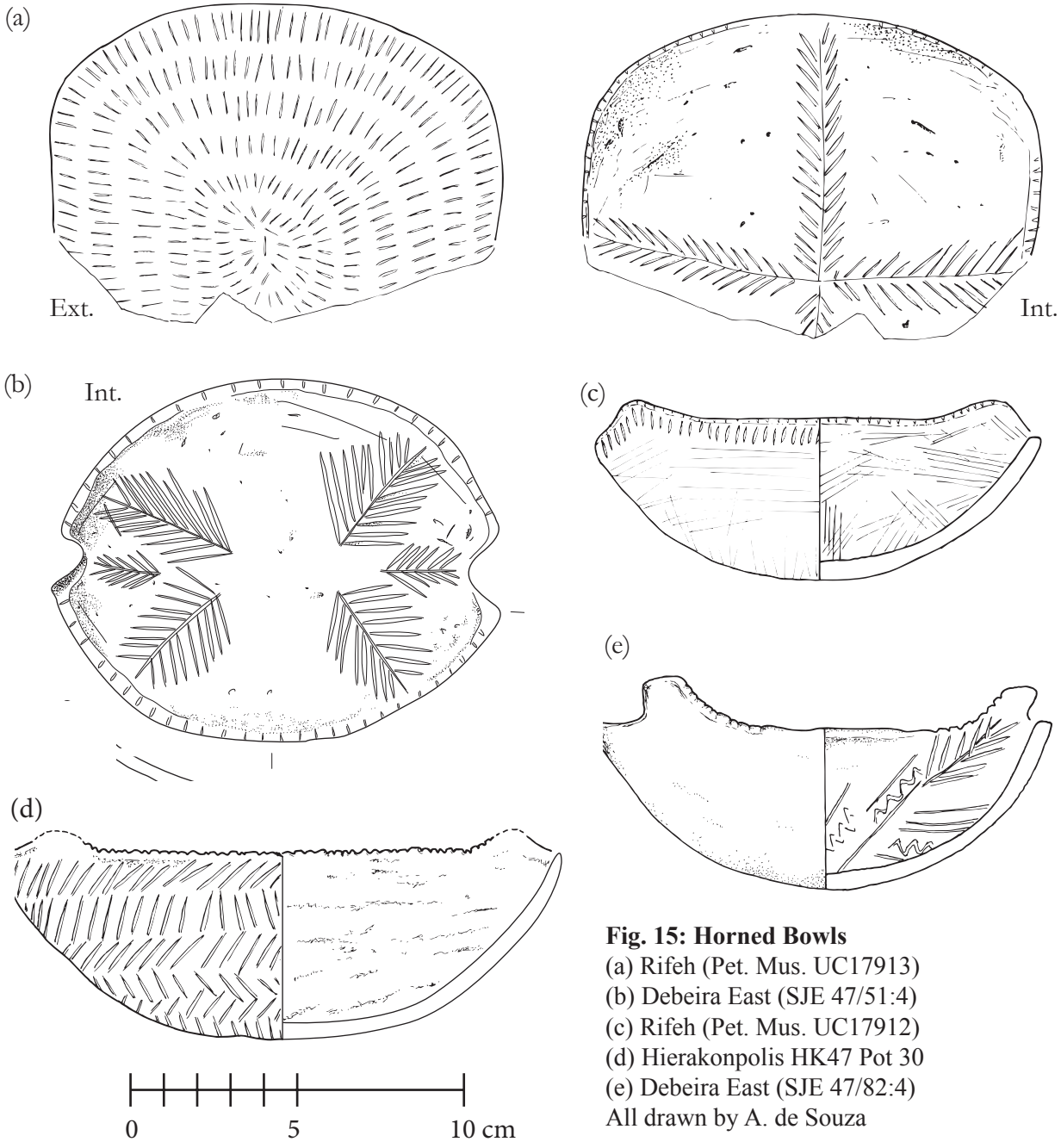


Fig. 15: Horned Bowls
(a) Rifeh (Pet. Mus. UC17913)
(b) Debeira East (SJE 47/51:4)
(c) Rifeh (Pet. Mus. UC17912)
(d) Hierakonpolis HK47 Pot 30
(e) Debeira East (SJE 47/82:4)
All drawn by A. de Souza

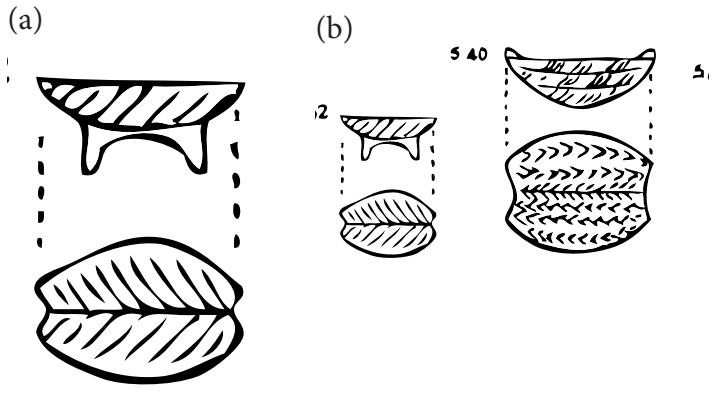


Fig. 16: Footed horned bowls
(a) Masmas Cem. 201, Grave 86 (adapted from Emery, Kirwan, *Excavation and Survey*, 327);
(b) Masmas Cem. 201, Grave 21. (adapted from Emery, Kirwan, *Excavation and Survey,* 316.
Scale not specified.

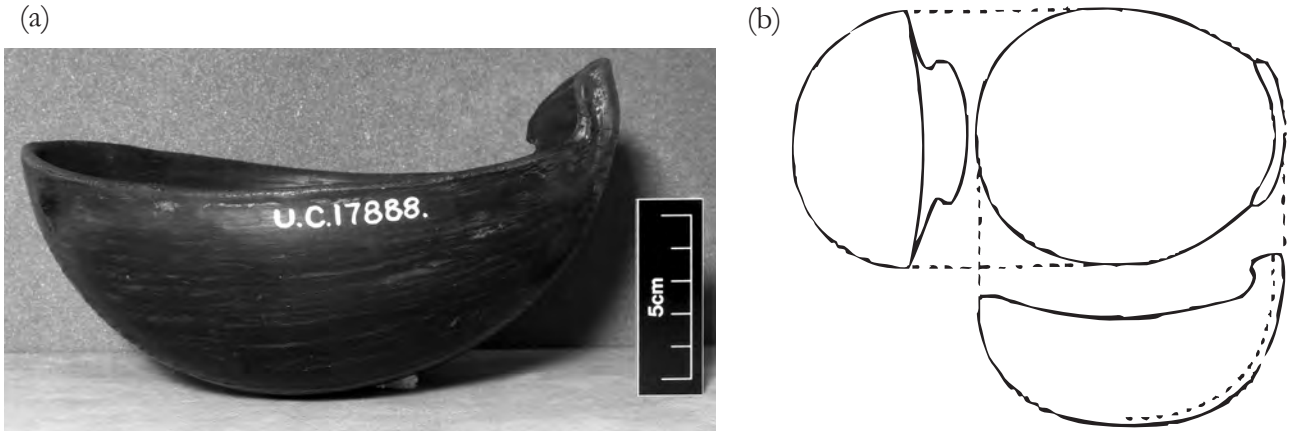


Fig. 17: Scoops
(a) Qau 1989 (Pet. Mus. UC17888, Photo A. de Souza); (b) Mostagedda 3241 (BM EA63040) and 3271.
(adapted from Brunton, *Mostagedda*, pl. LXXII.56);
(c) Badarian example from Mostagedda 3158 (adapted from Brunton, *Mostagedda,* pl. LXXII.57).
Scale approx. 1:3

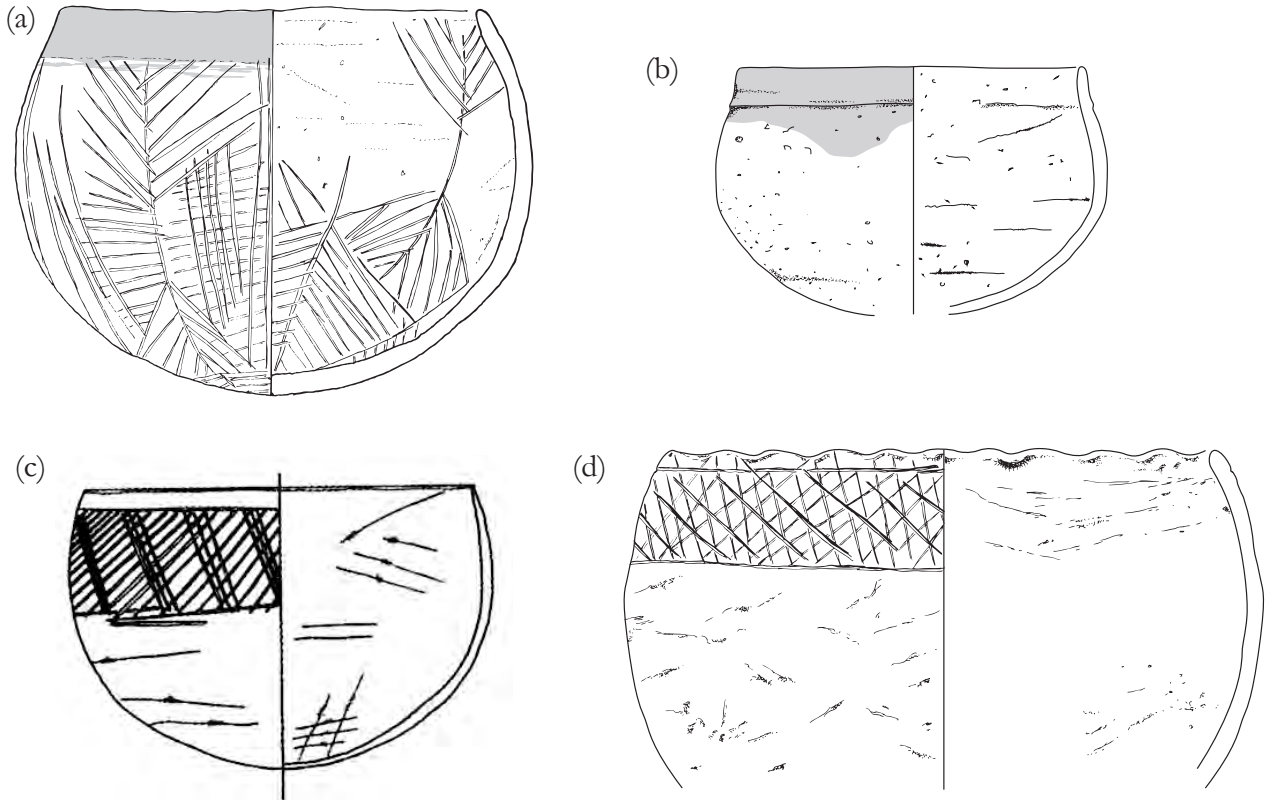


Fig. 18: RS Forms - Over-hemispherical / Globular
(a) Debeira East (SJE 47/B); (b) Debeira East (SJE 47/93:3c); (c) Wadi Kubbaniya WK11 (adapted from Gatto et al, in Forstner-Müller, Rose, fig. 9.7, scale not specified); (d) Hierakonpolis HK47 Pot 26 (with wavy rim).

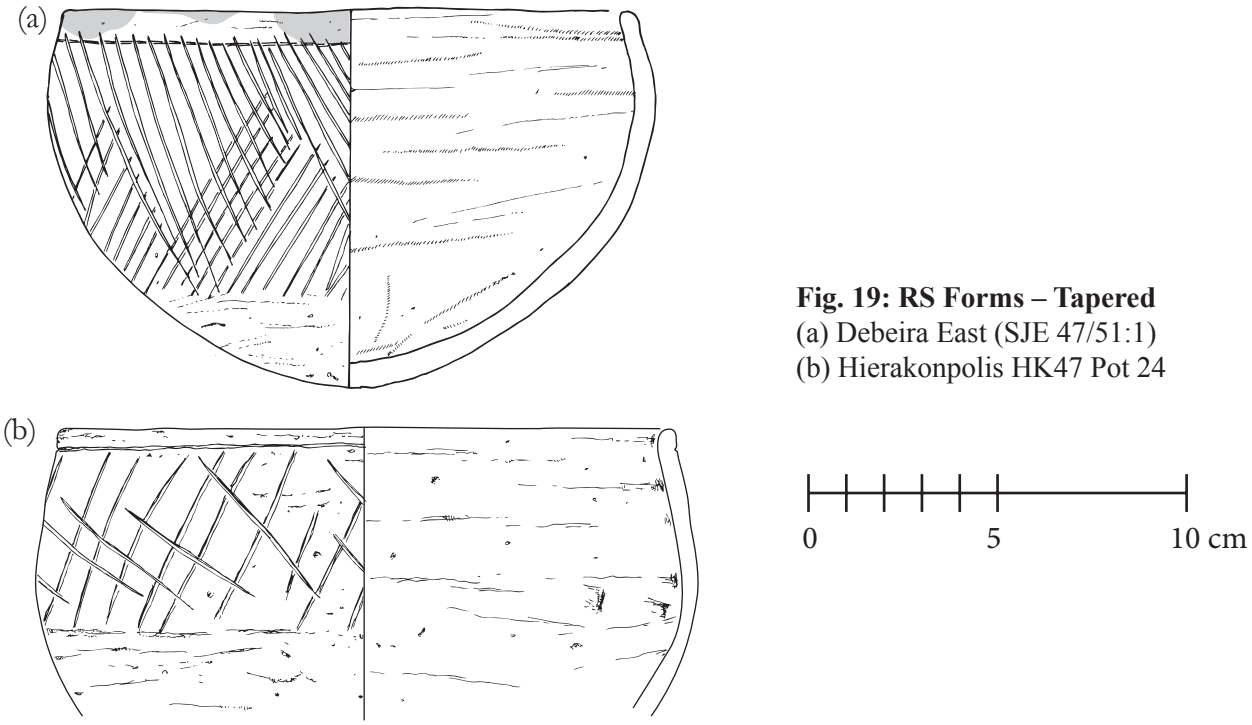


Fig. 19: RS Forms – Tapered
(a) Debeira East (SJE 47/51:1)
(b) Hierakonpolis HK47 Pot 24

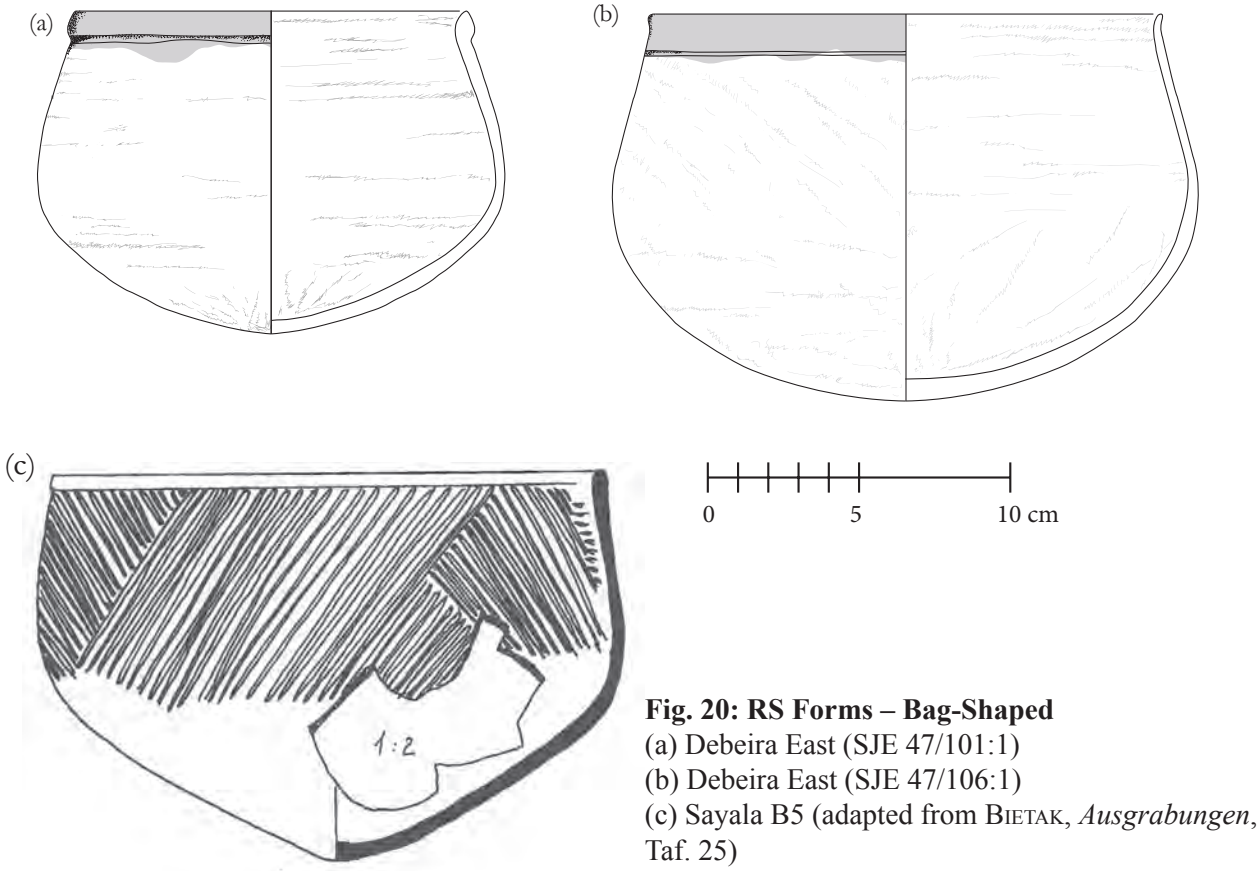


Fig. 20: RS Forms – Bag-Shaped
(a) Debeira East (SJE 47/101:1)
(b) Debeira East (SJE 47/106:1)
(c) Sayala B5 (adapted from Bietak, *Ausgrabungen*, Taf. 25)

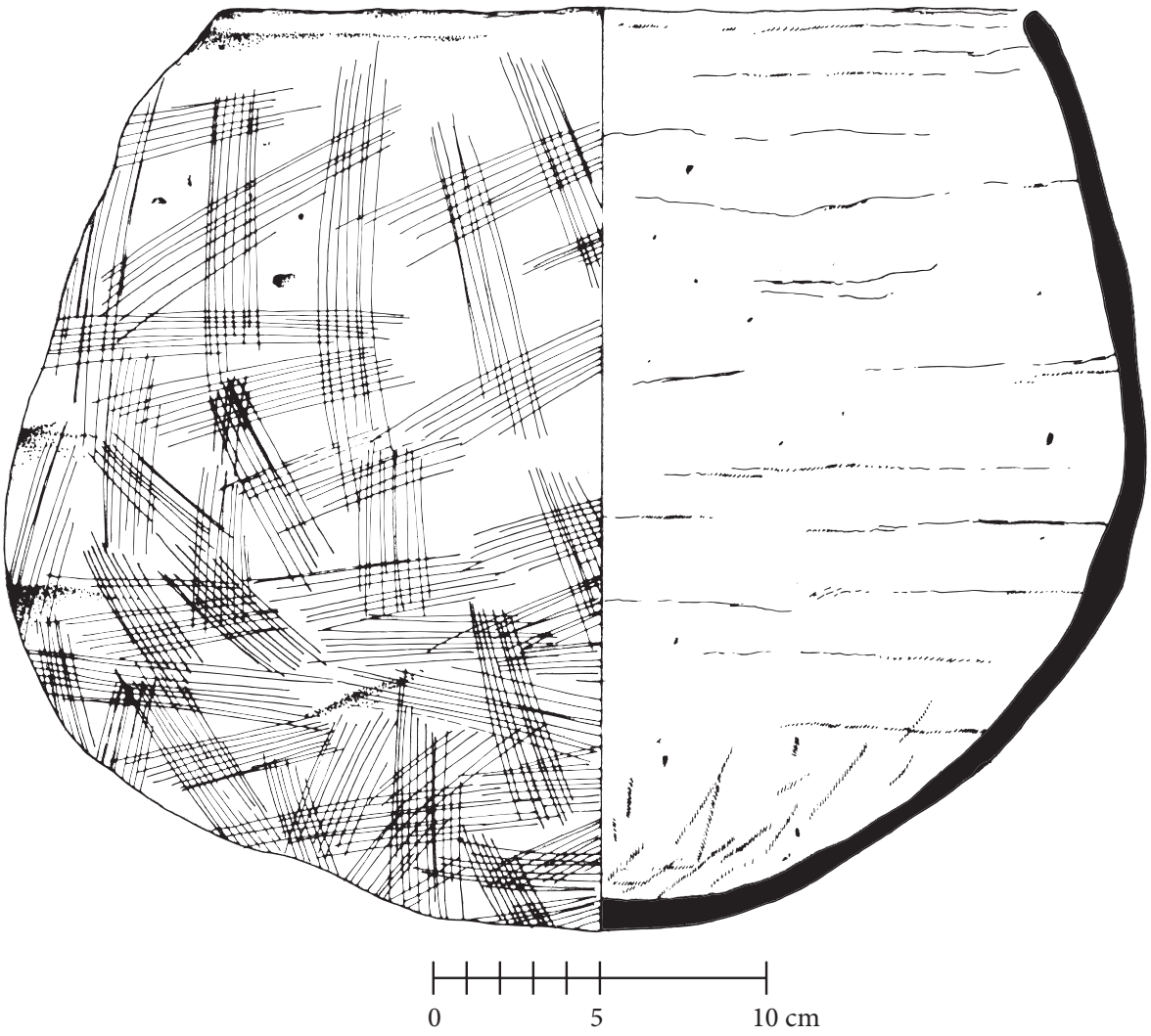


Fig. 21: RS Forms – Large bowl. Mostagedda 1810A

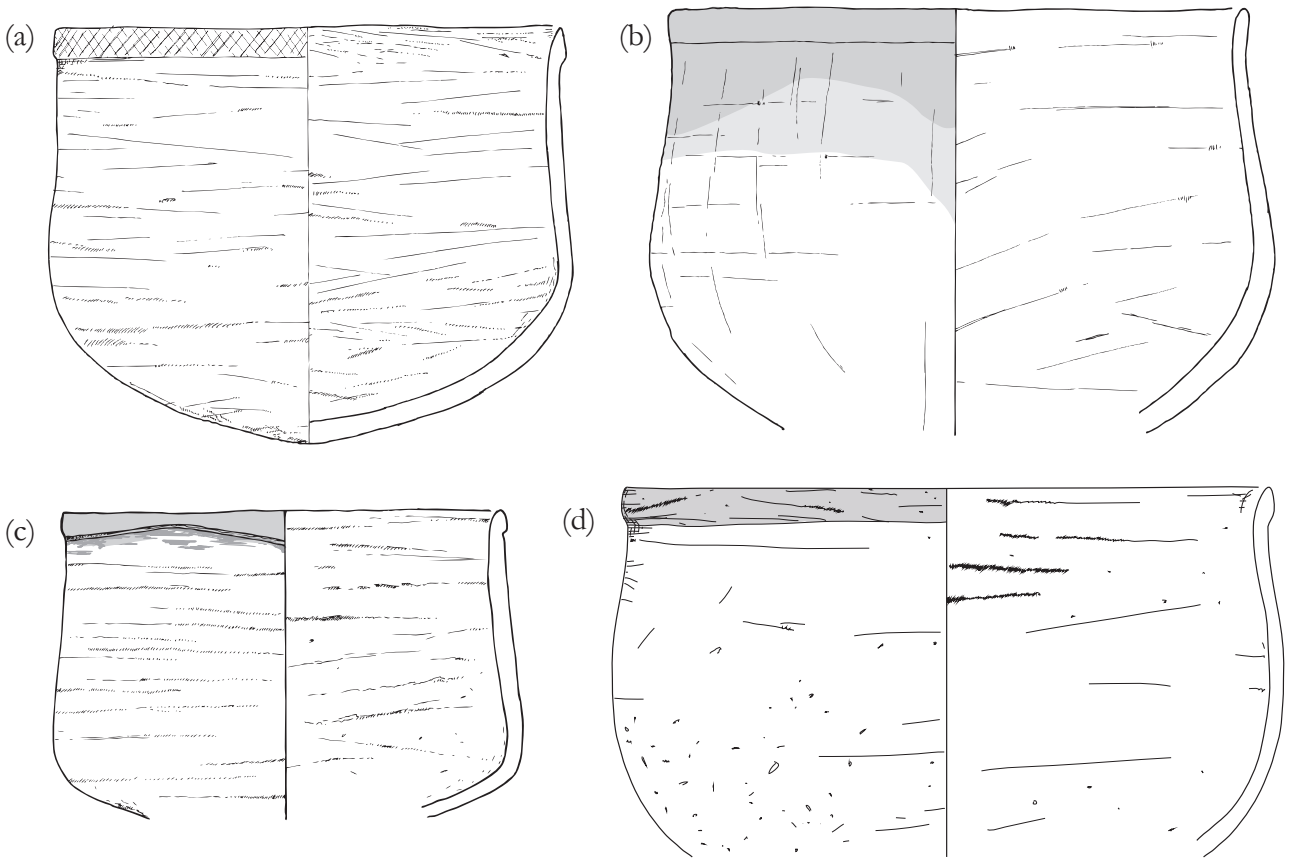


Fig. 22: RI Forms
(a) Qau (Pet. Mus. UC17922); (b) Hu X28 (Pet. Mus. UC17901); (c) Debeira East (SJE 47/59:1a); (d) Debeira East (SJE 47/82:3c + 47/019)

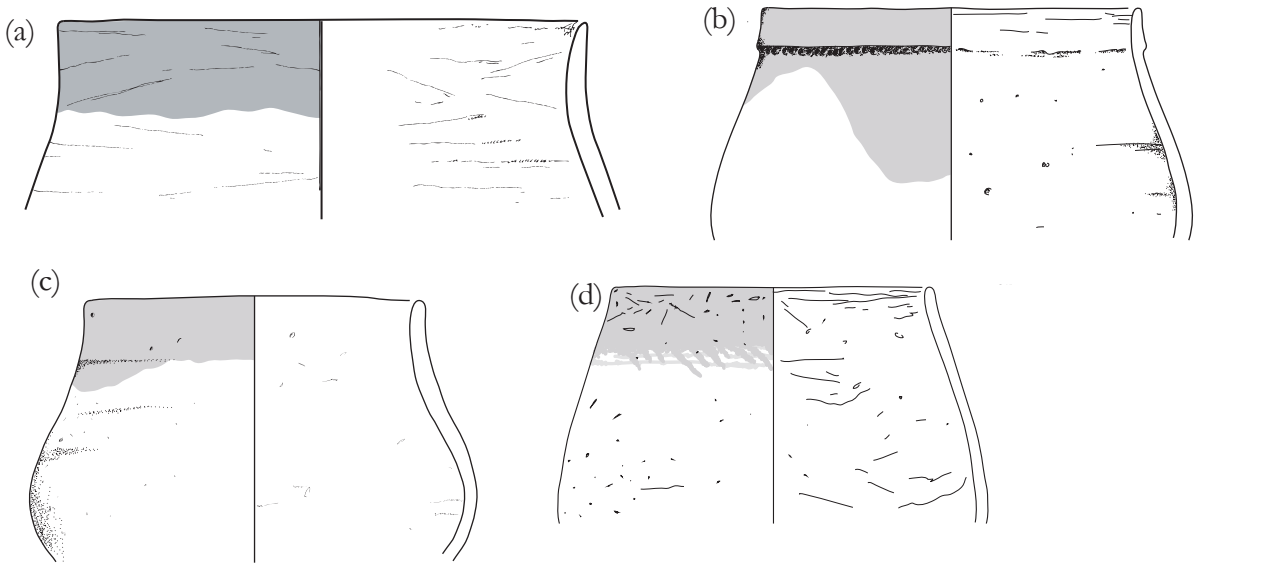


Fig. 23: RI Forms – Squat bowls
(a) Hierakonpolis HK21A Pot 43; (b) Debeira East (SJE 47/3:3b); (c) Debeira East (SJE 47/20:a); (d) Debeira East (SJE 47/109:3)

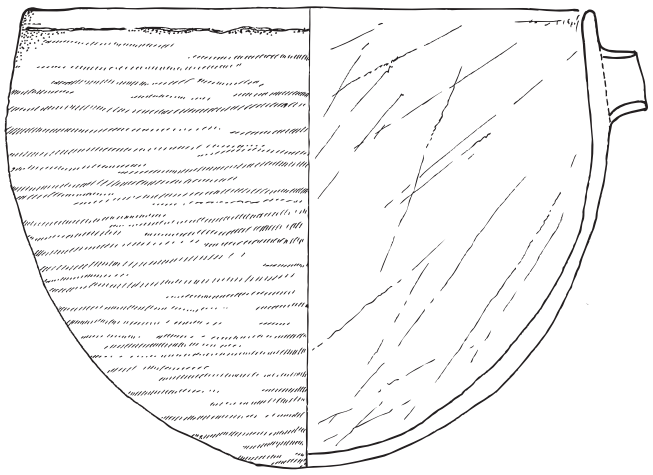


Fig. 24: Spouted bowl. Mostagedda 3118 (BM EA 63024)

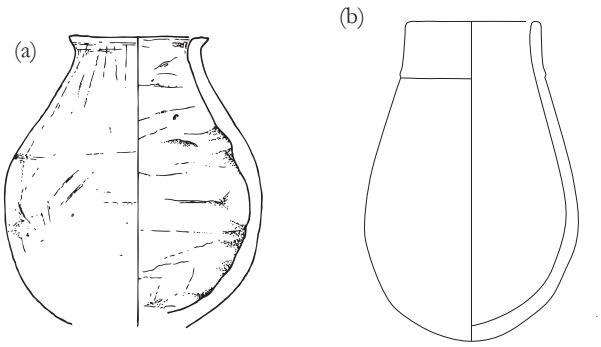


Fig. 25: Closed forms - RS contour
(a) Debeira East (SJE 47/157:1)
(b) Debeira East (SJE 65/0:10)



Fig. 26: Closed forms – RI contour
(a) Debeira East, SJE 47/7:3b. Photo: Aaron de Souza. Courtesy Museum Gustavianum, Uppsala University.

