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Mortuary Practices and Social Relationships at the Naqada III Cemetery of Tarkhan in Egypt

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Abstract

This thesis examines mortuary practices and social relationships at the Naqada III period cemetery at Tarkhan in northern Egypt. The cemetery of Tarkhan is situated in the Fayum region and was excavated between 1911 and 1913 by Flinders Petrie. It is one of the largest mortuary landscapes in northern Egypt with burials spanning from the late Predynastic through to the Graeco-Roman Period. The majority of graves can be assigned to the Naqada IIIA2-IIIB period (ca. 3300-3150 BCE), which is an important period of time prior to the foundation of the state in Egypt. The focus of this study is on 968 graves derived from the Naqada IIIA2-IIIB phases of cemetery use. Despite the importance of Tarkhan as a major cemetery in the Fayum, and in northern Egypt, there are few studies of the site. Most of the previous work has concentrated on issues relating to inequality and state formation.

This study adopts a social practice-driven approach with a focus on community-based social relations thereby providing a different perspective on mortuary use for this important site. Material practices and the organisational structure of the cemetery provide the core information used to theorise the nature of community-based social relations at Tarkhan. This study considers how such relationships were expressed spatially and materially within the mortuary landscape and what the observed patterning of such dimensions may tell us about the once living communities of Tarkhan.

From a solid analysis of the data, this research has revealed that burying the dead was influenced by many factors including kinship, memory, ideology and social relations. One major observation derived from this analysis is that the communities of Tarkhan existed within a more fluid social environment than previously thought. This can be seen in relation to gender practices, the construction of mortuary space and engagements with exchange and social networks. These observations demonstrate that community-based practices were more textured than previous models of pre-state Egyptian society tend to suggest. Adopting a practice-based examination of early 20th cemetery data has revealed significant new information about the nature of community-based social relations that considerations of inequality and status alone have been unable to provide. As the nature of social relations at a site specific level is not yet properly understood, this study contributes new knowledge to the Fayum cemetery of Tarkhan, to the early Naqada III period and to the processes involved in burial practices.

Declaration

This thesis is an original work of my research and contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Date: 23 Decemeber 2020

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Chapter 0: Introduction

0.1 Introduction

The treatment of the dead and the materiality of burial have played a major role in our understanding of the early development of ancient Egyptian culture and society. Due to preservation, it is cemeteries rather than settlements that dominate the landscapes of northern and southern Egypt. Nonetheless, intensive excavations in the Delta region of northern Egypt have revealed both settlement and production activities at several important sites, including those of Buto and Tell el-Farkha (Chłodnicki 2017a; 2017b; Ciałowicz 2017; Hartung 2017). This collective work has made a significant contribution to our knowledge of the social and economic complexities of lived experience for people within these communities.

For the Memphite-Fayum region our understanding of life is still dependent on analysing the ways in which the dead were buried. Consequently, reconstructed knowledge of the social and economic interactions of life within this broad geographic area remains framed by death. This is further complicated by the fact that many Memphite-Fayum cemeteries were excavated during the early 20th century. Areas of the Memphite cemetery of Helwan, and Cemetery M at Abu Rawash, have been subject to recent excavations and re-assessments of material derived from those original investigations (Köhler 2008a; 2015; Tristant 2016; 2017). The gap in knowledge is therefore more profound for early Fayum cemeteries as limited modern excavation work has been conducted in this region.

The Fayum cemetery of Tarkhan was excavated by Flinders Petrie. It is one of the largest recorded mortuary landscapes in northern Egypt with over 2400 graves dating from the Naqada IIIA2 period through to the Graeco-Roman Period (Petrie et al. 1913; Petrie 1914a; Petrie and Mackay 1915). The majority of these graves can be assigned to the Naqada IIIA2-IIIB periods (ca. 3300-3150 BCE), which is a critical period of time in the social development of early Egyptian communities prior to the foundation of the state (ca. 3150 BCE) (Trigger 2003; Köhler 2010; Hendrickx 2011a; Stevenson 2016; Bard 2017). Despite the importance of Tarkhan as a major cemetery in the Fayum, and in northern Egypt, there are only a limited number of studies on the site (Ellis 1992; 1996; Wilkinson 1996; Grajetzki 2004a; 2008a; 2008b; Janßen 2015). Major research has concentrated on issues relating to socio-economic inequality and social structure, and on situating Tarkhan within broader theoretical discussions of regional polity and state formation processes.

While this research has contributed knowledge to the cemetery, it was clear that only limited insights could be obtained through continuing to study Tarkhan from such perspectives. The diversity of mortuary practices as recorded by the original excavators called for a more holistic framework from which to analyse the complexities of this significant material. Therefore, this research presents a practice-driven analysis of the Naqada IIIA2-IIIB dataset with a focus on community-based social relations. A solid examination centred on social practice can illuminate aspects of community that social structure and status alone has been unable to do.

0.2 The cemetery of Tarkhan

Tarkhan is situated on the west bank of the Nile in the northern Fayum region, approximately 59 kilometres south of Cairo. It is one of the most significant Naqada III period cemeteries in northern Egypt, second only in size to the great Memphite burial ground of Helwan (**Map 1**). The cemetery was excavated by Flinders Petrie and a small team over two short Egyptian winter seasons between 1911 and 1913. It is a widely dispersed site, with a series of small hills running from north to south for almost 1.5 kilometres. The hills are intersected by a shallow wadi that cuts through the middle of the site. These topographic areas are commonly referred to as the valley cemetery and the hill cemeteries (Petrie et al. 1913; Petrie 1914a; Ellis 1992; 1996) (**Maps 2** and **3**). The valley cemetery contained nearly 1100 graves while it is estimated that just over 1300 graves were excavated throughout the hills.

Five significant First Dynasty mastabas (Naqada IIIC2) were situated on a plateau area to the south of the site, while seven bipartite superstructures known as the small mastabas were uncovered in the western and central areas of the valley cemetery (Petrie et al. 1913; Petrie 1914a). These small mastabas are unique to Tarkhan and were constructed from the late Naqada IIIA2 to the early Naqada IIIC1 periods. The valley cemetery contained many of the earliest burials excavated at the site and these can be attributed to the Naqada IIIA2 period. While major recorded use of the hill cemeteries occurred during the mid-First Dynasty, earlier burials from the Naqada IIIA2-IIIB periods can be identified in hills situated to the north and south of the valley cemetery. A range of small and large-scale graves were excavated throughout both areas of the cemetery, although the majority of graves are < 3 m^3 in volume. A variety of grave goods, including pottery, stone vessels, palettes, beads and valuable objects of copper and ivory, were interred in many of these burials. Depositional

practices varied considerably thereby emphasising that each burial was the product of complex interpersonal relationships between people.

The cemetery of Tarkhan was the outcome of activities undertaken by many people over a long period of time. Therefore, the spatial and material dimensions of these activities are best understood within the context of relationships between people (Brück 2004; Stevenson 2006; 2009a; 2009b; 2013; Sayer 2013; Schülke 2016). Social relationships shaped early Egyptian communities such as Tarkhan, and in a mortuary context, grave goods and other paraphernalia communicated the character of those connections between the living and the dead (Brück 2004; Stevenson 2006; 2009b).

0.3   Scope of this study

This study examines the communities of Tarkhan during the Naqada IIIA2-IIIB periods. The diverse nature of localised social relations forms the core of this investigation. It is argued that the recursive interactions of landscape, material practices and social relationships shaped the ways in which people were buried at the cemetery (Li 2010, 58). Material practices and the organisational structure of the cemetery provide the core information used to theorise the nature of community-based social relations at Tarkhan. This study considers how such relationships were expressed spatially and materially within the mortuary landscape and what the observed patterning of such dimensions may tell us about the once living communities of Tarkhan. Emphasis is, however, given to considering the materiality of social relationships. More broadly, this research also considers how such information may fit or contradict our current understanding of the social, economic and political construction of communities during the Naqada IIIA2-IIIB periods. There is a distinct gap in our understanding of social relations at a site-specific level (Stevenson 2009b). There is also a gap in knowledge about the Fayum region during the Naqada III period; and of the Naqada IIIA2-IIIB periods more generally. This study fills those gaps.

Localised social relations are considered to be those interpersonal connections between people based on kinship and on community membership. Kinship and community membership are difficult to demonstrate archeologically, although it is assumed that these interpersonal relationships played a significant role in lived experience for most people (Campagno 2000; 2009). The grave, or what remains of it, represents the only extant evidence of the potential relationships once held in life, therefore, social inference is used to contemplate and theorise the nature of those relationships (Brück 2004; Sayer 2013).

The organisational structure of cemeteries is one area where social relations are considered to have been given spatial and visual expression in the landscape (Rowland 2003; Stevenson 2009b). Clustering of graves can be observed at many Predynastic Egyptian cemeteries; and such practices could have been used to make statements about kinship or other significant ancestral or commemorative relationships between people (Anderson 1992; Savage 1995; 1997; Rowland 2003; Stevenson 2009b). The fact that someone was buried in the Tarkhan cemetery may suggest a right of use by virtue of community membership. Whether community consensus or approval was required prior to burial will remain an unknown factor of practice; but there is little in the recorded data to suggest that the organisation of the cemetery was governed by any obvious social restrictions. Non-community members may have also been buried at the cemetery as a result of unexpected death or other interpersonal associations, although it is impossible to identify people or burials on this basis.

Grave goods provide core information about the nature of relationships between the living and the dead. Some objects would have had complicated life-histories, which reflected ownership and use by different people over time; while other objects were manufactured specifically for mortuary use. The number and variety of grave goods deposited in each burial was probably dependent upon what the living were prepared to gift to the dead. Therefore, there is the potential to draw misleading conclusions relating to the wealth and status of an individual based on the presence or absence of grave goods (Stevenson 2009b). Other factors such as gender or age, ideological or ritual practices, and even the fashion of consumptive behaviour could have influenced the content and presentation of some burials. Given the ambiguity of the archaeological record, this analysis has taken as a premise that mortuary behaviours are better viewed and studied in terms of social practice rather than direct social record (Chapman 2003, 11; Stevenson 2009b, 180).

0.4 Social relationships and communities of practice

Social relationships permeate all levels of life from the daily home-based activities of families; to the ever-changing interactions between various kinship groups at the community level; and to the more complex negotiations between those who belong to Tarkhan and those outsiders who do not. These individuals were also separated by the various multi-layered relationships experienced during their respective life-times (McHugh 1999). These layers could be determined by gender, age or identity; by positions within the kinship group; or by enhanced status or social standing in the community (Goodenough 1965). Ideological,

magical or ritual roles could have also served to define and structure the network of interactions between people. Such relationships may have created restrictions that limited the social or economic potential of individuals, or conversely, created an environment where social and economic potential was relatively unlimited. These interwoven connections were never static but adapted to the ever-changing circumstances and needs of the individual, the kinship group and the community.

Social, economic and political interactions with communities throughout both northern and southern Egypt would have formed an important part of the wider network of relationships for the people of Tarkhan. Such interactions can be inferred from the objects deposited in the graves, which suggest both direct and indirect connections with distant places and people (Helms 1986).

The term community is used throughout this study to refer to the people of Tarkhan. Here I draw upon the interactive model of Yaeger and Canuto (2000, 5), where community is defined as "a dynamic socially constituted institution that is contingent upon human agency for its creation and continued existence." As it is unclear when the Naqada IIIA2 period finished and the Naqada IIIB period started there is the potential for both continuity and blurring across community lines. Furthermore, it is recognised that ideas of 'community' cannot be directly conflated with an 'archaeological group' regardless of any commonality in practice.

The social narratives of death, which I consider to be products of diverse scales of relationships and interactions, are complex and often contradictory and do not fit neatly into the vast array of theoretical models available to archaeologists. No single paradigm can account for the individual nature of death and the ways in which people and communities reacted to this inevitable process. Such problems attest to the importance of examining the evidence within a theoretical framework that acknowledges the diverse nature of this material.

As an interpretative strategy, this study engages with concepts of agency within a framework of social practice (Bourdieu 1977; Dobres and Robb 2000, 3-17). Agency "refers to the actions of individual social actors embedded within a broader cultural and ecological setting" (Joyce 2000, 71). I would add social groups to this definition as this acknowledges the role of communities in the conception and performance of actions. Wenger's (1998) concept of 'communities of practice' is also useful to this study as it focuses on strategies of mutual

engagement at both a local and global level. Wenger (1998, 73) suggests that practice "does not exist in the abstract. It exists because people are engaged in actions whose meanings they negotiate with one another…Practice resides in a community of people and the relations of mutual engagement by which they can do whatever they do". Furthermore, there is an "emphasis on the social systems of shared resources by which groups organize and coordinate their activities, mutual relationships, and interpretations of the world" (Wenger 1998, 13). I therefore draw upon notions of both the individual and the community as agents of practice as a background to my thoughts on Tarkhan.

My approach to the study of Tarkhan is also set by the understanding that mortuary practices are interpreted by individuals and communities who are acting within a specific context of local meanings (Keswani 2004, 160). These meanings reflect traditions of knowledge, social experience, and vast networks of interactions and relationships.

0.5 Thesis construction

In order to assess the diverse nature of social relationships at this important cemetery, I adopt a thematic methodology. The study focuses on four key problematic areas of the data, which are linked to: i) landscape construction, ii) sex-related practices, iii) age-related practices, and iv) elite-style practices and social interactions. These chapters build upon each other but they are also intended to stand alone as individual investigations of particular problems within the Tarkhan dataset. As each grave is unique in style and presentation, this study is not designed to catalogue the infinite aspects of practice as recorded in all of the Naqada IIIA2-IIIB graves.

While adopting an agency-based approach, each chapter draws upon slightly different interpretative frames of reference in order to present new ways of thinking about the cemetery. Engagement with Geertz's (1973) thick description also allows me to draw out small facts from the data and this is designed to add meaning and context to the four key areas identified above. Placing each of these problems within an appropriate local context will also provide fresh perspectives on old data. Emphasis is placed on comparative analysis with practices recorded at northern rather than southern Egyptian cemeteries.

Part I of this study introduces the cemetery, outlines previous thought on Tarkhan and discusses issues of chronology and regionality. In **Chapter One** I focus on significant issues associated with the excavation and recording of the cemetery by Flinders Petrie. Many of these constraining factors have not been identified in modern literature, nor were they acknowledged as such by Petrie. I consider it vital to discuss these issues in some detail in order move this study forward. This work will provide future researchers with more accurate information regarding the original excavation methods adopted by Petrie at the cemetery. **Chapter Two** situates this study within current thought on Tarkhan and highlights how my research fills the current knowledge gap on the cemetery.

As Tarkhan is the type-site for the Naqada IIIA2-IIIB periods, **Chapter Three** considers issues of chronology and the relative dating of recorded graves. This chapter provides the chronological framework needed to engage in a social analysis of mortuary practices at the cemetery. **Chapter Four** situates Tarkhan within both a northern Egyptian and Fayum setting and provides a more comprehensive account of formative interactions from a regional perspective.

Part II of this study examines spatial and material practices throughout the cemetery that may derive from localised social relations. Chapters in **Part II** are designed to provide a solid analysis of the Naqada IIIA2-IIIB dataset. **Chapter Five** provides a brief overview of practice in order to situate the discussions of **Chapters Six** to **Nine** in context. In **Chapter Six** I explore the social construction of spatial practice in the valley cemetery. This chapter examines the role of memory, kinship and group-related agency in defining significant spatial relationships throughout this area of the mortuary landscape. The data would suggest that aspects of spatial practice from the late Naqada IIIA2-early Naqada IIIB period may have been driven by ideological considerations.

Issues relating to sex- and age-related social relationships as reflected in burial practices are analysed in **Chapters Seven** and **Eight**. **Chapter Seven** deconstructs the sex-determined dataset in order to demonstrate the complex nature of this material. Differences in gender practice can be identified across key variables including grave size and the number and diversity of artefacts deposited in these burials. The analysis of this material would suggest that social change processes may have impacted males rather than females during the Naqada IIIB period. This interpretation provides a different perspective on questions of gender practice for regional communities during the pre-state period. The problems associated with

subadult burials are then examined in **Chapter Eight.** The analysis of this material highlights the fact that subadults were afforded comparable burials to adults, albeit on a smaller scale. Burying a child also shifts thoughts to the emotive aspect of death, which often has no voice in mortuary analysis. Aspects of elite-style practices at the cemetery are presented in **Chapter Nine.** The hill cemeteries are used as a case study to explore these dimensions of practice. The possible factors motivating enhanced mortuary displays for selected hill burials are theorised. An elite sense of the world and solidarity of practice may have determined how death was presented for certain social groups at the cemetery.

In drawing the various threads of this research together, this study proposes that the communities of Tarkhan existed within a more fluid social environment than previously thought. This assessment is particularly true for the Naqada IIIA2 period. By the Naqada IIIB period, changing social environments created new ways of engaging with the world. These changes influenced the presentation of death for some people. By shifting the focus towards social relationships fresh insights into the dynamics of community and localised practice can be achieved. The social interpretations offered by this study will provide a revitalised glimpse into the experience of life and death at Tarkhan.
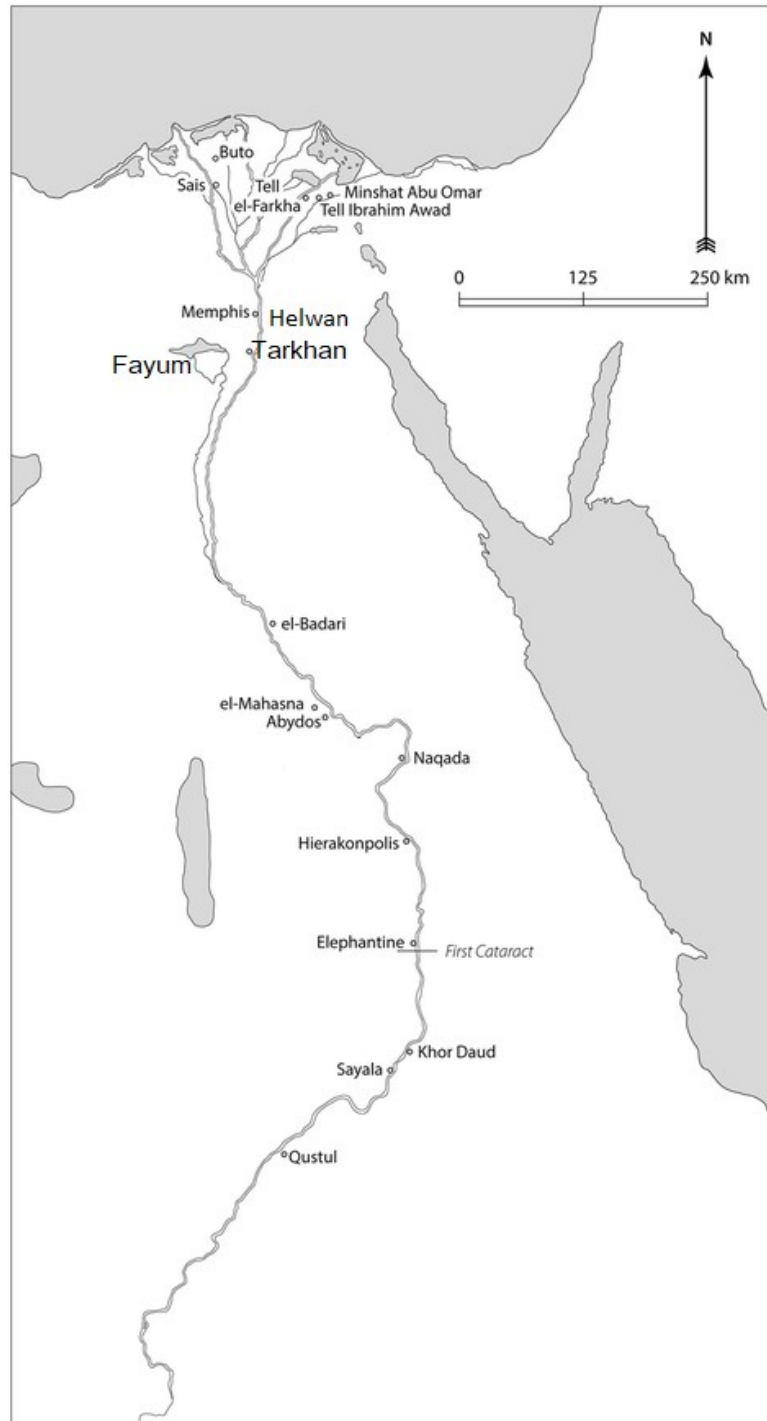
Map 1: General map of Egypt and Nubia (after Bard 2017, Fig.1).
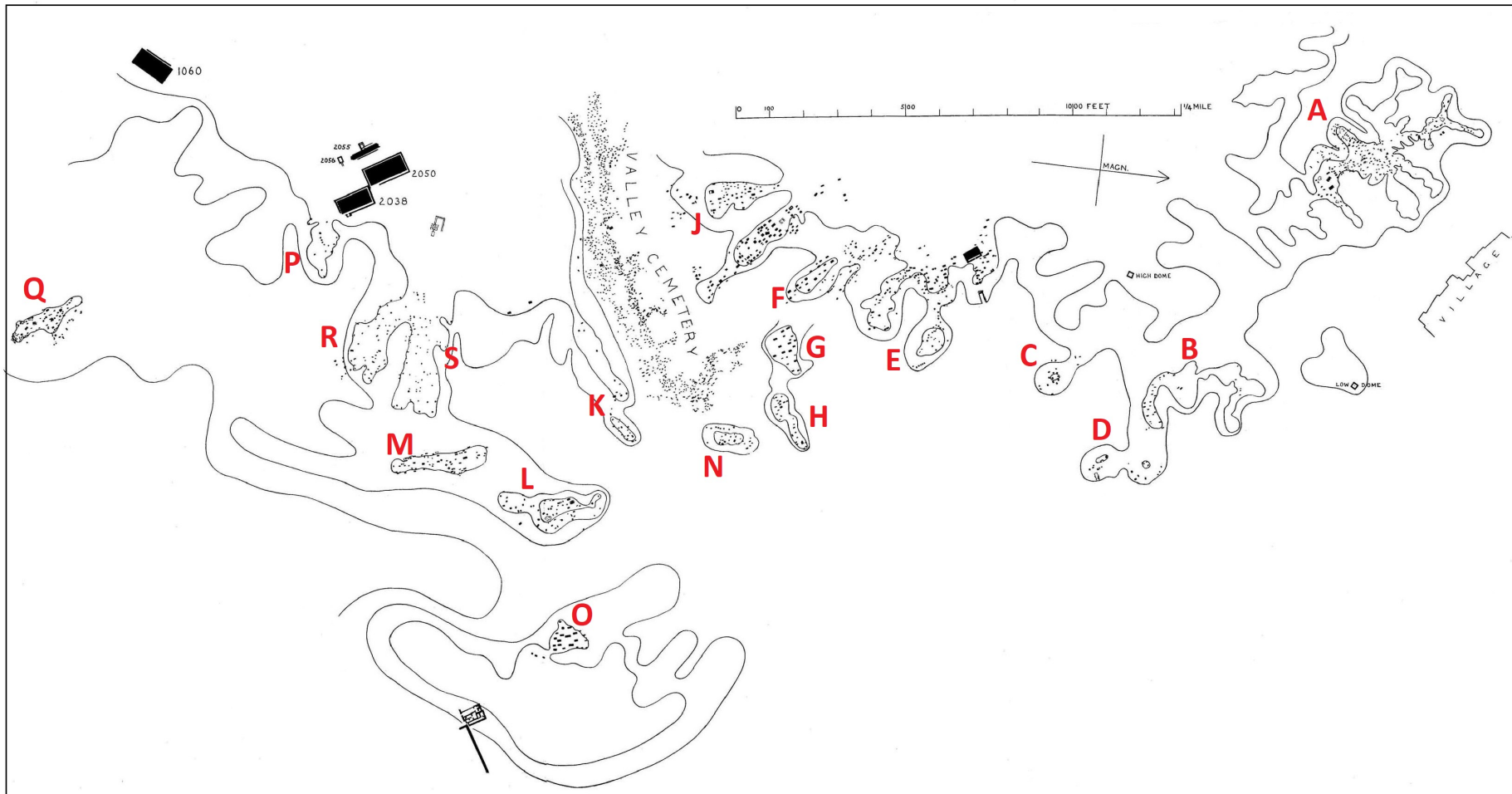
The hills have been annotated with alphabetic designations assigned by Petrie. Hill A represents the northern boundary with Hill Q at the southern boundary. The valley cemetery is a natural wadi that intersects the hills. Original scale 1:2500.

Map 2: Original site map showing the valley cemetery and individual hill cemeteries (after Petrie 1914a, XLVIII).

Valley map drawn by Flinders Petrie. Original scale 1:600. No north symbol on the original map but see Map 2.

Map 3: Original site map of the valley cemetery (Petrie 1914a, XLVI).

Part I

Chapter One: Understanding the cemetery-problems and perspectives

...we have stumbled on what is probably the richest and largest prehistoric cemetery in Egypt, and in our first week have dug out about 100 graves...Owing to a hitch in his arrangements the Professor has all his workmen here, and so twice as many graves are found as we can recover properly; with plenty of time it would be delightful, whereas now we are swamped with the multitude...

Letter of T. E. Lawrence (Drower 1985, 320)

1.1 Introduction

This chapter introduces the cemetery and the data as well as discussing the methods of organising such a vast body of information. While the site is one of the better documented cemeteries along the Nile Valley, much of the published and unpublished material is yet to be explored. There are, however, many problems inherent in the original recording of the cemetery, and these affect our understanding of the mortuary landscape and the ways in which the dead were buried over time. Consequently, such problems constrain the social interpretations offered by this study.

1.2 Cemetery name

While the majority of graves at the cemetery were cut during the Naqada III period, the landscape was used intermittently as a burial ground from the Old Kingdom to the Roman Period (Petrie and Mackay 1915). When the temporal depth of the cemetery was realised, Petrie (Petrie et al. 1913, 1) decided to use the names of a local village and railway station to distinguish between the different periods of use, so Tarkhan (after the village Kafr Tarkhān/Turki) was adopted for the earlier burials and Kafr Ammar (after the railway station of the same name) for the Dynastic to Graeco-Roman Period burials (**Figure 1.1**). Petrie used the shortened version of Tarkhan as the name of the early cemetery in most of his publications, although some scholars have continued to refer to the site as Kafr Tarkhan (Petrie 1912; 1914a; 1914b; 1917; Petrie et al. 1913; Ellis 1992; 1996; 1999; Janßen 2015).

Following the standard adopted by Petrie, the Naqada III period cemetery will be referred to as Tarkhan.[1]
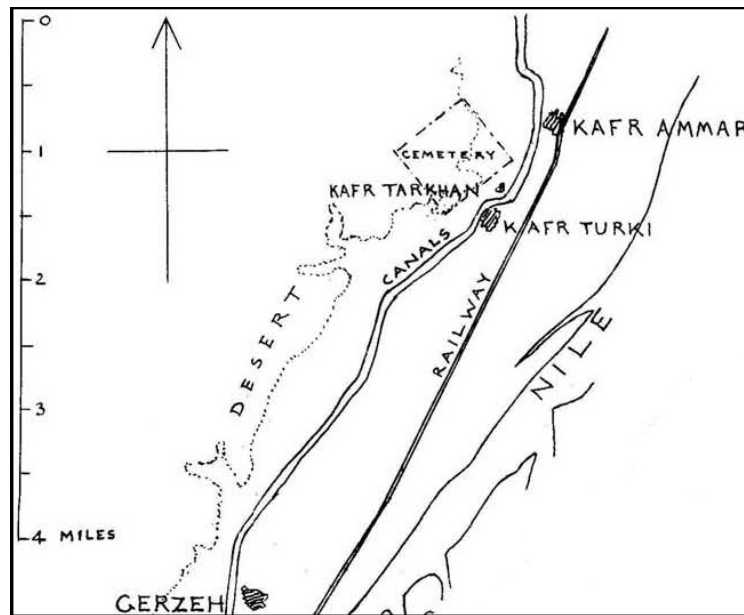
Figure 1.1: Location of the cemetery and local land-marks (Petrie et al. 1913, LXIX).

1.3 Background to Petrie's excavation

Petrie's field agenda for the 1911-1912 winter season of the British School of Archaeology in Egypt (BSAE) included the sites of Shurafa, Atfieh, Heliopolis and Memphis. Due to a mix-up regarding the limits of the excavation permit granted to the School by the Antiquities Service, the planned excavation of the Graeco-Roman site of Atfieh on the east bank of the Nile had to be abandoned to the Egypt Exploration Fund (Petrie MSS 1.30-Petrie Journal 1912, 14-15; Drower 1985, 318). This confusion was perhaps fortuitous as Petrie moved the work of the School slightly north of Atfieh to the extensive west bank cemetery of Tarkhan.

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[1] The site journal for 1912 included a reference to Kafr Tarkhan and indicated that this would be the name of the site but the journal for 1913 continued to refer to the entire cemetery as Kafr Ammar. The Griffith Institute, University of Oxford holds Petrie's journals (MSS 1.30-1912 and MSS 1.31-1913). A further reference to Kafr Tarkhan can be found in the first excavation report, although this section was written by Gerald Wainwright (Petrie et al. 1913, 13). The original location map (**Figure 1.1**) also included a reference to Kafr Tarkhan (Petrie et al. 1913, LXIX). The adoption of the shortened version of Tarkhan may have been for convenience and to avoid any confusion associated with use of 'Kafr' before both names.

By the time Petrie arrived at the cemetery on January 13 1912, Gerald Avery Wainwright had already commenced work on the Dynastic graves located in the hills towards the southern end of the site (Petrie et al. 1913, 1). Joining Petrie for this season were his wife Hilda (as the technical drawer), archaeological assistants Ernest Mackay, Reginald Engelbach and a Mr Elverson. Arriving with Engelbach was a young classics scholar by the name of T. E. Lawrence, later to be known as Lawrence of Arabia, who worked at the cemetery for the first season before moving to Carchemish in Syria (Petrie MSS 1.30-Petrie Journal 1912; Drower 1985, 319-320, 322). The excavation focussed on graves scattered throughout the hills with Gerald Wainwright directing the investigation of the First Dynasty mastaba 1060 on the plateau to the south of the site (**Map 2**). Work continued until February 25 1912, after which Petrie continued on to Heliopolis (Petrie et al. 1913, 1; Petrie and Mackay 1915, 1; Drower 1985, 318-322).

Petrie's second season at the site commenced on December 4 1912, with effort now concentrated on graves in the vast area of the valley (**Map 3**). During this time seven graves with unusual bipartite superstructures were discovered in the western and central areas of the valley. These graves were referred to as the small mastabas (Petrie 1914a, 2-3; Petrie 1914b, 43). Work still continued in the southern hills and on the plateau area where another four First Dynasty mastabas were discovered (2038, 2050, 2055 and 2056) **(Map 2).** Team members during this season included Hilda Petrie, Mr Horace Thompson, Mr G. R. North, Rev. C. T. Campion and Reginald Engelbach.

The School left the site on March 18 1913 having "exhausted" the visible cemetery (Petrie 1914a, 1; Drower 1985, 324-325). "The excavation of the great cemetery of Tarkhan was completed in March 1913. It has proved to be the most important cemetery yet found for the early history, as about 1500 graves were opened and recorded belonging to the critical century of the establishment of the dynastic people" (Petrie 1914b, 43).

The results of the excavations were published in two reports known as *Tarkhan I* (Petrie et al. 1913) and *Tarkhan II* (Petrie 1914a), and these represent the major published sources of information relating to the Naqada III cemetery. A third report entitled *Heliopolis, Kafr Ammar and Shurafa* (Petrie and Mackay 1915) provided an account of selected Dynastic to Roman Period graves, along with a report by W. Midgley on the linen found in the First Dynasty mastabas 1060, 2038 and 2050 (Mawdsley 2020).

1.4 Overview of the data

One of the initial aims of this investigation was to engage with the complete Tarkhan dataset, as recorded by Petrie, in order to provide a more accurate and comprehensive picture of how the cemetery was used over time. In order to achieve this aim it was necessary to extend my investigation beyond the boundaries of the published excavation reports. The primary sources for this study are derived in the first instance from the original excavation tomb cards housed in the Petrie Museum of Egyptian Archaeology, University College London. Supplementary information has been obtained from the published reports, excavation notebooks and journals, maps, museum registers, and from an examination of selected artefacts held in numerous museum collections.

This research has identified 1566 Naqada III period graves from these sources. Of these graves, 1314 or 84% can be dated according to the conventions of the Naqadan Chronology (**Chapter Three**). These 1314 graves are distributed across four relative chronological phases from Naqada IIIA2-Naqada IIIC2 (ca.3300-2920 BCE). This study narrows the temporal focus by examining 968 graves attributed to the Naqada IIIA2-IIIB periods**.** The excavation problems presented below discuss the cemetery in its entirety in order to demonstrate the constraining factors faced by any study of this important site.

1.5 Excavating and recording a cemetery

There are a number of fundamental difficulties attached to working with the Tarkhan data. Many of these problems stemmed from decisions made in the field by Petrie and were related to excavation practices and site planning. These problems impacted heavily on the first excavation season, and as a result, graves throughout the hill cemeteries were selectively recorded and mapped (Petrie et al. 1913, 3, 30; Ellis 1992, 242-243; 1996, 153). A list of hill graves is provided in **Appendix A.**

1.5.1 Deconstructing the hill cemeteries

Petrie identified the presence of graves in 18 knolls or hills running north-south along a narrow strip of low desert for almost 1.5 kilometres. Each of these hills was labelled with a letter from A-S, but omitting the letter I (Petrie et al. 1913, LXIX; **Map 2)**. A map for each individual hill was produced in *Tarkhan I* (Petrie et al. 1913, LXX-LXXVI). Updated maps for Hills M and Q were published in *Tarkhan II* resulting from further work in these areas during the second season of excavation (Petrie 1914a, XLVII). In addition, a plateau area to

the south of the site contained five palace-façade mastabas and these constructions are also identified on the site maps (Petrie et al. 1913, LXIX; Petrie 1914a, XLVIII; **Map 2**).

Photograph taken from near Hill M looking across the valley with Hills F and J in the distance. Hill N is on right and Hill K on the left (Petrie et al. 1913, 20).

Figure 1.2: Photograph of hills (Petrie et al. 1913, I).

Only one landscape photograph was taken during the first season and this depicted a view of Hills N and K (Petrie et al. 1913, I; Pridden 2008a, 245; 2008b, 264; **Figure 1.2; Map 2**). Little information was provided on the geological conditions with the composition of the hills being described as "soft marly limestone, split with joints and very flaky. Over them are caps of a few feet of gravel and sand" (Petrie et al. 1913, 20-21).

With regard to the individual hill cemeteries, it was noted that "each hole that was dug" was marked on the accompanying map so that 1201 pits were excavated during the first season (Petrie et al. 1913, 29-30). Scattered across all of the alphabetic hill maps are solid black marks intended to represent the early graves while the Kafr Ammar graves were identified by diagonally-lined squares (Petrie et al. 1913, 29). From a cursory examination of the maps it is apparent that the majority of marks are not annotated with grave numbers (**Figure 1.3**). It was unfortunate that during the mapping process a gale and three hail storms hit the site. As a result, many of the numbers written on limestone markers attached to each grave were washed away (Petrie MSS 1.30-Petrie Journal 1912, 10). "When we came to do the survey the larger part of the marks proved illegible. Hence not nearly so many graves are numbered here as were registered" (Petrie et al. 1913, 29). It was noted that only 167 graves were numbered (Petrie et al. 1913, 30). This figure represents 14% of the 1201 pits excavated during the first season.

Hill A is one of the better-documented hills with 22 of the 221 graves numbered on the map. All 22 of these numbered graves can be assigned to the Naqada III period (see **Appendix A**).

Figure 1.3: Original map of Hill A (Petrie et al. 1913, LXX).

It is difficult to understand why Petrie and his assistants could not reconcile more of the excavated pits with the maps considering that each excavator was assigned a separate hill or area of the site. It is clear, however, that Engelbach had also worked in Mackay's area and that Petrie worked across all of the hills as required (Petrie et al. 1913, 30). Such crossovers may well have impeded the ability to recall the original positioning of individual graves. Furthermore, the presence of Petrie's entire workforce at the site, as noted by T. E. Lawrence, had increased the rate of excavation thereby preventing the adequate recovery and recording of material (Drower 1985, 320; Nishiyama 1997, 9-11).

The uncovering of such an overwhelming number of graves during those initial weeks of excavation must have determined the selective recording strategy implemented by Petrie. Due to such pressure, only 656 tomb cards were written for the 1201 pits cleared (55%) (Petrie et al. 1913, 30). This would mean that 545 graves (45%) were excavated but not recorded and the significance of this loss cannot be over-stated. Furthermore, of the 656 recorded graves only 304 were "dateable to the early period" (Petrie et al. 1913, 30). This figure reflects an edited version of the actual number of Naqada III period graves excavated and subsequently recorded during the first season. An examination of all 656 tomb cards would indicate that there were in fact 390 Naqada III period graves recorded. The remaining 266 cards should relate to the Kafr Ammar graves, although this material requires more detailed examination (Petrie and Mackay 1915; Grajetzki 2008a; Tian 2020; **Appendix A**).

The decision to include or omit graves was articulated thus:

"Those graves which only contained a single type of pottery and no other objects, or only types which had a very wide range, were of no value as evidence, and would merely impede further researches. These useless records were less than a sixth of the whole, and have not been tabulated" (Petrie et al. 1913, 3).

The research implication of such a selection strategy was recognised by team member Gerald Wainwright in annotations to his personal copy of *Tarkhan 1* where he noted, "! why out of hundreds, therefore only dealing with those with enough pottery to yield a date".[2]

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[2] I would like to thank Alice Stevenson for this reference. Wainwright's personal copy of *Tarkhan I* is held in the collection of the Pitt Rivers Museum, University of Oxford.

While these problems are significant another serious mapping flaw was discovered. Contrary to the information provided by Petrie (Petrie et al. 1913, 29), it is now apparent that not all of the solid black marks on the hill maps represented early graves (**Figure 1.3**). An examination of the tomb card for every numbered grave revealed that 16 were in fact Dynastic or Roman Period burials. These graves were represented as solid black marks and can be found on Hills C, E, F and O. This problem was also observed on the updated maps of Hill M and Q drawn during the second season, where another eight Kafr Ammar burials were marked as early graves. These graves are listed in **Appendix A** under the hills in question. Unfortunately, these examples create some doubt regarding the actual number of Naqada III graves marked on the hill maps.

As Petrie and his team continued to work in the hills and upon the plateau during this second season, at least another 72 human graves were excavated. While all of these 72 graves have associated tomb cards, only 43 were assigned a specific hill location and many remain poorly recorded. Another 14 hill graves have been identified from the excavation reports and other unpublished sources. In summary, a total 476 Naqada III period hill graves have been identified from this research.

1.5.2 Deconstructing the valley cemetery

The valley cemetery runs east-west along a small wadi that intersects the northern and southern hills (**Maps 2-3**). The eastern end of the wadi extended towards the Nile valley and was bounded by areas of modern cultivation (**Figures 1.4-1.5**). The western end divided into two "lesser" valleys that extended beyond the limits of the excavated graves (Petrie 1914a, 1-2, XLVI; **Figure 1.4**). The southern side of the valley was framed by a steep bank of rock, "the wearing side of a former stream", which was approximately 10 feet high towards its eastern end (Petrie 1914a, 2). The valley was also covered with thick sand up to "4 or 5 feet on the southern side, completely hiding the graves" with "the drainage of occasional rains soaking down to the valley floor" (Petrie 1914a, 2).
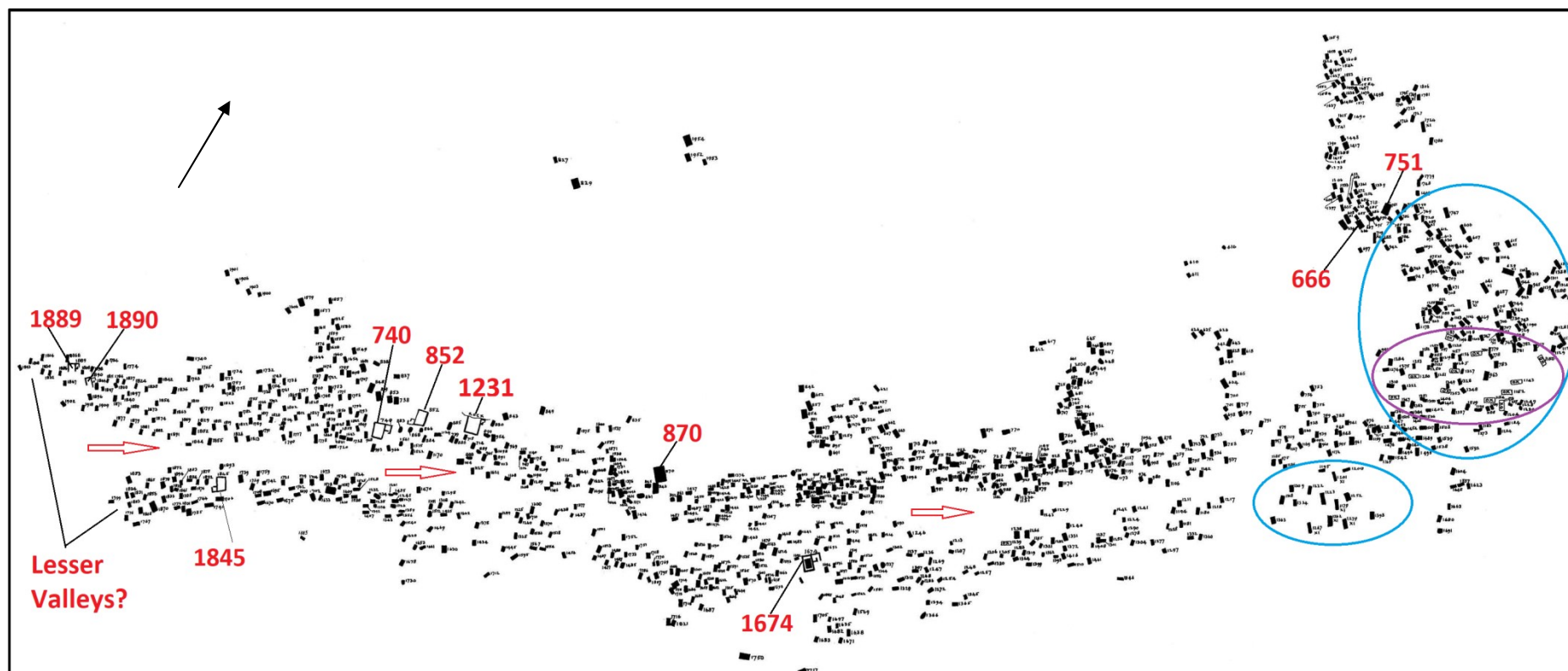
The seven small mastabas include 852 and 1845 (Naqada IIIA2); 740, 1889 and 1890 (Naqada IIIB); 1231 (Naqada IIIB-IIIC1); and 1674 (Naqada IIIC1). Large graves 666 and 751 (Naqada IIIA2) in east and 870 (Naqada IIIA2) in centre. Pathway indicated by red arrows. Possible lesser valleys in west indicated. Principle area of bovine burials circled in purple. Areas of Eleventh Dynasty graves circled in blue.

Figure 1.4: Valley map depicting the small mastabas and other features (after Petrie 1914a, XLVI).

A: Looking east towards the Nile with areas of cultivation in the background.

B: Looking west from an unknown point in the valley.[3]

Figure 1.5: Photographs of the valley cemetery (Petrie 1914a, XI).

Graves were dispersed over an excavated area of nearly 300 metres from east to west (Petrie 1914a, 22-23, XLVI) (**Figure 1.4**). During the excavation a pathway running through the western and central areas of the wadi was identified. "It is obvious that there had been a pathway up the valley, which was generally kept clear of burials; in a few points, encroachments were made upon it" (Petrie 1914a, 2; **Figure 1.4**). This so-called pathway may have been a natural feature such as a gully or a change of gradient within the wadi. It would appear that this feature was used by the early community to demarcate space between the northern and southern placed graves. Therefore, it is perhaps best viewed as constructed space. It is possible that such decisions were based initially upon observations relating to natural challenges such as flash flooding or other geological conditions. For consistency, the term pathway will be used throughout this study, although I acknowledge the problematic attachment of function implied by its use.

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[3] These two photographs are not amongst the archive negatives held in the Petrie Museum of Egyptian Archaeology (see Pridden 2008a; 2008a). The hill photograph (**Figure 1.2**) is negative PMAN 3574 (Pridden 2008a, 245).

Unfortunately, severe problems with groundwater at the eastern end of the valley prevented the excavation from extending past this water-logged boundary. After examining the environmental conditions, it was estimated that rising water had deposited at least 30 feet of Nile mud over a substantial area in front of the wadi. On this basis, Petrie (1914a, 22-23) was of the opinion that the "area of this cemetery would then be two or three times the extent of the part which now remains high enough to be accessible". The discovery of a grave with pottery at least 500 feet east of the limits of the excavation appeared to confirm the assumption (Petrie MSS 1.31-Petrie Journal, 1913). Unfortunately, most of the area is now absorbed by modern cultivation or other activities so Petrie's assessment of the extent of the valley cemetery cannot be confirmed.

In contrast to the recording strategy of the first season, the majority of the valley graves were documented on individual tomb cards. Petrie (1914a, 2) also provided a detailed description of the method for clearing the area whereby the valley was sectioned into strips 50 feet wide and work was carried out from north to south within that strip. Although not mentioned in the report, the sectioned strips were assigned an alphabetic designation with A to F in the central areas of the valley; G, H, J, K and L in the north and eastern end; and M to U moving from the western end towards the central area. This is the first time that the sectioning of the valley has been noticed and documented by any researcher. These alphabetic designations have been added to the original valley map **(Figure 1.6).**
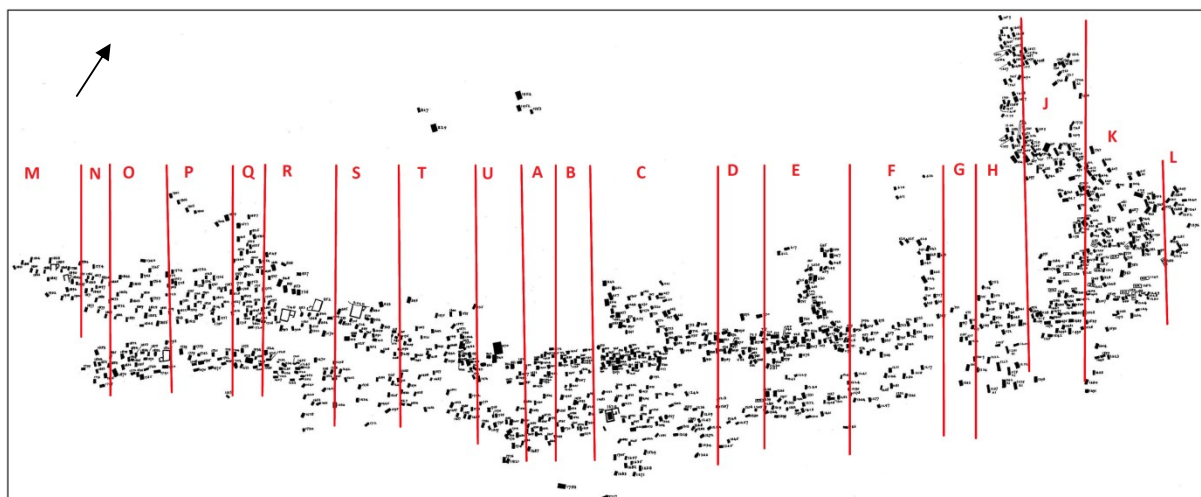
Figure 1.6: Valley map with alphabetic designations (after Petrie 1914a, XLVI).

Of the 1076 valley graves with tomb cards, 1059 were annotated with an alphabetic designation reflecting the area in which the grave should be found (**Figure 1.6**). Once the patterning of these designations became clear it was relatively easy to locate 1002 or 95% of these graves on an enlarged version of the valley map. Another 36 graves were not mapped, while 21 graves may have been positioned within the 'lesser' valleys mentioned by Petrie (1914a, 1-2). An additional 17 graves did not have a specific location annotated on their respective tomb cards. This brings the total to 1076 graves as mentioned above. Another 14 valley graves were not afforded tomb cards but have been identified through the reports or other supplementary sources. In summary, a total 1090 Naqada III period valley graves have been identified from this research.

As well as the Naqada III period human graves, 14 bovine graves were also recorded and 12 of these were situated in the eastern valley (**Figure 1.4**). Even though these enigmatic graves were mapped they were not discussed by Petrie nor have they figured in modern literature on the site. The ideological significance of these graves in framing spatial practice is discussed in **Chapter Six** and represents the first analysis of this information.

In addition, 21 graves assigned to the Eleventh Dynasty were also mapped in the eastern valley by Petrie (1914a, XLVI). Surprisingly, a further 20 graves in this eastern space together with one grave in the west of the valley were actually Dynastic in date (**Table 1.1; Figure 1.4**). All of these graves were mapped with solid black marks suggestive of an early date. However, upon examination of the relevant tomb cards it was discovered that they had also been assigned to the Eleventh Dynasty by the excavators. This significant mapping error has never been identified in the literature.[4]

Table 1.1: Number of possible Eleventh Dynasty graves in the valley cemetery.

Valley	No. of graves marked as Eleventh Dynasty on valley map (n = 21)	Other Eleventh Dynasty graves identified on valley map (n = 21)
No. of graves	608, 615, 620, 629, 641, 654, 670, 675, 689, 707, 710, 719, 731, 750, 1179, 1201, 1262, 1267, 1279, 1724 and 1749.	Eastern valley - 606, 612, 613, 746, 779, 781, 786, 944, 1103, 1105, 1130, 1139, 1164, 1222, 1223, 1288, 1369, 1388, 1747 and 1748. Western valley -1814

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[4] None of these valley graves were recorded in the Kafr Ammar report (Petrie and Mackay 1915). For the further details on the Kafr Ammar graves in the hills see **Appendix A**. The designation Eleventh Dynasty has been maintained throughout this study, although all of these valley graves and associated tomb cards require more detailed examination.

1.6 Tomb Cards

The primary dataset derived from the original tomb cards held by the Petrie Museum of Egyptian Archaeology, University College London. The tomb cards were annotated in the field by the excavators and often represent the only information available on individual graves. Of the available cards, 1538 can be associated with a corresponding number of Naqada III graves. Across both seasons of work, these cards represent 462 hill and 1076 valley graves.