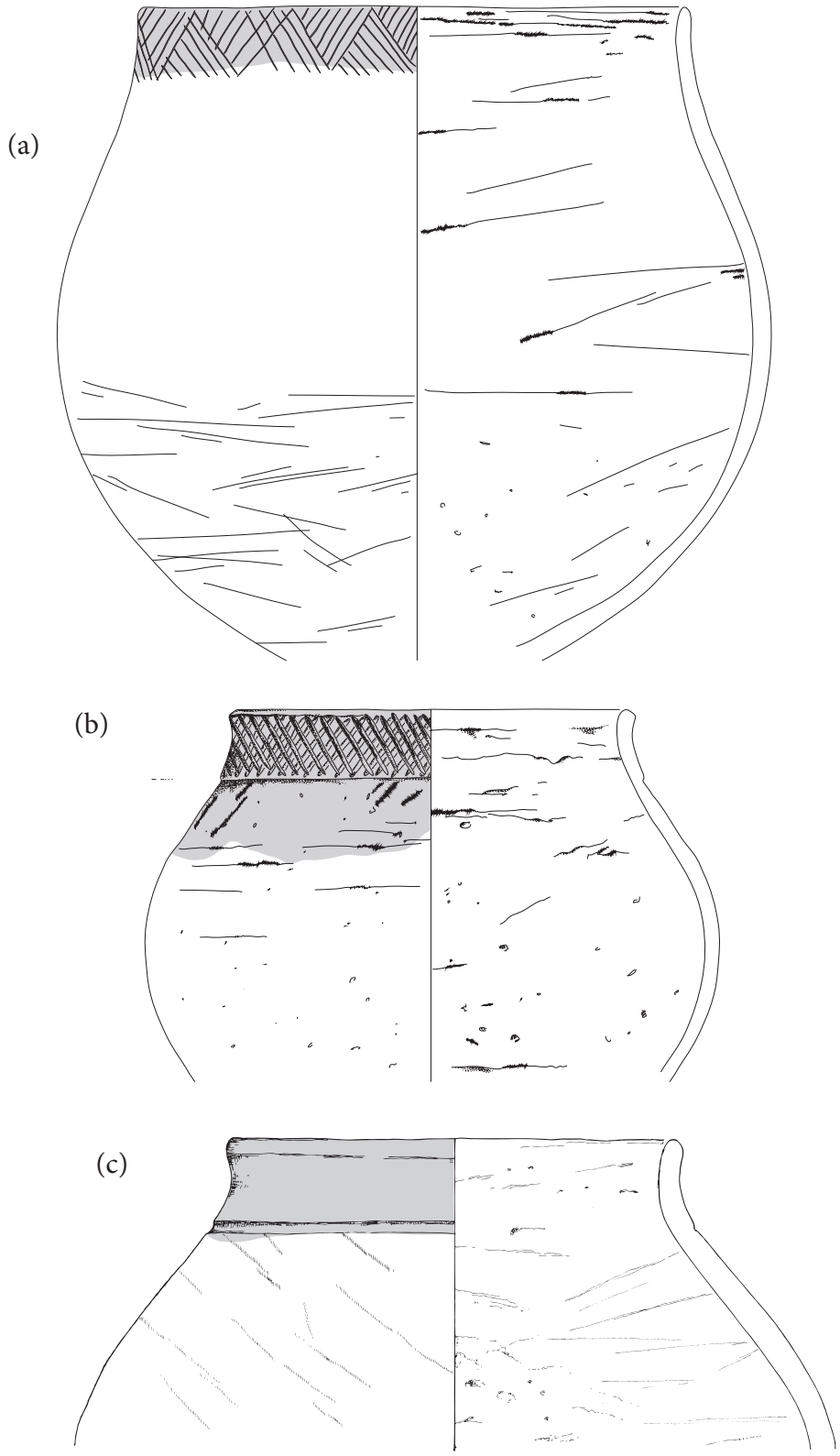
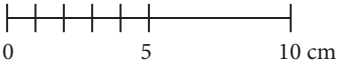


Fig. 26: Closed forms –RI contour (continued)
(b) Debeira East (SJE 47/154:3)
(c) Debeira East (SJE 47/109:3j)
(d) Debeira East (SJE 47/119:3g)



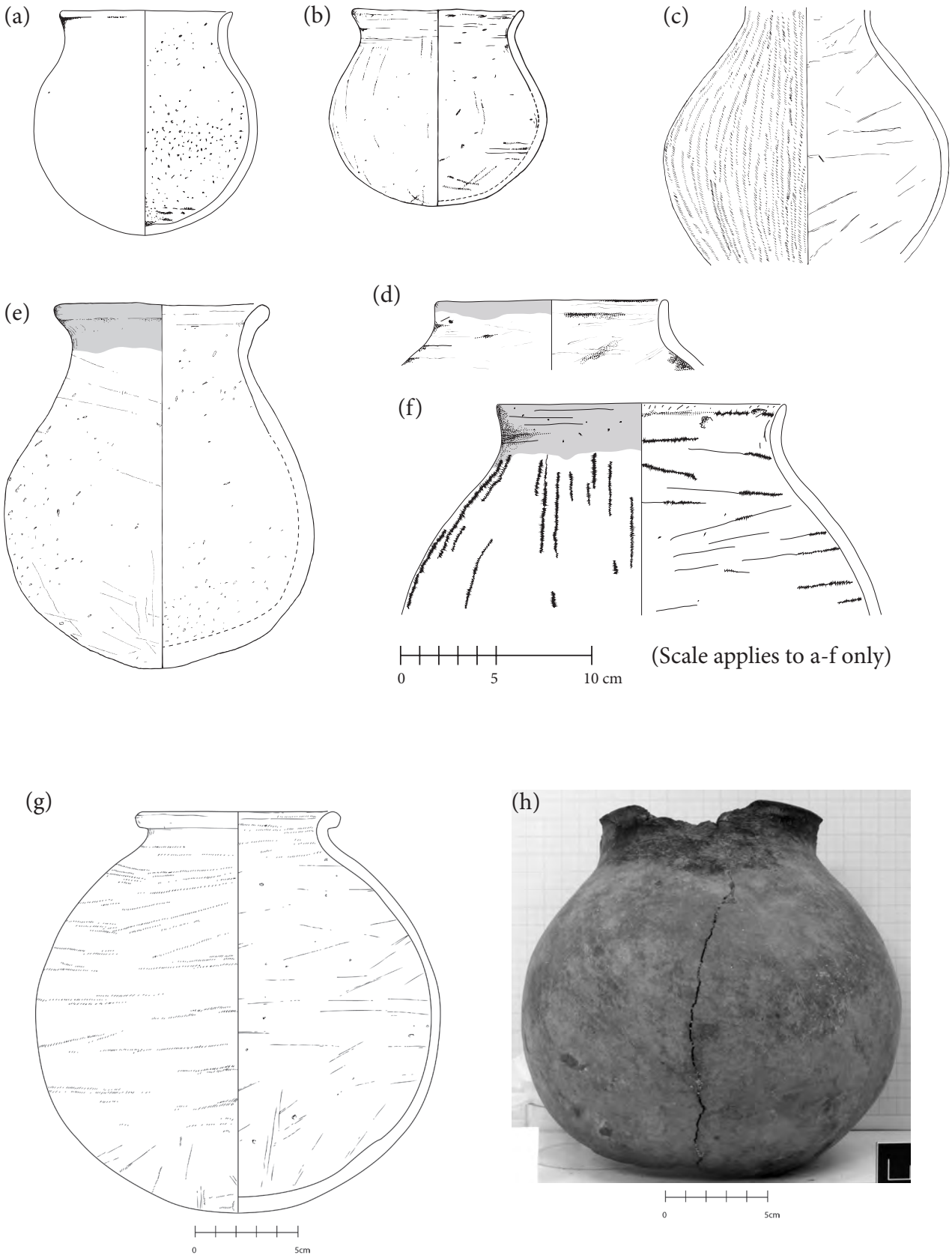


Fig. 27: Closed forms – RNI contour
(a) Debeira East (SJE 47/3:3a); (b) Debeira East (SJE 47/52:4); (c) Debeira East (SJE 47/109:3g); (d) Debeira East (SJE 65/119:3f); (e) Debeira East (SJE 47/81:2); (f) Debeira East (SJE 65/47:3e); (g) Hierakonpolis HK47 pot 31; (h) Debeira East (SJE 47/135:1) Photo: A. de Souza. Courtesy Museum Gustavianum, Uppsala University.

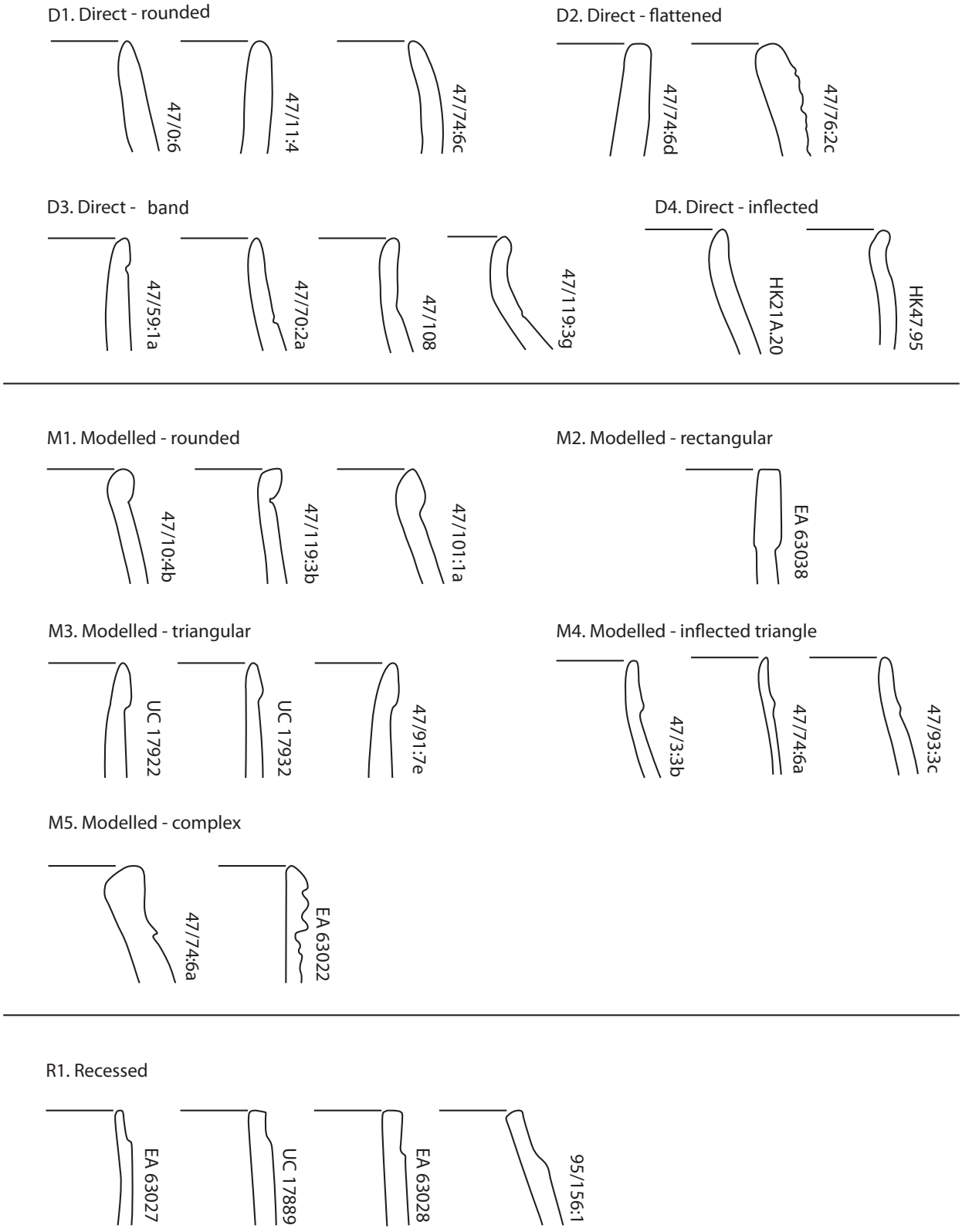


Fig. 28: Typology of rim profiles

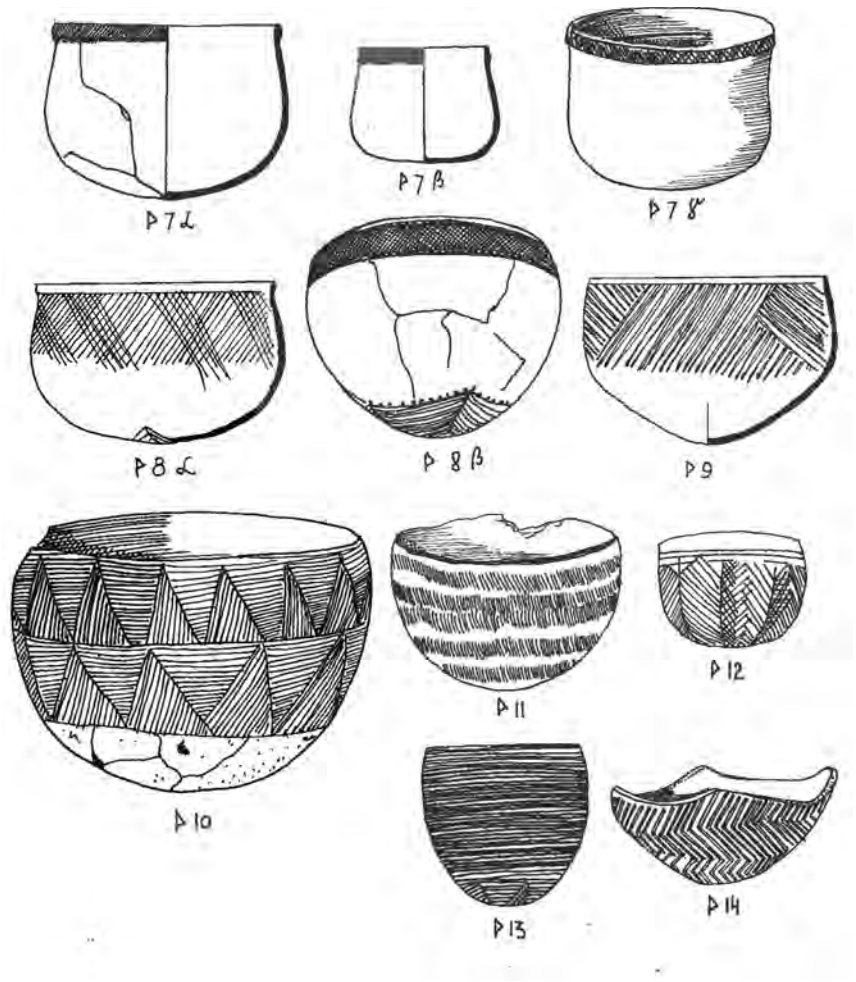


Fig. 29: Bietak's typology of Pan-Grave pottery.
Adapted from Bietak, *Studien zur Chronologie,* Taf. 16.



Fig. 30: Vessels with irregular black tops.
(L) SJE 47/52:5; (R) SJE 47/121:1.
Photos A. de Souza, Courtesy Museum Gustavianum, Uppsala University.

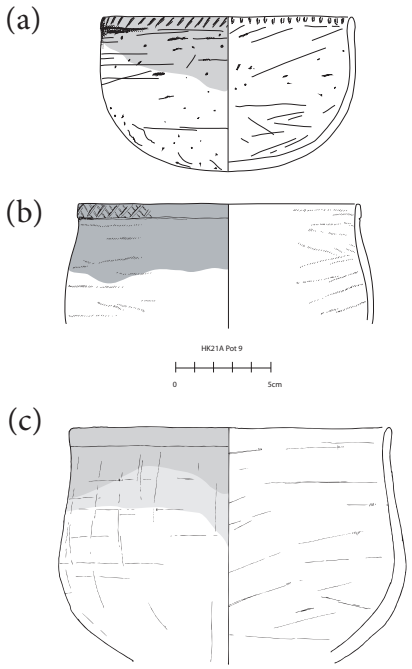


Fig. 31: Irregular black-top.
(a) SJE 47/74:6ß; (b) HK21A Pot 9;
(c) Hu X, UC17901 (Scale 1:4)

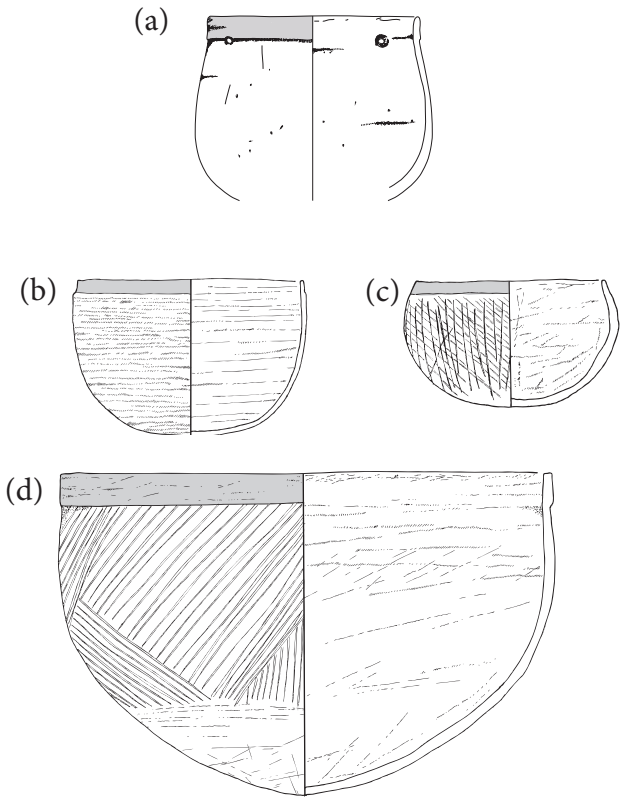


Fig. 32: Defined black-top.
(a) SJE 47/14:10a; (b) Mostagedda 3123 (EA63027); (c) Wadi el Khowi (EA81932) Scale 1:4

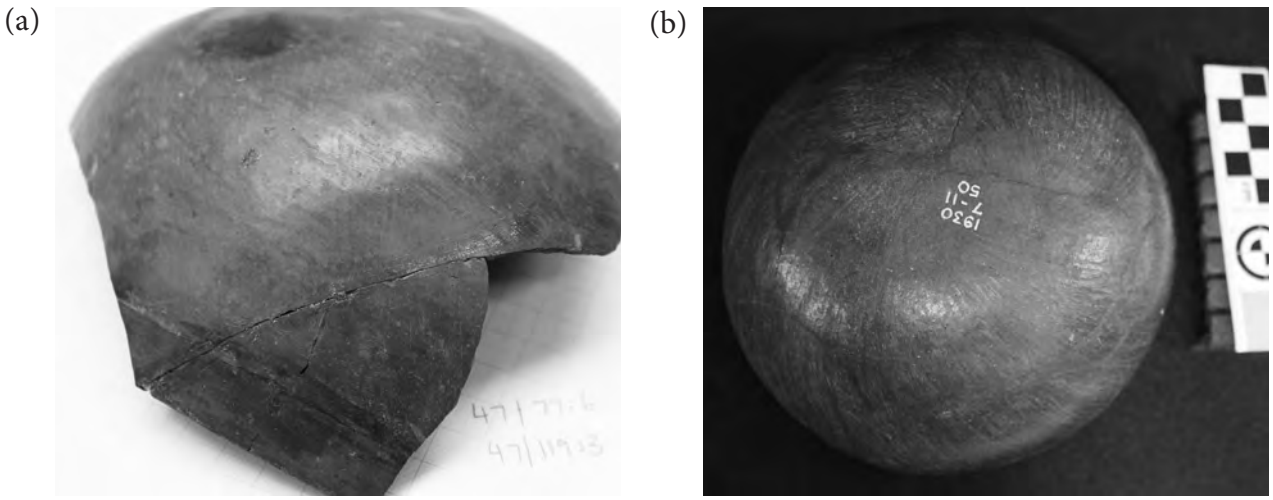


Fig. 33: Multidirectional burnishing.
(a) SJE 47/77:6 + 47/119:3 showing oblique and horizontal burnishing strokes (Photo A. de Souza, Courtesy Museum Gustavianum, Uppsala University).
(b) Mostagedda 3155 (EA63030) showing radial burnishing from the base (Photo A. de Souza, Courtesy Trustees of the British Museum)

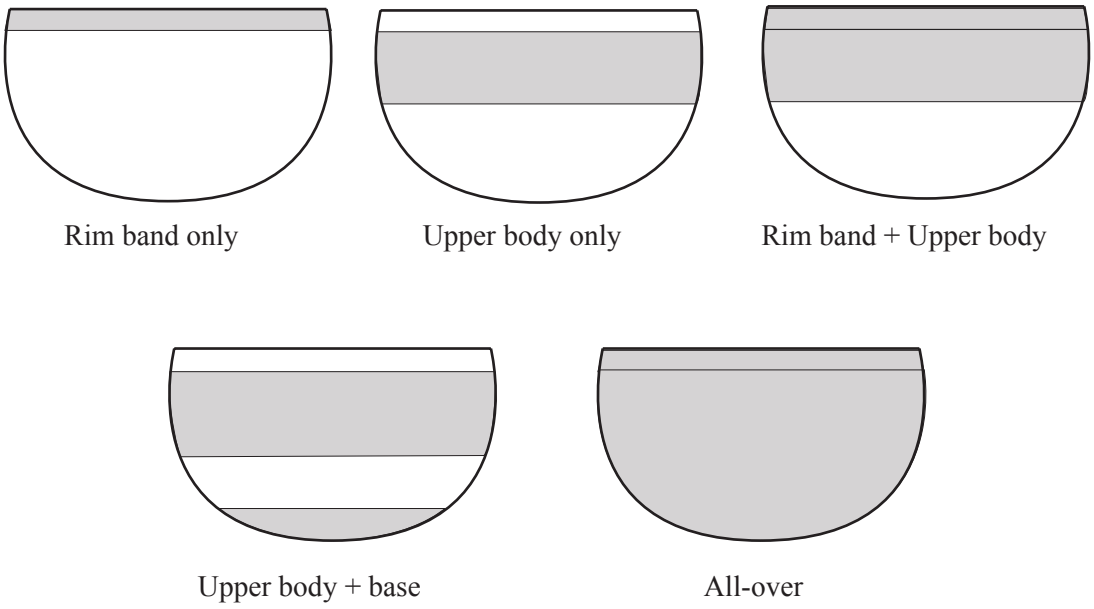


Fig. 34: Placement of decoration.

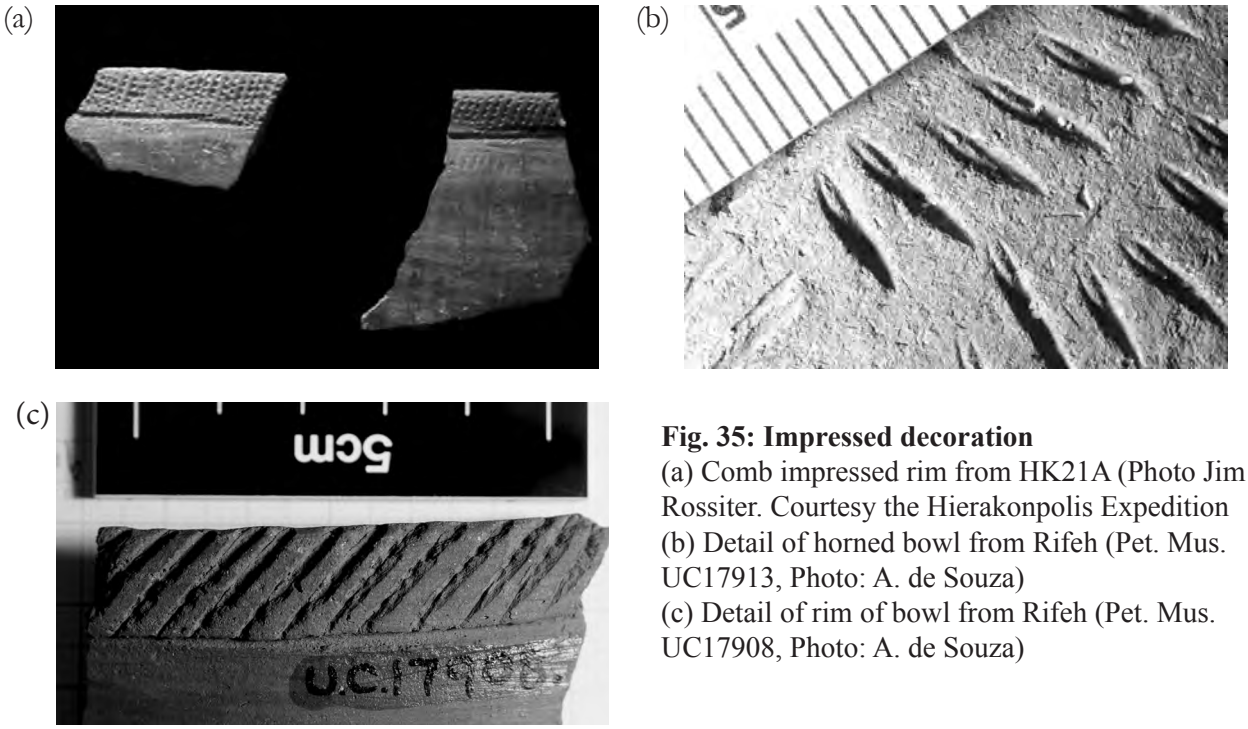
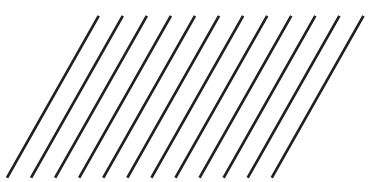
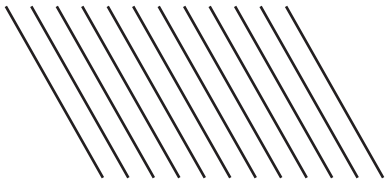
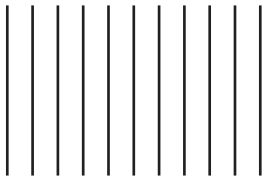


Fig. 35: Impressed decoration
(a) Comb impressed rim from HK21A (Photo Jim Rossiter. Courtesy the Hierakonpolis Expedition
(b) Detail of horned bowl from Rifeh (Pet. Mus. UC17913, Photo: A. de Souza)
(c) Detail of rim of bowl from Rifeh (Pet. Mus. UC17908, Photo: A. de Souza)

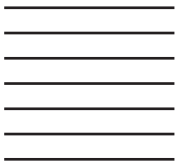


H.o: Oblique hatching

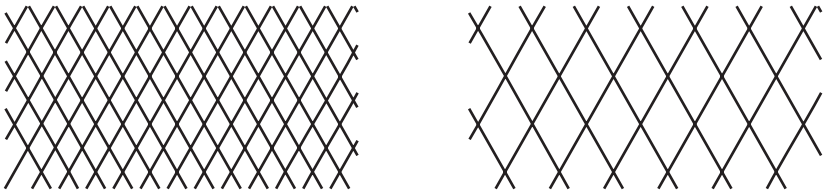




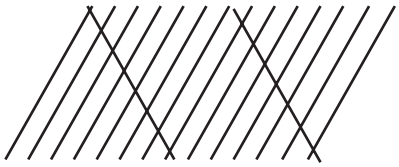
H.v: Vertical hatching



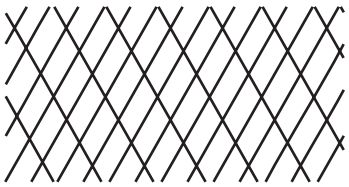
H.h: Horizontal hatching

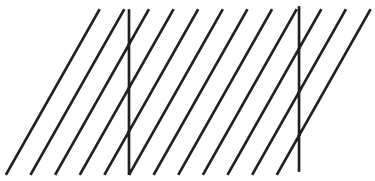


C.r: Regular Cross-hatch

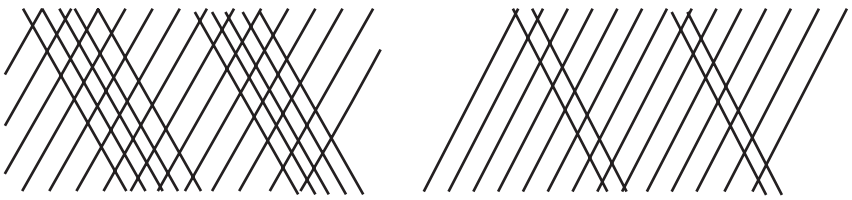


C.i: Irregular Cross-hatch

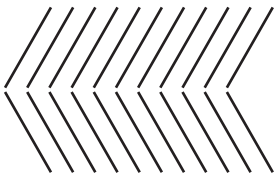




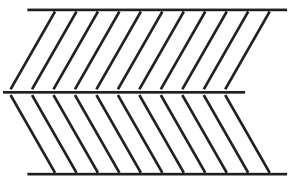
C.x: Complex Cross-hatch



C.b: Banded Cross-hatch

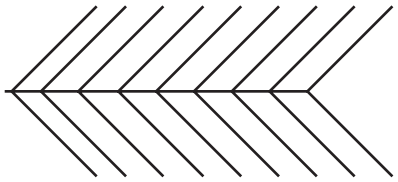


HB.f: Herringbone - free

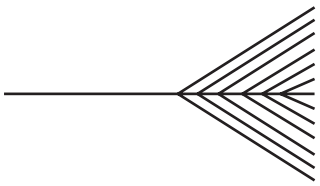


HB.b: Herringbone - banded

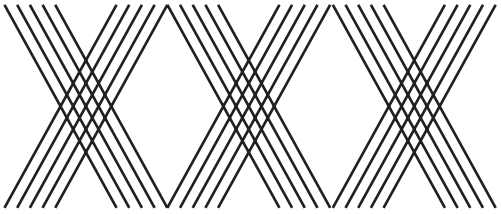
Fig. 36: Schematic representations of decorative motifs (pt.1)



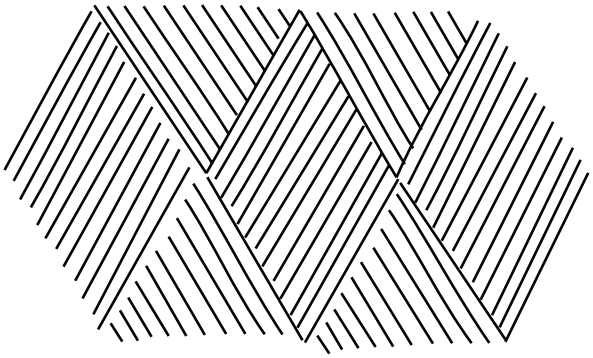
F.l: Long feather



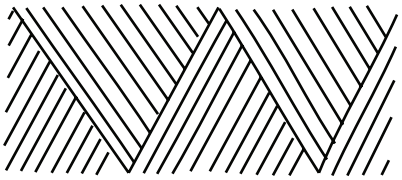
F.e: End feather



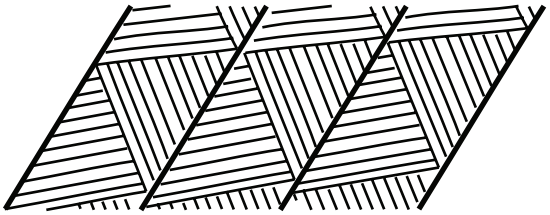
L: Lattice



Q: Quadrilateral



B.h: Horizontal braid



B.b Banded braid



Z.p: Plain zig-zag



Z.f: Filled zig zag

Fig. 37: Schematic representations of decorative motifs (pt.2)

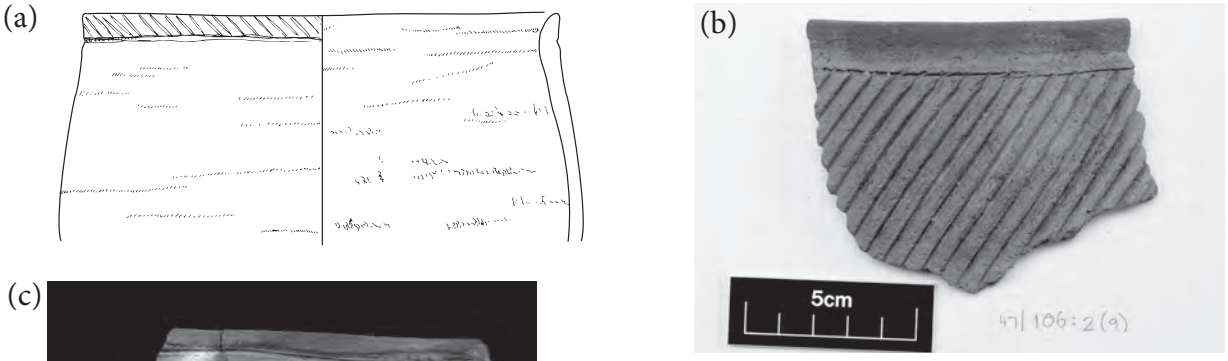


Fig. 38: Oblique hatching (H.o)
(a) Hierakonpolis HK47 Pot 10 (Scale 1:2)
(b) SJE 47/106:2 (Photo A. de Souza)
(c) HK47 Pot 30 (Photo. Jim Rossiter, Courtesy the Hierakonpolis Expedition)

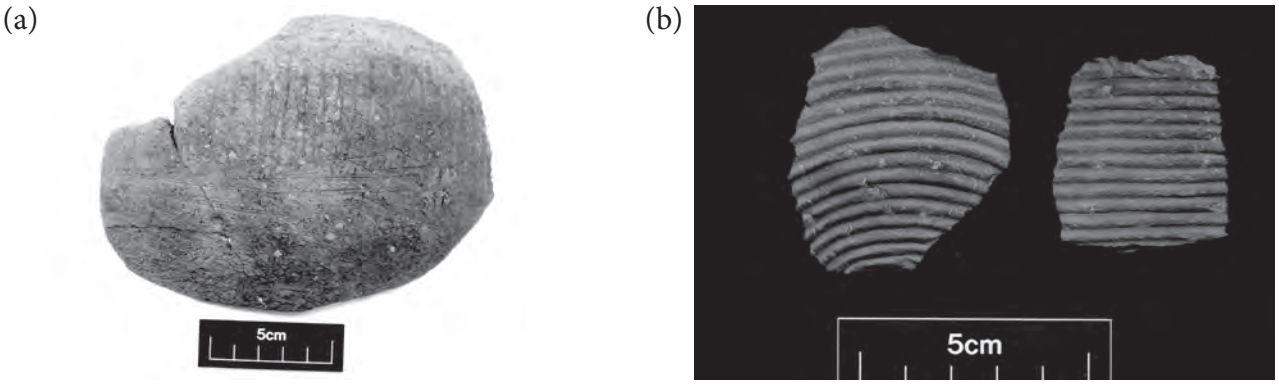


Fig. 39:
(a) Vertical hatching. SJE 47/147:2 (Photo: A. de Souza
(b) Horizontal hatching? HK47 surface (Photo: Jim Rossiter, courtesy the Hierakonpolis Expedition)

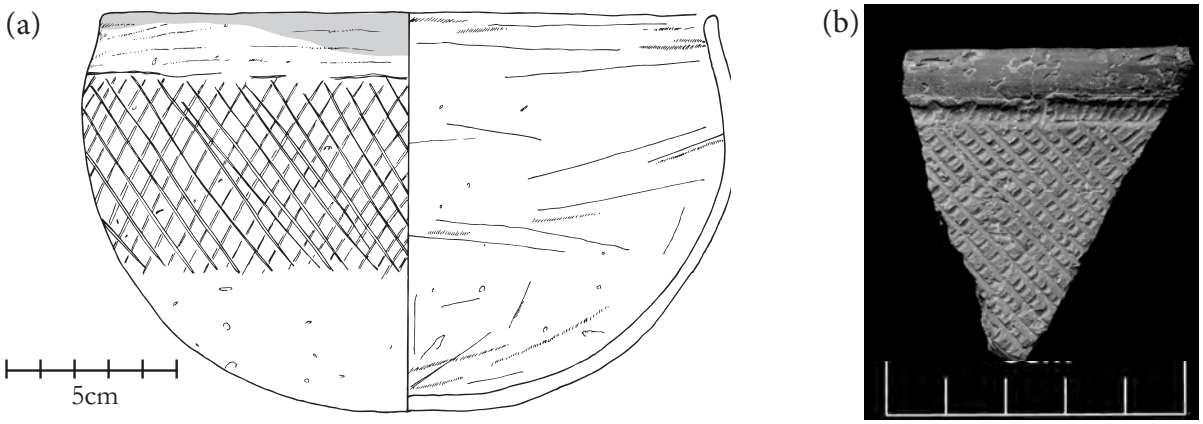


Fig. 40: Regular cross-hatch (C.r)
(a) SJE 47/A; (b) HK47 Pot 80 (Photo: Jim Rossiter, courtesy the Hierakonpolis Expedition)

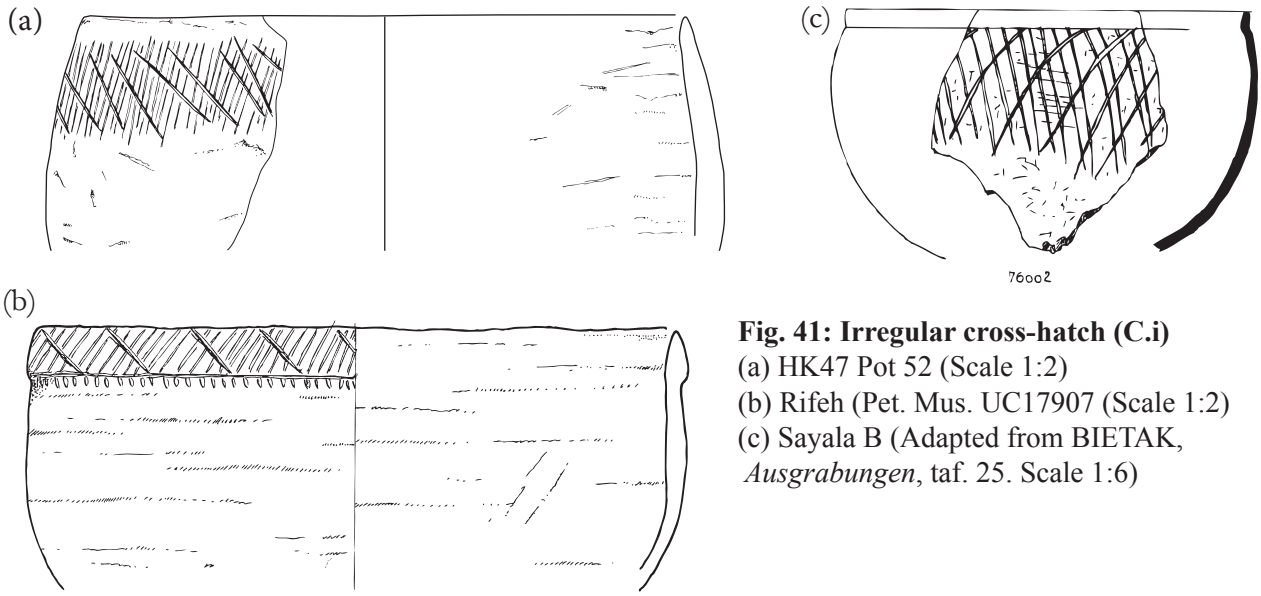


Fig. 41: Irregular cross-hatch (C.i)
(a) HK47 Pot 52 (Scale 1:2)
(b) Rifeh (Pet. Mus. UC17907 (Scale 1:2)
(c) Sayala B (Adapted from BIETAK, *Ausgrabungen*, taf. 25. Scale 1:6)

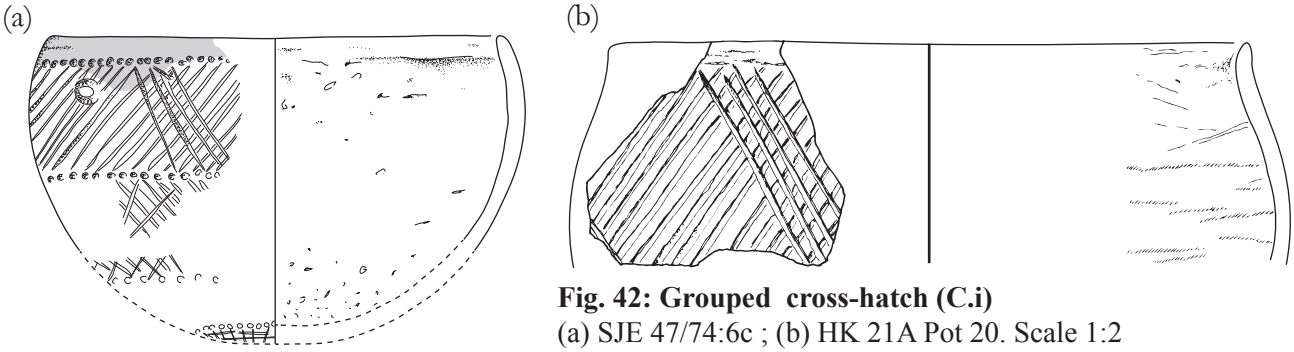


Fig. 42: Grouped cross-hatch (C.i)
(a) SJE 47/74:6c ; (b) HK 21A Pot 20. Scale 1:2

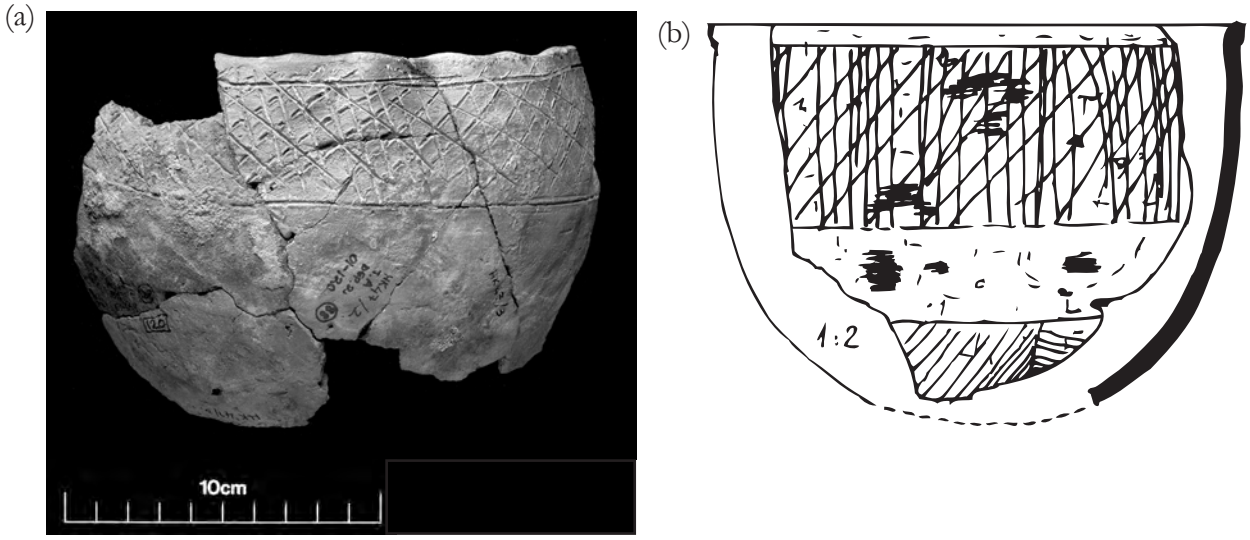


Fig. 43: Complex cross-hatch (C.x)
(a) HK47 Pot 26 (Photo Jim Rossiter, Courtesy the Hierakonpolis Expedition)
(b) Sayala B11 (Adapted from Bietak, Ausgrabungen, Taf. 30. Scale 1:2)

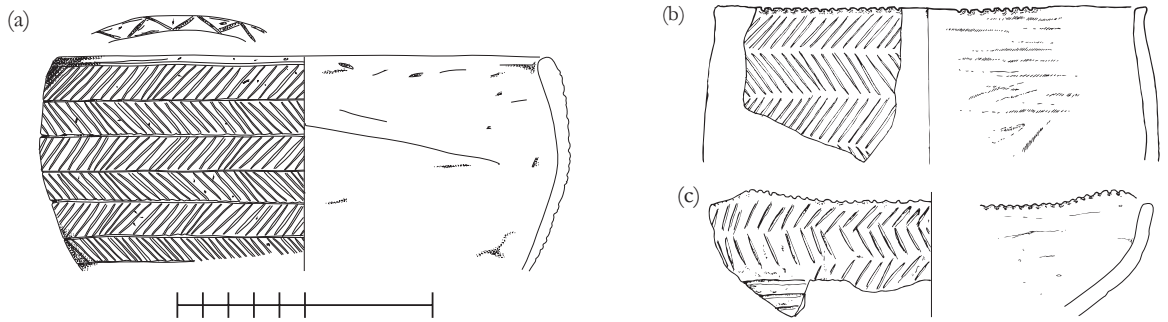


Fig. 44: Herringbone Motif (HB)
(a) SJE 47/76:2c; (b) Rifeh (Pet. Mus. UC17903); (c) HK47 Pot 28.

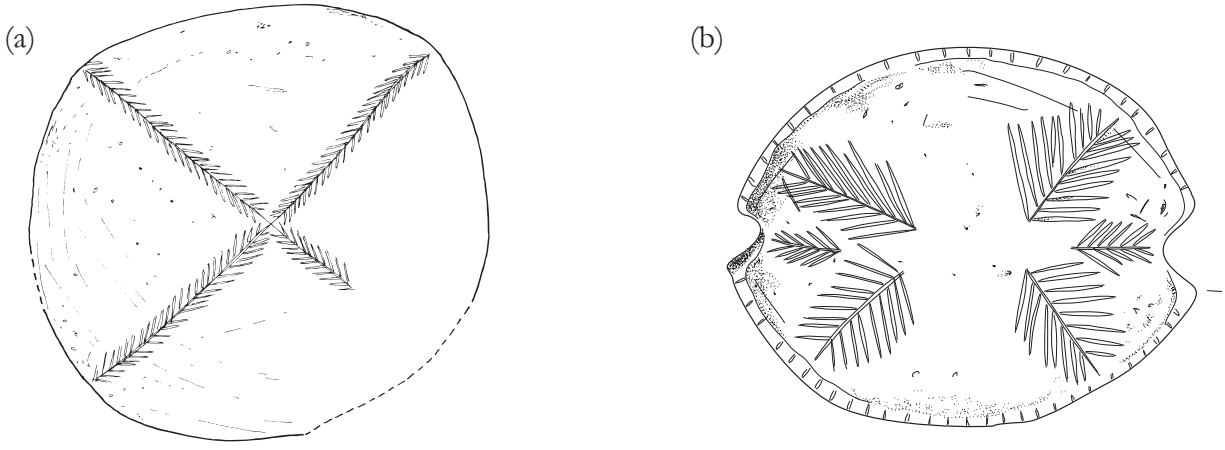


Fig. 45: Long feather motif (F.l)
(a) SJE 47/3:1 (ext.); (b) SJE 47/51:4 (int.); (c) HK47 Pot 34, not F.l on exterior, F.e on interior.

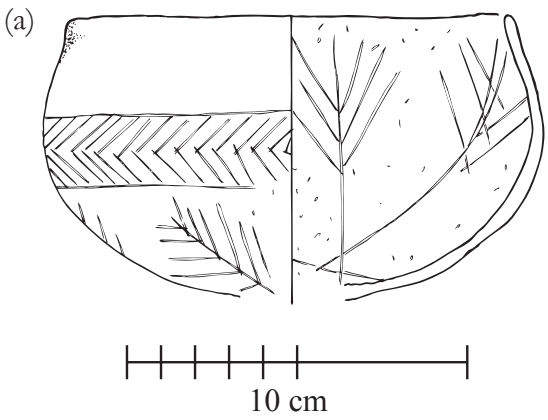


Fig. 46: End feather motif (F.e)
(a) SJE 47/39:2 (HB.b and F.l to exterior, F.e. to interior); (b) SJE 47/B, double-ended F.e motifs.

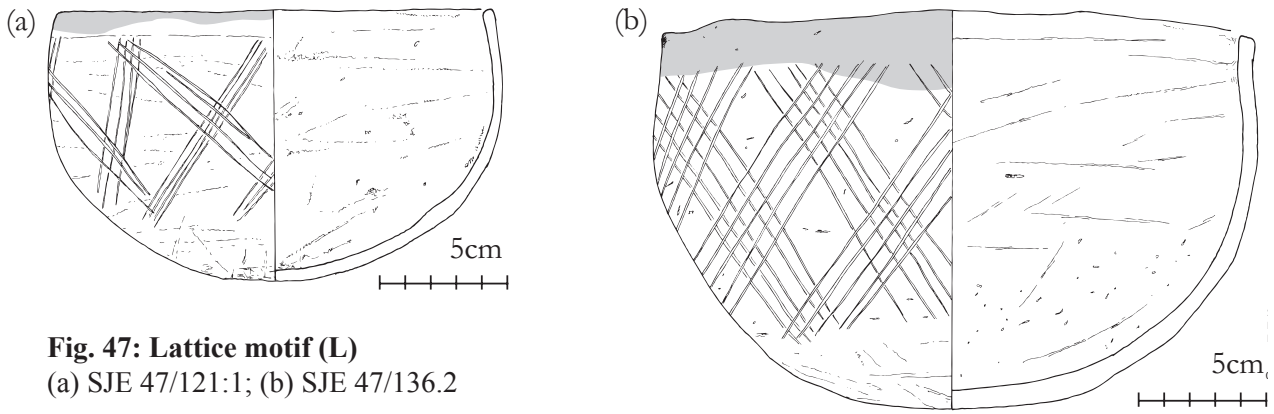


Fig. 47: Lattice motif (L)
(a) SJE 47/121:1; (b) SJE 47/136.2

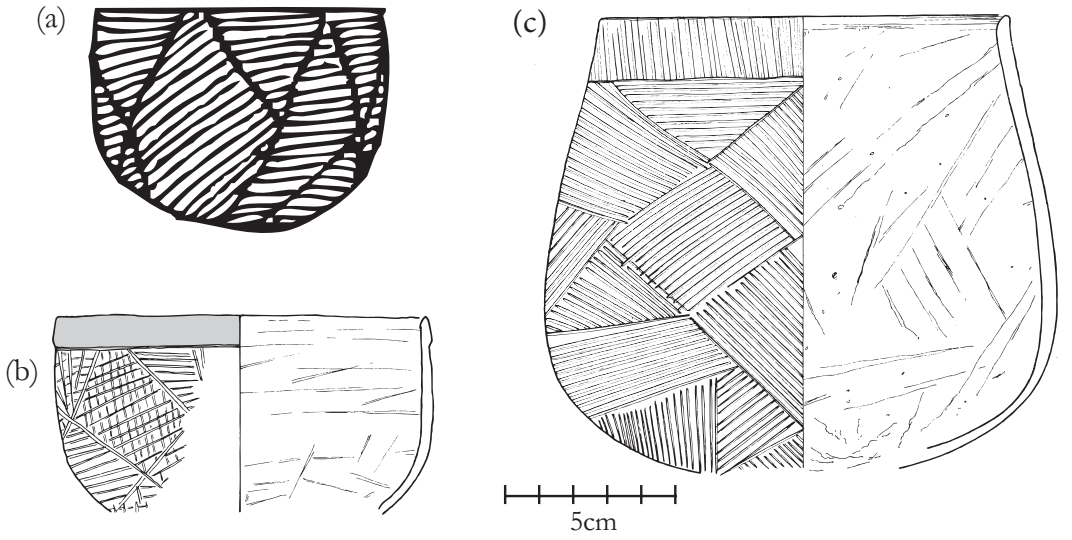


Fig. 48: Quadrilateral zones motif (Q)
(a) Mostagedda 3158 (adapted from Brunton, *Mostagedda*, pl. lxxii.6. Scale 1:6); (b) Rifeh (Pet. Mus. UC17392); (c) Hierakonpolis HK47 Pot 29 (drawn by W. Schenck and A. de Souza).