Figure 1.7: Tomb card for hill grave 2057 (Naqada IIIA2).
(Courtesy of the Petrie Museum of Egyptian Archaeology, UCL).

The tomb cards had been designed by Petrie and were used to record graves at numerous cemeteries such as Abydos, Gerzeh and Harageh (Stevenson 2009a, 3-5). The recto of each card was printed so that the grave number, disturbance status and grave dimensions, orientation of the body and sex of the skeletal remains could be recorded (**Figure 1.7**). Artefacts were listed in the sections marked pottery, stone, bronze, amulets, beads and ornaments. The verso of the card was reserved for a drawing of the excavated grave. Due to the sheer number of cards the initial extraction of information was taken from the digital facsimiles available to researchers in CD format and was later supplemented by an examination of the same cards in a clearer digital format.[5] Most of the cards were handwritten

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[5] I would like to thank Alice Stevenson, then Curator of the Petrie Museum of Egyptian Archaeology for making the digitised files of the Tarkhan tomb cards available to me for study.

in pencil and range from readable to barely legible. The level of detail on each card also varies considerably, the quality of which may been effected by field conditions and perhaps reflective of time constraints placed upon the excavation of individual graves.

1.7 Museum collections

In order to finance the excavations of the British School of Archaeology in Egypt (BSAE), subscriptions and donations were taken from museums and individuals throughout the UK, Europe, USA, South Africa and Australia. In return for financial support donors were sent material from each season of excavation (Stevenson 2015a). The museum distribution lists for Tarkhan are a valuable source of information, although these are difficult to read and do not account for the whereabouts of all the material.[6]

Two research trips to the UK were undertaken and visits were arranged to examine objects and associated records. The Petrie Museum of Egyptian Archaeology was the principal collection visited due to the large number of artefacts from Tarkhan available for study. While the distribution lists facilitate the location of donated material, it should be noted that half the pottery, palettes and stone vessels from both seasons of excavation were taken to the sale-room at the Cairo Museum (Petrie 1914a, 12-13; Piacentini 2013/2014). Petrie was clearly infuriated by this arrangement as the phrases "lost to future reference" and "lost to science" figure prominently in his description of the distribution process. Stone vessels and palettes sent to the sale-room from the second season were annotated by a small c prefixed to the type in the registers of *Tarkhan II (*Petrie 1914a, 13).

While the artefacts are invaluable sources of information it must be emphasised that the paper trail from Egypt to the subscribing museums is often incomplete or non-existent. Poor documentation together with subsequent collection management practices and policies have impacted the integrity of the surviving material and its potential for interpretation. The problems generated by such processes are neither unique to Tarkhan nor restricted to a Petrie excavation. The information obtained from the various museum collections has been used to analyse broad trends in artefact distribution and raw material access, although research

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[6] The distribution lists and index are available on CD from the Petrie Museum of Egyptian Archaeology. This information formed part of a larger project entitled Artefacts of Excavation: British Excavations in Egypt 1880-1980 and is now more easily accessed at http://egyptartefacts.griffith.ox.ac.uk/.

emphasis is placed upon what this material may tell us about the nature of social relationships at Tarkhan.

1.8 Grave plundering and other secondary formation processes

The plundering of ancient Egyptian tombs was a pervasive problem across all cemeteries and the graves at Tarkhan were not immune to this practice. General indiscriminate ransacking of burial space across both sections of the cemetery is evidenced from the amount of skeletal material, pottery, stone vessels and other objects found in the fill of the Naqada III period graves. From the tomb cards it can be seen that the original assessment of grave disturbance was marked with an x indicating a disturbed context or a small circle indicating an undisturbed context (**Figure 1.7**). Of the 1566 graves in the primary dataset, 65% were either disturbed or of unknown determination while 35% were considered to be undisturbed contexts. The disturbed: undisturbed ratio for the Naqada IIIA2-IIIB subset of graves is 64%: 36%.

Köhler (2011, 6-7) has argued that the initial view of the body in its correct anatomical position may have influenced the decision of the excavator to identify the burial as intact. Similar assessments may have been made at Tarkhan so the original undisturbed determinations should be approached with a degree of caution. The ability of early archaeologists to identify the effects of natural and cultural formation processes on the original depositional context of a burial should also be questioned (Stoddart et al. 1999, 97; Sprague 2005, 69; Köhler 2011, 6-7). Indeed, Köhler (2011, 6-7) has argued that processes such as erosion, flash flooding, or animal incursion along with the physical alteration of deposits by *sebbakh* activities were generally not considered by early archaeologists. While the effects of certain natural and secondary cultural processes such as the impact of ground-water, poor soil conditions and intrusive graves were noted in the reports, the majority of disturbance was equated with grave plundering activities (Petrie et al. 1913, 8, 15; Petrie 1914a, 2, 4-6, 22-23).

Recourse to published information from modern excavations, such as the Naqada III cemetery at El Kab, would indicate that only 26% of graves were undisturbed contexts (Hendrickx 1994, 155-202, 219). It would not be unreasonable to suggest that the actual number of intact graves was probably lower than the 35% recorded at Tarkhan. Disturbance rates for cemeteries within the Fayum are variable; with Tarkhan at 65% contrasting with Harageh at 90% and Gerzeh at 11% (Stevenson 2009a, 12). In the Memphite region, a

combined disturbance rate of 68% was obtained from an analysis of graves from the cemeteries of Helwan, Saqqara and Turah (Naqada IIIC/D) (Janulíková 2017, 49-52). Disturbance rates at individual Memphite sites do vary with Turah sitting at 75% inclusive of both disturbed and uncertain contexts (Castillos 1982, 165). The motivation for any opportunistic contemporary grave disturbance may have been economically-driven and negative competition between social groups could account for some of these unsanctioned activities (Savage 1997, 253-255). It is likely, however, that plundering reflected acts that were both random and targeted in nature, occurring in the past as in the present.

Some concern has been expressed in the literature regarding the value of using disturbed graves, particularly in assessments of mortuary-based wealth and social differentiation (Griswold 1982, 194; Hendrickx 1994, 219; Rowland 2003, 121; 2004, 999). Due to the often small population size of excavated cemeteries this information has been included in many retrospective and modern studies of mortuary populations (Kroeper 1992; Hendrickx 1994; Savage 1995; Rowland 2003; 2004; Stevenson 2009a; Janulíková 2017). The loss of material from disturbed contexts is problematic. Nonetheless, studies have demonstrated that disturbed graves still contained much valuable material and should be included in assemblage analysis (Castillos 1982; 1983; 1998a; Kroeper 2004; Stevenson 2009a; Janulíková 2017).

An examination of the tomb cards for disturbed graves at Tarkhan show that while some were completely denuded of goods the majority still contained pottery and a range of precious artefacts made from such materials as stone, copper and ivory. For the purposes of this study, it was decided to consider the contents of all Naqada IIIA2-IIIB graves regardless of disturbance status. These remaining artefacts or their remnants still provide valuable information on the nature of social relationships between the living and the dead at Tarkhan.

1.9 Issues and assumptions

With the mortuary population at Tarkhan we are encountering heterogeneous groups of individuals who were separated at the most fundamental levels by age, biological sex and time. It is assumed that a range of burial types will be encountered and that such graves are representative of the broad cross-section of society living in the surrounding settlement/s during the Naqada IIIA2-IIIB periods. It is acknowledged that we will never know what proportion of the living community was afforded burial within the boundaries of the cemetery (Chapman 2000, 175). Further absent from our understanding are the rules that once governed the practice of burial at this time. Although as burial was an active process, it is

assumed that the placement of graves in the cemetery reflected "substantial knowledge" of relationships between the recent dead and older interments within particular social groups, and a "general awareness of the evolving range of mortuary variability practiced by the community as a whole" (Chapman 2000, 177). These issues are of importance when contemplating both the spatial and material dimensions of practice at the cemetery.

Considering that the Naqada IIIA2-IIIB graves were cut over a period of perhaps 100-150 years, burial at Tarkhan would have been influenced by the changing dimensions of community practice. Cemetery use and mortuary practices also reflected cultural and social processes, which contributed to how the dead were buried over time. Some of these processes were local in nature but other broader regional and Egyptian-wide economic and socio-political changes impacted communities such as Tarkhan.

Finally, Köhler (2011, 5) has questioned the value of analyses that rely on early 20th century excavations. The reliability of this information has been questioned due to a range of problems stemming from poor recording practices, excavator bias and the often incomplete site to museum paper trail. Indeed, it was argued that "such material is of limited value for modern analysis and interpretation" (Köhler 2011, 5). These problems are, without doubt, reflected in the incomplete and challenging records studied here. Nonetheless, as Tarkhan is considered the type-site for the Naqada IIIA2-IIIB period (Hendrickx 1996; 2006a, 2011a), as this thesis will demonstrate, there is inherent value in re-examining this important material.

Chapter Two: Previous research on the Naqada III cemetery of Tarkhan

2.1 Introduction

Tarkhan is one of the most significant Naqada III period funerary landscapes in northern Egypt. Yet despite such importance, the cemetery has not been studied extensively by many scholars. This is surprisingly considering the wealth of published and unpublished information available for research. It is possible that the recording problems associated with the original material have contributed to this situation (**Chapter One**). The object of this review is to place my study within the context of previous research on the site.

Useful background information about the cemetery and excavation conditions can be found in Margaret Drower's (1985) biography of Flinders Petrie. General overviews of the site have been included in Ellis (1992; 1996; 1999), Wilkinson (1993; 1996; 1999), Grajetzki (2004a; 2006; 2008a; 2008b), Mawdsley (2006a; 2006b; 2008; 2009; 2011a; 2011b; 2012a; 2012b; 2012c; 2020); MacArthur (2010) and Janßen (2015). A selection of invaluable published and unpublished photographs taken during the excavation have also been reproduced in Picton and Pridden's (2008) catalogue of archive photographs in the Petrie Museum of Egyptian Archaeology. A recent study of changes to Egyptian grave goods and depositional practices in the 3rd millennium BCE also includes material from the Kafr Ammar graves (Tian 2020).

Principal scholarly engagement with the site has touched upon issues of chronology, inequality and the development of complex society within a broader framework of state formation (Castillos 1982; 1983; 1998a; 2016; Seidlmayer 1988; Ellis 1992; 1996; Hendrickx 1996; 2011a; Wilkinson 1996; 2000; Köhler 2010; Mawdsley 2012a; Janßen 2015). There also exists a large body of literature focussed on the meaning, function and chronological significance of the Late Predynastic-early First Dynasty potmarks and *serekhs*; and the material from Tarkhan forms an important part of this discourse (Mawdsley 2006a; 2006b; 2008; 2009; 2011a; 2011b; 2012c) (**Chapter Nine**). The literature relating to issues of chronology is discussed in **Chapter Three**.

2.2 Tarkhan from the perspective of the excavator

Petrie's study of pottery from Tarkhan played a key role in the revision and extension of his system of relative chronology; and the importance of the cemetery from such a perspective cannot be over-stated (Hendrickx 1996; 2011a). However, Petrie's analysis of the funerary material was framed largely by questions relating to the origins of the people buried at Tarkhan. The study of mortuary practices thus became supporting evidence used in a wider discussion of cultural and biological change in Egypt (Petrie et al. 1913; Petrie 1914a; MacArthur 2010, 82).

After the first season of work, Petrie (Petrie et al. 1913, 1) was of the opinion that the foundation of the cemetery was the direct result of a "northern migration by dynastic conquerors from Upper Egypt", and represented the end of the prehistoric and the beginning of the Early Dynastic period. After the second season, this view changed slightly to incorporate the presence of a native population who were gradually absorbed into the dynastic stock (Petrie 1914a, 18). In order to prove this assumption, a detailed analysis of skeletal material formed a substantial part of the second excavation report (Petrie 1914a, 1, 15-20, 24-26, XLIIII, XLIX-LXXII). Measurements taken from skulls, leg and arm bones appeared to indicate that the new invading 'minority' race were male and smaller in size, whereas the existing older prehistoric group were generally of larger physicality (Petrie 1914a, 17). Petrie's interest in the study of eugenics and biometric methods was a major influence in shaping his understanding of the development of ancient societies (Sheppard 2006; 2010; Challis 2013). This interest also had a pervasive effect on the recording and analysis of human remains at Tarkhan that can be difficult to completely account for in current research based on his data.

In the first report a number of innovations in material culture and production were associated with the dynastic people or "invading race", such as brickmaking, the use of copper, mastaba architecture, writing, art and the slow wheel for potters. With regard to pottery making, it was noted that the traditions of the old predynastic race still continued and it was suggested that these people continued to exist in the lower classes (Petrie et al. 1913, 19-20). After the second season, Petrie was able to provide a more detailed comparison between the hills and the valley regarding methods of burial. The various flexed attitudes and orientation of the body, the size of graves and the distribution patterns of artefacts such as coffins, palettes and beads were provided (Petrie 1914a, 21-24, X, XLIV-XLV).

Based on the median size of graves, those positioned on the hills were deemed larger and thereby richer than those of the valley (Petrie 1914a, 22). From this analysis he concluded that the valley cemetery was largely composed of commoner graves. It was noted, however, that graves of the 'minority' males still appeared in the valley suggesting that this group had not been isolated from the native population in a separate area of the cemetery (Petrie 1914a, 23-24). Although much of the skeletal material associated with graves in hills had been affected by natural decomposition processes, the richness of these graves was associated with the higher culture of the dynastic civilisation (Petrie et al. 1913, 8, 19-20). Furthermore, the gradual disappearance of certain artefacts such as palettes provided evidence of the rejection of the older and poorer material culture by the "the richer invaders" (Petrie 1914a, 24).

The idea of a 'superior invading race' and the concomitant effects of cultural diffusion reflect views that can be challenged on numerous levels (Sheppard 2006; 2010; Challis 2013). From Petrie's racialist perspective, however, population change explained the significant cultural and material developments observed at Tarkhan. Modern approaches to material culture change are now framed within discussions of expanding settlement horizons, social interaction, economic-based transmissions of materials and the adoption of new modes of production (Köhler 1995; Stevenson 2006; 2008). The superimposition of a superior dynastic race upon less culturally and physically adaptable prehistoric populations should now be relegated to the historiography of early Egyptian studies.

2.3 The legacy of Petrie's view on Tarkhan

Unfortunately, Petrie's theme of the hills as the richer or elite area of the cemetery and the valley as the burial ground for the poor, commoners or non-elite has permeated through modern literature without real assessment (Wilkinson 1996, 72; Campagno 2003, 23; Grajetzki 2004a; 2008a, 186; 2008b, 103; although see MacArthur 2010). Petrie's interpretation of the hills was framed by his ideas of 'rich male invaders' infiltrating and largely displacing a poorer and inferior native population over time (Petrie 1914a, 15-20). As the valley was excavated in the second season these ideas likely skewed Petrie's expectations and interpretations of the valley data.

The view of an economic-driven spatial division within society appeared to be quantitatively demonstrated by Ellis (1992; 1996), thereby substantiating Petrie's initial assessments. A further study by Wilkinson (1996) on state formation and chronology focussed on a number of Nile Valley cemeteries, including select hill cemeteries from Tarkhan. This work also argued in favour of the elite and spatially-separate nature of the hill cemeteries (Wilkinson 1996, 43, 72-73). The results of both studies are often quoted in discussions about the site, and on issues relating to complex society and state formation more generally (see for example, Campagno 2003, 23; Grajetzki 2008a, 186; 2008b, 103; Köhler 2010, 45; MacArthur 2010; Mawdsley 2012a). Only 476 Naqada III period hill graves can be identified from the recorded data and this remains a problem for any study of the cemetery (**Chapter One**). Nonetheless, any variations in practice by location can be interpreted through a different frame of reference that seeks to understand and explain the nature of such differences. New world views, group-related agency and changing ideologies also contributed to the ways in which social diversity was expressed in the mortuary realm; and these issues are explored in **Chapters Six** and **Nine.**

2.4 Views on inequality and social differentiation at Tarkhan

A number of studies have also incorporated published material from Tarkhan within the context of assessing the broader patterns of mortuary-based inequality throughout the Predynastic and Early Dynastic periods, and these include the work of Castillos (1982, 159-164; 1983; 1998a) and Seidlmayer (1988). This research has provided an invaluable source of information on mortuary practices across a range of often poorly studied cemeteries. Data relating to grave size, grave wealth and patterns of orientation across a number of sites, including Tarkhan have been presented by Castillos (1982; 1983). In a later publication Castillos (1998a) assessed the development of inequality at a range of cemeteries through the application of the Gini Index. The factors of grave wealth and grave volume were considered significant indicators of inequality across 19 sites. The data from Tarkhan demonstrated lower levels of inequality across these two factors than that of its nearest neighbour, Abusir el-Meleq (Castillos 1998a, Tabs. 2 and 4). This is an interesting result and may suggest a greater fluidity or range of practice at the larger cemetery of Tarkhan. This methodology has been criticised recently by Janulíková (2017, 16) as it assumed "a direct translation of social rank into funerary rank". I agree with Janulíková (2017) in that there are significant problems in assuming direct social correlations from this information; nonetheless, within the broader

context of social relations such information suggests that enhanced mortuary displays were important aspects of localised funerary practice for some people (Castillos 2016).

One important yet rarely cited work is Seidlmayer's (1988) quantitative study of ceramics at the cemeteries of Tarkhan, Turah and Armant. The number of ceramics was used to measure the degree of vertical differentiation in funerary expenses expressed at these sites. Some evidence of social differentiation over time was apparent at Tarkhan and this was considered instructive in understanding the development of complex society at a regional level (Seidlmayer 1988, 26, 40, Abb. 7-8). More importantly, a comparison of the number of ceramics per grave at Tarkhan and Turah was used to illustrate major problems in the recording strategy employed by Petrie. While graves without pottery or with only one or two examples were recorded at Turah by Junker (1912), the deliberate omission of such graves from the Tarkhan reports has distorted the potential of this material for study (Seidlmayer 1988, 32-33, Abb.2). This echoes the private opinion once held by Gerald Wainwright, who was one of the principal archaeologists working for Petrie at Tarkhan (**Chapter One**). Seidlmayer's (1988) research highlights the need to approach any retrospective study of long-published material with some degree of caution and active criticism.

2.5 Studies of the cemetery by Ellis (1992; 1996)

The most extensive socio-economic study of the cemetery to date is presented in two articles by Ellis (1992, 1996). In the 1992 paper Ellis employed a statistical methodology to assess social status as reflected in the mortuary practices in the valley cemetery, while the 1996 paper assessed patterns of wealth inequality between the valley and hill cemeteries. This research was intended to contribute to a broader study on the social transformation of society during the Late Predynastic and Early Dynastic periods in Egypt (Ellis 1996, 153).

Statistical analysis of the data followed the status-driven methods of cemetery analysis established by Saxe (1970; 1971), Binford (1971) and Tainter (1975; 1978). Following these theoretical approaches, Ellis (1992, 242) considered differences in burial to be "based upon endogenous status ("wealth") differences" within Tarkhan society. Due to time constraints graves in the published registers were used and the sequence dates applied by Petrie were maintained in both studies (Ellis 1992, 242). Some of the statistical results now require re-examination due to the changing distribution of graves when redated according to the Naqadan Chronology (Hendrickx 1996).

Ellis (1992; 1996) raised several issues relevant to the study of social relations and community social dynamics during the Naqada III period. A number of trends concerning sex-related and age-related mortuary practices at Tarkhan were identified from this work. In particular, the graves of females were considered to be both qualitatively and quantitatively different from those of males and subadults (Ellis 1992, 252-253). Female burials were found to contain a greater number of grave goods and materials traditionally associated with bodily adornment. Conversely, while male burials appeared poorer in overall grave wealth they were larger in size when compared to the graves of both females and subadults (Ellis 1992, Fig. 4). Given this difference, it was suggested that male status may have been expressed in forms that remained archaeologically invisible, such as through cattle or agricultural ownership and exchange (Ellis 1992, 253). It was postulated that male hierarchical differences may also have been reinforced in a range of ritualistic activities such as feasting (Ellis 1992, 253). These issues are addressed further in **Chapter Seven** when considering sex-related practices at the cemetery.

In the 1996 paper Ellis used Lorenz curves to measure the degree of inequality between graves by location. When these data were compared, differences in levels of inequality between the valley and hill cemeteries were identified (Ellis 1996, 154-155). Graves located in the hills were found to have a higher mean number of artefacts in each sequence date when compared with the assemblages of valley graves. Ellis (1996, 158) also signalled that there were artefactual differences between valley and hill assemblages. Valley graves tended to contain more palettes, beads and ivory objects, while hill graves contained more stone vessels, beds, cloth and copper objects. It will be interesting to see if the data analysis presented in **Chapters Five-Nine** confirms any of these trends in material practice. Although as Ellis (1992; 1996) considered the entire published dataset (Naqada IIIA2-IIIC2), the results presented in my study will differ for some aspects of practice and categories of material.

The conclusions offered by Ellis (1992; 1996) relating to the small mastabas and the possible significance of space in the western valley are of interest to this study. The clustering of well-provisioned graves in the vicinity of the small mastabas suggested that this space may have served as "a special area for a specific corporate group" (Ellis 1992, 254). Conversely, I would argue that there is minimal evidence for the presence of a bounded space in this area of the valley (**Chapter Six**). It was further observed that a spatial-shift in the ritual focus of mortuary space was expressed through architecture and material wealth (Ellis 1996, 160).

This comment raised interesting questions about how space may have been conceptualised in the valley cemetery; and these issues required further theorising within a practice-based framework (**Chapter Six**).

Ellis (1996, 160-161) did not connect the presumed clustering of graves in the western valley to a temporal shifting of space, whereas I consider this to be significant. In **Chapter Six** I propose that the shifting of human graves to the central and western valley was driven by the changing nature of space in the eastern valley. These changes seem to have occurred from the early Naqada IIIB period and may be linked to the presence of bovine burials in the east of the wadi (**Chapter Six**). Such observations may not be visible when approaching the data solely from a perspective of inequality and economic differentiation.

2.6   Complex society

My earlier work on Tarkhan drew upon well-theorised correlates of complex societies to examine evidence of developing complexity at the cemetery during the Naqada IIIA2 period (Mawdsley 2012a). Based upon features such as grave size, architectural elaboration and the quality of grave goods it was demonstrated that elite graves could be identified at Tarkhan. Such features suggested that a "stratified society existed very early in the life-history of Tarkhan and that elite burials were distributed throughout both the hill and valley cemeteries" (Mawdsley 2012a, 339). This assessment corresponded with notions of a direct correlation between mortuary elaboration and status advocated by processual archaeologists (Saxe 1970; Binford 1971; Tainter 1978). It was also suggested that some of the attributes of complex society could be inferred from the mortuary evidence, including the participation in, and perhaps control over, regional exchange networks and systems of administration. The absence of evidence of urbanisation, considered to be a key feature of complex societies, is obviously problematic given the lack of settlement data for the site (Pebbles and Kus 1977, 421-448).

From a solid analysis of the data, I would now argue that social life was far more diverse than adherence to strict hierarchical systems would suggest, and this is assessment is particularly true for the Naqada IIIA2 community of Tarkhan. If questions relating to the development of complex society are to be pursued engagement with practice-based complexity theory would facilitate more nuanced interpretations of change processes at a site-specific level (Wynne-Jones and Kohring 2007, 2-12).

A comparative study between the cemeteries of Ur and Tarkhan has been published recently by Janßen (2015). This work was based upon doctoral research and investigated how differing social processes within these societies were expressed through the medium of mortuary practices. The comparative aspects of the work have been reviewed favourably by van Haarlem (2016, 791-792). For Tarkhan, the need for greater comparative work with other Egyptian cemeteries was noted by Wilde (2016, 340-343). This would have assisted in assessing the validity of observed trends in the data. Nonetheless, the study makes a contribution to our understanding of the socio-political and religious differences between two important cemeteries in Mesopotamia and Egypt (van Haarlem 2016; Wilde 2016).

2.7   Social relations and religious perspectives

MacArthur's (2010) article examined the palaeographic, economic and social significance of *serekh*-marked vessels at Tarkhan. These *serekhs* were applied in ink to cylindrical jars found in Naqada IIIB-IIIC1 hill and valley graves (**Chapter Nine**). Of interest to this study was the suggestion that the presence of these vessels in particular graves may be indicative of a personal relationship between the tomb-owner and the ruling king (MacArthur 2010, 92-93). Previously, I have been critical of positing a direct association between owner and king due to the problematic grave contexts of some of these marked vessels (Mawdsley 2012c, 120; see also discussion by Rowland 2003, 254). The idea that such placements may reflect relationships between people while providing an insight into how materials could be used to express identity is reconsidered in **Chapter Nine**.

The discussion of valley mastaba 1845 by Snape (2011, 7-23) provides a different perspective on life and death at Tarkhan. This unique structure was examined within the context of developing religious beliefs during the Predynastic. The innovative bipartite design with a separate burial chamber and side chamber was considered to provide a "vehicle for the well-being of the Dead" (Snape 2011, 11). It was also suggested that the design and function of the small valley mastabas provided a model for ritual practice and belief associated with later Egyptian tomb construction (Snape 2011, 19). While interesting, this idea needs to be balanced by new evidence of early mastaba-style architecture dating to the Naqada IIIB period from the Delta site of Tell el-Farkha (Dębowska-Ludwin 2012, 57-61, Fig. 1; 2016, 47-61; Ciałowicz and Dębowska-Ludwin 2013, 158). This is coupled by the fact that the design of the Tarkhan valley mastabas did not continue past the early Naqada IIIC1 period. Contrary to the opinion offered by Snape (2011, 19), I would suggest that the valley mastabas

became evolutionary dead-ends from a design perspective. Nonetheless, the ideology represented by these structures symbolised a different way of thinking about the world, and such ideas appeared to have diverged from practices expressed by other social groups at the cemetery (**Chapters Six** and **Nine**).

2.8 Concluding comments

Within the range of previous research, my work on social relationships fills a current gap in knowledge about Tarkhan, and of the Naqada IIIA2-IIIB periods. As this study is grounded firmly in social practice, this approach also provides a new perspective on old data. While my research focuses on one cemetery it sits within a vast body of work on early Egyptian mortuary practices. This collective research is continually challenged by ongoing excavations throughout Egypt, and as a result, our understanding of life and death for these ancient people is one of constant revision.

Chapter Three: The relationship between time and place

3.1 Introduction

Our understanding of the relative chronology of early Egypt has been framed by the wide-ranging and significant work conducted by Flinders Petrie at numerous sites along the Nile Valley. The outcome of years of intensive excavation, thought and observation was his system of relative dating, known as Sequence Dating, together with the substantial Prehistoric and Protodynastic pottery corpora (Petrie 1921; 1953). This great body of work has been criticised, discussed, implemented and re-worked by numerous archaeologists since its inception (Kaiser 1957; Hendrickx 1996; 2006a; 2011a; 2011b; Köhler 2011; 2014). Yet, despite its many short-falls, the combined pottery corpora are still used to facilitate comparative work between cemeteries (Köhler 2014, 157).

This chapter will discuss Petrie's approach to dating the Tarkhan graves, provide an overview of previous chronological work relating to the Naqada III period and outline my re-dating of the Tarkhan graves according to the established principles of the Naqadan Chronology (Hendrickx 1996; 2006a; 2011a; Köhler 2004). While some new insights are provided the aim is not to 'reinvent the wheel' as I agree with the current chronological assessment of Tarkhan as a Naqada IIIA2-IIIC2 mortuary landscape as recorded by Petrie (Petrie et al. 1913; Petrie 1914a). This work provides the chronological framework needed to engage in a social analysis of mortuary practices at the cemetery.

3.2 Temporal overview

Of the 1566 graves available for study, 1314 were considered suitable for dating purposes on the basis of pottery contained within these burials.[7] The majority of these graves can be assigned to the Naqada IIIA2-IIIB periods (n = 968 or 74%), with the remaining graves situated in the Naqada IIIC1-IIIC2 periods (n = 346 or 26%) (**Table 3.1**). Another 252 graves could not be assigned to a relative chronological phase due to recording problems associated with these burials. Based on the available evidence, the life-history of the cemetery probably spanned a period of 400 years or more and appears to have fallen out of use towards the end of the First Dynasty (**Table 3.2**).

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[7] Previous figures in Mawdsley (2012a; 2012b) have since been revised.

Table 3.1: Number and relative chronological distribution of graves at Tarkhan.

Period	Hill graves	Valley graves	Total
Naqada IIIA2	87	528	615
Naqada IIIB	74	279	353
Naqada IIIC1	45	39	84
Naqada IIIC2	210	52	262
Naqada III	60	192	252
Total number of graves	476	1090	1566

Table 3.2: Concordance between the relative chronologies of Abydos and Tarkhan.

Period#	First Dynasty kings or local rulers buried at Abydos##	Mastabas at Tarkhan	Graves with *serekh*-marked vessels at Tarkhan
Naqada IIIC3	Qa'a Semerkhet	Not represented	Name of Semerkhet on wine jar fragment from unknown grave
Naqada IIIC2	Anedjib Den Queen Merneith	2038, 2050, 2055, 2056, 1060 (hill mastabas)	1982 (travertine fragment with *serekh* of Narmer)
Naqada IIIC1 ca. 3150 BCE	Djet Djer Aha (B10/15/19) Narmer (B17/18)	 1674*	300b (Aha) 414 and 1100** (Narmer) 84 (Narmer?) 415 (unknown name on type 49 jar) 412 (unknown name-potmark?) 261 (Ka on type 50 jar) 1549 (Crocodile)**
Naqada IIIB	Ka (B7/9) Iry-Hor (B1/2/0) U-t, U-x, U-y, U-z	740*, 1889*, 1890*, 1231?*	Unknown hill grave (Crocodile) 1702 (Hat-Hor)**
Naqada IIIA2	U-g, U-h, U-s, U-u, U-v	1845*, 852*	Not represented
Naqada IIIA1 ca. 3350 BCE	U-j, U-k, U-o, U-r, U-qq	Not represented	Not represented

#Sequence Dates are not included in this table due to problems of concordance with the Naqadan relative chronology.
##after Dreyer et al. (1993, 49, Abb. 9) and Hendrickx (2006a, Tab. II. 1.6-1.7)
* Mastabas in valley **Graves in valley
 All other Tarkhan graves were situated in the hill cemeteries

Recent radiocarbon dates derived from a study of temporally diverse sites would suggest that the late Naqada IID/Naqada IIIA transition to the end of the First Dynasty sits within an absolute chronological range of 3352-2867 BCE (Dee et al. 2013, Tab. 1; Dee et al. 2014; Stevenson 2015b, Tab. 4). Other absolute chronologies suggest that the Naqada IIIA period commenced between ca. 3350-3300 BCE with the beginning of Naqada IIIC1 or the First Dynasty situated between ca. 3150-3060 BCE (Hassan et al. 2006, Tab. 5; Hendrickx 2006a, 92; Köhler 2010, Tab. 3.1; 2013, Tab. 18.1; Rowland 2014, Tab. 1). Following Hendrickx (2006a, 92), the range of ca. 3350-2920 for the Naqada IIIA-IIIC2 phases has been adopted. For the purposes of this study the first ruler of the formative state is considered to be Narmer (ca. 3150 BCE).

3.3 Flinders Petrie, Sequence Dating and Tarkhan

The construction of a relative chronological system of dating early Egyptian graves must rank as one of the greatest achievements of Flinders Petrie. This system, known as Sequence Dating, was developed from his work at the newly named 'Predynastic' cemeteries of Naqada, Ballas and Diospolis Parva (Petrie and Quibell 1896; Petrie 1901). The determining principles of this system were based on the appearance and disappearance of particular pottery forms and upon the observation that certain forms evolved in shape and decorative style over time. Several classes of pottery were identified on the basis of distinct morphological features, decoration, surface treatments, fabric or presumed relative chronology (Hendrickx 1996, 37; 2006a, 61). This work became known as the Prehistoric Corpus (Petrie 1921). While this volume was published after the Tarkhan reports, the corpus was already well-established prior to the commencement of the excavation in late 1911.

When Petrie (Petrie et al. 1913, 1-3) first arrived at Tarkhan he immediately recognized that many of the vessels found in the graves represented new forms. As a result, the existing Prehistoric corpus was considered insufficient and an updated corpus was required. It was presumed that a degree of overlap would still occur between the Prehistoric and new pottery and this served to demonstrate the development and degradation of types (Petrie et al. 1913, 2). The Prehistoric corpus was used during the process of recording the hill graves and provided a base from which the initial determination of new types was made (Petrie et al. 1913, LXVIII; Hendrickx 1996, Tab. 6 with concordances).

This is reflected on the tomb cards where the pottery was identified in pencil as specific L, R or W ware or by numbers designed to represent types within those wares. Many of the pencilled designations were over-written in black ink and the final Protodynastic types were annotated on the card in red ink next to these (Petrie et al. 1913, 3). The new pottery types were then sorted into one series and numbered from 1 to 99. Within this numerical range, 527 sub-types were recognised and given alphabetic designations, such as 46d or 76c. This figure also included 50 types extracted from the report of Junker's (1912) excavation of the Memphite cemetery of Turah. These types were added to the initial drawings made during the first excavation season (Petrie et al. 1913, 4).

This new Tarkhan corpus extended the Sequence Date range to include phases from 77 (Dynasty 0) through to 86 (early Third Dynasty) (Petrie et al. 1913, 3). However, the Sequence Dates 83 to 86 were largely theoretical due to an absence of Second Dynasty graves at the cemetery (Hendrickx 1996, 36).[8] The material from Tarkhan formed the basis of the Protodynastic Corpus published posthumously in 1953 (Petrie 1953). As this work included vessels from sites such as Abydos and Mahasna, not all of the published types were found at Tarkhan. One of the many problems associated with the enormous corpus is the fact that a substantial number of types are only represented by one or two examples (Hendrickx 1996, Tab. 4). Hence, the bulk of ceramics at Tarkhan are distributed across less than 25 types, the majority of which are concentrated within the Naqada IIIA2-IIIB periods (**Appendix B**). There are also types in the Tarkhan corpus itself where no documented examples can be identified on the tomb cards and some of these may have originated from Turah.

3.4 Kaiser, Hendrickx and the construction of the Naqadan Chronology

In 1957 Kaiser published a new three-period revision of the relative chronology of early Egypt known as the *Stufen* chronology. Kaiser (1957; 1990) utilised the horizontal distribution of a limited range of pottery and other objects from cemetery 1400-1500 at Armant to devise this system, which was subsequently updated by Hendrickx (1989; 1996; 1999; 2006a; 2011a). This updated system is now referred to as the Naqadan Chronology, the principles of which are followed in this study. The history and problems associated with the

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[8] A small excavation uncovering 288 graves from what is described as a Second Dynasty site at Tarkhan was undertaken prior to 2014 (Shahin et al. 2014, 41-45). As further information is currently unavailable, the basis upon which a Second Dynasty assignment was made is unknown.

*Stufen c*hronology have been discussed in some detail by Hendrickx (1996; 2006a; 2011a) and need not be elaborated upon here. From the perspective of Tarkhan, the major differences between the two systems relate to distributive patterns associated with the various types of wavy-handled/cylindrical jars. Based on an analysis of the horizontal distribution of graves with cylindrical jars at several cemeteries including Elkab, Turah and Tarkhan, Hendrickx (1996; 2006; 2011a) was able to demonstrate that the spatial-patterning of such vessels did not support the existence of certain sub-divisions of the *Stufen* chronology as articulated by Kaiser. This work resulted in the re-allocation of the earliest phase of *Stufe* IIIa2 to Naqada IIIA1, the combining of *Stufe* IIIb1 and IIIb2 to Naqada IIIB and the separation of the cylindrical jar types 48s-t and 49d from *Stufe* IIIc1 to Naqada IIIB (Hendrickx 2011a, Fig. 3).

3.5 Seriation

Condensed versions of Petrie's typological groupings have formed the basis of several seriations of ceramics derived from early Egyptian cemeteries, including those of Tarkhan, Gerzeh and Turah (Kemp 1982; Wilkinson 1993; 1995; 1996; Hendrickx 1996; Stevenson 2006; 2009a; Janßen 2015). Major methodological problems are associated with the use of typologies derived from older excavations due to a lack of data control. Inconsistent recording practices of individual contexts, standardised drawings and problems establishing correct provenance for surviving vessels are but a few (Hendrickx 1996, 47-51).

In a seriation of the Tarkhan pottery, Janßen (2015) has placed the earliest use of the cemetery at the Naqada IIIA1 period. This revision was based on the removal of type 46 cylindrical jars from the seriation process (Janßen 2015, 91). The absence of these vessels ignored the crucial chronological significance of this class of pottery (Köhler 2013, 230-231). Based on the cylindrical jar types I would argue that the initial foundation of the cemetery is situated at the Naqada IIIA2 period. This opinion concurs with that of Hendrickx (2011a, 74) who noted an absence of materials characteristic of the Naqada IIIA1 phase at the cemetery. As Tarkhan is considered to be the type-site for the Naqada IIIA2 period, shifting the earliest use to Naqada IIIA1 would have a flow-on effect to other sites. Furthermore, there was no assessment of the wider ramifications of such a temporal revision upon the current framework of the Naqada III period. Unfortunately, this example highlights some of the inherent problems in poor typological construction.

It is now clear that designing a relevant typology for seriation purposes can only be achieved through a well-developed knowledge of ceramics within an appropriate local or regional setting. Examples of such studies include the seriation of early Naqada graves from Cemetery U at Abydos by Hartmann (2011); and the seriation of Naqada IIC-D/IIIA graves from Adaïma by Buchez (2011a; 2011b).

3.6 Methodology for dating the graves

As this is not a technical study of pottery but rather of its distribution, it was decided to approach the data in the most straight-forward manner possible. The existing pottery corpora developed by Petrie for Tarkhan (Petrie et al. 1913; Petrie 1914a) with further reference to the Predynastic and Protodynastic corpora (Petrie 1921; 1953) were maintained as the typological points of reference (**Appendix B**). Based upon the pottery types recorded on the tomb cards, individual graves were then dated according to the Naqadan chronological framework. The cylindrical jars formed the basis of the initial assignment of graves into four relative phases from Naqada IIIA2 to Naqada IIIC2. This follows standard thought on the chronological importance of the decorative degradation of the cylindrical forms (Hendrickx 1996; 2006a; 2011a).

Stan Hendrickx kindly provided his Excel files on Tarkhan, where he had assigned the published hill and valley graves into four relative Naqadan phases. This file was used to compare against my initial and independent dating of the published graves. The unpublished graves were then dated according to the Naqadan Chronology and cross-checked against the data from the published graves.

Frequency of appearance was adopted as the major methodological principle. This was useful when considering how to assign graves with less commonly occurring pottery types to a relative phase. For example, valley grave 870 contained the poorly represented type 8g, which is only found in eight Naqada IIIA2 and five Naqada IIIB graves. Based on the principle of frequency of appearance grave 870 was allocated to Naqada IIIA2. It is acknowledged that this grave may well sit within Naqada IIIB, or even be a transitional context. By adopting the principle of frequency of appearance, this enables future researchers to understand my rationale regarding the assignment of problematic graves; and further establishes a clear methodology regarding the temporal placement of the Tarkhan graves in general.

Of the 1075 published graves dated by Stan Hendrickx, only 30 or 2.8% were re-allocated to different phases in this study. As I worked from the tomb cards, reports and other supporting materials such as Petrie's notebooks, this allowed me to extract information not included in the published grave registers. Surprisingly, vessel types and the number of individual types do vary between the registers and the tomb cards. As a result, many of the re-assignments reflect information-related issues. Due to the inclusion of 238 unpublished graves in my study there are also differences in observations regarding the distributive patterns of vessel types. Once the graves were assigned to a relative phase, the spatial distributions of the cylindrical jars were plotted for the valley in order to analyse the temporal development of this area of the cemetery. This work can then be compared to the results obtained by Hendrickx (1996; 2011a) (**Section 3.9**).

3.7 Chronological distribution of pottery and graves

This section outlines the distribution of pottery across the Naqada III phases and provides the number of graves assigned to each phase. Pottery distribution charts arranged by specific vessel types and subtypes are provided in **Appendix B.**

Table 3.3: Distribution of pottery by period.

Period	Total number of pots*	% of total pottery
IIIA2	2817	40.5%
IIIB	1906	27.5%
IIIC1	469	7%
IIIC2	1606	23%
III	157	2%
Total	**6955**	**100%**

*Includes all recorded pottery (pit, fill and offering jars)

A total of 6955 pottery vessels were recorded by the excavators (**Table 3.3).** The majority of vessels sit within the Naqada IIIA2-IIIB phases (n = 4723) and this represents 68% of the Tarkhan corpus. Many of the assignments were straightforward given the substantial presence of the cylindrical jars. There is, however, a degree of uncertainty regarding graves that may represent transitional contexts. The early appearance of type 47 cylindrical jars (b, d-f, h-k) in the Naqada IIIA2 period is a case-in-point. I consider these jars to be associated with the latter part of Naqada IIIA2 and this would appear to be confirmed by a similar appearance observed at sites such as Tell el-Farkha (Jucha 2008, 71) and Helwan (Köhler and Smythe 2004, 129). It is always possible that some of the Tarkhan graves containing the above forms

of type 47 may be early Naqada IIIB contexts. Often such placements are a matter of individual interpretation based upon observed patterns in the data. Therefore, some graves may not sit as neatly within the Naqada phases as suggested here. The following discussion outlines the ceramic distributive patterns associated with 1314 Naqada IIIA2-IIIC2 graves (**Table 3.1**).

3.7.1 Naqada IIIA2 period

The Naqada IIIA2 period represented the peak period of use at the cemetery with 615 graves assigned to this phase (47%) **(Table 3.1)**. The majority of these graves (n = 528) were situated in the valley while the remaining graves (n = 87) were found scattered throughout ten hills (**Chapter Nine; Appendix A**). Due to the number of graves it is possible that this phase represented a substantial period of time, the span is uncertain but could be as long as 100 years. While this is my current thought on the matter, it is always possible that a large number of people lived together in the early settlement over a shorter period of time.

Table 3.4: Distribution of cylindrical jars by period.

Period	Total pots	Number of cylindrical jars	% of cylindrical jars	Type 46	Type 46 (net)	Type 47	Type 48	Type 49	Type 50	Other*
IIIA2	2817	1285	45.6%	999	213	60	0	0	0	13
IIIB	1906	1048	55%	218	41	221	127	388	0	53
IIIC1	469	199	42.4%	6	3	3	11	42	130	4
IIIC2	1606	38	2.3%	6	0	0	1	0	30	1
Total	6798#	2570	38%	1229	257	284	139	430	160	71

*Refers to cylindrical jars types 43 and 51 and those without specific type designation
Does not include 157 vessels from 252 Naqada III period graves (**Table 3.3**)

A total of 2817 vessels were recorded for the Naqada IIIA2 period, comprising 40.5% of the total number of ceramics found at the site **(Table 3.3)**. The pottery repertoire is dominated by the marl fabric type 46 cylindrical jars including the net-patterned varieties of this broad form. The cylindrical jars comprise 45.6% of the total Naqada IIIA2 pottery and 82% of graves were

found to contain such vessels (**Table 3.4**). The types 60 (17%) and 66 (6%)[9] were the most prolific marl fabric storage jars deposited in the graves at this time.

For this phase the major vessel preferences for the Tarkhan community were as follows: type 46 cylindrical jars; net-patterned cylindrical jars; type 60 storage jars of 60g, 60d, 60h, 60j and 60m; type 66 storage jars of 66j (56e2), 66h (56F) and 66l (56e5); type 3 bowls of 3b, 3d, 3g; and individual types 36g, 73h and 87d**.** This concords well with the frequency distributions identified by Hendrickx (1996, Tab. 4). For graves without cylindrical jars the presence of the above mentioned types together with the principle of frequency of appearance provided the basis upon which an attribution to Naqada IIIA2 was made.

Type 47 cylindrical jars appear for the first time and are represented by jars of 47b, 47d, 47e, 47f, 47h and 47k. These early appearance type 47 jars are associated primarily with types 46, 60b, 60j, 66j (56e2), 66l (56e5), 3b, 3d and 36g. I would suggest that these graves should be considered late Naqada IIIA2 contexts. Examples of type 63 and early wine jars of types 75c and 75e now appear in small numbers. As type 63 jars figure strongly in Naqada IIIC2 contexts, the early appearance of these forms are associated with the type 46 cylindrical jars. A similar association between the early wine jars and type 46 jars can also be observed.

While the majority of published types can be identified in the Naqada IIIA2 corpus it must be emphasised that many are only represented by one or two examples (Hendrickx 1996, Tab. 4). Even within the major type groups there are poorly represented subtypes as seen with single examples of 46g, 46s, 46u, 46v and 46w. This observation is consistent across all of the temporal phases. The reason for the limited mortuary representation of certain types may have been related to community-driven depositional practices and preferences. These seemingly random types could also indicate that the range of pottery available for non-mortuary use was far more extensive at this time. Alternately, some of these isolated examples could reflect inconsistencies in the original identification of types.

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[9] A major reassignment of type 66 was undertaken with forms allocated to types 56 and 73 in the Protodynastic Corpus (Petrie 1914a, XXIX-XXX; 1953, X-XI; XVI-XVII). To avoid confusion it was decided to maintain the type 66 designation and the concordances can be found in **Appendix B**, Type 66.

3.7.2 Naqada IIIB period

The Naqada IIIB period is represented by 353 or 27% of graves at the cemetery. The majority of these graves (n = 279) were excavated in the valley while the remaining graves (n = 74) were situated across ten hills (**Table 3.1; Chapter Nine**). Significantly, a decrease of 43% in the number of graves from the previous period is noted. A total of 1906 vessels were recorded for this phase representing 27.5% of the total number of ceramics uncovered at the site (**Table 3.3**).

Cylindrical jars continue to dominate and comprise 55% of all recorded Naqada IIIB pottery **(Table 3.4).** New cylindrical types 48 and 49 are now seen with 49d and 49l becoming the depositional vessels of choice. The cylindrical jar distribution is extremely complex with types 46, 47, 48 and 49 appearing in various combinations within graves **(Table 3.5).**

Table 3.5: Arrangement of cylindrical jars in Naqada IIIB graves.

Cylindrical jar types	Valley graves	Hill graves	Total number of graves
Type 47 only	15	8	23
Type 48 only	10	6	16
Type 49 only	52	4	56
46/47	17	7	24
46/48	3	0	3
46/49	55	0	55
47/48	1	1	2
47/49	14	7	21
48/49	28	9	37
46/47/48	3	2	5
46/47/49	21	9	30
46/48/49	4	0	4
47/48/49	7	7	14
46/47/48/49	7	3	10
Total number of graves	**237**	**64**	**302**

Type 46 jars still figure prominently in Naqada IIIB graves comprising 24.7% of the total number of cylindrical vessels (**Table 3.4**). These jars always appear in combination with types 47, 48 or 49 so the association with Naqada IIIB is substantiated. There is a continuation of type 47 forms (b, d, f, h and k) and these now appear in multi-cylindrical type arrangements. At least four new forms of 47 (m, p, r and s) are recorded on the tomb cards.

Hendrickx (1996; 1999; 2006a; 2011a) had identified types 47r-t as key chronological indicators for the Naqada IIIB period. However, types 47r and 47s are poorly represented at Tarkhan and there are no identifiable examples of 47t recorded on the tomb cards (**Appendix B**). Type 47p was the most popular jar of this type group appearing as 65 examples within 46 graves. While Hendrickx (2011a, 70, 73) did note the predominance of this form at Tarkhan and Turah, it was omitted from the relative distribution chart for the W-class/cylindrical jars.

Type 74, 75 and 76 wine jars are also seen along with various forms of type 59, but all of these jars are minimally represented (Hendrickx 2006a, 85). There is an increase in the type 73 vessels and a continued but minimal appearance of type 63 jars. The storage jars of type 66 reduce along with types 3 and 36. Marl jars of type 60 continue to be popular. There is an observed increase in the number of graves (n = 102) containing type 60d and this form appeared to be the preferred storage vessel for this phase.

As the pottery now begins to change showing greater affiliation with Naqada IIIC1-IIIC2 types, there remains a degree of ambiguity regarding whether certain graves should be placed within Naqada IIIB or be considered First Dynasty contexts.[10] An association with the cylindrical jars, with types 60 or 73 or with other forms represented in Naqada IIIB contexts becomes the determining factor in allocation.

3.7.3 Naqada IIIC1 period

The Naqada IIIC1 period is characterised by a marked decline in the number of recorded burials throughout the cemetery. Only 84 published and unpublished graves can be assigned to this phase (**Table 3.1**). Of this number, 45 graves were situated in the hills and 39 in the valley. The reduced figure is similar to that suggested by Hendrickx (2006a, 90), who assigned 73 published graves to the Naqada IIIC1 period. As discussed in **Chapter One**, this picture could be questioned given the disparity between the number of excavated and recorded hill graves. The significantly reduced mortuary profile in the valley does, however, suggest a more systemic demographic change at this time.

As only 469 vessels were recorded for this phase it becomes difficult to assess distributive patterns throughout the cemetery **(Tables 3.3)**. Moreover, gaps in the appearance of vessel types constrain more accurate assessments of mortuary use and production continuity from Naqada IIIB through to the Naqada IIIC2 period. Cylindrical jars now represent 42.4% of the

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[10] I would like to thank Christian Knoblauch for discussions on this subject.

total pottery and types 50d, 50e and 50f are the defining chronological forms (Hendrickx 2006a; **Table 3.4**). Isolated examples of types 46 and 47 still appear and probably represent grave good recycling. Limited numbers of types 48 and 49 also occur (n = 53 examples). Thirty-four graves contained multi-cylindrical arrangements and are considered to be early Naqada IIIC1 contexts. It is interesting to note that 22 of these graves were situated in the valley cemetery. Type 60 remains the prominent marl storage jar, and types 59 and 63 continue but not in significant numbers. A group of smaller round-based marl jars of type 65 (n= 24) are now seen across 20 graves (Hendrickx 2006a, 86). Type 76b and 76c wine jars appear for the first time and there is a random scattering of vessels across another 32 types.

3.7.4   Naqada IIIC2 period

A revival in cemetery use during the Naqada IIIC2 period is attested by the presence of 262 graves. These comprise 20% of graves in the dataset (n = 1314) (**Table 3.1**). A distinct spatial shift is now observed with 210 hill and 52 valley graves. While there is an increase in the number of burials from the Naqada IIIC1 period, it is clear that the peak period of mortuary use at Tarkhan occurred prior to the First Dynasty. The exact number of hill burials cut at this time remains uncertain but likely exceeded the figure provided here. A total of 1606 vessels were recorded comprising 23% of the total number of ceramics uncovered at the site **(Table 3.3)**.