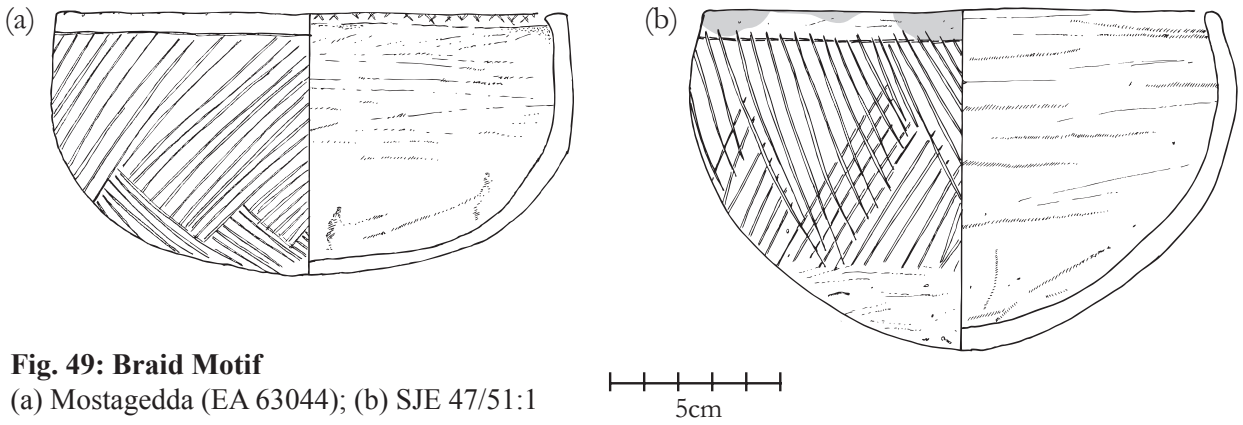


Fig. 49: Braid Motif
(a) Mostagedda (EA 63044); (b) SJE 47/51:1

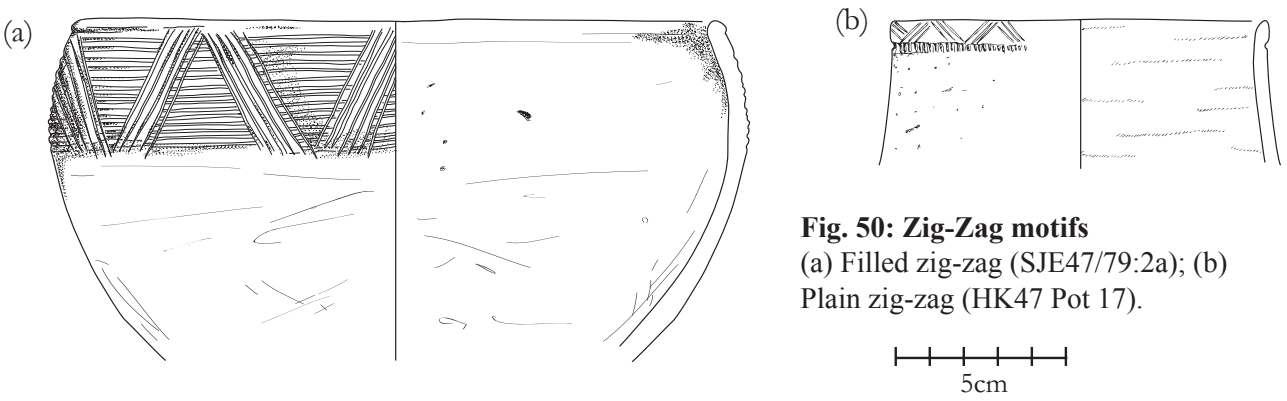


Fig. 50: Zig-Zag motifs
(a) Filled zig-zag (SJE47/79:2a); (b) Plain zig-zag (HK47 Pot 17).

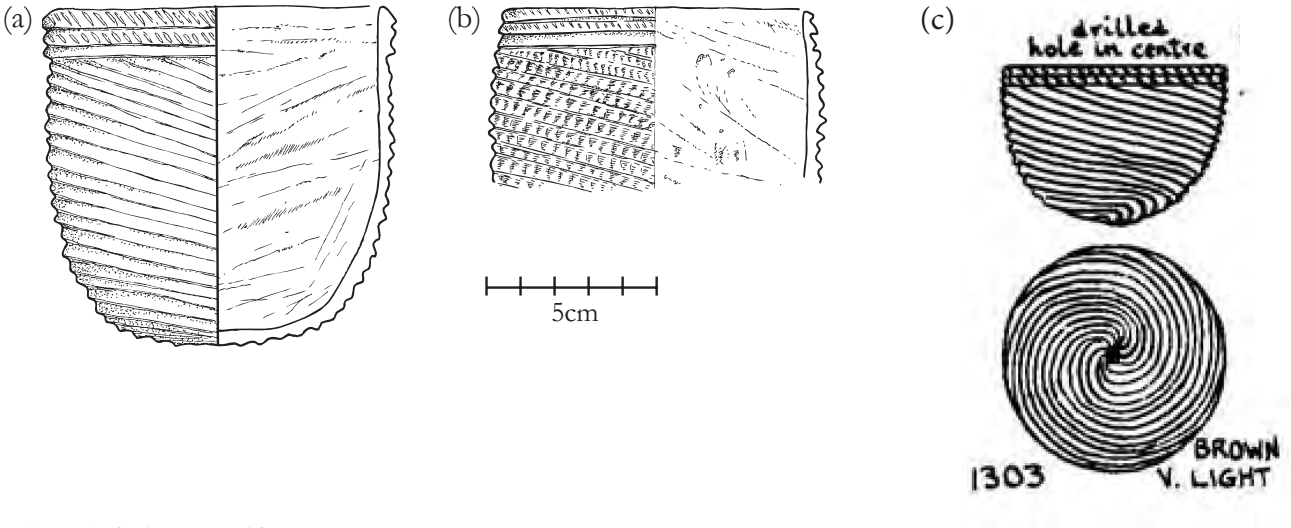
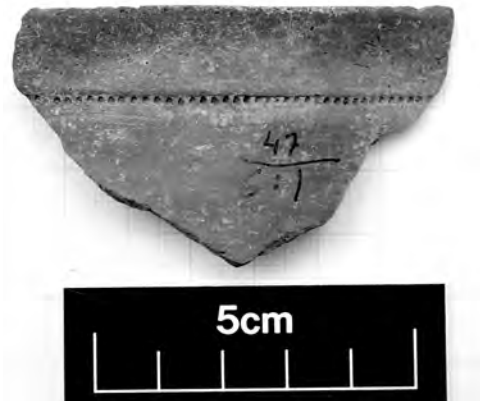


Fig. 51: Spiral motif
(a) Mostagedda 3100 (EA63022); (b) Unknown provenance, with red and white painted decoration (Pet. Mus. UC43309 + 43310); (c) Qau 1303 (Brunton, *Mostagedda*, pl.. IX.6. Note: Scale 1:3)



Fig. 52: Spiral decorated bowl from Mostagedda (EA63022) with large post-firing kill-hole at the centre base.
Photo: A. de Souza, Courtesy Trustees of the British Museum

(a)



(b)

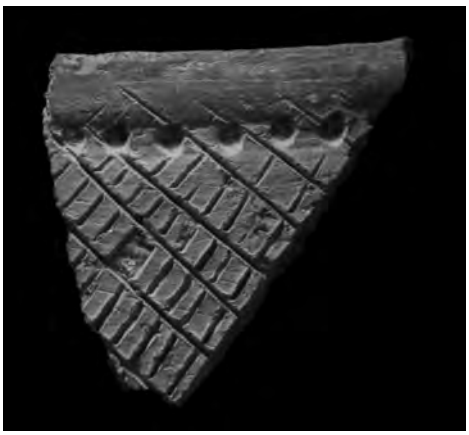


Fig. 53: Stylus impressed decoration
(a) SJE 47/6:1 ; (b) HK47 Pot 50 (Photo Jim Rossiter, Courtesy the Hierakonpolis Expedition).

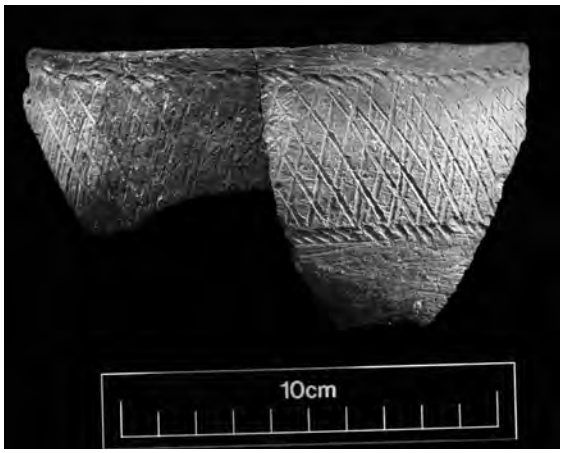


Fig. 54: String impressions
HK 47 Pot 16 (Photo Jim Rossiter, Courtesy the Hierakonpolis Expedition).

(a)



(b)



Fig. 55: Base decoration
(a) HK47 Pot 16 (Photo Jim Rossiter, Courtesy the Hierakonpolis Expedition).
(b) WK11 (Photo courtesy AKAP / Maria Gatto).

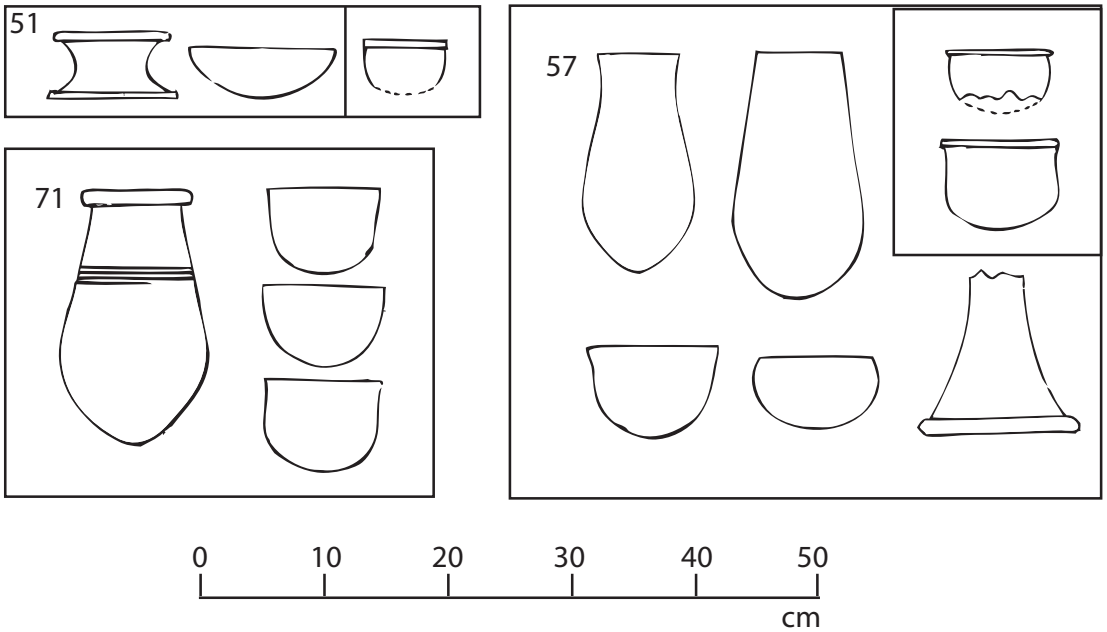


Fig. 56: Representative tomb groups from Rifeh (adapted from Petrie, *Gizeh and Rifeh*, pl. XXVI

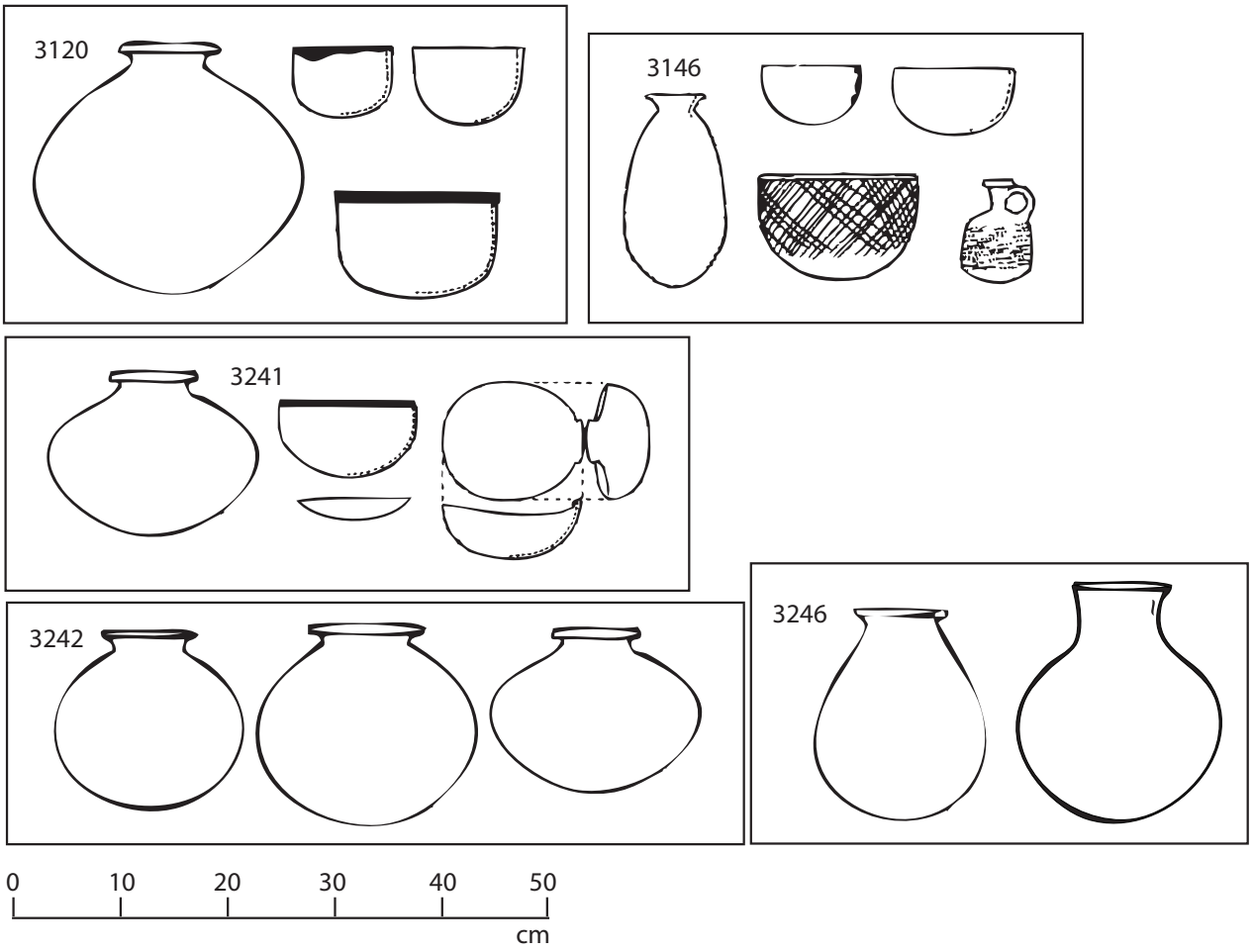


Fig. 57: Representative tomb groups from Mostagedda 3100/3200 (adapted from Brunton, *Mostagedda*, pl. LXXII-LXXIII

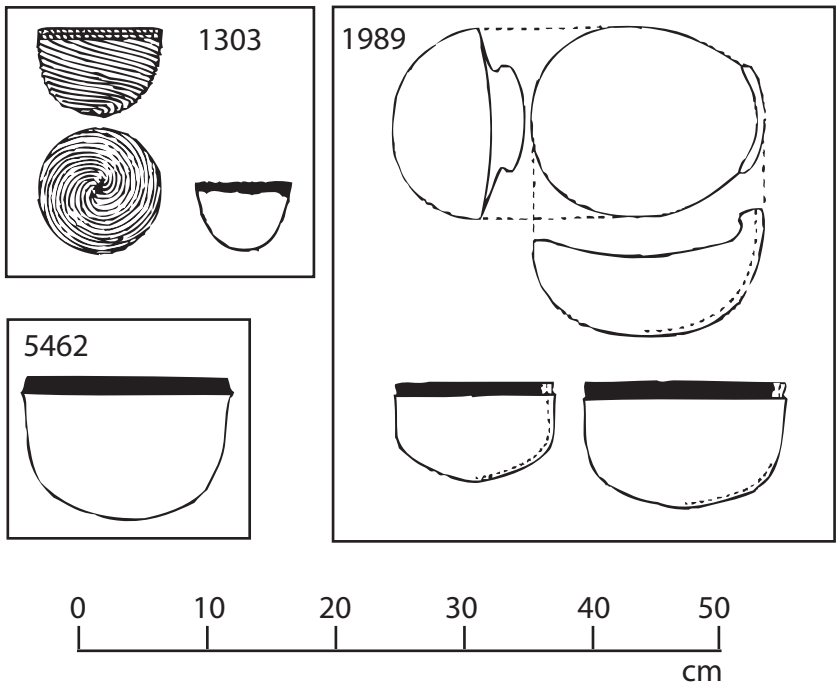


Fig. 58: Reprepsentative tomb groups from Hemamieh 1900, Qau 1300, and Badari 5400. Adapted from Brunton, *Qau and Badari* III, pl. IX.

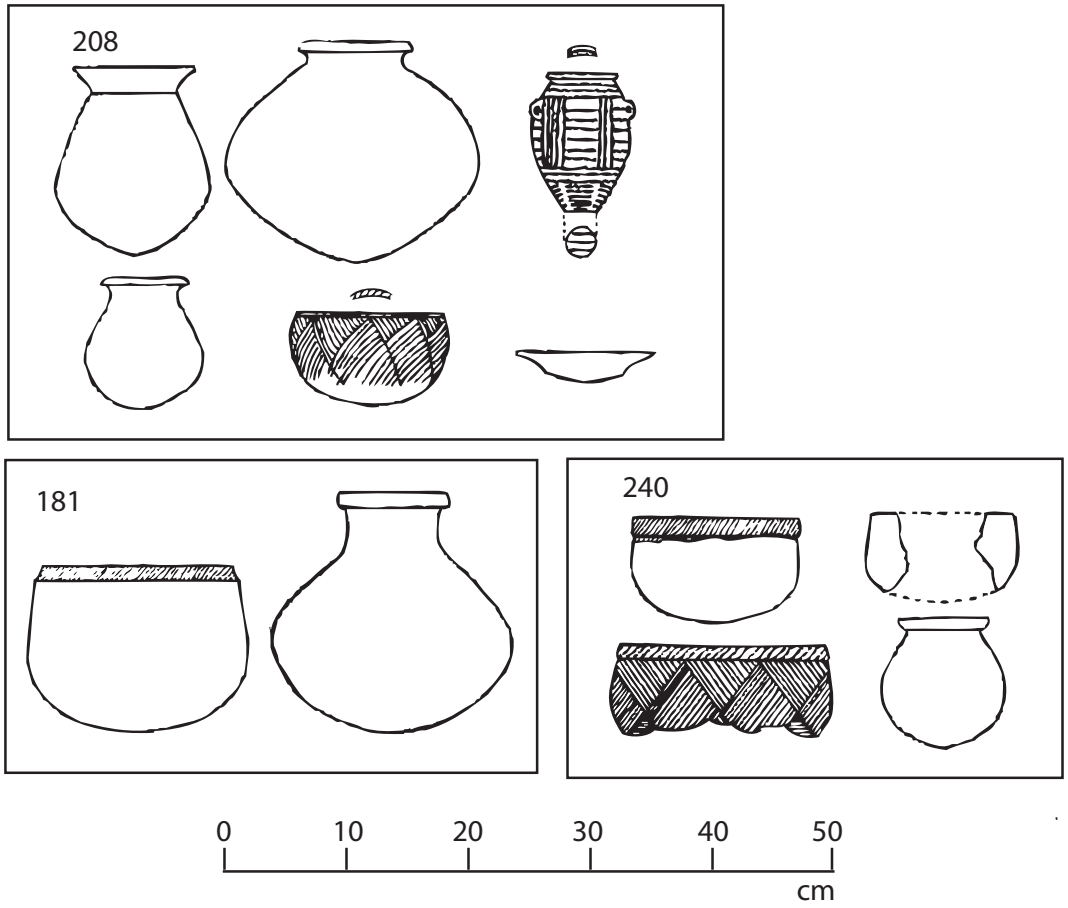


Fig. 59: Reprepsentative tomb groups from Balabish. Adapted from Wainwright, *Balabish*, pl. XIV.

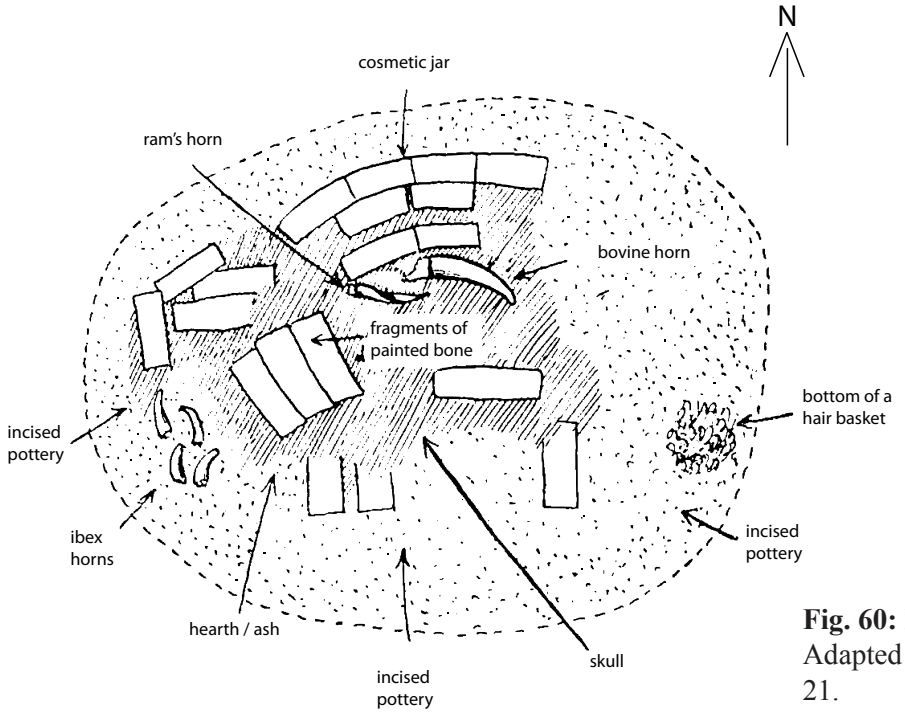


Fig. 60: Plan of Grave 7 from Tod. Adapted from Barguet, *BIFAO 50*, fig. 21.

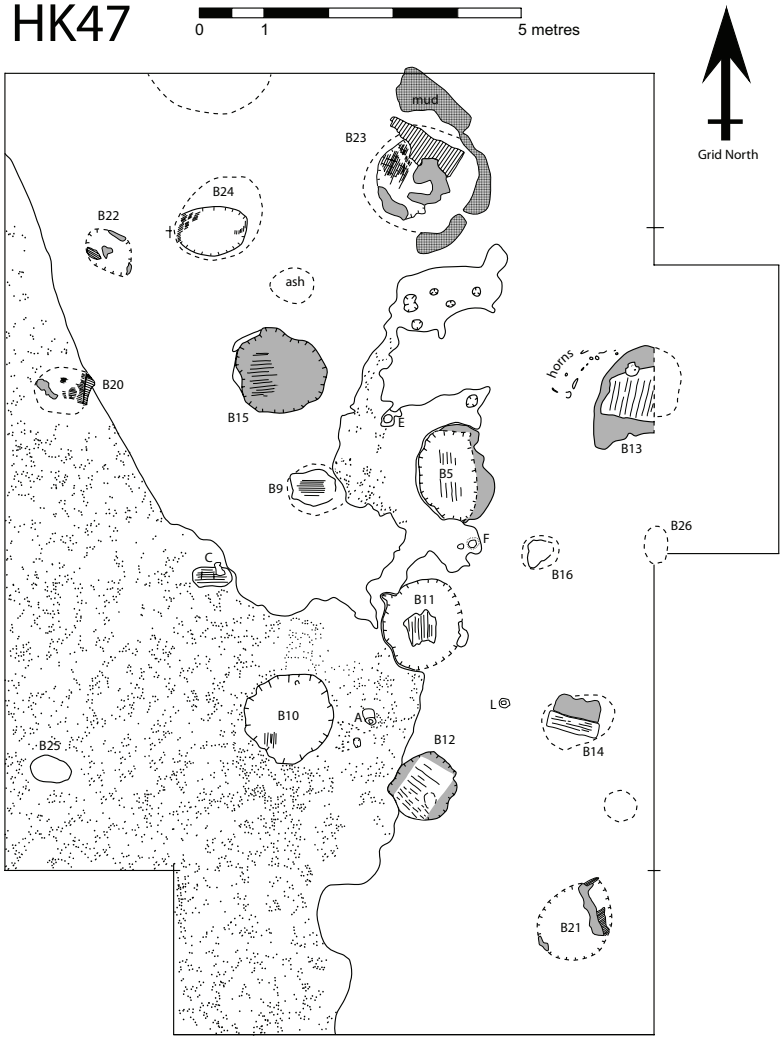


Fig. 61:
Map of excavated portion of HK47. Drawn by A. de Souza, courtesy the Hierakonpolis Expedition

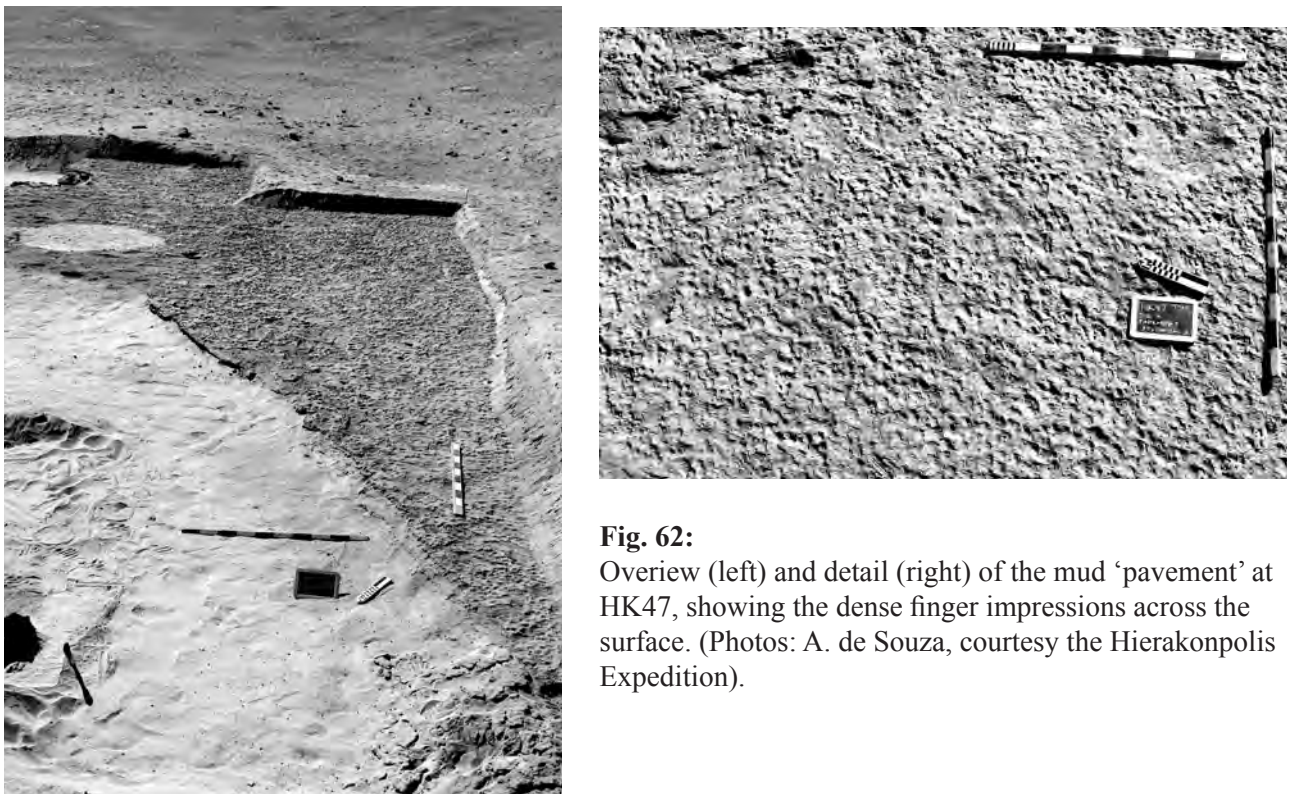


Fig. 62:
Overiew (left) and detail (right) of the mud 'pavement' at HK47, showing the dense finger impressions across the surface. (Photos: A. de Souza, courtesy the Hierakonpolis Expedition).