This phase is now characterised by changes in mortuary pottery preferences and forms. The most notable of these changes relate to the cylindrical jars. These vessels constitute only 2.3% of the pottery repertoire with the narrow straight-walled types 50b and 50h-t representing the dominant forms **(Table 3.4)**. The demise of the pottery form has been associated with an increased preference for the stone versions of this cylindrical shape (Hendrickx 2006a, 87). Several examples of type 46 jars and a single type 48s jar should be considered heirlooms or perhaps re-cycled pottery removed from earlier contexts.

Marl storage jars now dominate with type 59 comprising 23% of the total pottery deposited in graves. There is also an increase in types 63 (16%) and 65 (7%). Large wine jars of types 75 and 76 continue with type 76m the most common form. There is some uncertainty regarding type designations given the practice of recording these vessels as 75/76. It is interesting to note that 69% of the identified wine jars were incised with pre-firing potmarks. This attests to the importance of such vessels as product carriers within the various economic distributive networks operating during this phase (Mawdsley 2006a; 2006b; 2009; 2011b).

There is also an increase in the number of unrestricted flat-based bowls and these are seen across 10 existing type groups. Nine examples of imported pottery of Canaanite origin were also identified in six graves (Petrie et al. 1913, XVI, XXX; Petrie 1914a, 11-12, IX).

3.7.5 Naqada IIIC3 at Tarkhan

Recently, Köhler (2004, 300-301) has proposed a further sub-division of the Naqada IIIC period encompassing the reigns of the last two kings of the First Dynasty, Semerkhet and Qa'a **(Table 3.2)**. The lack of cylindrical jars associated with their respective tombs at Abydos had previously excluded these kings from the Naqada IIIC sequence (Hendrickx 1996; 2006a, 89; Köhler 2004, 300). This new phase has been designated Naqada IIIC3 and is characterised by an important group of rudimentary variants of the cylindrical jar found at Helwan, now termed the "residuary cylindrical jar" by Smythe (2008, 157-159; see also Köhler 2004, 300, Fig. 2; Smythe 2004, 324-326, 332-333; Köhler et al. 2011, 107). Similar jars are represented by Petrie types 51s and 51u associated with tomb of Qa'a at Abydos and also by one type 52 jar from Tarkhan; all of which were attributed to SD 82 (Smythe 2008, 158). This would suggest that use of the cemetery at Tarkhan may have extended to the end of the First Dynasty.

It is unfortunate that the type 52 residuary jar as drawn by Hilda Petrie is not mentioned in the accompanying tomb register for SD 82 (Petrie et al. 1913, XLIX, LXVII). An exhaustive examination of all of the tomb cards has failed to associate this vessel with any recorded grave at the cemetery. An investigation of museum catalogues and a limited collection-based search has also been unsuccessful. Even if this vessel is eventually located, confirming site provenance may prove to be difficult given the lack of supporting information.

It is interesting to note, however, that activity associated with the reign of Semerkhet may be inferred from the presence of a wine jar fragment incised with a fortress mark of this ruler (Petrie 1914a, 12, XXI.54; Mawdsley 2006a, 46; Grajetzki 2008b, 111; **Table 3.2**). As with the type 52 jar, the grave of origin and whereabouts of this fragment is unknown. As a result, the extent of the Naqada IIIC3 presence at Tarkhan cannot be determined at this stage. Due to this uncertainty, a re-evaluation of the available pottery associated with the Naqada IIIC2 graves is suggested. Only material with confirmed provenance and secure contexts should be examined, although this could be problematic given the nature of the original data.[11]

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[11] I would like to thank Christian Knoblauch for discussions on this subject.

Following work conducted at Helwan, the application of vessel indexing to wine jars may prove useful in establishing a *terminus post quem* for the cemetery (Köhler and Smythe 2004, 131; Smythe 2004, 323-324; 2008, 154-157; Köhler et al. 2011, 107). As wine jars display a stylistic development from the wider, ovoid shapes to more elongated forms, the relationship between height and maximum diameter (known as the vessel index) has been demonstrated to be chronologically sensitive (Smythe 2004, 323-324; 2008, 154-157; Köhler et al. 2011, 107). A closer examination of the wine jars may therefore provide crucial information regarding the later development of the cemetery (Mawdsley 2011b, Figs 3-7).

3.8 Cylindrical jars

Tarkhan contains the most extensive range of Naqada IIIA2-IIIB cylindrical jars recorded in northern Egypt (n = 2333). These jars comprise 49.3% of the total number of vessels (n = 4723) sourced from graves associated with these two relative phases **(Table 3.4)**. While differences in the shape and decorative styles of the cylindrical jars are considered to be chronological markers for the Naqada III period, the heterogeneous nature of this broad group as recorded by Petrie remains problematic. In the first season Petrie used an extensive W-class numerical system to identify stylistic differences between these vessels. In the second season, all of the cylindrical jars were recorded according to the new Protodynastic system **(Appendix B)**.

A variety of decorative designs become a key feature of the Naqada IIIA2-IIIB jars. These consist of ridges, waves, hollows, cords and lines (Petrie 1953, IX; Hendrickx 1994, 38-39; Jucha 2008, 63-74). A distinctive decoration identified as 'lattice' on the tomb cards was used to describe the net-patterned varieties of these jars. The basic design may have been intended to replicate carrying nets used in the transport of these and other pottery vessels (Hendrickx 1994, 84). The characteristic criss-cross pattern was painted in shades of red, brown and purple, with several examples painted over a white slip. At least twelve principle patterns can be identified across the range of examples from the cemetery (Petrie 1914a, XXVIII). There were 257 net-patterned jars recorded on the tomb cards, of which 83% were found in Naqada IIIA2 graves **(Table 3.4)**. This decoration is strongly associated with 46d, f and h jars, although one example is cited for a type 49l (Petrie 1914a, XXVIII). This was found to be an error in the original determination as the vessel is actually a type 46 jar (UC17302).

A petrographic analysis of cylindrical jar fabrics from the cemeteries of Helwan and Abydos has been undertaken recently by Ownby and Köhler (forthcoming).[12] This work identified that the major fabric (mixed clay with shale) used in the production of the net-patterned jars (type 46, W62/63) originated in Upper Egypt, probably in the Qena Bend area to the south of Abydos (Ownby and Köhler forthcoming). The identification of a production source in Upper Egypt now establishes that these jars were not manufactured locally at Tarkhan. The number of cylindrical jars deposited in Naqada IIIA2 burials at the cemetery would indicate that members of the early community were conspicuous consumers of the products contained within these vessels (Mawdsley 2012a). The contents may have included oil, fats and unguents (Hendrickx 1994, 82-84). This does not preclude the transport of empty jars from production centres in Upper Egypt to settlements in northern Egypt for mortuary use. It is also possible that empty jars transported to Tarkhan were later filled with locally produced materials for non-mortuary purposes.

During the Naqada IIIB period changes in the cylindrical jar fabrics have been identified in vessels associated with Cemetery B at Abydos (Knoblauch and Bestock 2009, 223). This may reflect broader changes to production processes or other conditions connected with the manufacture and use of the cylindrical jars (Knoblauch and Bestock 2009; Ownby and Köhler forthcoming). Further analysis of the cylindrical jar fabrics from Tarkhan would make a valuable contribution to our understanding of early Egyptian systems of production and distribution for this important class of pottery.

3.8.1 Problem of the cylindrical jar with the *serekh* of Ka

A type 50 cylindrical jar found in hill grave 261(Naqada IIIC1) presents an interpretative challenge and is worth discussing in more detail (Petrie et al. 1913, 9, I.6, XXXI.67). Significantly, this vessel was inscribed with the *serekh* of the Abydene ruler Ka (UC16072) (see **Figure 9.9** in **Chapter Nine; Table 3.2**). This vessel is the only known example combining an early Naqada IIIC1 cylindrical jar type with the name of a recognised late Naqada IIIB ruler.[13] Cylindrical jars characteristic of the late Naqada IIIB are incised with a

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[12] I would like to thank Christiana Köhler and Mary Ownby for providing me with a copy of their paper on the petrographic analysis of early Egyptian fabrics.

[13] I would like to thank Christian Knoblauch for drawing my attention to this vessel and for discussions regarding its significance.

line below the rim; and the ink inscriptions of Ka are usually associated with such vessels (Köhler 2013, 230). The Tarkhan vessel does not contain this incised line.

It is possible that this jar represents an anomaly with the characteristic incised line merely forgotten during the production process. Alternately, perhaps the formative production of new undecorated cylindrical jars actually began late in the reign of Ka. On this point, a small number of undecorated cylindrical jar fragments have been found in the tomb chambers B7/9 assigned to Ka at Abydos (**Table 3.2**). These fragments have been attributed to extensive post-depositional activity seen throughout Cemetery B and probably originated from the early Naqada IIIC1 tomb of Aha (Dreyer et al. 1996, Abb.18; Knoblauch and Bestock 2009, 223). Based on this information, no clear evidence exists that would substantiate an earlier production date for the undecorated cylindrical jars in Upper Egypt. Comparative petrographic analysis of the fabric of the Tarkhan vessel with other jars associated with Ka is required, and until further evidence is forthcoming this issue remains unresolved.

3.9 Horizontal stratigraphy of the valley cemetery

This section examines the distribution of the cylindrical jars and provides a brief assessment of the chronological implications of such patterning. In considering the horizontal stratigraphy of the valley, Hendrickx (1996; 2011a) observed that graves containing the standard and net-patterned type 46 cylindrical jars occupied space immediately to the north and south of a pathway running through the valley (Hendrickx 1996, 59). These graves were considered to be Naqada IIIA2 contexts (Tarkhan zone 1; Hendrickx 1996, 59; **Figure 3.1**). While this assessment is correct it can also be observed that both the standard and net-patterned varieties of type 46 were found in graves positioned some distance from the pathway.

As most graves contained the standard type 46 jars, the identification of a primary zone of spatial development within the valley remains elusive. Nonetheless, a concentration of type 46 jars was observed in the central and north-eastern sections by Hendrickx (1996, 59). As type 60 vessels are prolific the relationship between these and the cylindrical jars is less informative from a spatial perspective. I have observed, however, that the types 66h (56F), 66j (56e2) and 66l (56e5) are more heavily concentrated in the eastern (60%) and central (38%) areas of the valley. This may suggest that these spaces were points of initial development thereby confirming the assessment made by Hendrickx (1996, 59). There are also some minor spatial associations for graves with early type 47 jars in the central and

western areas. I would propose that these represent late Naqada IIIA2 contexts, the most notable of which is mastaba 1845.

As previously suggested, the Naqada IIIA2 phase represented a period of some time, perhaps 100 years or so. If this assumption is correct, it may explain the wide-spread distribution of the type 46 jars. Due to the longevity of the cylindrical and type 60 jars the issue of contemporaneity between graves becomes problematic. If grave placement was related to the spatial practices of different kinship groups, then it is likely that the use of such space occurred over several generations. As a result, the appearance of similar ceramics in spatially-connected graves may reflect other factors such as tradition or memory rather than provide direct evidence of simultaneous living.

A similar situation can be posited for the appearance of the type 47 cylindrical jars. While these vessels provide evidence of ceramic change in the late Naqada IIIA2, the relationship between graves in close proximity with and without such types remains unclear. New ceramic styles may have been adopted quickly by certain groups and used as statements of fashion or status in mortuary display, whereas similarly contemporaneous groups may have adhered to traditional ceramic formulas. As recognised astutely by Hendrickx (2011a, 69-70), there is a distinct conflict between "the search for closer chronological proximity of all examples of one pottery type on one hand, and the definition of spatially well defined groups of graves on the other hand. Neither one of these two elements can be accepted as prevailing over the other". This comment is particularly relevant when considering the horizontal stratigraphy of the valley during the Naqada IIIA2 period.

For the Naqada IIIB period, a westward movement of graves became the dominant feature of spatial practice at this time (**Chapter Six**). According to Hendrickx (1996, 59), graves containing types 47p, 48 and 49 were situated further from the path with a noted concentration in the southern and south-western sections (Tarkhan zone 2). As can be seen from **Figure 3.2**, the spatial boundaries now extend well-beyond mastaba 1845 while the cutting of graves along the pathway to the north and east of this structure still continued. This pathway observation does vary slightly from the opinion offered by Hendrickx (1996, 2011a) for this phase.

Interestingly, the dispersal patterns associated with vessels specifically identified as type 47p is random. Only 23 valley graves contained this type and no defined spatial significance can be attached to this form in the valley. Hendrickx (2011a, 84-85) further observed that a

number of different cylindrical jar types were often contained within a single grave. At least 68% of Naqada IIIB graves in the valley contained two or more cylindrical types, while only 32% contained single types (**Table 3.5).** While there are eleven different combinations of jar types, no clear spatial clustering can be detected for any group. The combining of Kaiser's Stufen IIIb1 and IIIb2 into Naqada IIIB by Hendrickx (1996; 2011a, 84-85) is therefore supported by these data.

With regard to type 49, it is now the dominant cylindrical form and found within 188 valley graves (**Table 3.5**). The majority of these graves are situated in the west and centre of the valley. Interestingly, type 48 was less frequently combined with type 46 and only 17 graves included both forms. There is a minor concentration of these to the west of mastaba 1845 but otherwise the graves are widely dispersed. It is possible that type 48 represented a later Naqada IIIB form. This view may be supported by the continued appearance of these jars in several important Naqada IIIC1 hill graves, namely 261, 414 and 415. In terms of parallels, the corded styles of type 48 are still found on jars associated with tombs B1/B2 and in the vicinity of B7/B9 at Cemetery B, Abydos (Dreyer et al. 1996, Abb.18). Type 48 vessels are also associated with phase 5 (end of Naqada IIIB-start of Naqada IIIC1) at Tell el-Farkha (Jucha 2008, 64, 71).

Due to the demographic decrease seen at the site during the First Dynasty, clusters of Naqada IIIC1 and IIIC2 graves are more easily defined (**Figure 3.3**). Naqada IIIC1 burials are situated in the central and north-eastern areas of the wadi in three small clusters, while remaining graves are scattered throughout the valley. These graves are associated with cylindrical types 50 d-f. Several important graves can still be identified including 1549, which contained a cylindrical jar inscribed with a post-firing *serekh* of Crocodile; and 1100, which contained a *serekh*-marked wine jar of Narmer (**Table 3.2**). The mastaba 1674 can also be attributed to this phase. It is interesting to observe the degree of spatial separation between these graves, with 1100 in the north-east, 1549 in the north-west and 1674 in the centre to the south of the pathway.

By the Naqada IIIC2 period, three principal clusters of graves can be observed, some of which contain the cylindrical types 50 b, h-t. Two groups are situated to the immediate west of mastaba 1674 on the north and south side of the pathway. A third and larger group of graves seemingly occupied vacant space to the north-east of mastaba 1674. There is a greater concentration of unpublished Naqada IIIC2 graves within the valley so my description

includes the smaller cluster of graves to the south of the pathway. This varies slightly from the assessment presented by Hendrickx (1996, 59).

It would appear that the pathway was important in framing spatial practice for the early community and this idea is developed further in **Chapter Six.** Apart from this feature, the widespread use of cylindrical jars would suggest that such practices were more fluid during the Naqada IIIA2 period. As a result, there is some difficulty in identifying exactly where the first graves were cut by the founding community.

3.10   Concluding comments

The use and distributive patterns associated with mortuary ceramics are crucial to our understanding of the relative chronological development of early Egypt. Nonetheless, the spatial arrangements of cylindrical jars and other ceramic types at Tarkhan call attention to the fact that these materials were selected for a purpose other than the telling of time. Such decisions reflected the preferences and practices of families and communities, as well as symbolising those material relationships between the living and the dead.
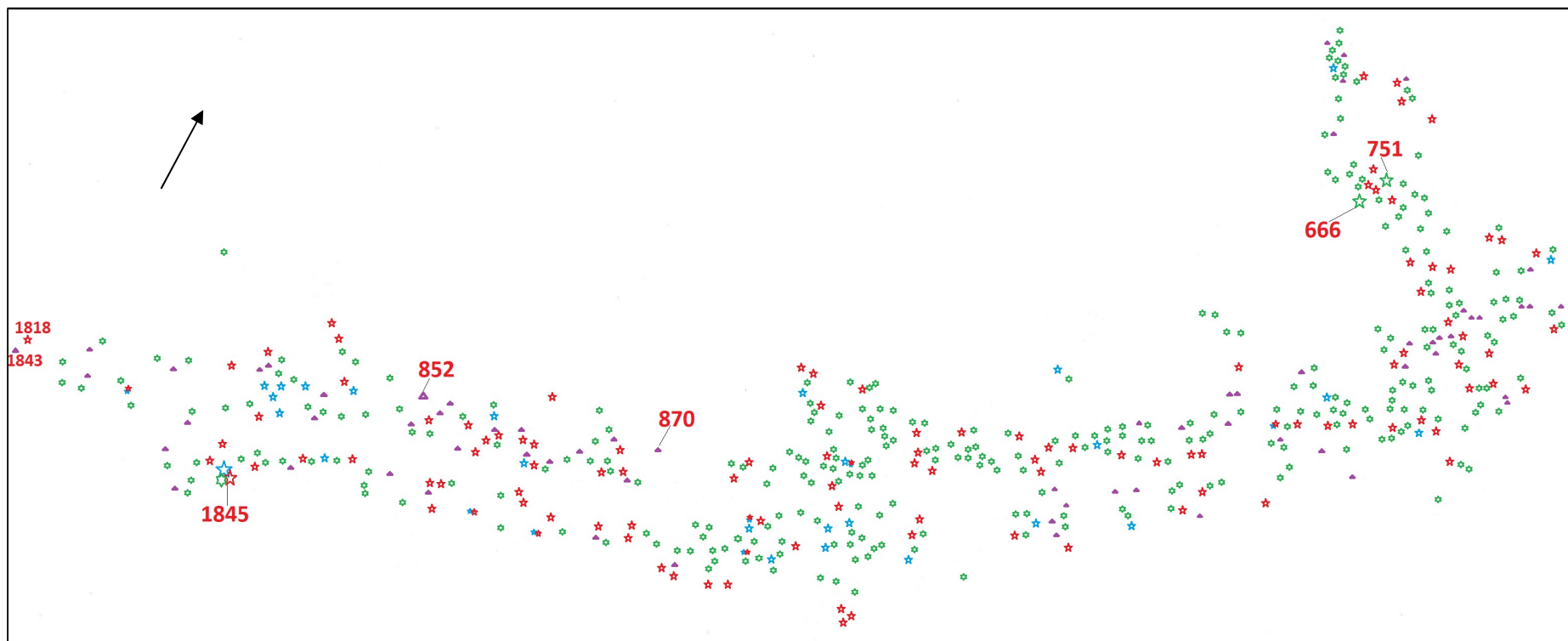
Key: Green = type 46; Red = type 46 net-patterned; Blue = type 47b-k; Purple = no jars (Petrie et al. 1913, XLIX; Petrie 1914a, XXVIII; Petrie 1953, VIII- IX).

Many graves contained multiple forms of type 46 jars. Graves with type 47b-k jars also contained type 46 jars. Only the net-patterned type 46 and type 47 jars are identified for these graves. Mastaba 1845 contained the standard and net-patterned type 46 jars and one type 47h. The large graves 666 and 751 in the north-east valley contained standard type 46 jars. The majority of graves without cylindrical jars contained type 60 forms consistent with the Naqada IIIA2 period.

Figure 3.1: Distribution of cylindrical jar types for the Naqada IIIA2 period (after Petrie 1914a, XLVI).
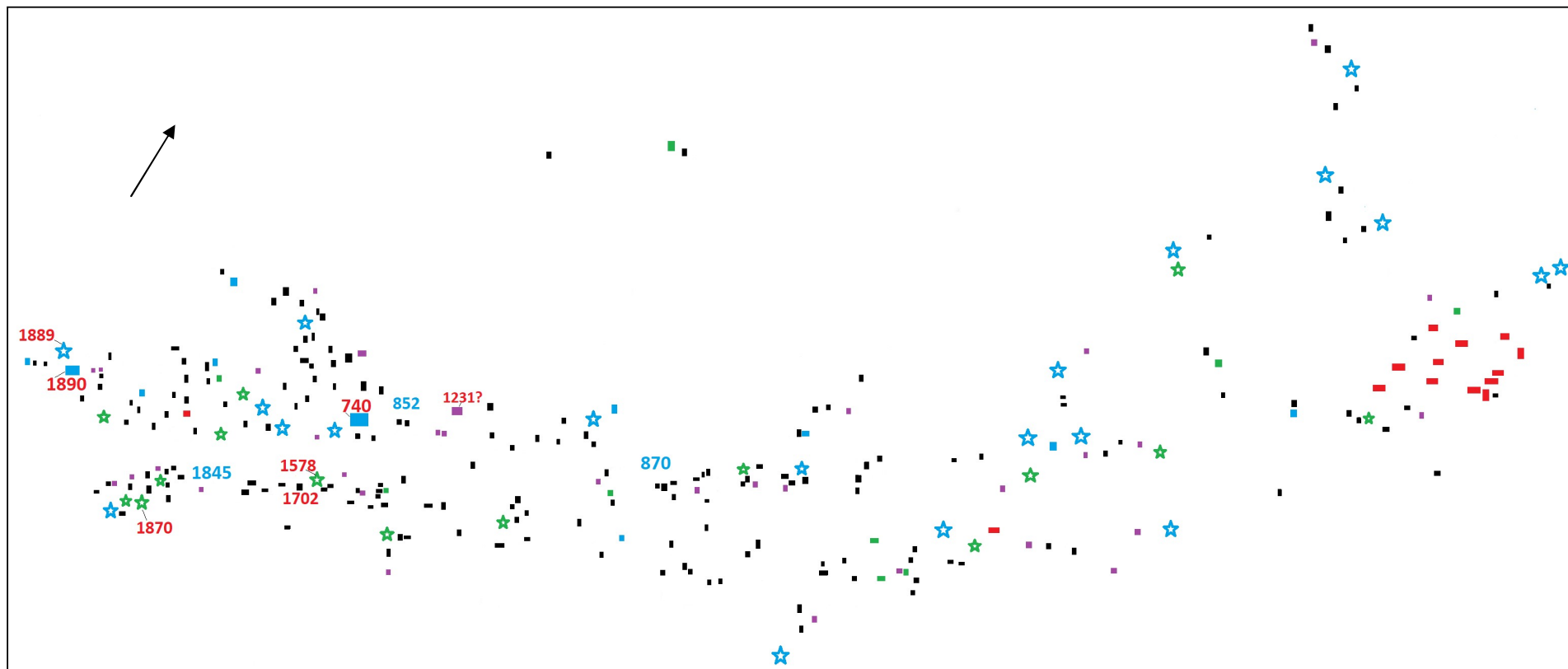
Key: Blue star = type 47p; Blue square = type 47 only; Green star = graves containing types 46 and 48 as per **Table 3.5;** Green square = type 48 only; Black square = graves containing type 49 as per **Table 3.5;** Red square = bovine burials; Purple square = no jars (Petrie et al. 1913, XLIX; Petrie 1914a, XXVIII; Petrie 1953, VIII- IX).

The majority of graves without cylindrical jars contained type 60 forms or other types consistent with the Naqada IIIB period. Mastaba 1889 also contained one type 46d net-patterned jar and one type 49d. Mastaba 1890 contained types 47 and one type 46d net-patterned jar.