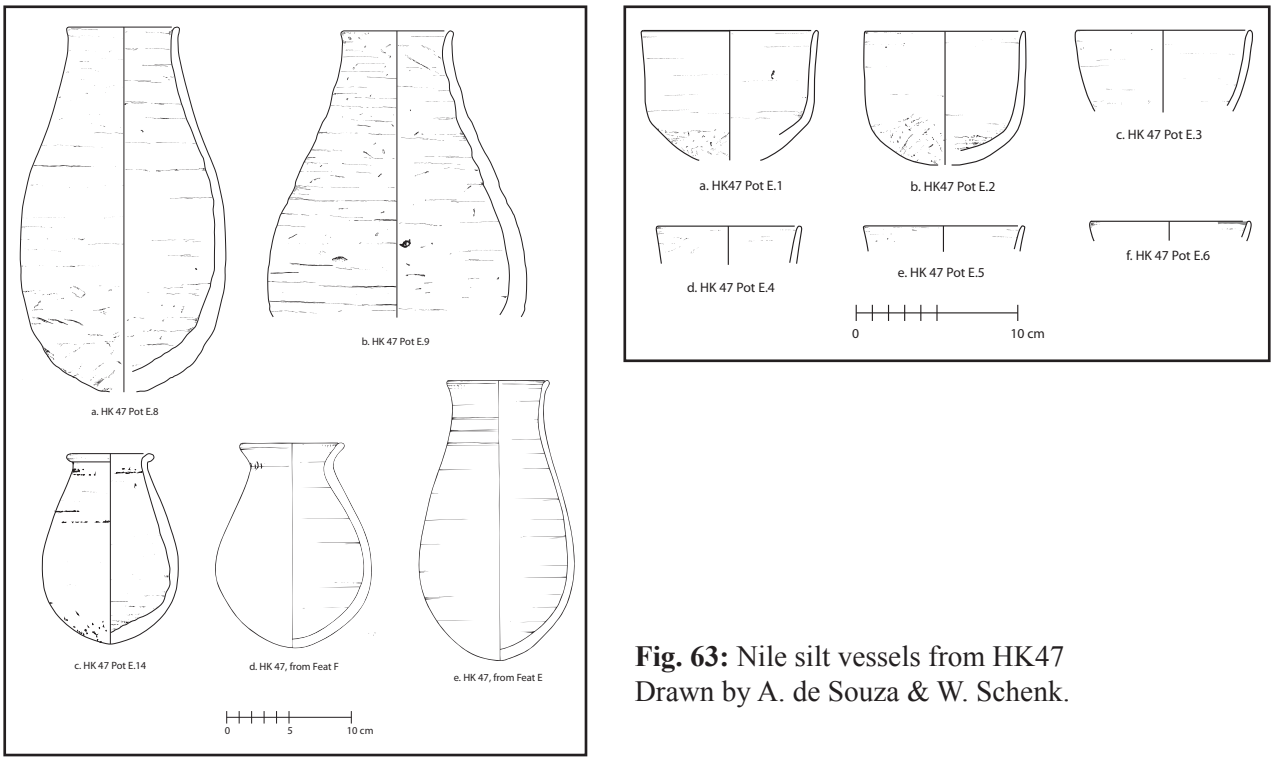
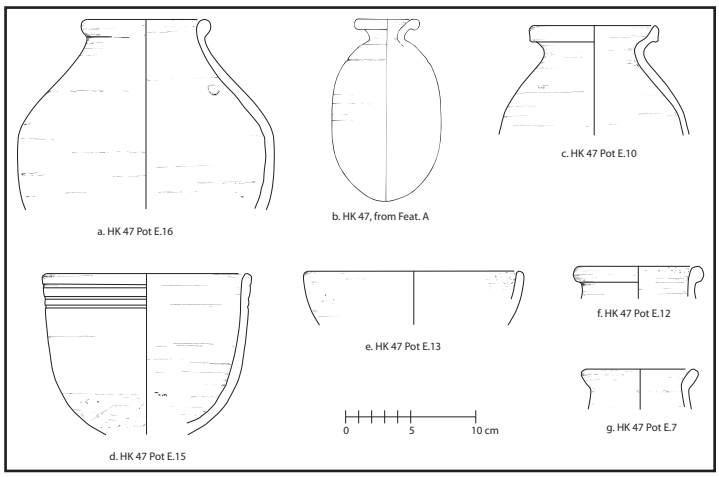


Fig. 63: Nile silt vessels from HK47
Drawn by A. de Souza & W. Schenk.



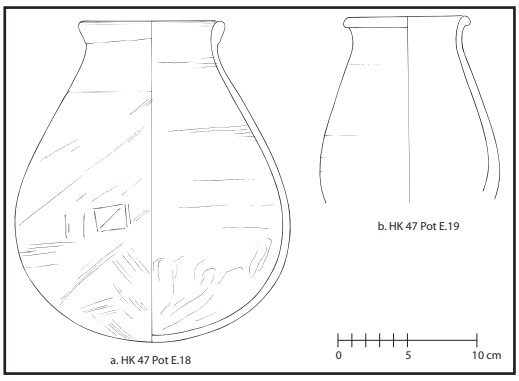


Fig. 64: Marl vessels from HK47. Marl A3 (left) and Marl C (right). Drawn by A. de Souza & W. Schenk.

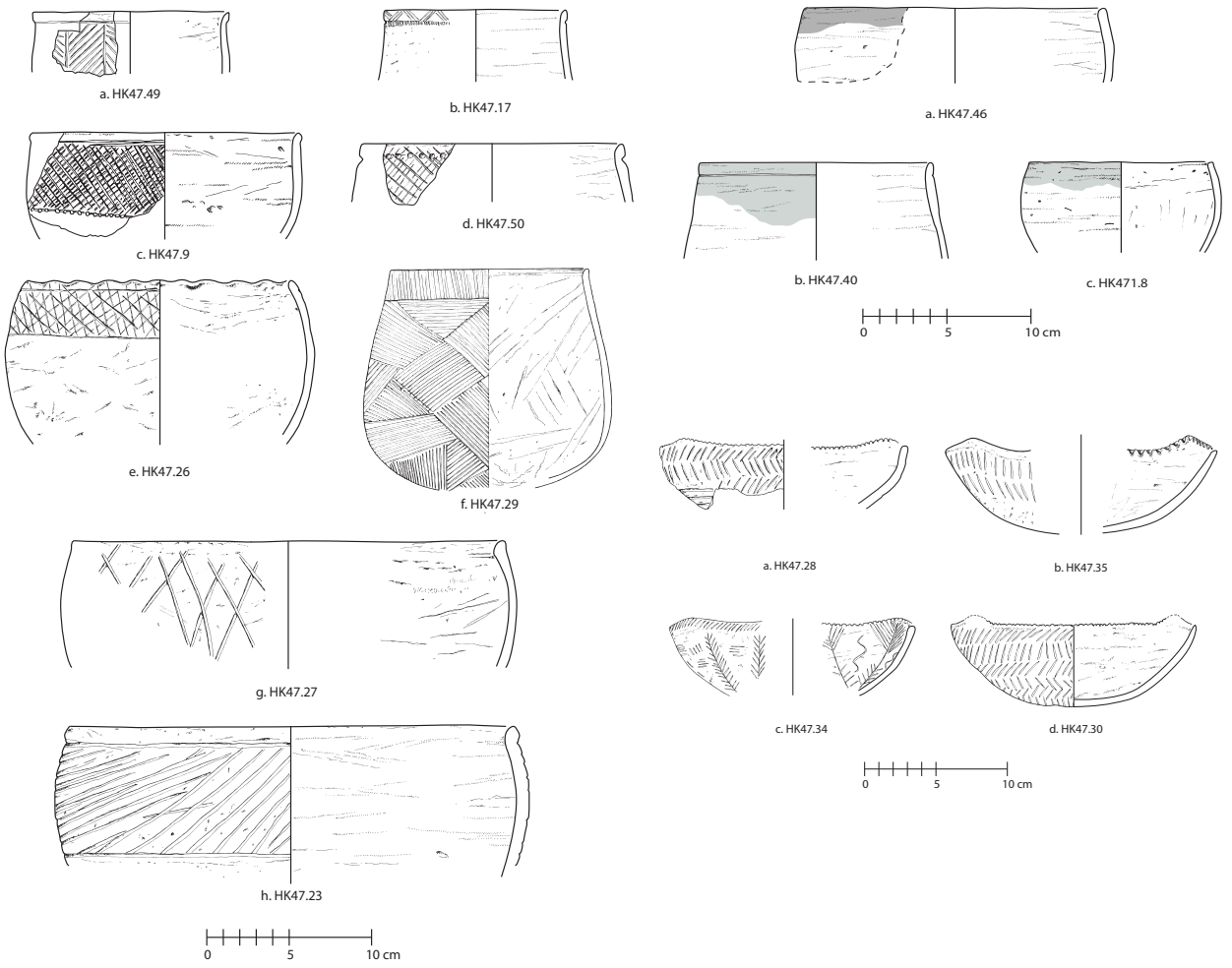


Fig. 65: Representative sample of Pan-Grave pottery from HK47. Drawn by A. de Souza.

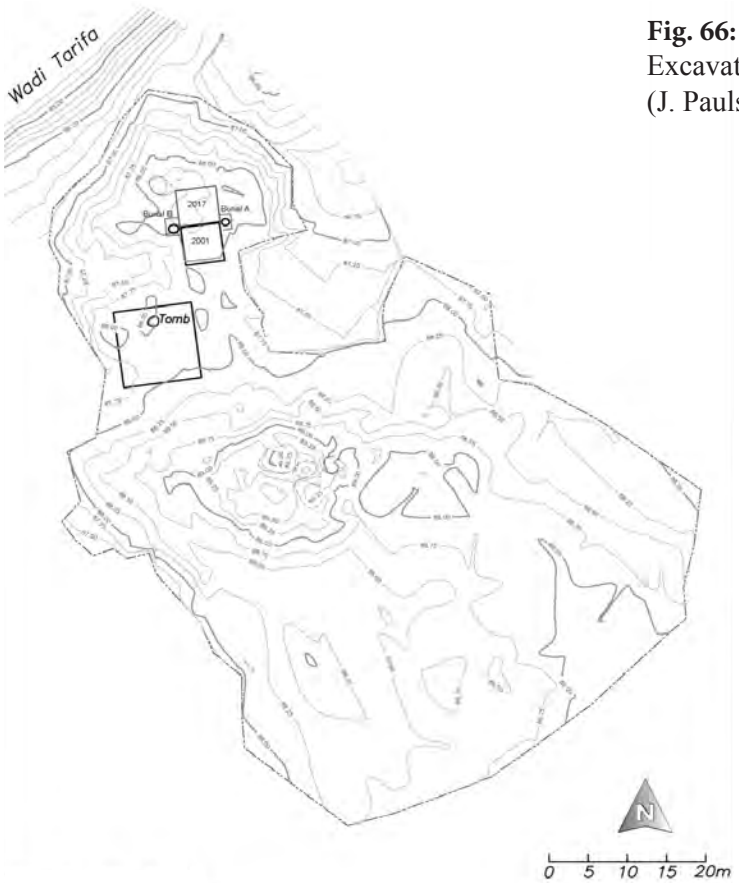


Fig. 66: Topographic Map of HK21A and surrounds. Excavated areas marked in squares near top left. (J. Paulson).

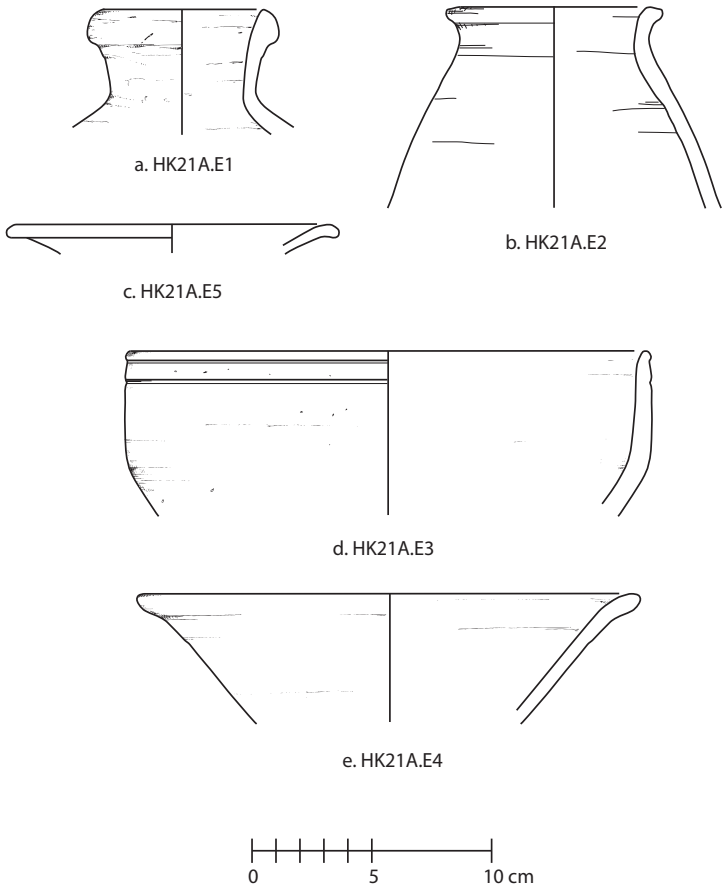


Fig. 67: Egyptian pottery from HK21A. Drawn by A. de Souza.

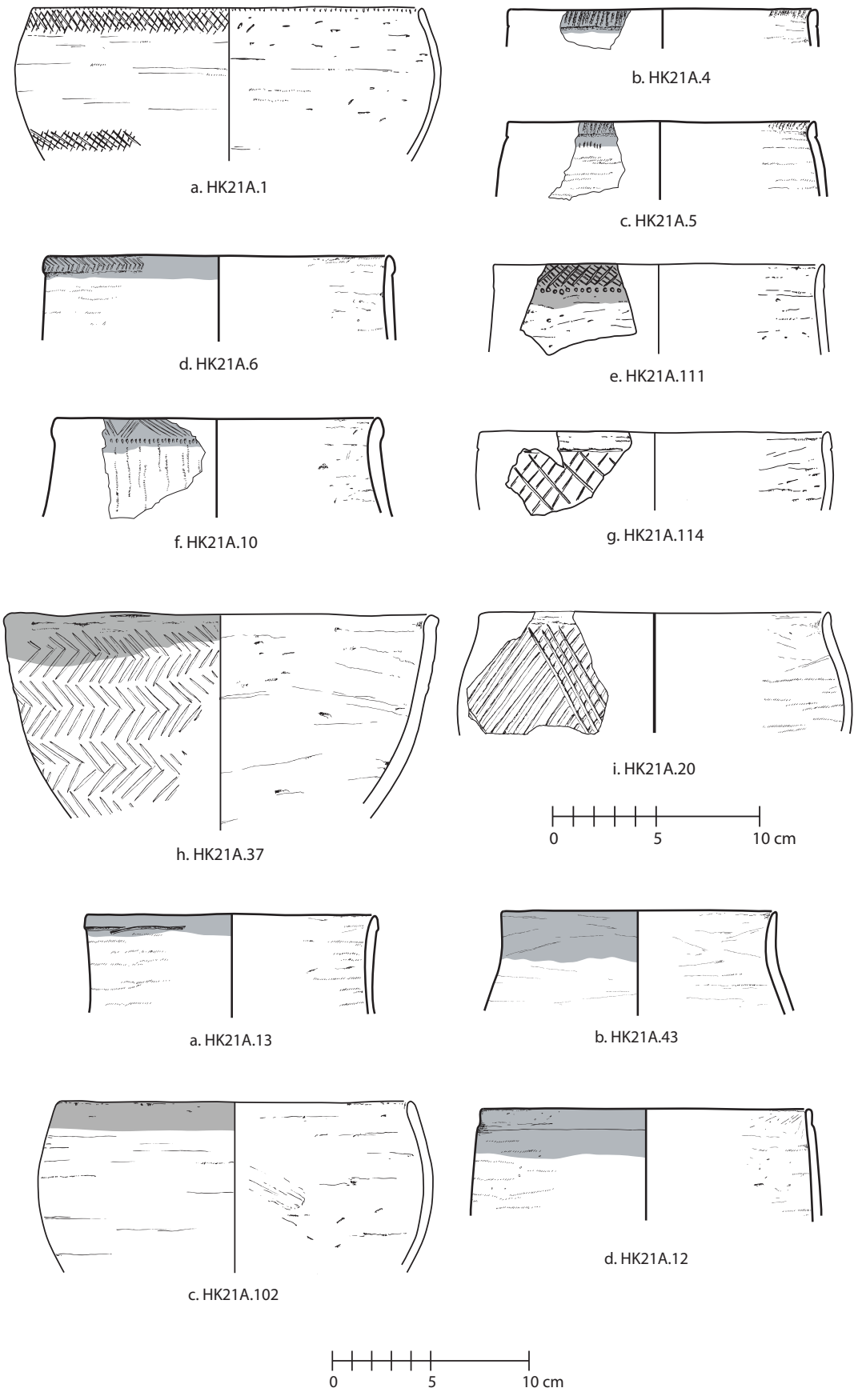


Fig. 68: Representative Sample of Pan-Grave pottery from HK21A. Drawn by A. de Souza.

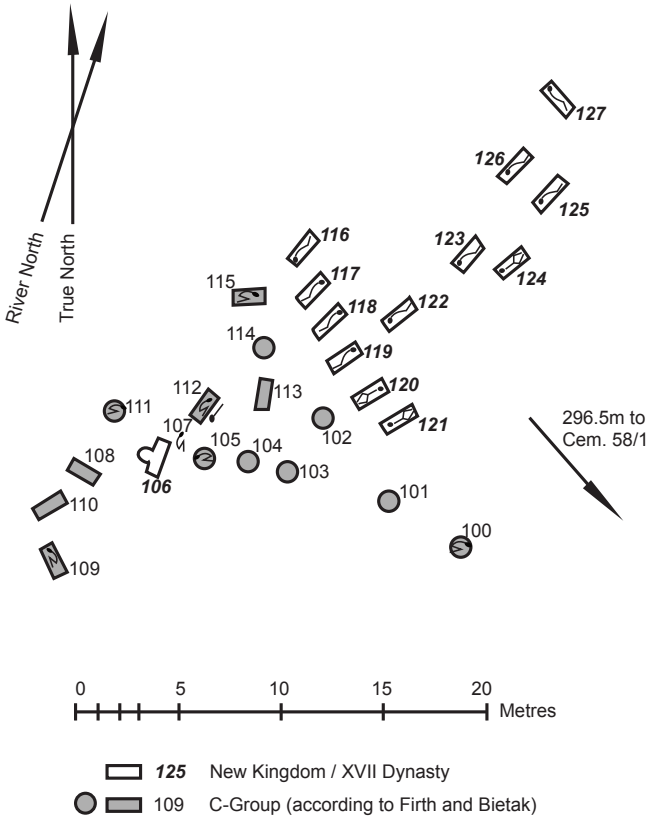


Fig. 69: Cemetery 58:100 at Ginari. Drawn by A. de Souza (adapted from FIRTH, *ASN 1908-09*, plan vii.

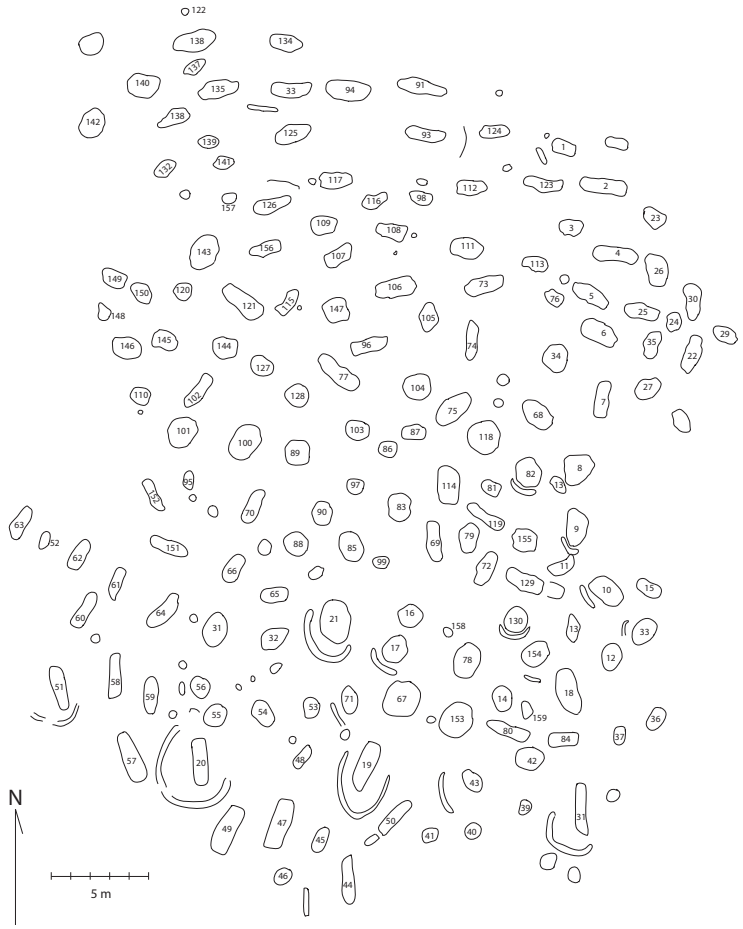


Fig. 70: Map of SJE Site 47 at Debeira East. Drawn by A. de Souza.