Figure 3.2: Distribution of cylindrical jar types for the Naqada IIIB period (after Petrie 1914a, XLVI).
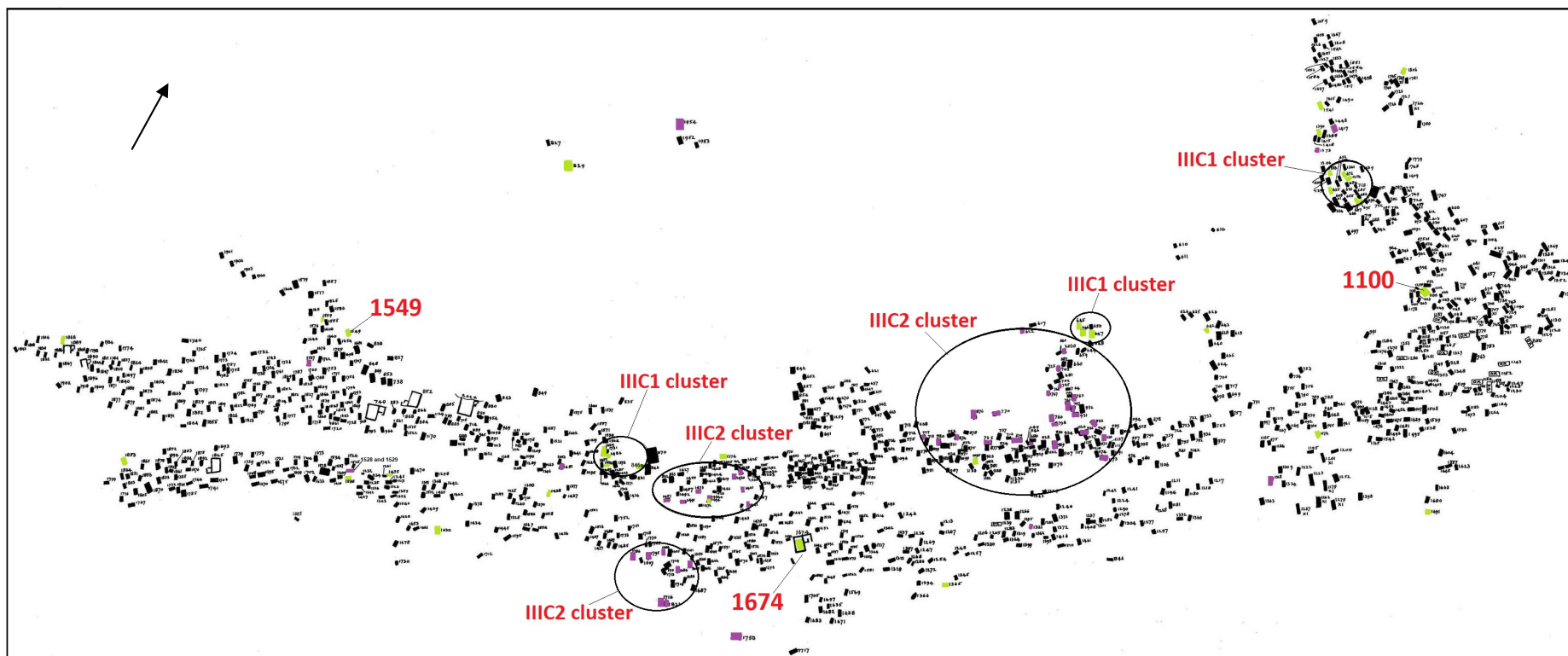
Key: Green = Naqada IIIC1; Purple = Naqada IIIC2

There are three clusters of Naqada IIIC1 graves in the north-east and central areas; and three clusters of Naqada IIIC2 graves to the west and east of mastaba 1674. A random distribution of graves from both periods can also be observed. Two important Naqada IIIC1 graves were identified in the north-east (1100) and west (1549) with Naqada IIIC1 mastaba 1674 situated in the centre of the valley.

Figure 3.3: The distribution of Naqada IIIC1-IIIC2 graves in the valley cemetery (after Petrie 1914a, XLVI).

Chapter Four: Tarkhan in a northern Egyptian context

4.1 Introduction

An expotential growth in mortuary-related human activity is documented in northern Egypt from the mid-4th millennium BCE. This trend continued into the Naqada III period as new cemeteries appeared throughout the greater Memphite-Fayum region (Mortenson 1991; Bard 1994; Jeffreys and Tavares 1994; Moeller 2016). Until recently settlement knowledge from northern Egypt was limited to a few sites in the Delta such as Tell el-Fara'in (Buto). This imbalance of knowledge is now changing as a result of intensive work at a number of integrated occupation/cemetery sites within the north-eastern and eastern regions of the Delta (Tristant 2005; Tristant et al. 2011, 140-141; Chłodnicki et al. 2012). For the Memphite-Fayum region crucial information relating to how people lived still remains elusive. Consequently, cemeteries provide the principal source of information used to reconstruct the social, economic and political dimensions of life throughout this broad geographic area.

While Tarkhan is considered to be the largest site in the Fayum it did not exist in isolation, forming part of a complex network of cemeteries within northern Egypt during the Naqada III period (Hendrickx and van den Brink 2002; Dębowska-Ludwin 2013). This chapter discusses the foundation of Tarkhan and some of the available site data for northern Egypt. It also investigates the cultural topography of the Fayum in order to situate Tarkhan within a regional context. A big picture approach to these data has been adopted to highlight some of the broader economic processes occurring in northern Egypt; and also to theorise how such processes may have driven settlement formation in the Memphite-Fayum region during the early Naqada III period.

4.2 Founding a cemetery

The cemetery of Tarkhan represents the first explicit evidence of intensive human activity in the northern Fayum region (Mawdsley 2012a, 334). The lack of any identifiable material associated with the Lower Egyptian cultural complex would appear to indicate that this landscape had not been used prior to the establishment of the Tarkhan settlement (Mawdsley 2012a, 334). Such an assessment is based on our current state of knowledge and may change if this area is surveyed in the future. It is of interest to note that Lower Egyptian cultural activities have been detected at Harageh (cemeteries D and S) and Sedment (cemetery J) in the southern Fayum; and from a small cemetery at es-Saff approximately 11 kilometres to the

north of Tarkhan (Habachi and Kaiser 1985; Grajetzki 2004b; Hassan and Tassie 2006; Stevenson 2009a; Mączyńska 2011; 2013; Dębowska-Ludwin 2013) **(Figure 4.1).**
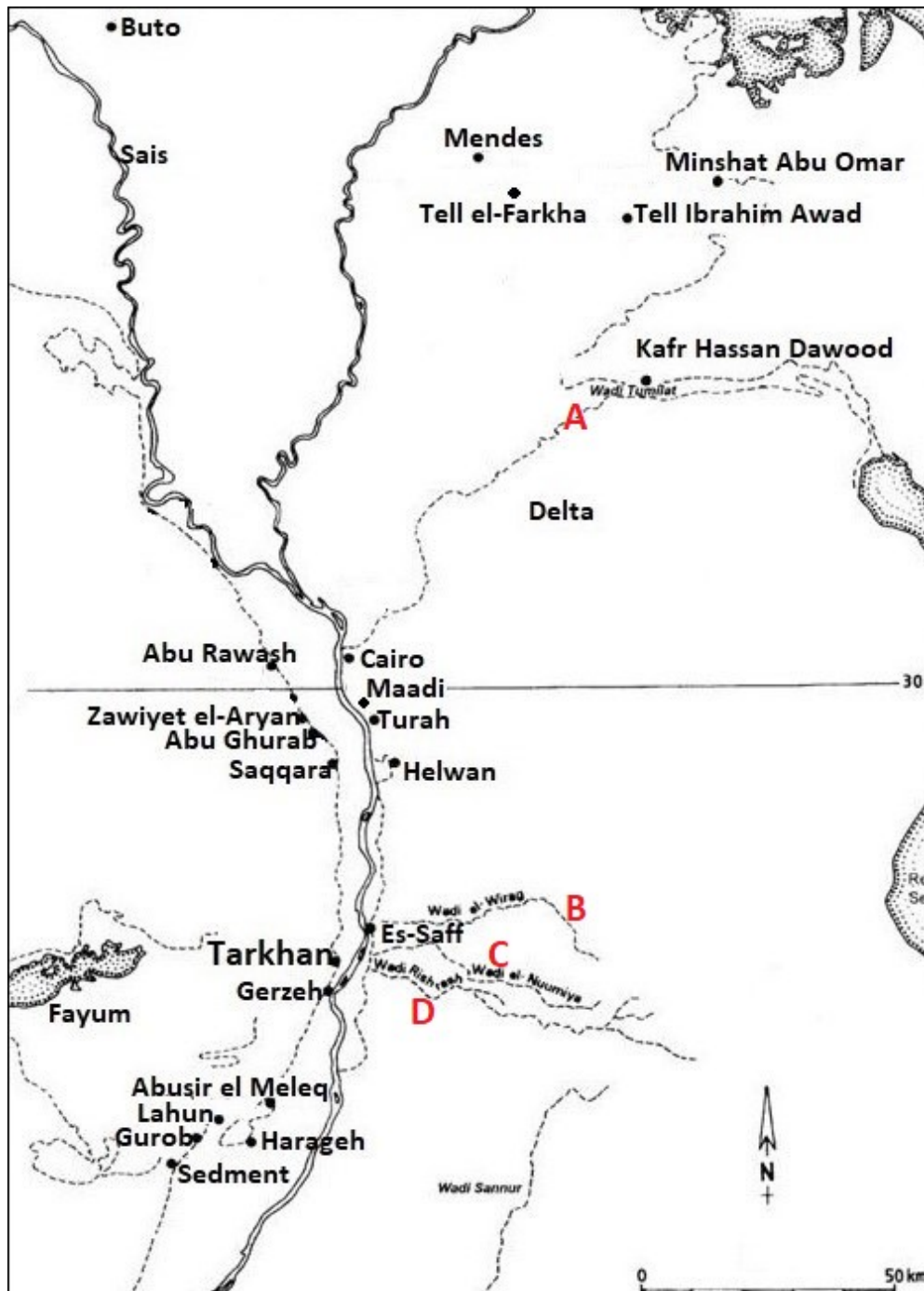
Wadi Tumilat (A), Wadi el-Wirag (B), Wadi el-Nuumiya (C) and Wadi Rish (D)

Figure 4.1: Major sites in the Delta and Memphite-Fayum regions
(after Hendrickx and van den Brink 2002, Fig. 23.2).

By the mid-4th millennium BCE the social landscape of the southern Fayum was characterised by seemingly new cemeteries with mortuary practices derived from the cultural traditions of Upper Egypt (Hendrickx and van den Brink 2002, 352; Stevenson 2009a, 43-58). These sites include Gerzeh (Naqada IIC-IID2), Abusir el-Meleq (Naqada IID-IIIB), and cemeteries G and H at Harageh (Naqada IIC-IID2) (Hendrickx and van den Brink 2002; Grajetzki 2004b; Stevenson 2009a). More recently, a re-interpretation of ceramic assemblages associated with the cemeteries of Harageh (G and H) and Gerzeh has argued in favour of a gradual cultural transformation at these sites (Buchez and Midant-Reynes 2011, 840-847, Figs 8-9; Mączyńska 2011, 883).

Such revisions call our attention to the complexity and temporal depth of interactions between social groups while suggesting a degree of hybridity in some of these Fayum communities. It is perhaps within a multifarious network of exchange, interaction, innovation and exploration that these communities should now be placed. While such formative interactions had no temporal impact upon the foundation of Tarkhan, what is significant is the recognition of the economic and strategic potential of the Fayum by numerous communities over time, regardless of their origins.

Previously, I (Mawdsley 2012a, 335) have suggested a localised foundation of Tarkhan by existing Fayum-based peoples. This remains my principle view on the matter and follows Köhler's (2010) argument for the autochthonous development of primary centres in northern Egypt during the late 4th millennium BCE. Expanding upon this, it was posited that peoples once situated near the cemetery of Gerzeh provided a logical population source for Tarkhan. While the distance between the two cemeteries is approximately six kilometres, the temporal gap of perhaps 50 years or so between the cessation of Gerzeh and the establishment of Tarkhan is problematic. It is possible that yet undocumented villages in the spatial zone between the two sites provided temporary habitation for social groups in the early Naqada IIIA period (Mawdsley 2012a, 336).

It was also suggested that the more southern-based site of Abusir el-Meleq should be examined as a potential founding population source for Tarkhan (Mawdsley 2012a, 336). This cemetery was in use from Naqada IID to Naqada IIIB and represents the only verifiable Naqada IIIA1 presence in the Fayum (Hendrickx and van den Brink 2002, 352; Stevenson 2009a, 47-48). Based largely upon cemetery evidence it is now apparent that a trend towards the concentration of smaller villages into larger urban centres was occurring along the Nile

Valley from the mid-4th millennium BC (Mortensen 1991; Moeller 2016). The dynamic processes of active consolidation may account for the short-distance migrations of small declining communities, such as those of Harageh and Gerzeh, towards the hypothetically larger settlement of Abusir el-Meleq. Furthermore, short-distance population movements usually occur within areas where different social groups already engage in interaction (Anthony 1990; 1997).

One major problem in considering the foundation of Tarkhan is determining what the area surrounding the cemetery had to offer social groups. The presence of three shallow wadis entering the Nile Valley floodplain to the immediate north (el-Wirag) and south of es-Saff (el-Nuumiya and Rish) may have been influential in decisions regarding settlement placement in the early Naqada III period (Hendrickx and van den Brink 2002, 366; Midant-Reynes et al. 2003, Fig. 1; Dufton and Branton 2010, 36-37) (**Figure 4.1**). While permanent settlement in wadi systems was no longer viable due to changing environmental conditions, people could still move through these landscapes to access the Eastern Desert and the Red Sea (Levy and van den Brink 2002, 9; Dufton and Branton 2010, 36-37). The position of Tarkhan in relation to these wadi systems may be significant and could suggest that ease of access and control over these routes was considered strategically advantageous during the early Naqada III period.

Ultimately, the establishment of the primary centre and any satellite villages should not be considered a random act, but one based upon an astute awareness and developed knowledge of the strategic potential of this location (Mawdsley 2012a, 337). By its very nature, the cemetery was a product of the establishment of the initial settlement and it is likely that the burial ground was within walking distance of the houses of the living (Mawdsley 2012a, 337). In deciding on a new burial ground the combination of a natural wadi surrounded by numerous hills or hillocks was considered to be the prime location. The selection of this varied terrain implies that there was an expectation by the living community that it would expand over time. Furthermore, the need to provide adequate space for the dead on this scale suggests that these people conceived their presence within the landscape to be permanent rather than transitory **(Chapter Six).**

4.3 Considering early Memphis and Helwan

Evidence of prehistoric materials discovered in the fill of tombs at Helwan (Köhler 2004, 299) underscores the fact that people gathered and moved through this landscape in ways that are not identifiable at Tarkhan. To date, there is no late Naqada II presence attested at Helwan with the majority of burials situated within the Early Dynastic Period (Köhler 2004, 299; 2008a). An early Naqada IIIA use of the necropolis is suggested, which would pre-date the foundation of Tarkhan (Köhler 2004, 306-307). However, it is unclear how the establishment of the early Naqada III centre of Memphis and its primary cemetery at Helwan may have influenced the foundation of a northern settlement in the Fayum. In considering the autochthonous development of primary centres, it is possible that the establishment of both Tarkhan and Memphis could be linked to broader socio-economic processes occurring within northern Egypt as will be discussed in **Section 4.5** below.

4.4 Transformative landscapes in northern Egypt

During the Naqada IIIA2-IIIB periods at least 20 cemeteries can be identified in northern Egypt including Kafr Hassan Dawood, Tell el-Farkha and Minshat Abu Omar in the Delta, and Tarkhan, Helwan, Abu Rawash and Turah in the Memphite-Fayum region (Jeffreys and Tavares 1994; Hendrickx and van den Brink 2002, 348-352; Jucha and Mączyńska 2011, 33-50; Dębowska-Ludwin 2013, 80-86; Jucha 2016, Tab. 1; **Figure 4.1**). Some of these cemeteries are poorly published so the temporal boundaries are not easily discernible. Furthermore, it must be emphasised that the cemetery data for the Naqada IIIA1 period are not robust, and that the largest concentration of excavated and published graves for the Naqada IIIA2-IIIB periods is still derived from Tarkhan.

Knowledge of human-landscape interaction in northern Egypt has developed significantly since the Delta survey programmes conducted during the 1980s (van den Brink 1987; 1988; 1993; Chłodnicki et al. 1992; Jucha and Mączyńska 2011; Tristant et al. 2011).[14] Currently, settlement data situated within the Naqada IIIA1-IIIB range are derived from the phases and stratums of a number of Delta sites including Buto, Kom el-Khilgan, Mendes, Minshat Abu Omar, Minshat Ezzat, Sais, Tell el-Farkha, Tell el-Iswid (South), Tell el-Masha'la, Tell el-Murra, Tell el-Samara and Tell Ibrahim Awad (Tristant et al. 2008; Jucha and Mączyńska

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[14] The EES Delta Survey maintains and updates information on Delta sites. Currently, over 700 Delta tells are listed covering all periods of Egyptian history see https://www.ees.ac.uk/delta-survey.

2011, Tab. 1; Tristant et al. 2011; Rowland 2014, Tab. 1; Wilson 2014; Bréand 2015; Guyot 2016; Hartung et al. 2016; Hartung 2017; Jucha and Bąk-Pryc 2017).

Even within the Delta an information imbalance exists and only a few settlement sites, such as Buto and Sais, are known throughout the western reaches of the region (Hartung 2017, 63). More recently, multi-phased sites with possible early Naqada III activity have been identified in the north-eastern Delta (Jucha 2016, 63-67, Tab. 1), and along the Wadi Tumilat near Kafr Hassan Dawood (Tassie and van Wetering 2013, 7035-7036; Rowland 2014, 270, Fig.1). The concentration of human activity in these key areas attests to the importance of geographic location in settlement formation (Jucha and Mączyńska 2011, 36; Rowland 2014, 269-271). As most of the Delta settlement sites would have had associated cemeteries of varying sizes, any estimate of the number of burial grounds once situated in this region should be considered an absolute minimum.

4.5 Considering reasons for growth in northern Egypt

Interaction and exchange networks between Lower Egyptian communities and Late Chalcolithic peoples of the southern Levant are documented from the early 4th millennium BCE (de Miroschedji 2002; Levy and van den Brink 2002; Braun 2011; Mączyńska 2013; 2014; Hartung 2014). Key agricultural products and raw materials such as timber, plant resins, olive oil, bitumen (asphalt), cedar wood, wine and figs were obtained from the Levant (Serpico and White 2000; Chłodnicki 2008, 491; Mączyńska 2013, 205-209).

A range of precious materials have been found at sites throughout Egypt including lapis lazuli from Afghanistan, turquoise and copper from the Sinai and cylinder seals from the Near East. Beads of lapis lazuli and turquoise have also been recorded in graves at Gerzeh and Abusir el-Meleq (Bavay 1997; Hendrickx and Bavay 2002; Stevenson 2009a, 118, 121-122). These examples attest to the demand for prestige raw materials and exotic finished products sourced from distant places (Hendrickx and Bavay 2002; Guyot 2011, 1266; Mączyńska 2013, 205-209; Rehren and Pernicka 2014; Stevenson 2016, 441).

During the late Naqada II-early Naqada IIIA period foreign ceramic imports, perhaps originally containing wines and oil are attested at sites such as Minshat Abu Omar and into the Fayum at Abusir el-Meleq (Hendrickx and Bavay 2002, 67-69). A significant number of such vessels were discovered in Tomb Uj at Abydos (Naqada IIIA1), some of which contained the remnants of imported herbal, fig and tree-infused wine (McGovern et al. 2001,

399-403; Stevenson 2016, 446). A limited range of Early Bronze Age 1 Canaanite pottery has also been identified at Gerzeh, although no exotic substances have been identified within these vessels (Hendrickx and Bavay 2002; Stevenson 2009a, 94-96).

The initial receipt and re-branding of materials for transportation and re-distribution along the Nile Valley was probably controlled by particular communities in the Delta. It has been suggested that sites in the north-east and eastern Delta such as Kafr Hassan Dawood, Minshat Abu Omar and Tell el-Farkha acted as nodes for precious materials including copper, turquoise and lapis lazuli (Hendrickx and Bavay 2002, 75; Rowland 2003, 390; 2014; Mączyńska 2013, 211; Golani 2014, 131; Hassan et al. 2015, 82; Chłodnicki 2017a, 49). Direct access along the Wadi Tumilat to the Nile likely facilitated the distribution of these foreign products southwards to the Memphite-Fayum region and into Upper Egypt (Midant-Reynes et al. 2003, Fig. 1; Rowland 2014, 270; Hassan et al. 2015, Fig. 1).

The demand for materials from distant places may have resulted in monopolies of control, whereby product access was regulated from these nodes. The issue of distributive control is significant as it returns full circle to questions relating to the foundation of the Naqada IIIA settlements of Memphis and Tarkhan. It is possible that the increasing monopoly over imported products by Delta centres and the concomitant wealth-enhancement of social groups in these settlements posed a socio-economic threat, in the first instance to existing groups within the Memphite-Fayum region. Such threats could conceivably have initiated processes related to the nucleation of communities in these areas. The Nile locations of the cemeteries of Tarkhan and Helwan would further imply that the construction of the primary settlements was strategically designed. At the apex of the Nile, Memphis could effectively control river-based trade (Jeffreys 2008, 41-44; Gonçalves 2018, 218-219), while Tarkhan could circumvent any overland access to the Nile via control of the eastern wadi systems.

The catalysts responsible for the foundation of Tarkhan and Memphis are unknown so much of the above discussion will remain speculative. Nonetheless, it is possible that settlement formation in the Memphite-Fayum region during the early Naqada IIIA period was influenced by socio-economic developments occurring in the Delta at this time. Such ideas champion local and regional innovation and enterprise as the primary driver of social and cultural development in northern Egypt during the early Naqada III period.

4.6   Helwan and the Memphite region

At least 13,000 graves from the Naqada III period have been excavated throughout the Memphite region, the majority of which are situated within the Early Dynastic Period (Naqada IIIC1-IIID) (Köhler 2008a; 2008b; 2015). Helwan (Ezbet el-Walda) is the largest cemetery in Egypt and comprises approximately 84% of the total known graves in the greater Memphite region (Köhler 2015, 4). Over 10,000 graves were excavated principally by Zaki Saad over 12 years of work (Köhler 2004, 295; 2015, 5). Excavations resumed in 1997 under the directorship of E. C. Köhler in an area known as Operation 4 with the project concluding after 17 years of intensive investigation (Köhler 2004; 2005; 2015). An additional 218 graves were excavated over the course of this project (Köhler 2015, 6). The foundation of the necropolis is now situated in the early Naqada IIIA period based upon pottery from the storage tomb (Op. 3/1), material stored in the Egyptian Museum, Cairo and from Saad's unpublished notes (Köhler 2004; Köhler and Smythe 2004; Smythe 2004).

The earliest identified burials are Naqada IIIA2, although the presence of a Naqada IIIA1 cylindrical jar was noted (Köhler 2004, 307, Fig. 7A). Materials associated with the Naqada IIIA2 period take the form of fish-shaped palettes and examples of net-patterned cylindrical jars (Köhler 2002, 681-682, Fig. 1; 2004, 306-307, Fig.7; Smythe 2004, 324, Fig. 13). Further cylindrical vessels corresponding to the Naqada IIIA2-IIIB periods (Petrie types 47-49) are also represented in the sample from Op. 3/1 (Köhler and Smythe 2004, 128-129; Pl. 1.1-5). These vessels compare favourably with those seen at Tarkhan, albeit in far fewer numbers.

Large-scale constructions were recorded by Saad in his unpublished records, of which grave 563.H.11 is particularly noteworthy (Köhler 2004, 307). This grave was covered by a mud-brick superstructure while the substructure pit was 7.7 m³ in volume. Ivory jewellery and fragments of stone vessels were also recorded (Köhler 2004, 307). Pottery included Saad's types G8 and J3; however, no clear parallels for these vessels can be identified within the Naqada IIIA2 corpus at Tarkhan (Saad 1951, LXVII-LXVIII; Köhler 2004, 307). Comparable vessels do include seven net-patterned type 46 cylindrical jars and one type 74b wine jar (Köhler 2004, 307; Köhler and Smythe 2004, 130; Smythe 2004, 328, Fig. 11). A similar material profile is also seen for the large Naqada IIIA2 grave 1006 at Tarkhan (14.9 m³ in volume), which contained net-patterned cylindrical jars and one type 75c wine jar. This evidence could suggest that a common mortuary vision was shared and enacted by certain

social groups at both sites.

Previously, I (Mawdsley 2012a, 347) suggested that Tarkhan was the largest Memphite-Fayum cemetery during the Naqada IIIA2 period. At least 615 graves can be attributed to this phase whereas the mortuary profile for Helwan at this time is unclear. As the impact of long-term environmental and secondary formation processes has likely obscured significant areas of the Helwan landscape, my assumption in this case may not reflect an ancient demographic reality.

The early settlement of Memphis, at the apex of the Nile, ultimately possessed the strategic advantage over all other locations (Jeffreys and Tavares 1994, 143-173; Jeffreys 2004, 837-845; Gonçalves 2018, 218; Bunbury et al. 2019, 7-14). By the end of the Naqada IIIB period this advantage was played out through the demise of Abusir el-Meleq and by a reduction in the number of burials at Tarkhan **(Chapter Three).** Increased population nucleation in the Memphite region unambiguously coincides with these observed demographic changes in the Fayum. It is difficult to offer any other viable explanation for what is seen in the Fayum during the Naqada IIIB period. The foundation of new cemeteries at Turah to the immediate north of Helwan, together with Abu Rawash, Zawiyet el-Aryan and Abu Ghurab on the west bank, provides explicit evidence of settlement diversification away from a primary urban core (Jeffreys and Tavares 1994, 144-146; Köhler 2017, 343; **Figure 4.1**).[15] With the exception of Turah, the spread of new cemeteries on the west bank is significant and may signal an attempt to secure the wadi systems located there (Jeffreys 2004, 841).

4.7 Cemeteries of the Fayum

This section examines the cemeteries of Abusir el-Meleq, Gurob, Lahun and Harageh in order to place Tarkhan within a local Fayum context (**Figure 4.1**). The cemetery of Gerzeh is not considered in this discussion as it would appear to have fallen out of use by the end of the Naqada II period. The site was excavated in 1911 by G. A. Wainwright (1912) with the

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[15] Comparative analysis between these cemeteries and Tarkhan is required and would provide a more holistic approach to our understanding of the social development of the broader Memphite-Fayum region during the Naqada IIIB period.

assistance of J. P. Bushe-Fox, and is now well-documented by the work of Stevenson (2006; 2008; 2009a; 2009b; 2013).

4.7.1 Abusir el-Meleq

The cemetery of Abusir el-Meleq is situated between Gerzeh and Harageh on the northeast edge of Gebel Abusir (29° 15' N, 31° 05' E). It is approximately 46 kilometres south of Tarkhan via modern roadways. Early investigation of the site by Otto Rubensohn in 1902-1904 revealed a number of predynastic graves. A more intensive excavation was then conducted by Georg Möller over two seasons from 1905-1906 (Castillos 1982, 153-158; Seeher 1999, 92; Hendrickx and van den Brink 2002, 352; Kuhn 2018). Approximately 851 graves were discovered with the site report arranged by Alexander Scharff after the untimely death of Möller in 1921 (Möller and Scharff 1926). Unfortunately, no map of the cemetery was produced so the spatial arrangement of graves cannot be determined.

On the basis of the funerary assemblage, use of the cemetery is situated between Naqada IID to Naqada IIIB (Seeher 1999, 91; Hendrickx and van den Brink 2002, 352; Hendrickx 2006a, 78; Stevenson 2009a, 47; Dębowska-Ludwin 2013, 80). From an examination of the grave register and plates it would appear that the late Naqada II represented the peak period of activity at the cemetery (Dębowska-Ludwin 2013, 32-33). This would connect the site to a regional network that included the cemeteries of Gerzeh, Harageh and perhaps Gurob. Only a small Naqada III mortuary population can be identified from the recorded graves (n = 20), although this figure should be considered a minimum (Möller and Scharff 1926, 108-164).

Many of the graves were disturbed contexts with small-scale rectangular pits common, although a number of larger constructions were also recorded. A left-sided body placement with head to the south and face to the west is seen (Castillos 1982, 154). This mode of placement and orientation was continued from the late Naqada II into the Naqada III period with almost absolute conformity (Castillos 1982, 154). This stands in contrast to Tarkhan where there is diversity of orientation practice seen across all temporal phases (**Chapter Five**). Few wooden coffins were noted, whereas such items are found with greater frequency at Tarkhan. This may signal differences in concepts relating to the presentation of the dead between the two cemeteries, or be related to issues of raw material availability or environmental preservation.

At least eight forms of cylindrical jars consistent with Petrie types 46 to 49 (W62, W71a, W80 and W85) were recorded (Möller and Scharff 1926, Taf. 10-11). The cylindrical jars are comparable to examples from Tarkhan and sit within the Naqada IIIA2-IIIB range (Hendrickx 2011a). Other forms included round-based shouldered storage jars (type 60), unrestricted bowls (type 3), spouted vessels (type 99d) and wine jars (Möller and Scharff 1926, Taf. 10-21). While this material was also recorded at Tarkhan, there is clearly less diversity of forms represented at Abusir el-Meleq. It is, however, difficult to make definitive comparisons between the ceramics based on the drawings presented in both the Tarkhan and Abusir el-Meleq excavation reports (Petrie et al. 1913; Petrie 1914a; Möller and Scharff 1926).

Two plain *serekh*-marked jars link Abusir el-Meleq into a wider network of product distribution and status display that formed the basis of elite interactions from the late Naqada IIIA period.[16] One jar with a pre-firing plain *serekh* accompanied by a single line was discovered in grave 1021 (Naqada IIIB) (Möller and Scharff 1926, 35, 150-151). The vessel is similar to Petrie type 44f and is represented by one example (without a *serekh*) from the Naqada IIIB hill grave 38 at Tarkhan (Petrie 1953, XLIX; van den Brink 1996, 140-144, 150, Pl. 24.a). Another jar with a pre-firing plain *serekh* accompanied by a fish or plant-like sign was found in grave 1144 (Naqada IIIB) (Möller and Scharff 1926, 20, 35, 162-163, Taf. 11.28; Petrie 1953, XLIX; van den Brink 1996, 140-144, 150). The vessel is similar to Petrie type 44c, although the base is slightly rounded. Again, this jar is represented by one example (without a *serekh*) from the Naqada IIIA2 hill grave 315 at Tarkhan. A similar example of a plain *serekh* together with a plant-like sign has also been identified at Helwan on a type 74b vessel (Naqada IIIB) (Köhler and Smythe 2004, 130, Pl. 2.1). These *serekh*-marks probably represent administrative-related potmarks associated with product distribution rather than forms intended to identify local rulers.

Of the other artefacts, there are a limited number of greywacke palettes with fish, double-bird, circular and rectangular-lined types represented. Bone pins, copper adzes, flint knives, ivory spoons, faience jars, and beads of carnelian and faience also correspond with material recorded at Tarkhan (Möller and Scharff 1926, Taf. 26, 28, 32-38). The stone vessels are limited but include handled jars (type 71), cylindrical jars and unrestricted bowls (Möller and Scharff 1926, Taf. 25-27). Raw materials include travertine, limestone, grey limestone or

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[16] Plain *serekh*-style marks are square or rectangular in design with an "undivided frame containing three to six vertical strokes running from the top to bottom" (van den Brink 2001, 26).

greywacke, red breccia and basalt. These forms and raw materials are consistent with those seen in the Tarkhan stone vessel range. Interestingly, fragments of a possible wooden figure with inlaid eyes were also identified in Naqada IIIA2-IIIB grave 1052 at Abusir el-Meleq (Kuhn 2018, 407-417).[17]

Several large Naqada III graves between 4 m^3 and 7 m^3 in volume can be identified and these may have represented the burials of elite members of the community. The presence of large and well-provisioned graves is significant and would indicate that elite social groups continued to live on at Abusir el-Meleq after the foundation of Tarkhan. However, the limited number of identifiable Naqada IIIA2-IIIB graves would suggest a corresponding reduction in the number of people living in the settlement during this time. It seems likely that the demographic demise of Abusir el-Meleq was linked to the foundation of Tarkhan in the first instance. The settlement was then effected by processes associated with urban centralisation and the growth of Memphis during the Naqada IIIB period. Similar processes can also be seen at Tarkhan during this phase where the number of graves decreased by 43% from the Naqada IIIA2 period (**Chapter Three**). Due to a greater population base Tarkhan was able to maintain its integrity whereas any substantial movement of people away from Abusir el-Meleq proved detrimental to the ultimate viability of the settlement and its associated cemetery.

4.7.2 Gurob

Gurob lies to the south-west of Abusir el-Meleq in the southern Fayum (29° 12' N, 30° 57' E). Excavations conducted by C. T Currelly and W. L. S. Loat in 1903/1904 revealed an extensively disturbed cemetery on a kom to the south of the New Kingdom town (Loat 1905, 1; Gorzo 1999, 430; Serpico 2008). At least 50 graves were discovered and these were described as oblong in shape (Loat 1905, 1; Gorzo 1999, 431). Several complete and fragmentary vessels were identified, including at least four cylindrical jars (type 46 standard and net-patterned forms), two storage jars (types 60 and 73), and round and flat-based jars (types 86 and 94/96) (Loat 1905, I; Petrie 1953, XIII, XVII, XXV-VI).

In 1920 Brunton and Engelbach conducted an extensive survey and excavation of Gurob. During the four-month season 16 graves described as proto-dynastic were identified in an area designated point O (Brunton and Engelbach 1924, 6, I, IV; Serpico 2008, 25, 31-35).

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[17] Further information relating to museum-based work on materials from Abusir el-Meleq is provided in Kuhn (2018).

Due to an absence of mapping data from Loat's excavation it is difficult to reconcile the original cemetery of 50 graves with the 16 graves of point O. Parallels between the pottery can be observed with cylindrical jars and round-based shouldered storage jars represented in both samples (Brunton and Engelbach 1924, III). Several unrestricted flat-based bowls (type 3) were also found amongst the limited pottery repertoire (Petrie 1953, I). Given that Engelbach had worked at Tarkhan it is interesting to note that there was no attempt to compare the Gurob pottery with examples from the more extensive cemetery.

It would appear that the majority of the pottery from both excavations at Gurob sit within the Naqada IIIA2-IIIC1 range and this is consistent with the opinion of Hendrickx and van den Brink (2002, 352). It is interesting to note that examples of B-ware and red-polished jars of late Naqada II date may also be represented at the cemetery (Brunton and Engelbach 1924, III, XV). While the above examples are out of context, their presence would support Brunton and Engelbach's (1924, 6) view of an earlier utilisation of this mortuary landscape. It seems likely therefore that the establishment of Gurob occurred prior to the Naqada IIIA period (Dębowska-Ludwin 2013, 32).

4.7.3 Lahun and Harageh

The continued occupation of Gurob into the Naqada IIICI period could be linked to activity at nearby Lahun, where over 100 graves dating from Naqada IIIC1 into the Third Dynasty were excavated (Petrie et al. 1923, 21-24, XL-XLIII, XLV-VI, LII-LIV; Hendrickx and van den Brink 2002, 352; Dębowska-Ludwin 2013, 81). Parallels between Tarkhan and Lahun are seen with round-based pottery storage jars of types 63, 64 and 67. A limited number of stone vessels including cylindrical and barrel-shaped forms together with unrestricted bowls also occur at both sites (Petrie et al. 1913, XLIV, LII; Petrie et al. 1923, LII).

In addition, one isolated grave (no. 475) was identified at Harageh in the vicinity of cemetery H (Engelbach and Gunn 1923, 7, LV). The grave contained pottery types consistent with a Naqada IIIC1 date (Hendrickx and van den Brink 2002, 352). To explain this single find, it was suggested that the grave represented a "stray resident of Tarkhan" (Engelbach and Gunn 1923, 7). The excavation report, and current thought on this mortuary landscape, would suggest that use of cemeteries G and H had ceased by the end of the Naqada II period (Hendrickx and van den Brink 2002, 352; Stevenson 2009a, 46-47). Given the Naqada IIIC1 presence at the nearby cemeteries of Lahun and Gurob it is conceivable that Harageh was re-

occupied at this time, albeit on a reduced scale. It is clear that the continued use of the Fayum into the First Dynasty invites further investigation.

4.7.4 Comparative comments

A degree of social engagement between centres in the Fayum could be surmised on the basis of location, although such interactions seem to have been mediated within local frames of reference. The diversity of mortuary practices and differing pottery preferences provide evidence of this adherence to local traditions. The limited number of wooden coffins and an almost absolute conformity of orientation practice at Abusir el-Meleq highlight the differences between this cemetery and Tarkhan. If Abusir el-Meleq contributed to the founding population of Tarkhan it is interesting to note that such an absolute ideological conformity of orientation practice was not transferred to the new cemetery.

Apart from ceramics, similar grave goods at Fayum cemeteries included beads of carnelian, limestone and faience; greywacke palettes; stone vessels; and fine objects of flint, copper and ivory. Importantly, access to a range of raw materials and prestige goods demonstrate that sites throughout the Fayum participated in inter-regional networks of exchange and product acquisition. Such networks also served to link different groups of people together in a range of social interactions.

4.8 Social change and new relationships of power

In order to add context to discussions in **Part II**, a few brief comments on the changing nature of northern Egyptian social environments during the late Naqada IIIA2-Naqada IIIB periods are offered here. Many of these changes would have contributed to how concepts of community and the dynamics of social relationships were enacted by the people of Tarkhan at this time.

During these phases enhanced systems of mass production and the refinement of prestige craft specialisation can be inferred from materials found at both mortuary and settlement sites throughout Egypt (Takamiya 2004; Wengrow 2006; Köhler 2008c; 2010). Early writing on various mediums such as labels and pottery, together with sealing practices and potmarks, provide evidence of inter-regional systems of communication and formative administrative processes (Kaplony 1963; Kahl 1994; 2001; Piquette 2007; 2013; 2018; Regulski 2010; Wengrow 2011). Complex domestic buildings, industrial and agricultural structures, and cultic buildings or temples are attested at sites such as Tell el-Farkha, Tell Ibrahim Awad and

Buto (Eigner 2000; Jucha and Mączyńska 2011; Hartung et al. 2016; Chłodnicki 2017a; Ciałowicz 2009; 2011; 2017; Hartung 2017). Early breweries have also been identified on the Western Kom at Tell el-Farkha (Ciałowicz 2017). Unfortunately, knowledge of non-mortuary architectural practices is distinctly lacking for the Memphite-Fayum region but it is presumed that similar constructions of varying scales and functions once existed.

From a social perspective, life was defined by the demarcation of communities into various social groups that have been traditionally, and perhaps narrowly, defined as elite or non-elite. Increasing wealth disparities between and within such groups were given material and social expression thorough the quality and quantity of mortuary gifts and provisions (Castillos 1982; Ellis 1992; 1996). Structural changes in these communities are further exemplified by the presence of graves of considerable wealth and/or architectural significance. These can be found at numerous sites including Abusir el-Meleq, Tarkhan, Helwan, Kafr Hassan Dawood, Minshat Abu Omar and Tell el-Farkha (Möller and Scharff 1926; Kroeper 1992; 2004; Kroeper and Wildung 1994; 2000; Rowland 2003; Dębowska-Ludwin 2012; 2013; 2016; Mawdsley 2012a).

Graves of substantial size and quality also dominated the landscape at various sites in southern Egypt. Most notable are those found in Cemetery U at Abydos and Cemetery HK6 in Hierakonpolis (Dreyer 1998; 2011; Friedman 2008a; 2008b; 2011). These sites have deep-time connections to the development of elite behaviours, which included an imagery of power over nature and other peoples; ideas of one paramount leader; and the development of an ideology vested in that one leader (Baines and Yoffee 1998). These concepts were expressed visually on various mediums including Upper Egyptian rock art, ceramics and prestige artefacts (Darnell 2009; Hendrickx and Eyckerman 2012). Some of these ideas were transferred great distances to northern Egypt and Nubia through economic networks in the form of objects and other materials (Roy 2011; Williams 2011). Objects, in particular, were used as cogent symbols of power and symbolised a shared elite world view (Schortman 2014, 167-182) (**Chapter Nine**).

The manipulation of ideologies of power and the formative development of high culture can also be seen with greater clarity in various contexts in northern Egypt (Baines and Yoffee 1998; Stevenson 2016). This is exemplified by the discovery of two gold-foiled male figures in a Naqada IIIB cache on the Eastern Kom at Tell el-Farkha (Ciałowicz 2017, 243-244). These figures may signal that the conceptual shift from leaders as men to leaders as 'godly'

was a shared elite world view and one that transcended regional boundaries, regardless of where the initial idea was conceived and enacted (Baines and Yoffee 1998; Anđeloković 2014; Campagno 2016; Ciałowicz 2017). Despite increasing ideological conformity, local traditions of varying degrees of quality still remained in the architectural and votive practices of the elite (Bussmann 2011). This can be seen at Tarkhan where the small mastabas represented different ways of memorialising special individuals within the early community. These unusual structures may represent divergent ideologies based upon ideas and relationships unique to the communities of Tarkhan (**Chapter Six**).

The cultural complexity witnessed at northern sites demonstrates how a pathway towards the creation of micro-regional hierarchies could have been achieved by the early Naqada IIIB period. Centres, such as Tell el-Farkha, Buto and Memphis may have developed into political hegemonies, and such processes of localised then regional consolidation can be seen in varying forms throughout both the north and south of Egypt from this time (Köhler 2010; Stevenson 2016). A reduction in the number of burials at Tarkhan and the ultimate demise of Abusir el-Meleq during the Naqada IIIB period unambiguously coincides with the settlement diversification seen throughout the Memphite region, centred upon Memphis as its core. Shifting demographic patterns and changes in the use of mortuary and urban landscapes can also be seen at Naqada in Upper Egypt from the Naqada IIIA period (Bard 1989; 1994; Hassan et al. 2017a, 95-97; van Wetering 2017, 538-543).

During the Naqada IIIB period inscriptions described as *serekhs* were incised and painted on ceramics found at various northern Egyptian cemeteries including Tarkhan, Helwan, Turah and Minshat Abu Omar (van den Brink 1996; 2001). These marked vessels may attest to the existence of regional rulers at this time (Dreyer 1992; van den Brink 1996; 2001; Wilkinson 2000; Jiménez-Serrano 2003; Köhler 2010; Mawdsley 2012c). This idea is balanced by the identification of *serekhs* belonging to Abydene-based rulers Iry-Hor and Ka at a number of northern sites (Kaiser and Dreyer 1982; van den Brink 1996; 2001; Hendrickx 2001; Jiménez-Serrano 2003; Mawdsley 2012c). Such evidence could present an alternate picture of nascent Upper Egyptian economic and administrative influence over areas of northern Egypt including the Fayum. However, as discussed in **Chapter Nine,** the nature of the *serekh*-related evidence from Tarkhan is ambiguous. The marked vessels in question may instead speak to the nature of relationships between people than to the political status of the Naqada IIIB settlement.

4.9 Concluding comments

By the early Naqada IIIA period differing scales of interactions and reciprocal relations had initiated structural changes within northern-based societies. Such changes were likely influential in the formation of Memphis, represented by its major cemetery of Helwan, and Tarkhan. The foundation of these two important settlements highlights the agency of existing Memphite-Fayum people in constructing a new narrative of place for themselves and their descendant communities. By the Naqada IIIB period different trajectories of political, social and economic development can be discerned from both domestic and mortuary contexts throughout northern Egypt. This period of time was pivotal in the life-histories of various cemeteries including those of Tarkhan and Abusir el-Meleq. Understanding the regional context is crucial to any study of site-specific mortuary practices. Hence, this discussion was designed to situate Tarkhan firmly within a northern Egyptian cultural milieu, although much work on the Fayum remains to be done.

Part II

Chapter Five: Broad trends in practice

5.1 Introduction

This chapter focuses upon broad trends visible within the repertoire of funerary practices at the cemetery during the Naqada IIIA2-IIIB periods. Information relating to patterns of grave volume and design, orientation practices and artefact usage form the core of this overview. The presentation of this material is designed to provide context to discussions in **Chapters Six** to **Nine,** while offering a perspective on the diversity and changing nature of mortuary practices over time.

5.2 Grave volume

Cubic grave volume was calculated using the length, width and depth measurements of the substructure pits provided on the tomb cards.[18] The majority of graves (93%) were measured by the excavators. All original measurements were made in inches and were converted into metric measurements following standard conventions for this study. The valley mastabas are considered outliers so were not included in these volume calculations.

Research on recent excavations, such as those conducted at Minshat Abu Omar and Elkab, have demonstrated the difficulties in determining absolute volume for substructure pits, particularly for those considered to be disturbed (Hendrickx 1994, 149; Kroeper 2004, 869-873). Given these problems, the accuracy of the original measurements taken in the field at Tarkhan are subject to question (Rowland 2006, 297-298). Looting activities combined with other environmental or agricultural processes must have impacted the structural integrity of graves prior to Petrie's work at Tarkhan. Furthermore, soil conditions and natural topography would have determined the placement of graves and the ability to cut deeper pits as well as impacting the accuracy of original measurements. These issues need to be taken into account when presenting broad assessments of grave volume based on the early 20th century site reports from Tarkhan.

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[18] It is acknowledged that excavator errors may have distorted the accuracy of pit measurements. It is impossible to identify where errors in these measurements may exist. Furthermore, the measurements provided on the majority of tomb cards (see **Figure 1.7**) imply that the dimensions of pits were uniform; however, some cards indicate that floors and grave shapes were irregular. In terms of shapes (see **Section 5.4**), it is clear from the rough sketches on the tomb cards that a number of the rectangular forms have tapered corners, while some of the oval-shaped forms seem to be extremely elongated. Therefore, shape designations should be considered rough guidelines rather than neat classifications.

Table 5.1: Distribution of graves by volume (m³) and period.

Period	Graves with volume	No. of graves < 3 m³	No. of graves ≥ 3 m³	Percentage distribution < 3 m3 : ≥ 3 m3	Graves without volume	Valley mastabas*	Total
IIIA2	566	545	21	96% : 4%	47	2 (852, 1845)	615
IIIB	333	309	24	93% : 7%	17	3 (740, 1889, 1890)	353
Total	899	854	45#	95% : 5%	64	5	968

* Mastaba 1231 (Naqada IIIB-IIIC1) is not included in the above table.
# This figure includes 16 valley and 29 hill graves.
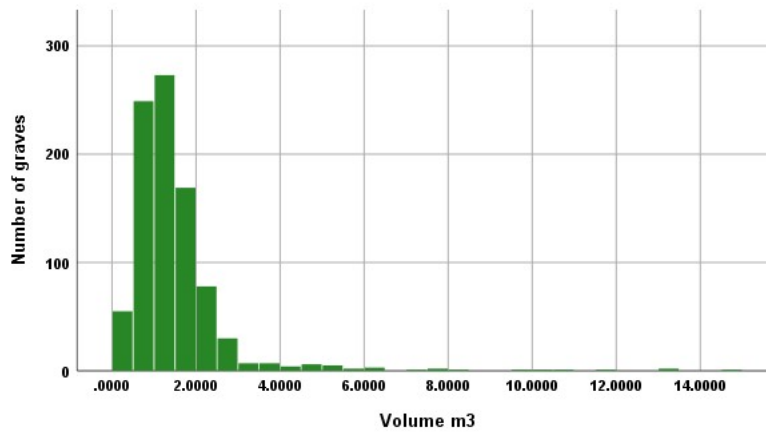
Figure 5.1: Grave volume (m³) by number of graves.
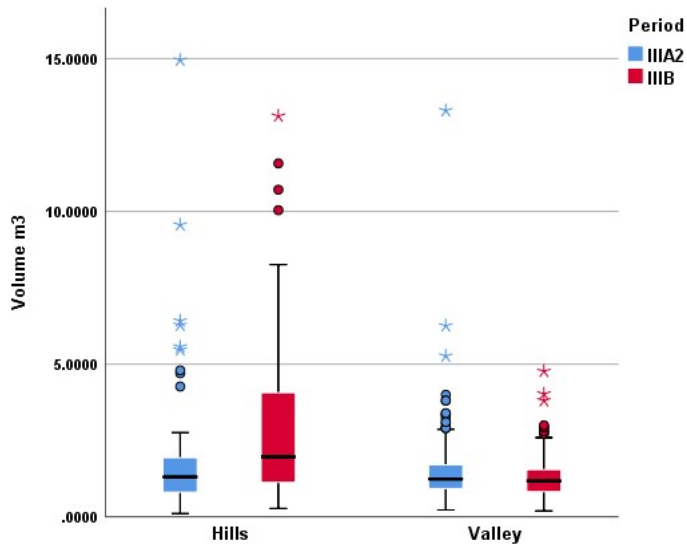
Figure 5.2: Grave volume (m³) by location and period.

The majority of graves cut during the Naqada IIIA2-IIIB periods were small pits < 3 m^3 in volume (95%) (**Table 5.1** and **Figure 5.1)**. These figures are consistent with observed practice across a number of northern cemeteries including Kafr Hassan Dawood, Minshat Abu Omar, Abusir el-Meleq, Helwan and Turah (Castillos 1982; Kroeper and Wildung 1994; 2000; Rowland 2003, 316-373; Köhler 2008a; 2015, 9; Janulíková 2017, 37).

Naqada IIIA2 valley and hill graves had a similar median and range of volume (**Figure 5.2)**. A slight decrease can be observed for Naqada IIIB valley graves and this reflects a trend towards the cutting of smaller pits in this area of the cemetery. In contrast, Naqada IIIB hill graves had a greater median and wider range of volume with four outliers over 10 m^3 in volume (**Chapter Nine**). These patterns would tend to confirm Petrie's (1914a, 22-24) view that the hills were associated with larger graves, and by extension, the elite burial ground of communities over time (**Chapter Two**).

However, the presence of two impressive Naqada IIIA2 graves; 870 (13.3 m^3) in the valley and 1006 (14.95 m^3) in the hills, demonstrates that the cutting of large-scale pits was not a practice restricted to one area of the cemetery (**Figure 5.2**). Added to this spatial division are two innovative valley mastabas (852 and 1845), which were constructed at this time (**Chapter Six**). These structures have no architectural parallel in the hill cemeteries. For the Naqada IIIB period, 20 hill graves ≥ 3 m^3 in volume were recorded, while no further graves > 4.8 m^3 in volume were cut in the valley cemetery. This is balanced by the construction of at least three mastabas (740, 1889 and 1890) in the valley together with the continued presence of small graves throughout the hill cemeteries (n = 43).

As discussed in **Chapter One**, there were significant problems associated with the excavation of hill graves. The fact that 45% or 545 graves were omitted from the recording process in the first season immediately skews the evidence in favour of this area of the cemetery. As Petrie was of the opinion that graves with little potential for dating purposes were "useless records" (Petrie et al. 1913, 3), it seems likely that the majority of the unrecorded hill graves were disturbed small-scale contexts with few items of pottery and little if any additional objects. This recording bias has contributed to the view that the hills were populated mainly by larger structures when in fact we do not know the true range of small graves across these burial grounds.

It is apparent that the processes of grave construction and cemetery use were both dynamic and complex. The evidence suggests that an increased investment in the construction of both

larger hill graves and valley mastabas did take place during the Naqada IIIB period. These patterns could indicate that socio-economic or ideological changes occurred within the living community during this phase. Demographic shifts as reflected in the decreased mortuary population would have created further stresses for the living community. It is possible that social responses to these changes triggered different forms of mortuary display in the hill and valley cemeteries; and some of these issues are theorised in **Chapters Six** and **Nine**.

5.3 Grave volume and issues of terminology

The division of graves by volume (< 3 m^3 or ≥ 3 m^3) represents an arbitrary cut off point used to separate the data into the categories of small or large burials (**Table 5.1**). This division is utilised for statistical and interpretative purposes throughout this study. The decision to divide graves in this manner reflects the distributive patterns by volume documented in both **Table 5.1** and **Figure 5.1.** This division also ensures a representation of both valley and hill graves in the category of ≥ 3 m^3 in volume (**Table 5.1**).