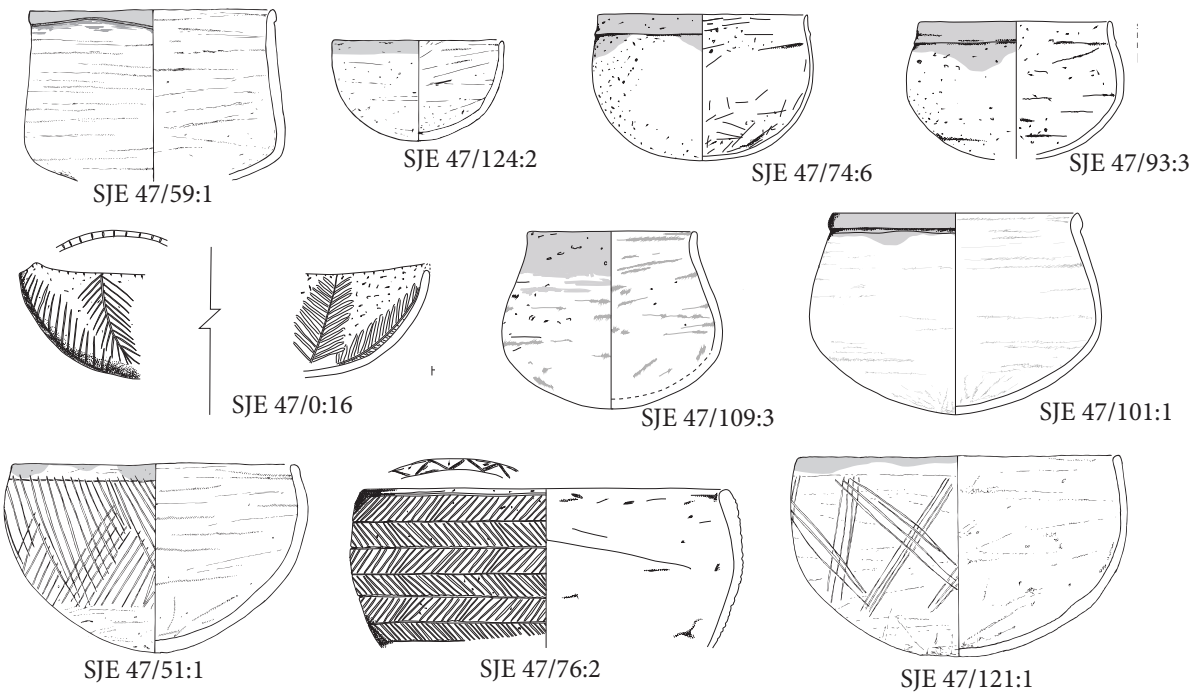


Fig. 71: Representative sample of Pan-Grave pottery from SJE Site 47 at Debeira East. Drawn by A. de Souza

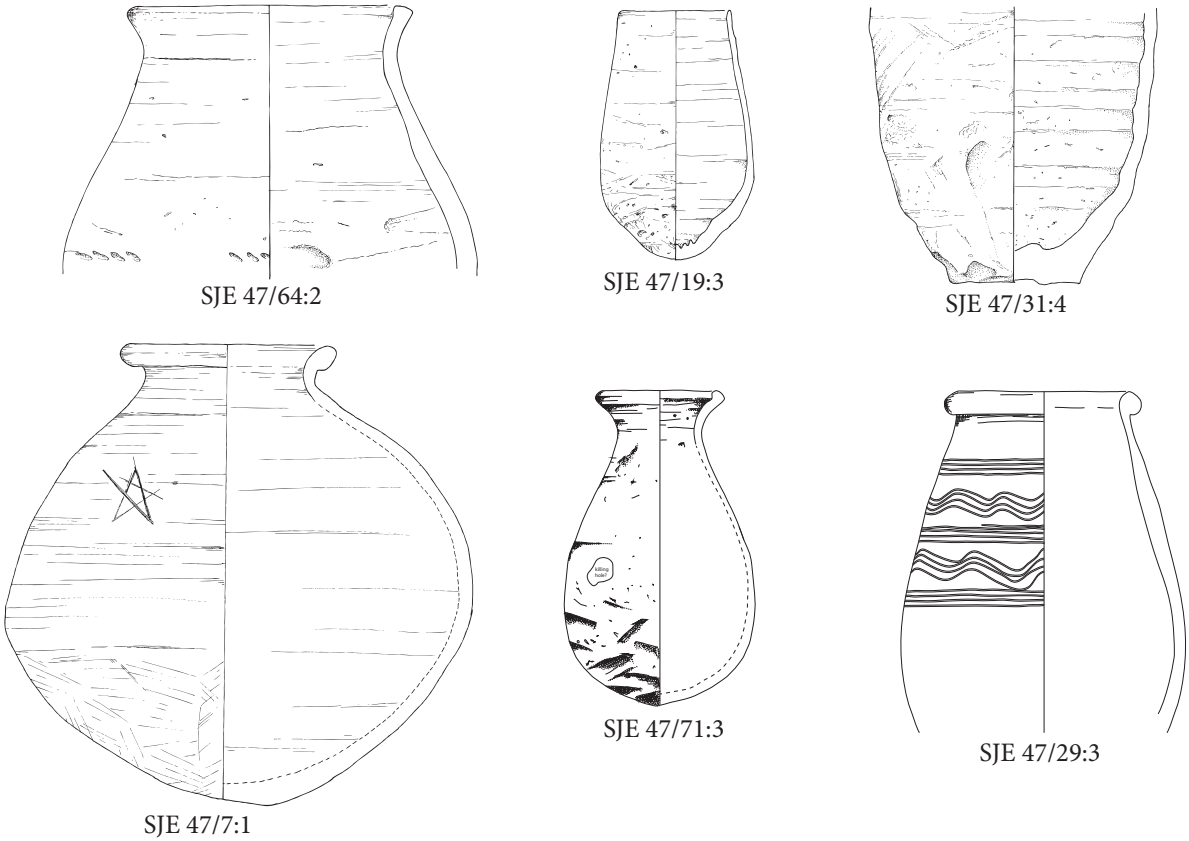


Fig. 72: Representative sample of Egyptian pottery from SJE Site 47 at Debeira East. Drawn by A. de Souza

	Late 12th	Early 13th	Late 13th	Early 17th	Late 17th	Early 18th
Rifeh						
Mostagedda						
Hemamieh 1900						
Qau 1300						
Badari 5400						
Balabish						
Hu X						
Hu Y/YS						
Armant 1900						
Tod						
Moalla H3						
Hierakonpolis HK47						
Hierakonpolis HK21A						
Wadi Kubbaniya WK11						
Sheikh Mohammed SM14						
Shellal Cem 7						
Ginari 58:100						
Kubban 110						
Sayala B						
Aniba N						
Aniba C						
Adindan K						

Fig. 73: Chronological table of Pan-Grave sites in Upper Egypt and Lower Nubia.

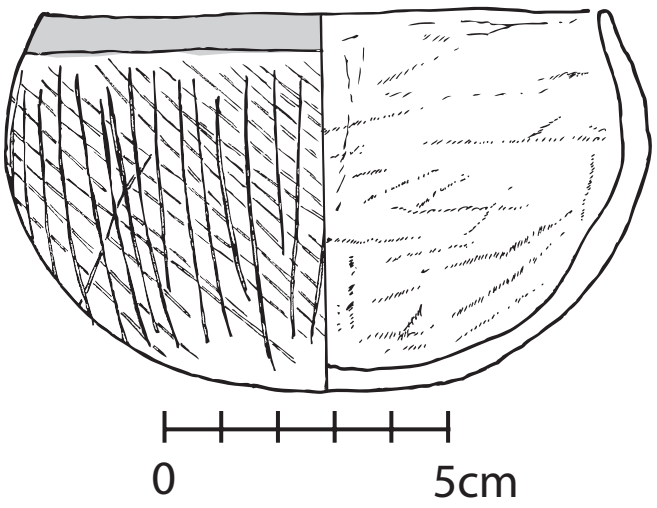


Fig. 74: Decorated bowl from Wadi el Khowi Site P37. BM EA81932.
Drawn by A. de Souza

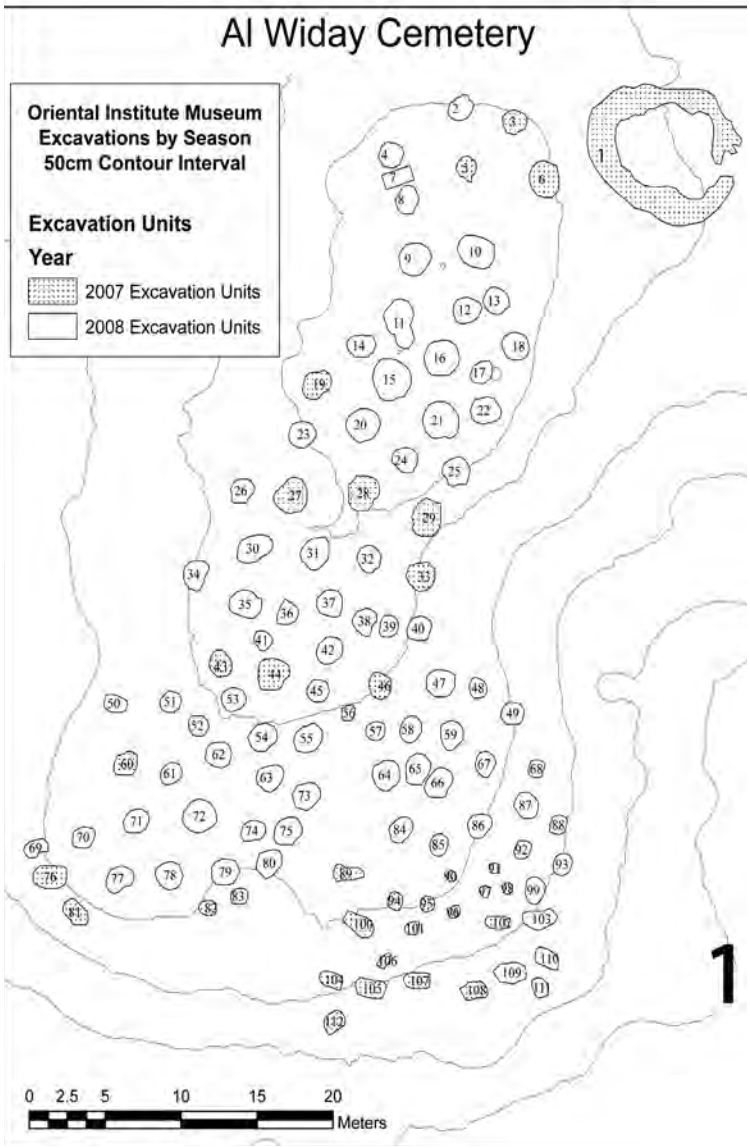


Fig. 75: Map of al-Widay I. Courtesy OINE.

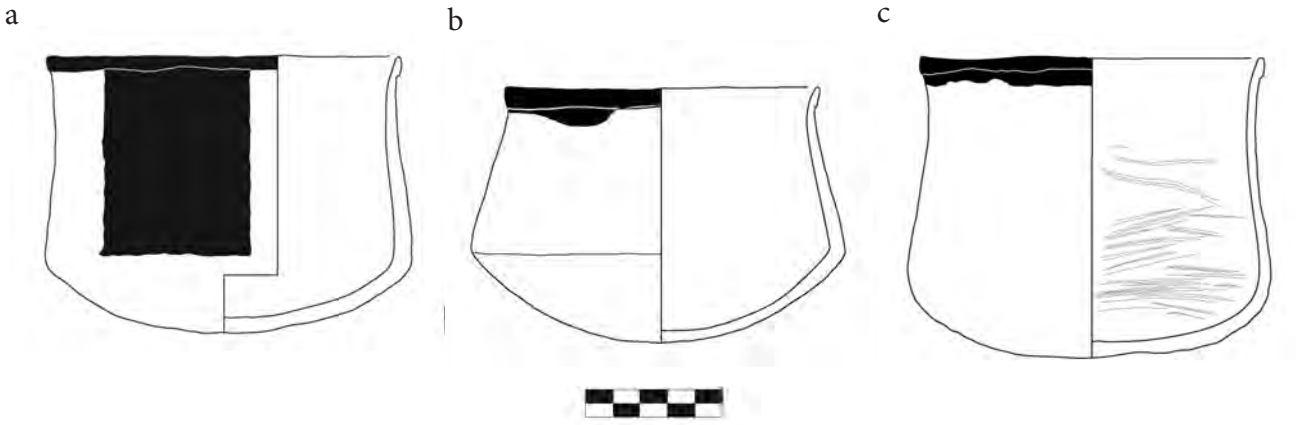


Fig. 76: Pottery from, al-Widay. (a) Bowl from Tomb 67; (b) Bowl from Tomb 55; (c) Bowl from Tomb 88. (All drawings courtesy OINE).

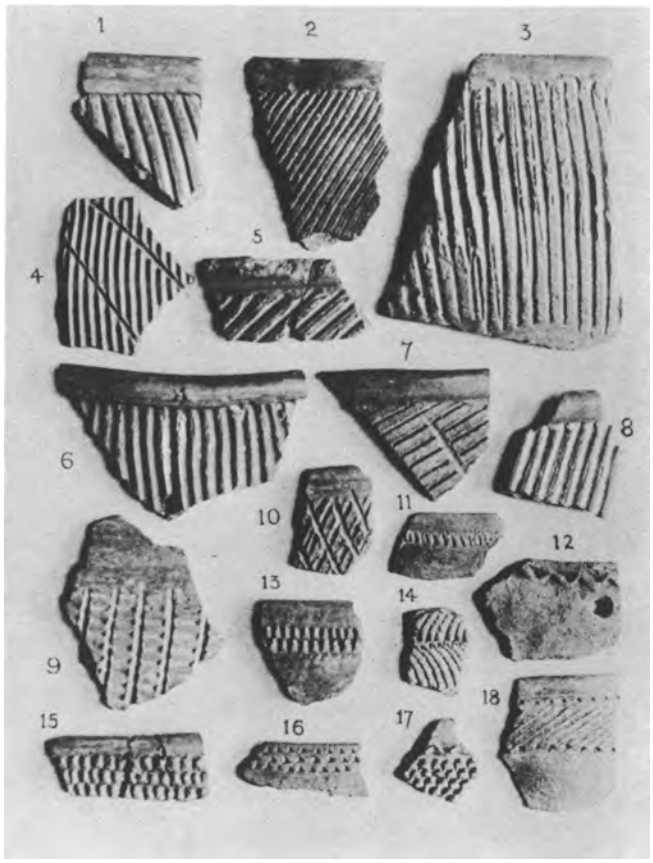


Fig. 78: Sherds from Kassala, collected by Crowfoot. Only sherds 1-10 (and possibly 18) may be associated with the Pan-Grave tradition.
adapted from Crowfoot, *JEA 14*, pl. XIII.

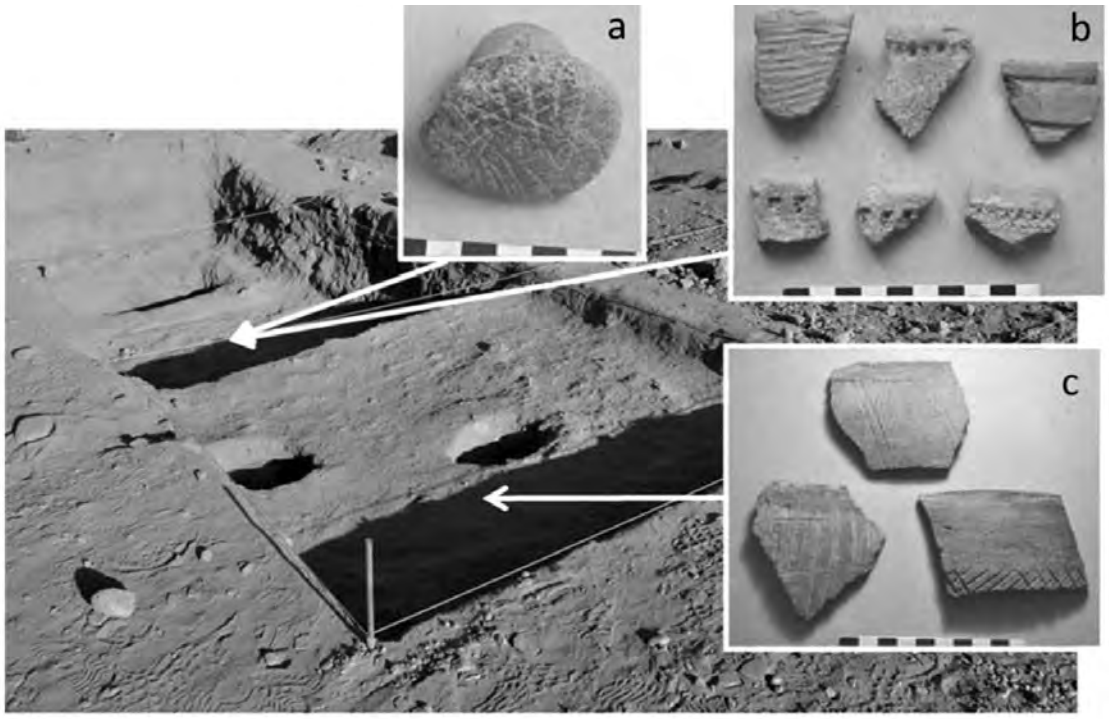


Fig. 79: Mahal Teglinos. Excavation unit K1 VI.
(a) Gash Group seal; (b) Gash Group sherds; (c Jebel Mokram sherds from later floor levels. Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.



Fig. 80: Jebel Mokram Group sherds from Mahal Teglinos.
(a) Sherd from Unit KI VIII; (b) Sherds from Units K1 VI. Photos:
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO

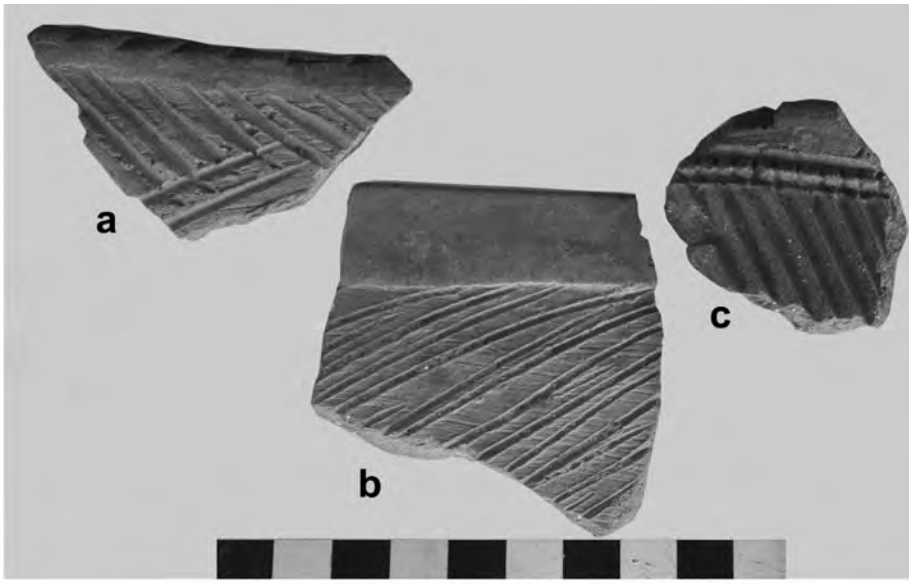


Fig. 81: Jebel Mokram sherds from UA53.
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.



Fig. 82: Jebel Mokram sherds from UA100.
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.

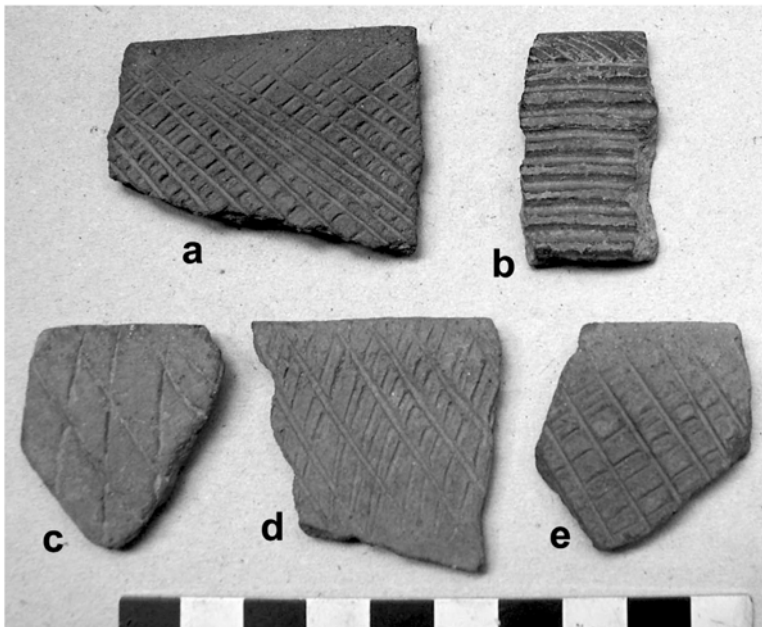


Fig. 83: Shurab el Gash, SEG 13.
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.

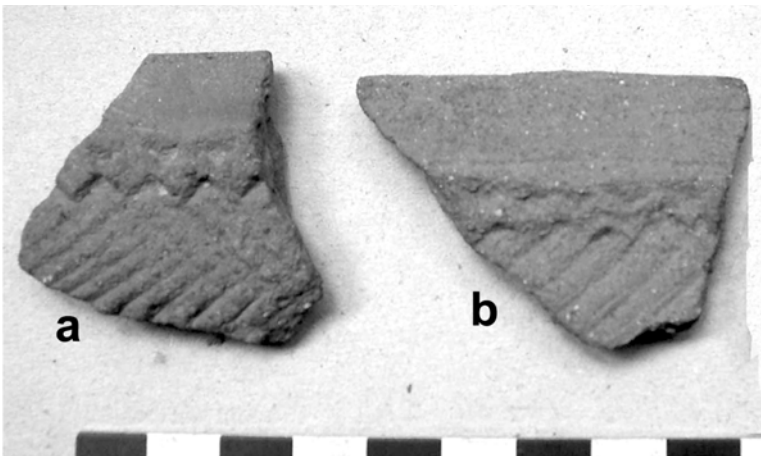


Fig. 84: Shurab el Gash, SEG 14.
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.

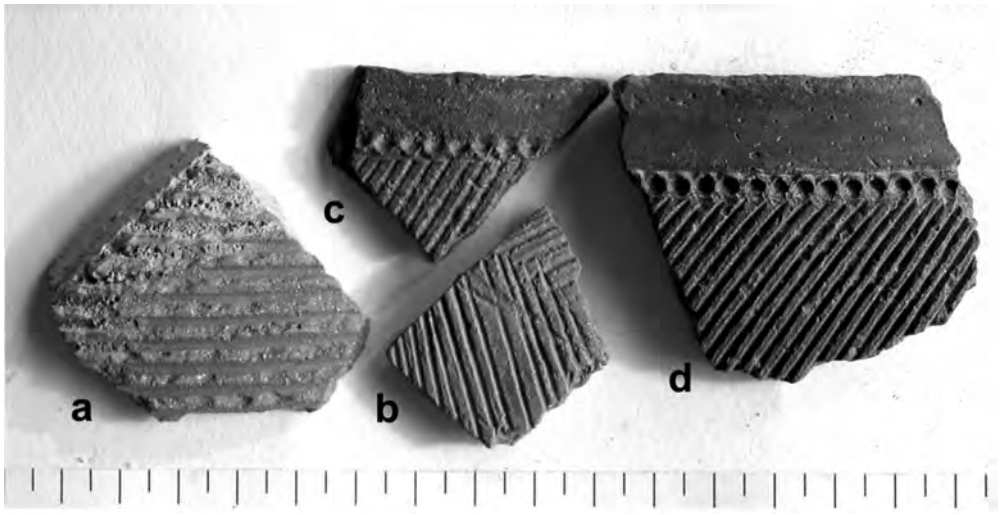


Fig. 85: Sherds from CeRDO survey, Site R 49.
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.

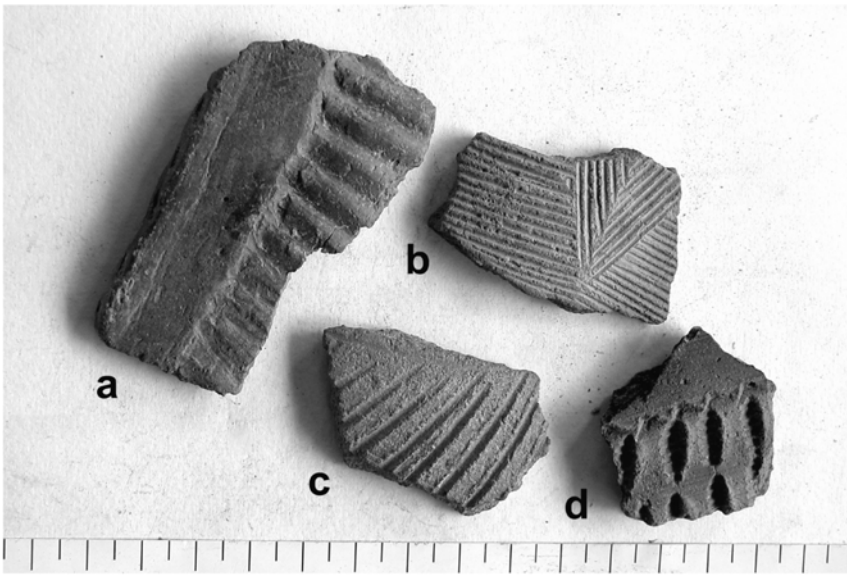


Fig. 86: Sherds from CeRDO survey, Site AL.
Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.

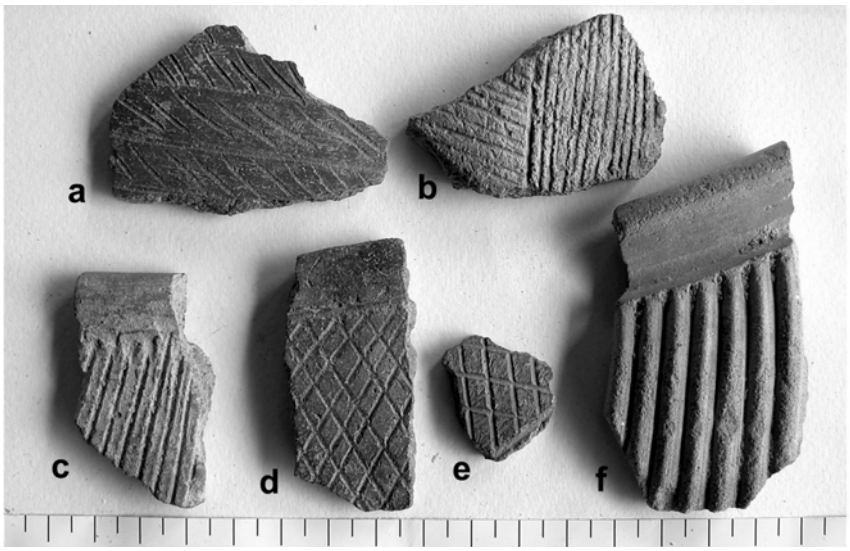


Fig. 87: Sherds from CeRDO survey, SIte ED 16. Courtesy of the Italian Archaeological Expedition to the Eastern Sudan of University "L'Orientale" and ISMEO.

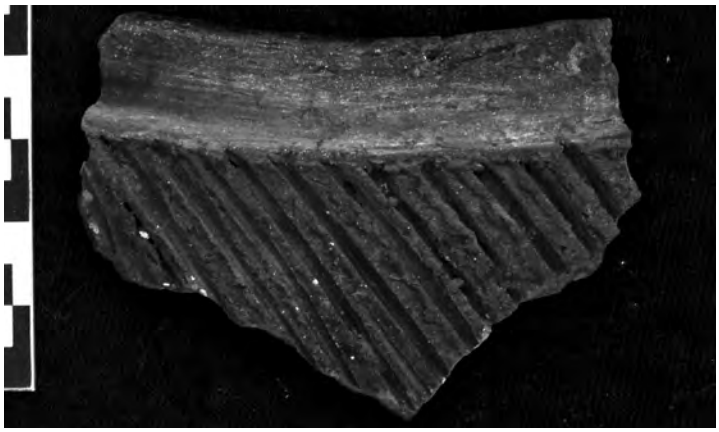


Fig. 88: Pan-Grave sherd from US2659, Tell Edfu.
(Courtesy the Tell Edfu Project, The Oriental Institite, University of Chicago)

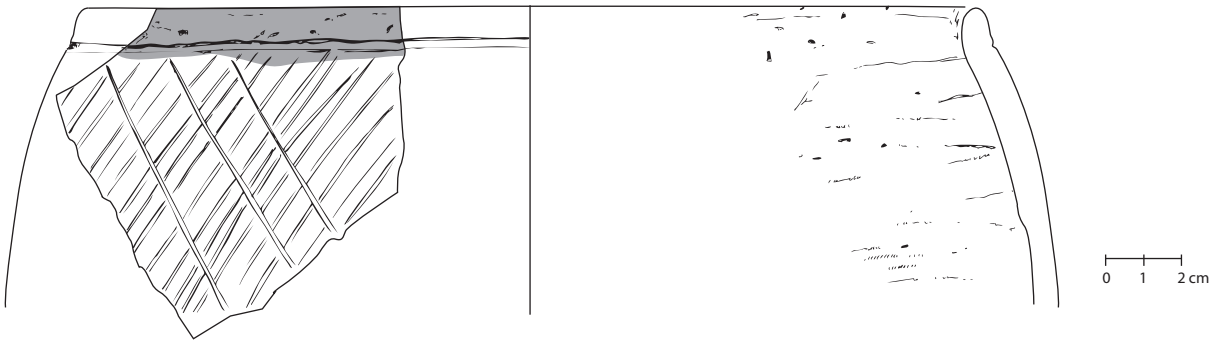


Fig. 89: Pan-Grave sherd from Dendera, associated with the Isis Temple. Drawn by A. de Souza. Courtesy The Dendara Project, Oriental Institute, University of Chicago.

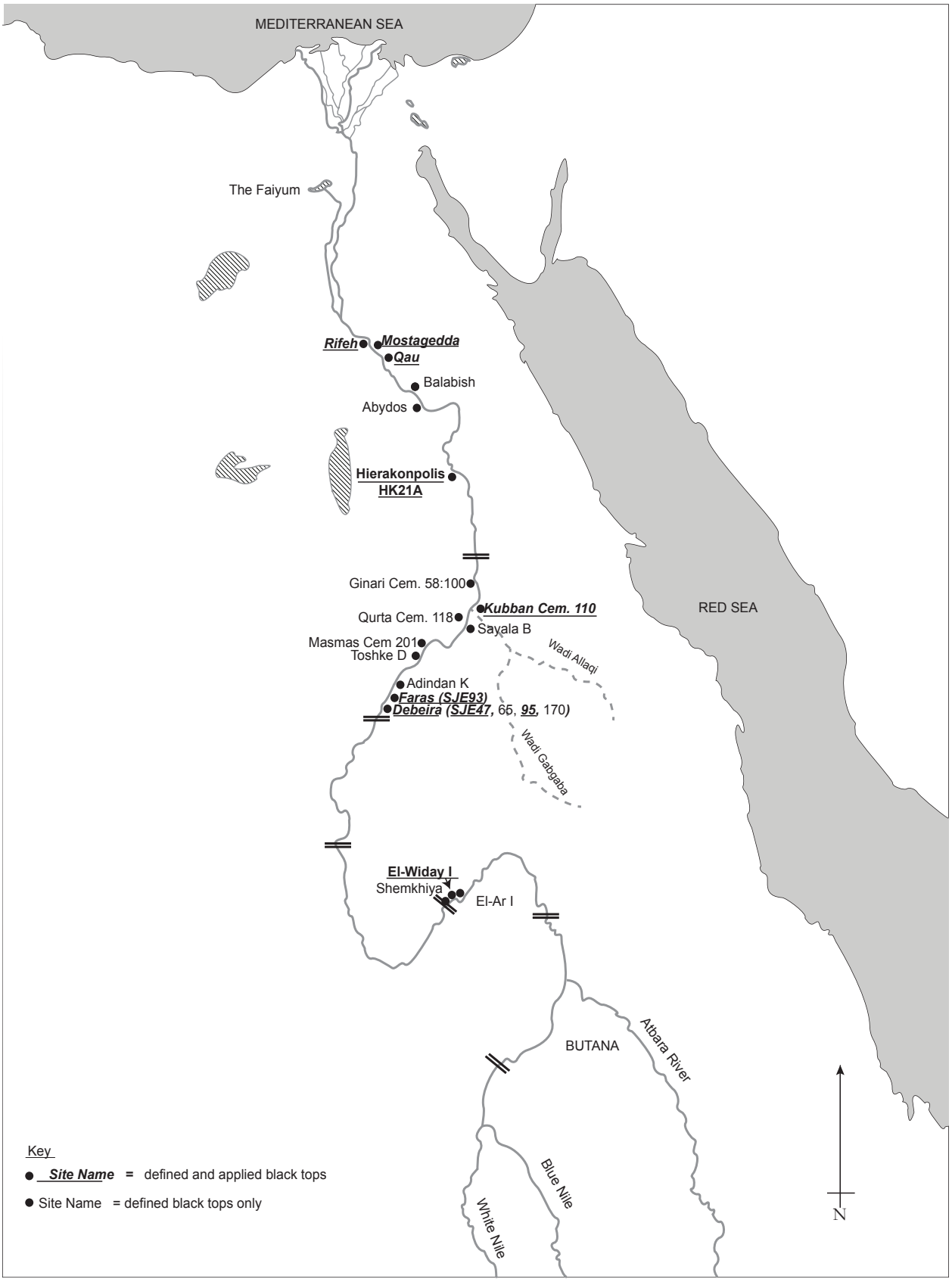


Fig. 90: Distribution of defined and applied black tops.

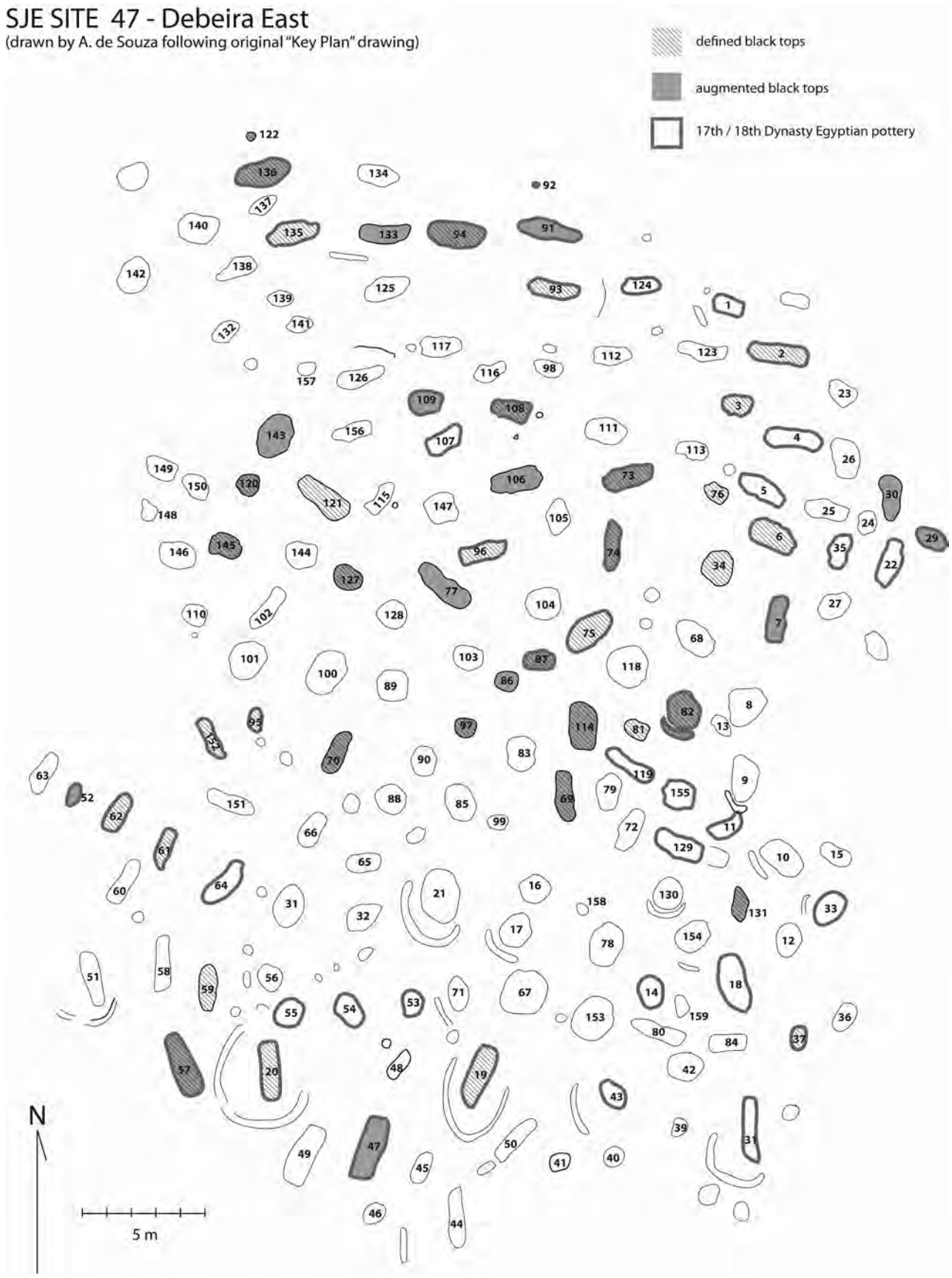


Fig. 91: Distribution map of defined and applied black-tops and Egyptian forms at SJE Site 47



Fig. 92: Distribution map of Black Ware family

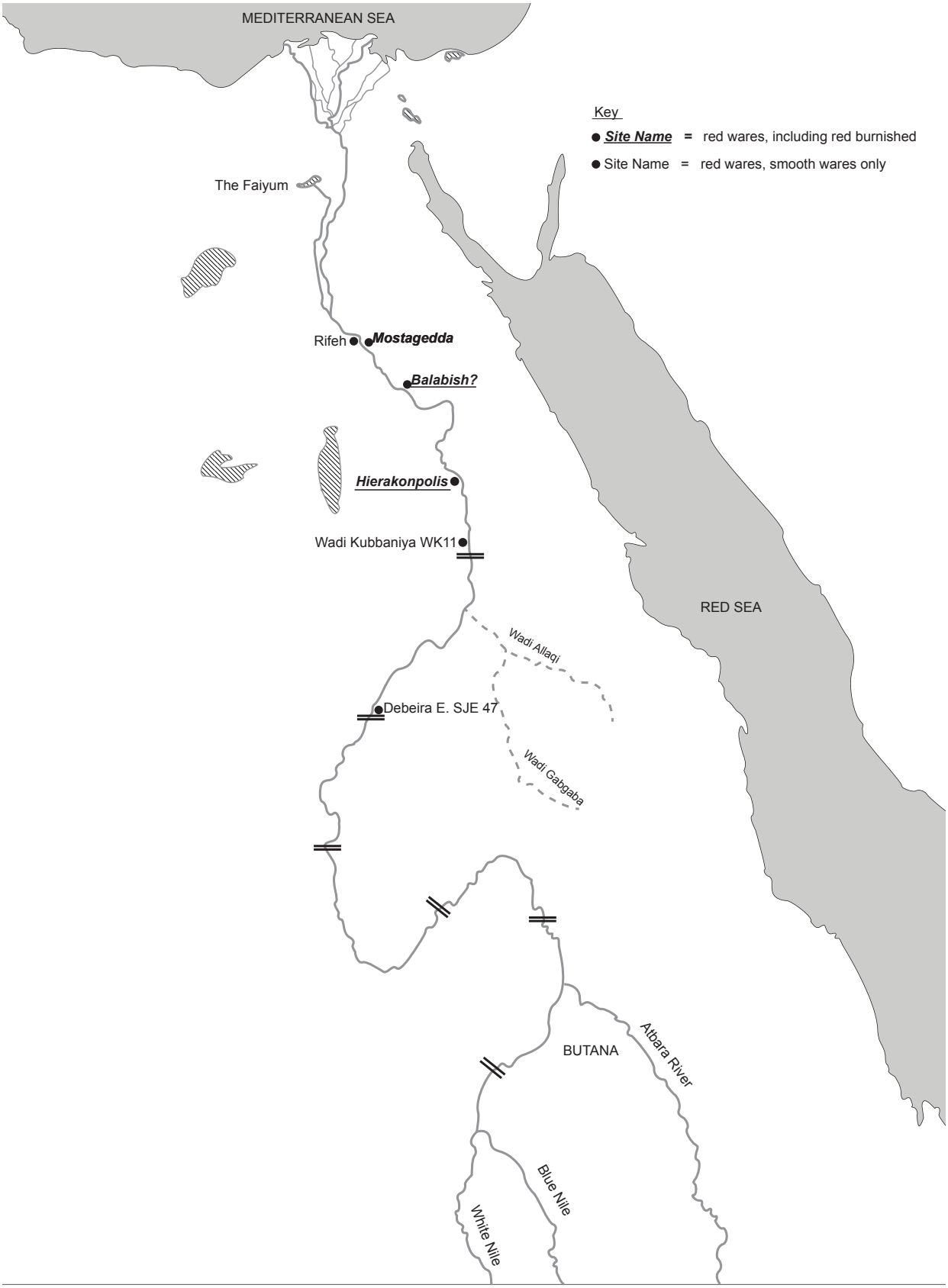


Fig. 93: Distribution map of Red Ware family (R)

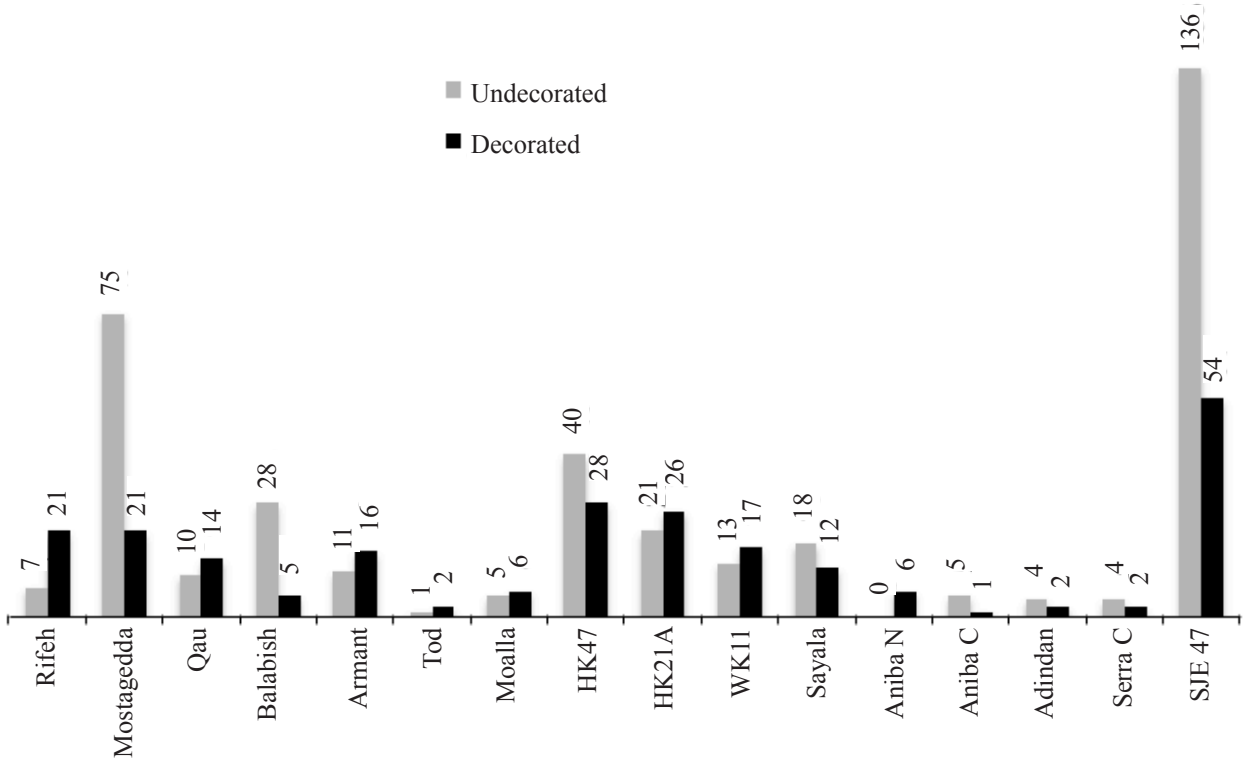


Fig. 94: Comparative graph of decorated vs undecorated pottery in Upper Egypt and Lower Nubia, arrange from north to south (L-R).

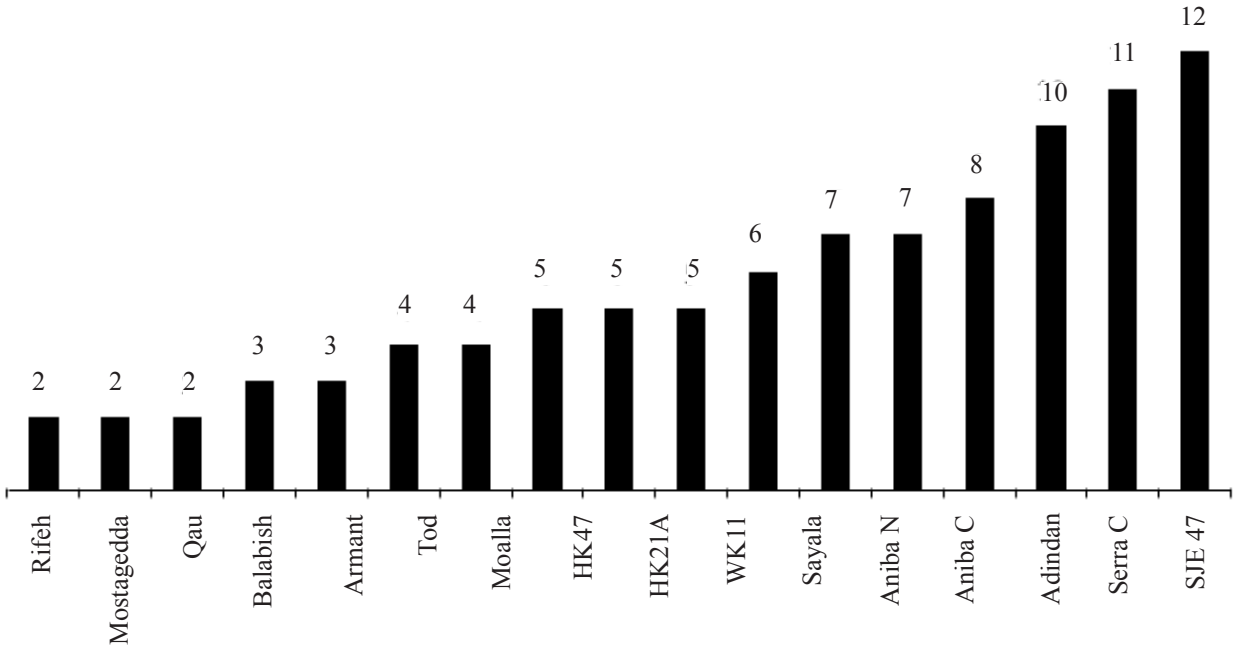


Fig. 95: Number of decorative motif types at each site from lowest to highest (L-R).

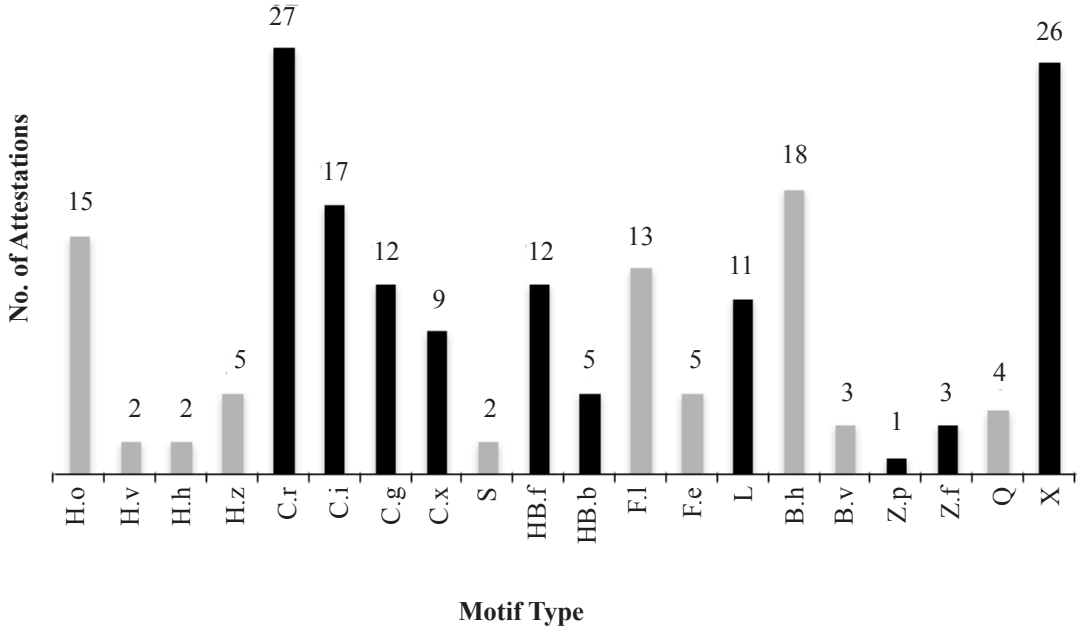


Fig. 96: Total number of attestations for each motif type in Upper Egypt and Lower Nubia.

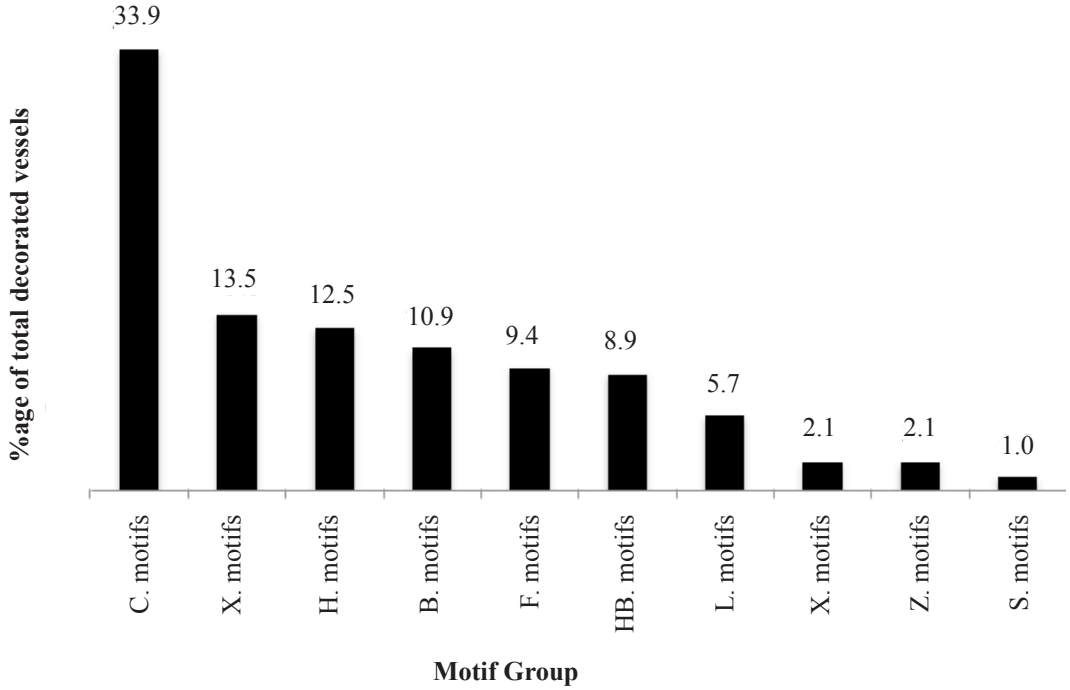


Fig. 97: Frequency of the motif groups expressed as a percentage of the total decorated vessels, from highest to lowerst (L-R).

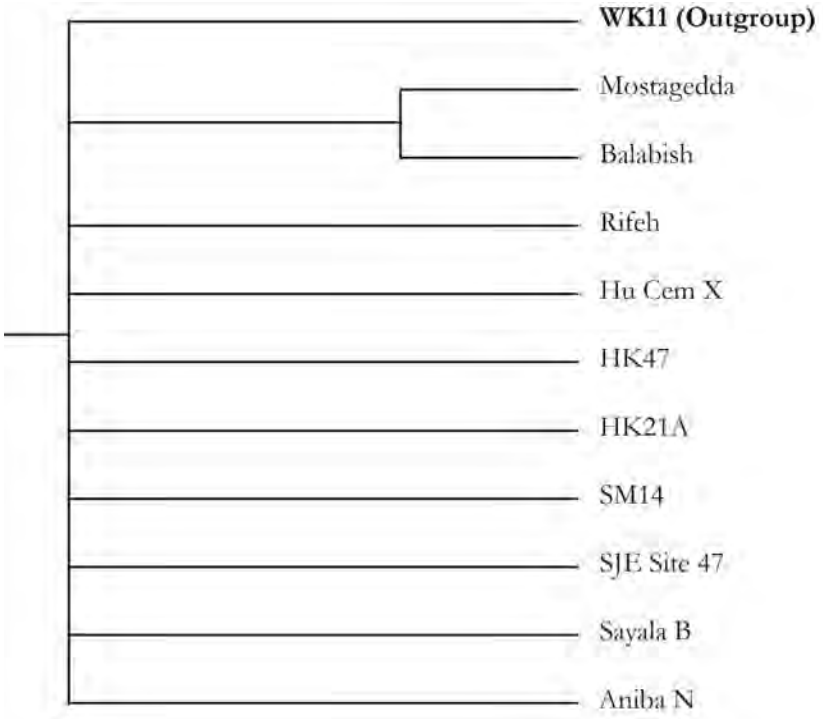


Fig. 98: Strict consensus tree of Pan-Grave decoration.

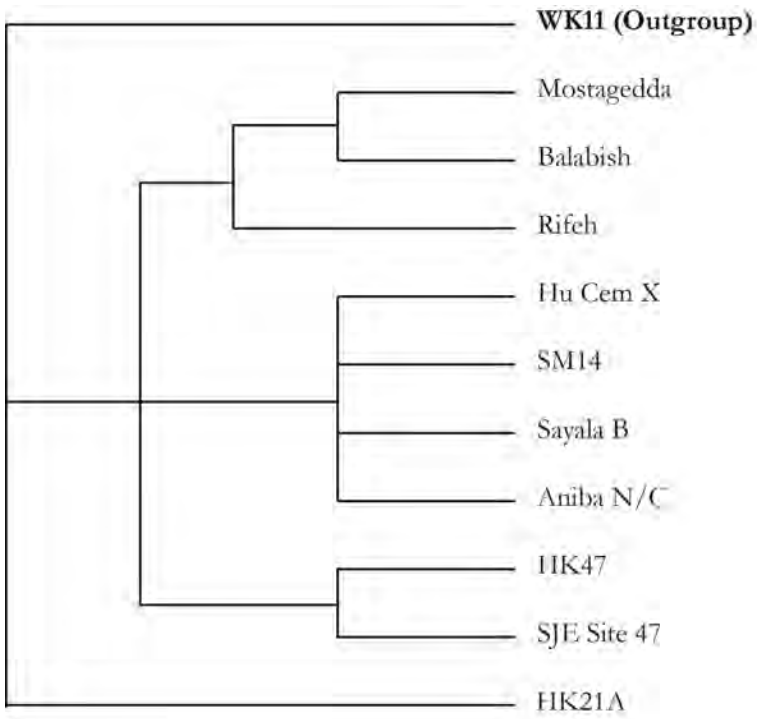


Fig. 99: 50% Majority rule consensus tree of Pan-Grave decoration.

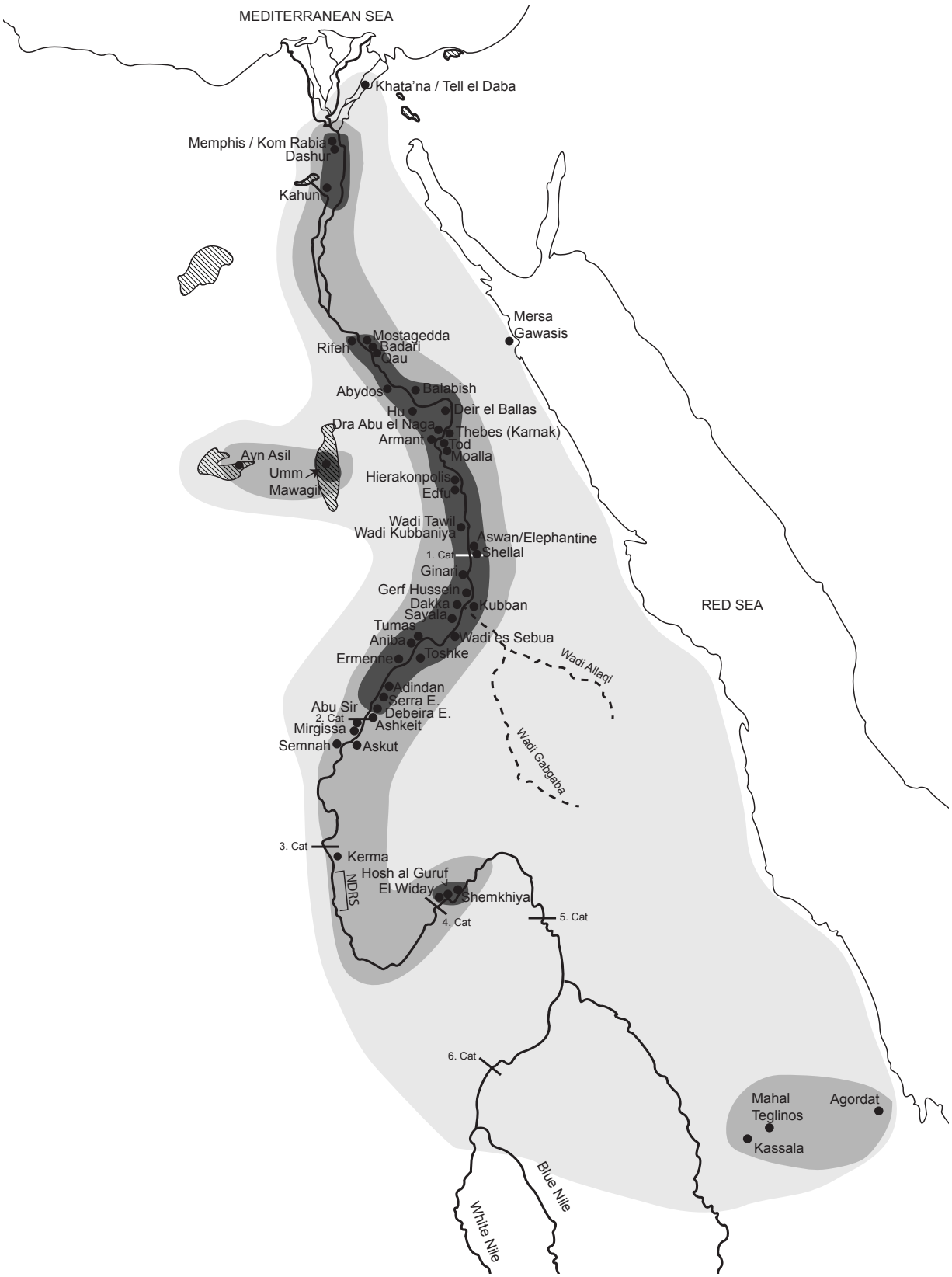


Fig. 100: Map showing the density of attestations for the Pan-Grave ceramic tradition across Egypt, Nubia, and and the surrounding deserts. Darker shades indicate more abundant evidence.

COLOUR PLATES

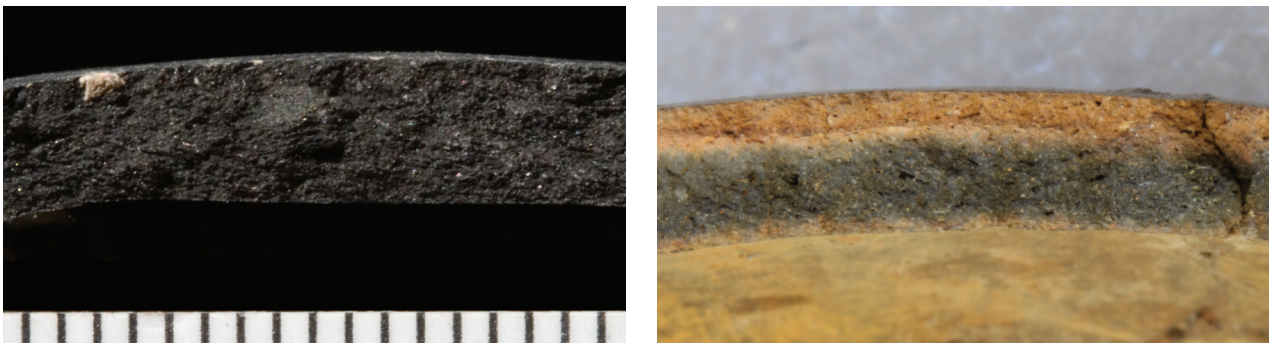


Plate A: Fabric PG.1: (L) HK47 Pot 17 (Photo: Jim Rossiter. Courtesy The Hierakonpolis Project); (R) SJE 47/143:1a (Photo: A. de Souza. Courtesy Museum Gustavianum, Uppsala University).

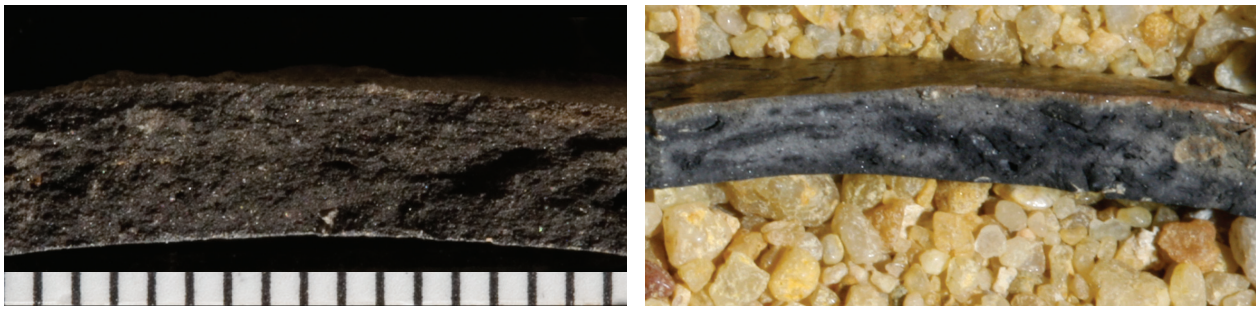


Plate B: Fabric PG.2: (L) HK21A Sample 6; (R) HK21A Sample 9. (Photos: Jim Rossiter. Courtesy The Hierakonpolis Expedition).

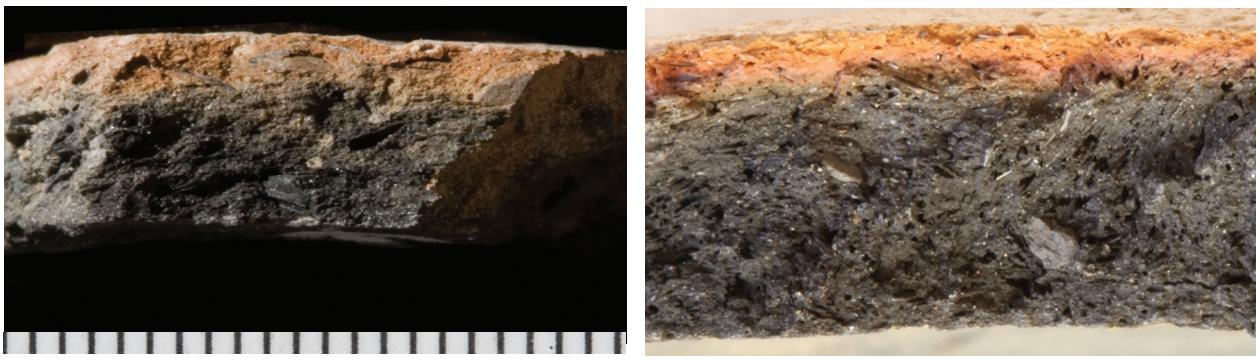


Plate C: Fabric PG.3: (L) HK47 pot 27 (Photo: Jim Rossiter. Courtesy The Hierakonpolis Project); (R) SJE 47/135:2a (Photo: A de Souza. Courtesy Museum Gustavianum, Uppsala University).

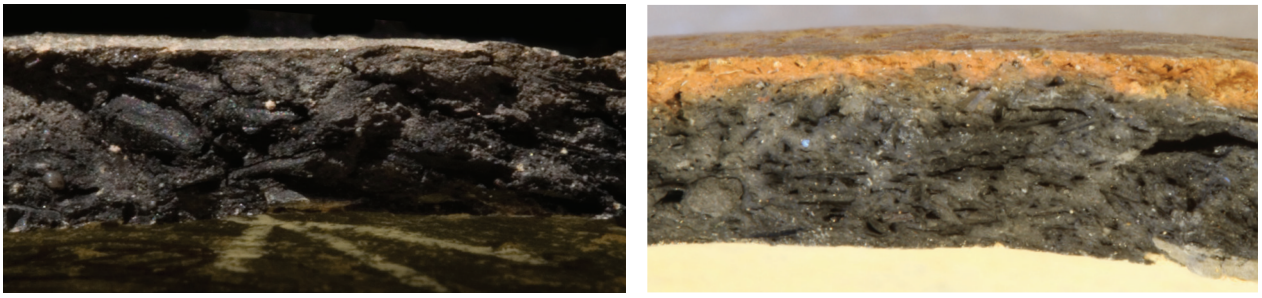


Plate D: Fabric PG.4: (L) HK21A.22. (Photo: Jim Rossiter. Courtesy The Hierakonpolis Project); (R) SJE 47/0:16. (Photo: A. de Souza. Courtesy Museum Gustavianum, Uppsala University).

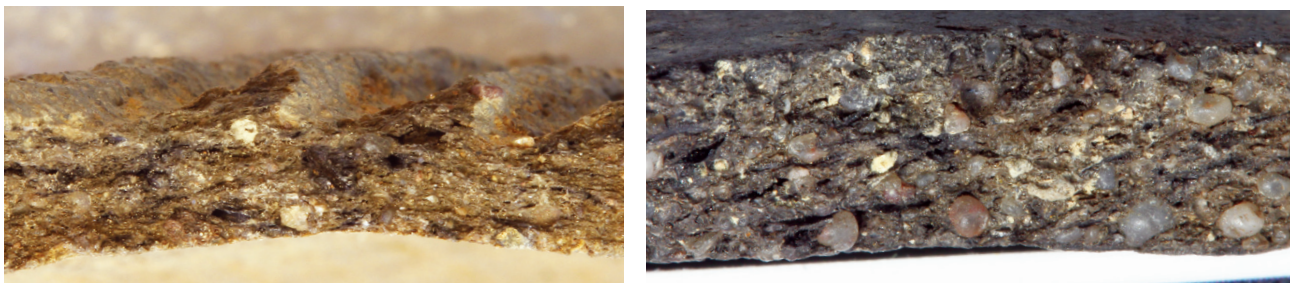


Plate E: Fabric PG.5: (L) SJE 47/0:16. (Photo: A. de Souza. Courtesy Museum Gustavianum, Uppsala University); (R) Al-Widay I. (Photo: A. de Souza. Courtesy OINE).

(i) (ii)

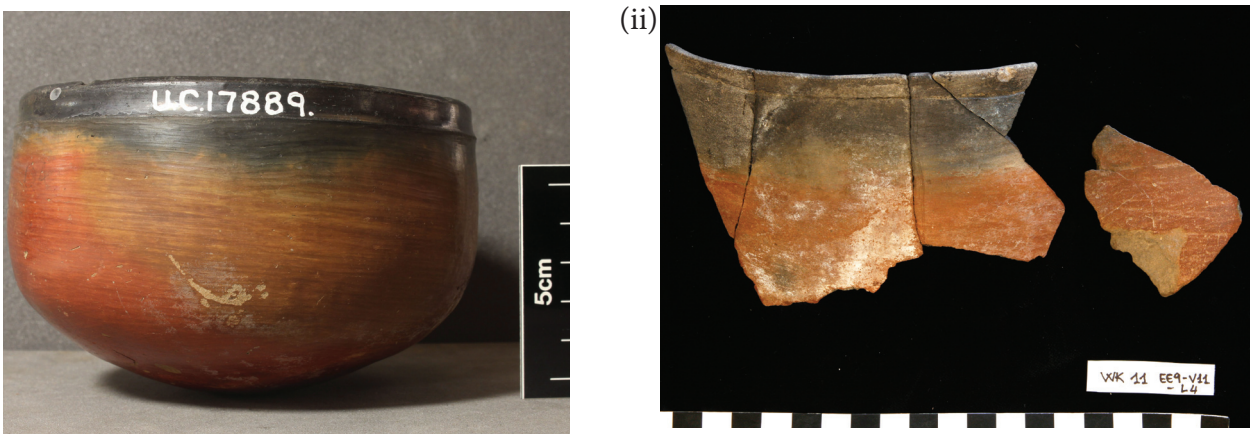


Plate F: BT.r ware with irregular black top.
(i) Qau 1989, note PG-fine burnish (Pet Mus. UC17889); (ii) WK11 surface finds (Photo Courtesy AKAP / Maria Gatto).

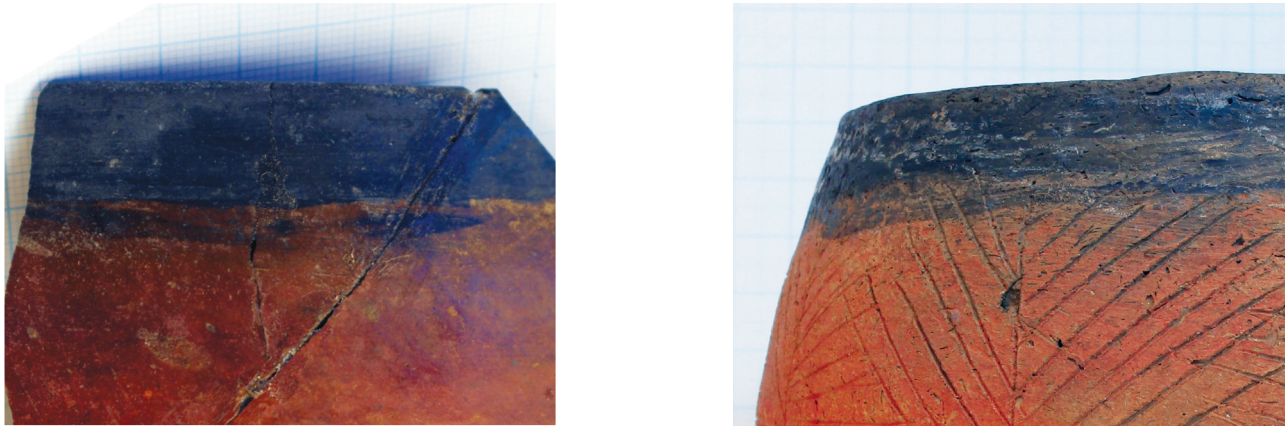


Plate G: Details of BT.r vessels with traces of black brushmarks below rim zone (L: SJE 47/77:6; R: SJE 47/B. Photos: A. de Souza, Courtesy Museum Gustavianum).



Plate H: Mostagedda 3143 (BM EA63027 (Photo: A. de Souza. Courtesy Trustees of the British Museum).



Plate I: Rifeh. UC 17927, Courtesy of the Petrie Museum of Egyptian Archaeology, UCL



Plate J: SJE 47/106:1
Photo: A. de Souza, Courtesy Museum Gustavianum, Uppsala University.

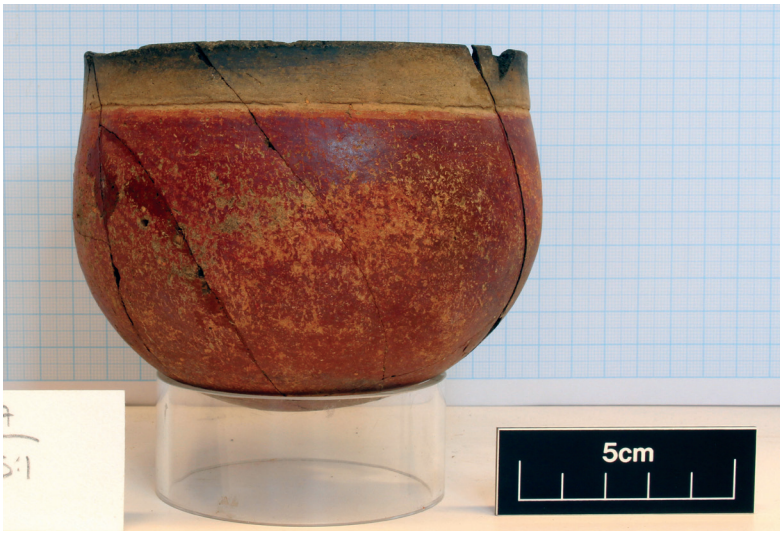


Plate K: SJE 47/145:1
Photo: A. de Souza, Courtesy Museum Gustavianum, Uppsala University.

(i)



(ii)



Plate L: Black wares: (i) B.u Black uncoated ware (Debeira East SJE 47/79:2. Photo: A. de Souza, Courtesy Museum Gustavianum, Uppsala University); (ii) B.b Black burnished ware (Pet. Mus. UC17922. Photo: A. de Souza)

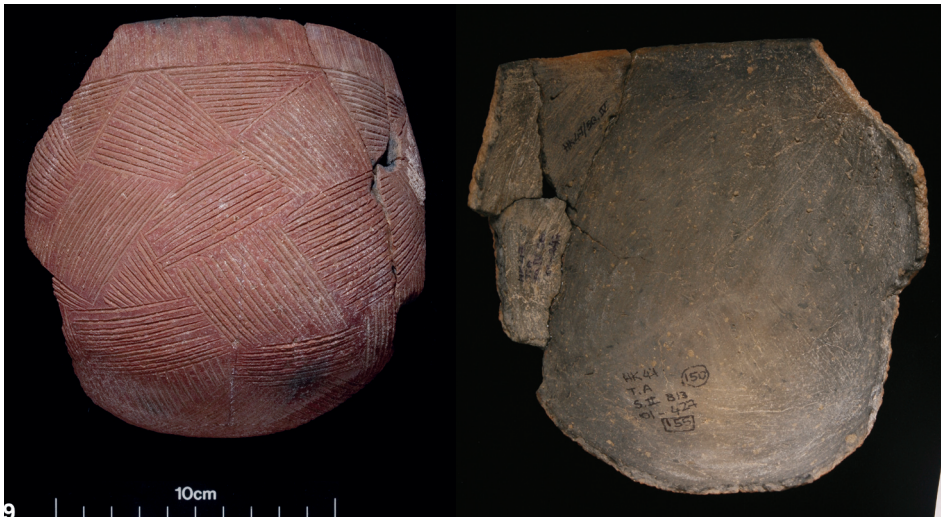


Plate M: RB Red-and-Black ware. (i) HK47 Pot 29, ext (L) and int (R). Photo: Jim Rossiter, Courtesy the Hierakonpolis Expedition.

(i) 

(ii) 

Plate N: Red ware
(i) R.u Red uncoated ware (Mostagedda 3248, EA63044); (ii) R.b Red burnished ware (Mostagedda 3248, EA 63045) Photos A. de Souza, Courtesy Trustees of the British Museum.

(i) 

(ii) 

Plate O: Spiral decorated vessels "said to come from Abydos". (i) Boston MFA 03.1616 ; (ii) Boston MFA 03.1615. Photographs © 2019 Museum of Fine Arts, Boston.



Plate P: Pan-Grave imitation of Egyptian carinated bowl, Hu. Y344. Pet. Mus. UC19021 Courtesy of the Petrie Museum of Egytian Archaeology, UCL

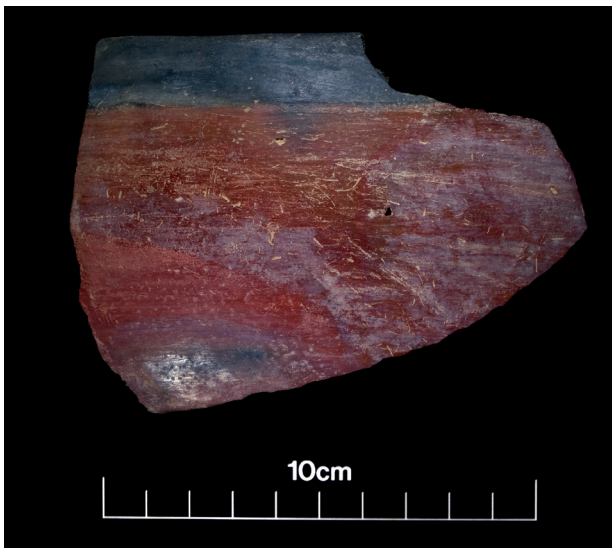


Plate Q: Pan-Grave sherd from HK21A Burial B with applied black-top. (Photo: J. Rossiter, Courtesy the Hierakonpolis Expedition.)

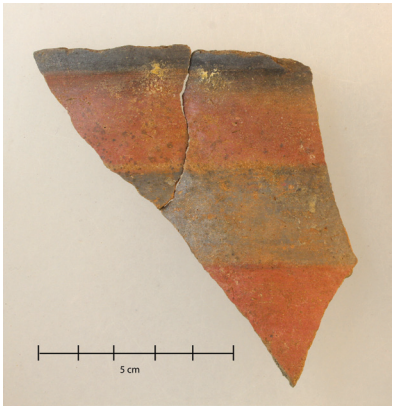
(i)



(ii)



(iii)



(iv)



Plate R: Pottery from Al-Widay I attributed to the Pan-Grave tradition
(i) Bowl from Tomb 76 with applied black-top; (ii) bowl with black-painted panel from Tomb 67; (iii) bowl with black painted stripe from Tomb 73; (iv) Bowl from Tomb 55.
(Photos: i, ii & iv: Courtesy OINE; iii: A. de Souza.)

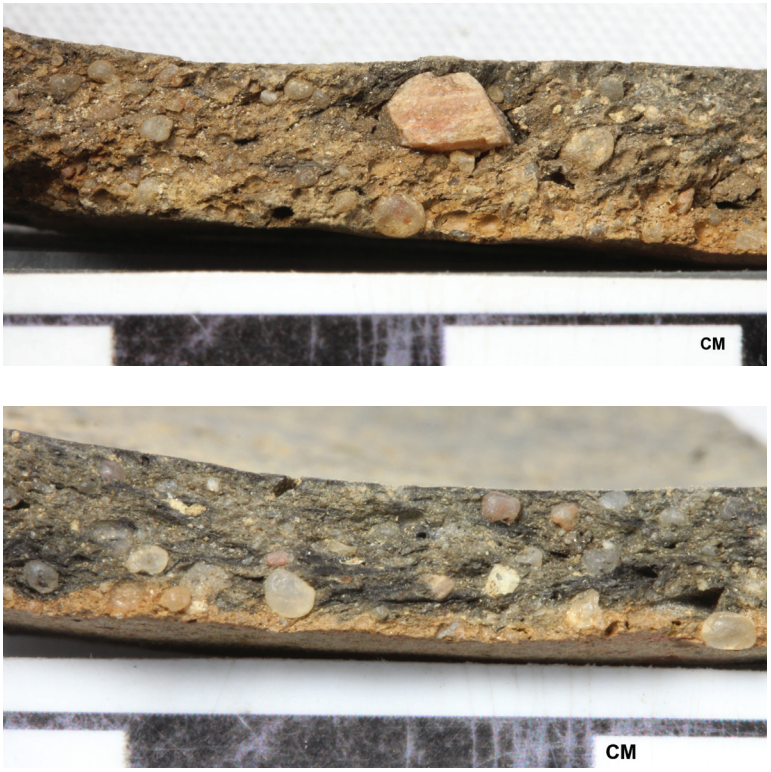


Plate S: Fabric samples from al-Widay I showing abundant large rounded and angular sand grains. Photos: A. de Souza.



Plate T: Pan-Grave sherds from Tell Edfu US 2079. Top: ED2079.N1. Bottom: ED2079.N2. (Photos: A. de Souza. Courtesy the Tell Edfu Project, The Oriental Institite, University of Chicago)

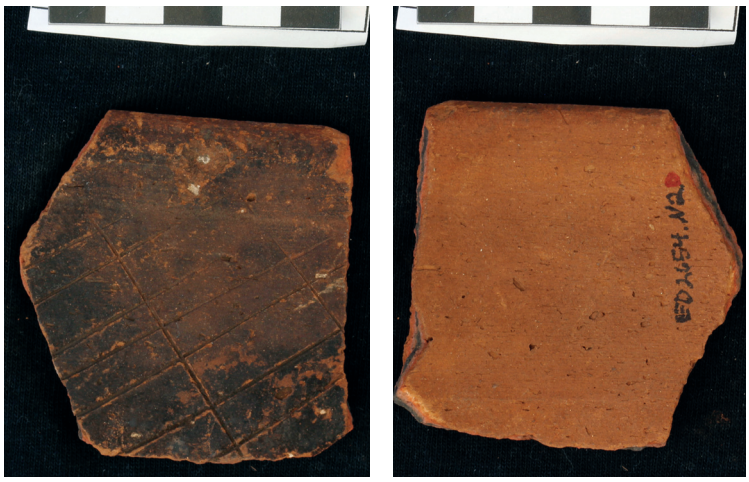


Plate U: Exterior and interior of Pan-Grave sherd from Tell Edfu US2654, comparable with LaMNI ware. Exterior (L) shows signs of secondary burning. (Courtesy the Tell Edfu Project, The Oriental Institite, University of Chicago)

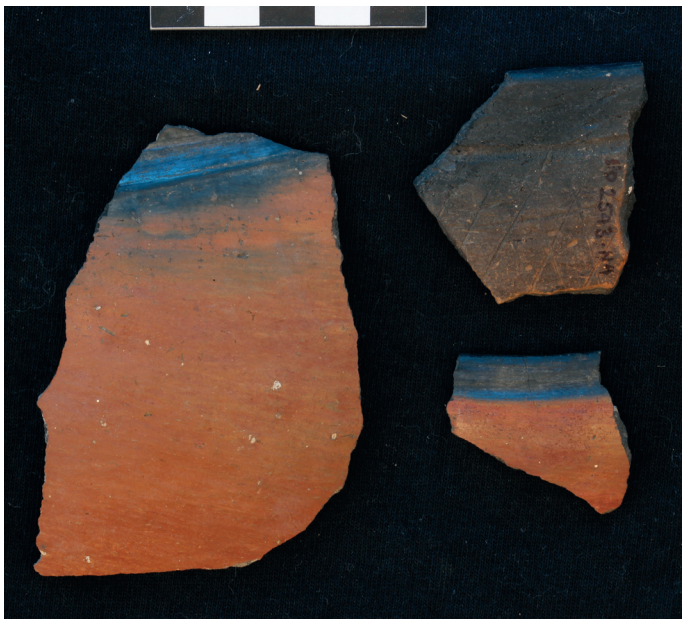


Plate V: Pan-Grave sherds from Tell Edfu US2543. Sherd numbers as indicated. Note the recessed rim and well-defined black-top on sherd N2. Sherd N6 also has a recessed rim. (Courtesy the Tell Edfu Project, The Oriental Institite, University of Chicago)



Plate W: Pan-Grave bowl from Abydos. E.78.1911 © The Fitzwilliam Museum, Cambridge