As graves < 3 m^3 in volume dominated the mortuary landscape, they are important to our overall understanding of practice at the cemetery. These graves were generally considered to belong to the so-called non-elite of Tarkhan society (Petrie et al. 1913; Petrie 1914a; Ellis 1992; 1996). In contrast, this study refers to pits < 3 m^3 in volume as small or small-scale with the acknowledgement that some may represent individuals considered to be non-elite by their contemporary community members.

Further complicating this picture is the uncertainty over how the immediate kin and extended family groups of the owners of large-scale graves were treated in death. The presence of small graves near larger structures may be indicative of kin-group spatial practices (**Chapter Six**). The possibility of such practices therefore cautions against labelling all small graves as non-elite. Furthermore, a contrast between scale and wealth can be observed with materially well-provisioned graves < 3 m^3 in volume present throughout the cemetery (**Section 5.10**). The idea that burials need to be ranked against one another under-estimates the importance of family traditions in determining the size and content of burials (Stevenson 2009a, 188-189). These issues represent significant interpretative problems for all mortuary studies and highlight the need to decouple scale from perceived status for this broad group of graves.

A recent study by Janulíková (2017) applied the term non-elite to an examination of Early Dynastic graves from Turah, Helwan and Saqqara. This is appropriate terminology based on

ideologically-driven concepts of the populace (*rhyt*) and the ruling class and king (*p't*) used during the Early Dynastic period (Baines 1995, 133; Wilkinson 1999, 185-185; Wengrow 2006, 173-174). Exactly how social divisions were elaborated during the Naqada IIIA2-IIIB period is unclear, and any political or ideological divisions may not have been as absolute or institutionalised at this time. While there is clear evidence of increasing elite-style activity at numerous cemeteries throughout northern Egypt, it cannot be assumed that such practices were structurally consistent from site to site. Due to the presumed enhanced size of the living Tarkhan communities, mortuary practices may have been more fluid in order to accommodate ideological, social or political differences between various kinship groups.

This problem of terminology extends to considerations of elitism and the identification of elite-style graves in the cemetery. Only 5% of graves cut during the Naqada IIIA2-IIIB periods were ≥ 3 m^3 in volume (**Table 5.1)**. These graves will be referred to as large or large-scale. It is possible that some of these graves belonged to elite members of the community. Definitions of what may constitute an elite or elite behaviours vary but structural attributes associated with leadership, power, coercion and the control of resources and surplus figure prominently (Costin and Earle 1989, 691-692; Richards 2005, 16; Kienlin 2012, 15-32; Rochecouste 2014). Other roles, such as those associated with gender, age or skill-set probably conferred respect and status within communities, but may not have been expressed through enhanced grave size. Therefore, I use elite as a broad descriptive term but acknowledge that there are inherent problems with the presumed social, economic and political entitlement attached to its application. In **Chapter Nine**, elite-style practices associated with some hill graves are examined in more detail.

Castillos (1982, 176) has noted the privileged nature of large-scale mortuary construction at numerous Predynastic and Early Dynastic cemeteries throughout both northern and southern Egypt. This minimal representation of large-scale graves would suggest that even within elite groups the symbolic right to a more substantial burial was a selective practice. The cutting and elaboration of larger graves may have been restricted for special purposes, such as ideological or ritual display; or was a means of commemorating a founding or important member of a kin-group (**Chapter Six**). While specific individuals formed the human focal point of these graves, the structures may have also served to enhance the importance of Tarkhan to the outside world thus being a comment on the status and agency of the community rather than the individual. This could be one explanation to account for the

presence of the unique mastabas in the valley; and for large graves placed throughout the cemetery more generally.

5.4 Burial forms and architectural elaboration

The substructure forms of 96% of graves were recorded on the tomb cards. Substructure forms included simple oval pits (n = 101), simple rectangular pits (n = 805) and rectangular pits lined with mudbricks (n = 17). It is important to note that the application of mud-brick lining was not restricted to large graves as 10 pits in the sample were < 3 m^3 in volume. It is presumed that grave cutting was a family-driven process, although the relatively small size of many pits would have prevented active participation by numerous people. It is possible that specific members of the community may have been tasked with the cutting of graves therefore changing the nature of practice from a personal family act to one of task-related specialisation.

Very little information can be gleaned from the tomb cards regarding the architectural elaboration of graves, which related to roofing styles, brick-lining or plastering (Petrie at al. 1913, XXIII; Petrie 1914a, XI; **Table 5.2**). One Naqada IIIA2 hill grave (318) with a wood-lined pit was identified. This technique may have been an attempt to stabilise the walls of the grave, although no details were provided on the tomb card.

Table 5.2: Architectural elaboration by period and number of graves.

Architectural elaboration	IIIA2	IIIB	No. of graves
Mat-lined walls or floor	6	2	8
Brick-lined walls	6	11	17
Wood-lined	1	0	1
Plastered walls (mud/mud mixed with straw)	3	6	9
Ledges	2	3	5
Recesses	1	0	1
Roofing-pole/branch/wood/matting/mud	9	12	21
Roofing-bricks	4	0	4

The major components of roofing included wooden poles, branches, straw, matting and mud, while the principal internal elaborations included the application of plastering and matting to walls. Specialised expertise is, however, attested in the construction of brick-roofing over four small Naqada IIIA2 valley graves. This innovative roofing design was not attested in the hills until the construction of the subsidiary graves associated with Naqada IIIC2 mastabas 2038 and 2050 (Petrie 1914a, 4-6, XV-XVI, XIX). Two of the graves, 1201 and 1220, are

located close to each other in the east of the valley. Such proximity may suggest a family-related preference in design or merely duplication of observed practice. The remaining two graves, 1113 and 1258, are situated in the west and centre of the valley respectively. It is interesting to note that grave 1113 at just over 1 m^3 in volume was designed with brick-lined walls. The remaining three graves ranged from 1-1.5 m^3 in volume. These examples demonstrate that grave size was not related to energy expenditure as the labour involved in brick roofing would be far greater than that required to dig a larger pit. On this point, five of the largest Naqada IIIA2-IIIB graves ranging from 9.5 m^3 to 13.3 m^3 in volume were simple pits without any internal elaboration or roofing.

5.5 Orientation practices

The orientation of bodies associated with 716 graves was available for study. These data more strongly reflect trends across the valley cemetery (n = 681 graves) rather than the hills (n = 35 graves). Poor preservation of skeletal material throughout the hills would have been the major contributing factor responsible for this disparity (Petrie et al. 1913, 8). The majority of the bodies were placed on the right or left side in a contracted or flexed position regardless of the overall size of the grave. Head placement to all four cardinal points can be observed (**Table 5.3**). The two dominant orientations were head to the north with face to the east (n = 196) and head to the south with face to the west (n = 341). These comprised 75% of the total recorded placements (Castillos 1982, 159; Ellis 1992, 254). It is clear that orientation practices were not as absolute as recorded on the tomb cards. Calculations of azimuth would be possible for bodies in valley graves but issues of preservation would prevent such tabulations for most hill graves (see Kroeper 2004, 864, 866; Stevenson 2009a, 147-148).

There is little evidence to suggest that any overarching rules or ideological control of orientation practices existed at Tarkhan. This observation is consistent with the view held by Köhler (2012, 280) regarding such practices at Helwan. For the Fayum, the cemetery of Gerzeh also displayed a similar diversity in body placement. This was considered to reflect the development of locally-driven micro-traditions of practice (Stevenson 2009a, 147-149). In contrast, an almost absolute conformity of orientation practice was observed at Abusir el-Meleq (Möller and Scharff 1926; Castillos 1982, 154; **Chapter Four**). Orientation practices at Delta cemeteries appear to have favoured a north-east orientation, although some variation was observed (Rowland 2003, 246-247). Localised patterns may signal community consensus but memory would have played a significant role in the conformity or reproduction of

orientation practice. Space within the cemetery or the relationship to natural features, such as the river may have also influenced practices for some family groups (Castillos 1982; 1998b; Rowland 2003, 247; Stevenson 2009a, 149).

Table 5.3: Body orientation by period and number of graves.

Orientation*	IIIA2	IIIB	No. of graves
Head north with face east	**135**	**61**	**196**
Head north with face up	2	0	2
Head north with face west	16	15	31
Head north	3	2	5
Head south with face east	20	16	36
Head south with face west	**230**	**111**	**341**
Head south with face up	2	0	2
Head south	3	4	7
Head east with face north	5	6	11
Head east with face south	20	17	37
Head west with face north	22	21	43
Head west with face south	1	1	2
Head west	2	1	3
Total graves	**461**	**255**	**716**

* Based on tomb card information.

5.6 Treating the body

Burying the dead at Tarkhan followed practices of placing human remains within the confines of a subterranean pit. It is assumed that at death most bodies were prepared at home by family members. While the progressive transformation after death due to decomposition was irreversible, some control over the process could be imagined through the careful preparation of the body. The application of linen or clothing and items of jewellery would have formed part of this preparation. Other forms of embellishment such as hair plaiting or styling was noted for the bodies in Naqada IIIA2 graves 542 and 1312. The aesthetics of such practices may have served to create a memory picture of the deceased for mourners (Hallam and Hockey 2001, 132; Pollard 2001, 315-333; Tarlow 2002, 93; Wengrow and Baines 2004, 1101; Stevenson 2007, 80).

5.6.1 Linen

The tomb cards record the presence of linen in association with bodies from 19 Naqada IIIA2-IIIB graves. A Chi-square test run on SPSS version 26 ($p < 0.05$) indicated that there was a significant difference in textile use by location (Hills n = 10, 6.1%: Valley n = 9,

1.1%). However, over 100 valley tomb cards were annotated with a question mark in the section marked 'clothing'. This would suggest that there was uncertainty on the part of the excavators relating to the presence of linen in these graves. Environmental conditions coupled with grave disturbance would have negatively affected the preservation of skeletal remains and any associated linen. It is likely that the use of linen was more extensive throughout the early cemetery than is suggested by these data. The application of linen-related treatments may hint at the gradual formation of mortuary specialisation together with a developing class of individuals at Tarkhan whose expertise lay in the presentation and preservation of the body (Jones 2007; 2008; Mawdsley 2020). One linen waist or head band threaded with carnelian beads was also preserved in Naqada IIIB hill grave 36 (**Chapter Nine**). This unique example attests to the potential diversity of textile use by the people of Tarkhan.

5.6.2 Coffins and other treatments

While many individuals were placed directly onto the floor of the pit, some were placed within coffins of various organic materials or upon wooden beds (Petrie et al. 1913, XXIII/42; Pridden 2008a; 2008b; **Table 5.4**). Decisions relating to the use of coffins were likely driven by issues relating to the availability of materials, kin-group preferences or the fashion of contemporary practice (Rowland 2003, 146).

Table 5.4: Coffins and other treatments by period and number of graves.

Coffins/treatments	IIIA2	IIIB	No. of graves
Wooden coffins	64	52	116
Mud-lined wooden coffin	1	0	1
Mat-lined wooden coffin	0	2	2
Basket coffins	38	25	63
Pottery coffins	5	1	6
Reed trays	4	0	4
Beds	2	3	5
Matting over/under body	3	7	10
Wrapped in papyrus mat	1	0	1
Cushion under head	1	0	1

Of the 200 wooden coffins recorded at the cemetery, 116 were associated with Naqada IIIA2-IIIB graves (n = 968) (Castillos 1982, 160). Wooden coffins are considered rare objects at Tarkhan (Ellis 1996, 160), although nearly 12% of early graves were recorded with this form of containment. Poor preservation of the raw material could have impacted identification and

is it possible that the number of coffins used at the cemetery was higher than recorded. The availability of suitable wood for funerary purposes could have also determined patterns of use. Some of the wood seems to have been sourced from old boat planks, as suggested by one coffin found in Naqada IIIA2 hill grave 3 (Petrie et al. 1913, 9, IX.4; Vinson 1987, 70; Creasman 2013, 152-176). Wooden coffins were recorded in the graves of females, males and subadults; and were interred in both hill and valley burials.

It is interesting to note the presence of beds in five graves and these were probably used as substitute coffins (Petrie et al. 1913, 23). Basket coffins were popular and these items along with trays of bundled reeds could have been made from locally available materials. Pottery coffins were only associated with valley graves (n = 6) (**Table 5.4**). It would appear that Tarkhan did not follow other northern cemeteries in a preference for this method of containment (Rowland 2014, 274; Janulíková 2017, 116-117).

Mats of reed or papyrus were also found underneath, covering or wrapped around bodies. The most poignant treatment of a body is associated with Naqada IIIA2 valley grave 1283, where a cushion was placed under the head of a female (Mawdsley 2020). The body was wrapped with linen and then placed in a wooden coffin. Such actions speak to the nature of relationships between the woman and her immediate family and to the care provided to her after death.

5.7 Total goods

Total goods refer to all non-ceramic and ceramic artefacts recorded in the pit and fill of individual graves. External offering jars associated with 15 Naqada IIIA2 graves (n = 298 jars) and eight Naqada IIIB graves (n = 124 jars) have been removed from all calculations in this chapter and in **Chapters Seven** and **Eight**. This includes 271 jars from the five valley mastabas. External offering jars are described as pottery vessels placed above ground and over or adjacent to a grave. In the case of the mastabas, these include vessels placed either outside the retaining wall of the superstructure, or in the forecourt. Inclusion of these offering jars would have inflated the tallies of total goods and total pots for individual graves.
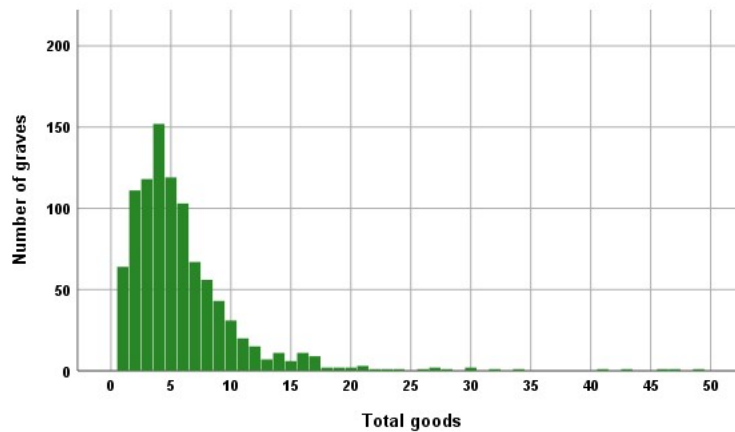
Figure 5.3: Distribution of total goods by number of graves.
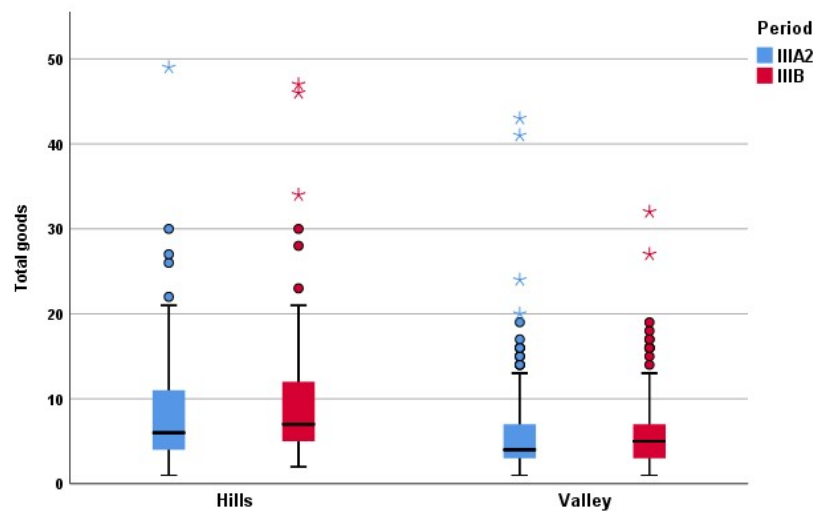
Figure 5.4: Total goods by location and period.

Of the 5844 recorded goods, 3459 or 59% were found in Naqada IIIA2 burials with the remaining 2385 or 41% associated with Naqada IIIB burials. The majority of all graves (69%) contained from one to six goods (**Figure 5.3**). This distributive pattern is consistent with broad trends seen at other northern cemeteries, although sites do vary (Rowland 2003, 225-230). There are observed differences in the median number of total goods between hill and valley graves (**Figure 5.4**). The median did increase for both locations from Naqada IIIA2 to Naqada IIIB, and this was probably linked to a corresponding increase in the number of pottery vessels deposited in graves during the later phase.

5.8 Total pottery

Ceramics were the most prominent class of grave good found in cemeteries throughout Egypt (Hendrickx 1994, 15; Rowland 2003, 189; Stevenson 2009a, 86). This is the case for Tarkhan, where pottery represented 73.5% of all recorded goods in Naqada IIIA2-IIIB graves. The majority of burials (76%) contained from one to five vessels (**Figure 5.5**).

Hill graves had a greater median and range of total pots than did valley graves (**Figure 5.6**). Nonetheless, there was a trend towards the increased provision of pottery in Naqada IIIB graves regardless of location. This can also be seen in the percentage of total pots within total goods, which for Naqada IIIA2 was 72.8% and 74.7% for Naqada IIIB.
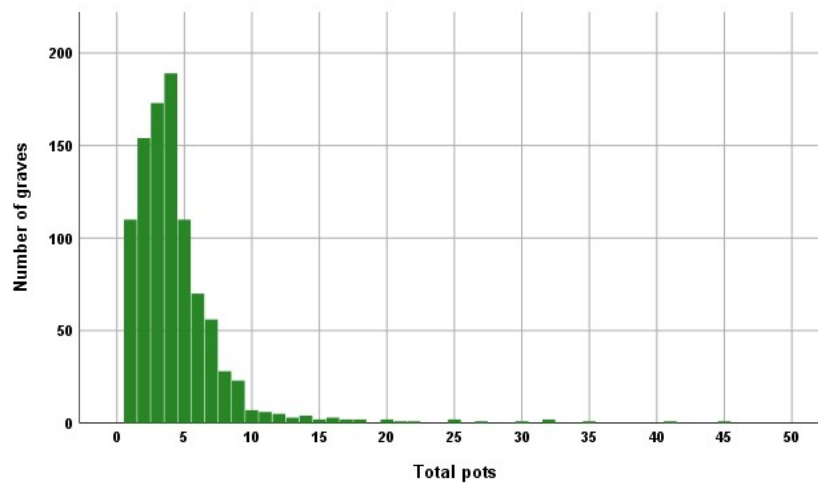
Figure 5.5: Distribution of total pottery by number of graves.
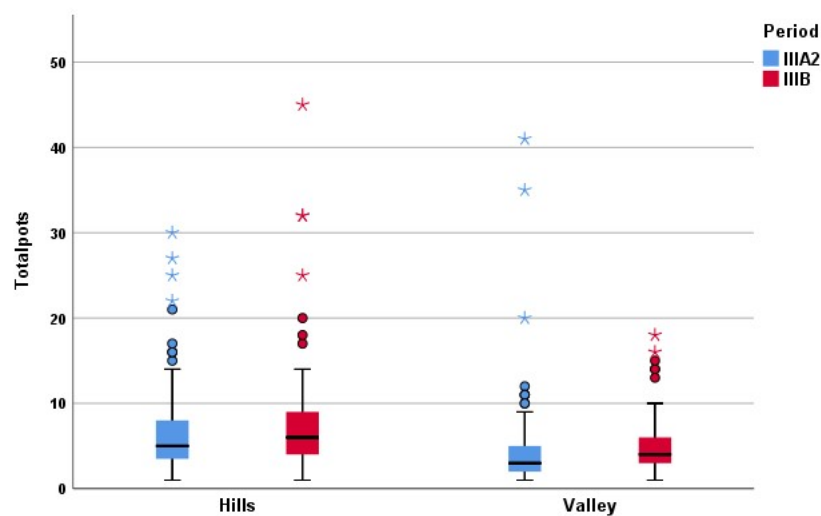
Figure 5.6: Total number of pottery by location and period.

5.9 Number of artefact types

Artefact type is used to refer to a collective group of objects such as ceramics, palettes or stone vessels, and also to unique objects such as a baboon figure made of copper, or a bird bone sheath used to store pins. Lists of artefact types for each period are presented in **Appendix C.**[19] All artefacts made of ivory, copper and flint are counted as separate types regardless of the commonality of raw material. For example, a copper adze is considered to be different in both form and function to the copper baboon. A flint knife is considered to be different to a copper knife despite a description which suggests a similar function. All of these objects are counted as separate artefact types. Varieties of coffins, which include baskets and trays and those made of wood and pottery, are also counted as separate types. Beads are problematic and many graves contained fragmented bead-sets as well as single beads. These objects have been grouped together under the single artefact type of beads.

There were 48 different artefact types recorded in the 615 Naqada IIIA2 graves and 43 types for the 353 Naqada IIIB graves (**Appendix C).** At least 21 artefact types are unique objects. The number of types for each grave was tabulated on the following basis: for example, Naqada IIIA2 valley grave 1283 contained four pottery vessels, a wooden coffin, a cushion, two stone vessels and beads. This equates with five types regardless of the number of objects.

Most graves (63%) contained from one to three types with pottery, palettes, beads and stone vessels favoured (**Figure 5.7)**. The median number of artefact types is consistent across both locations (**Figure 5.8).** By Naqada IIIB a greater number of types were recorded in valley rather than hill graves. This is an interesting observation and could suggest that there was greater conformity in material presentation for some hill graves at this time. However, the difference is really situated in the range and not the median. There were only seven Naqada IIIB hill graves with five to eight types whereas 29 valley graves contained from five to eleven types.

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[19] Remains of bovines or other animals are not considered to be an artefact type. This material has not been included in any count relating to grave goods. See comments on these remains in **Chapter Six**.
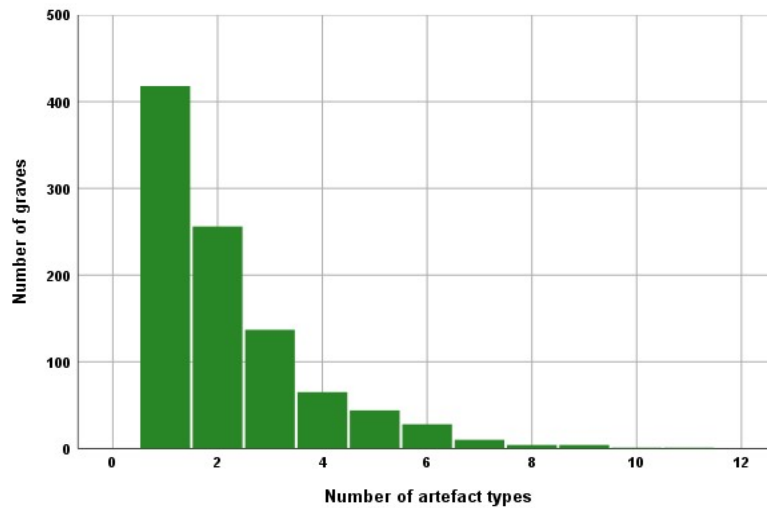
Figure 5.7: Distribution of number of artefact types by number of graves.
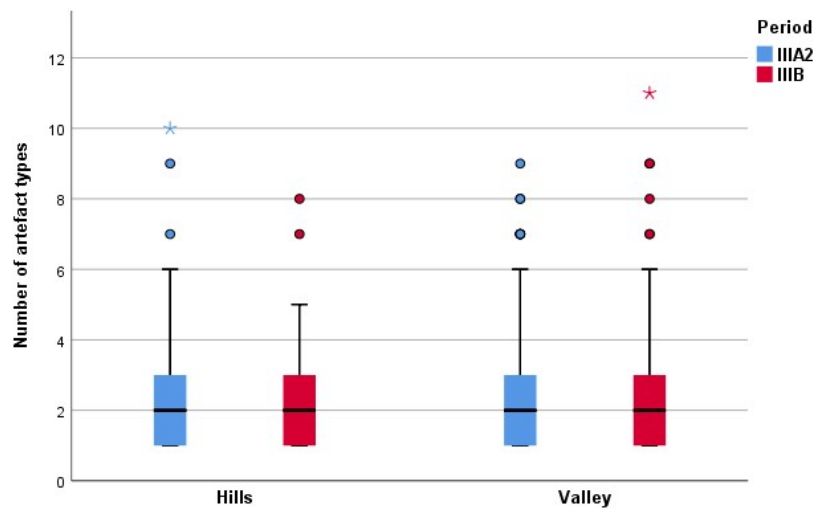
Figure 5.8: Number of artefact types by location and period.

5.10 Relationships between variables

Scattergrams depicting the relationship between volume and total goods by period indicate that there was variation in depositional practice regardless of grave size (**Figure 5.9a-b**). This is particularly true for the Naqada IIIA2 period where eight small graves contained from 20 to 43 goods. By Naqada IIIB three graves < 4 m^3 contained more than 25 goods. Only a limited association between an enhanced number of grave goods and grave volume could be established. This can be seen in Naqada IIIA2 where one grave > 9 m^3 in volume contained 49 goods; and four Naqada IIIB graves > 7 m^3 in volume contained more than 25 goods.

While the majority of graves were < 3 m^3 in volume with 15 or fewer goods, several large graves in both phases were recorded with less than 10 goods.
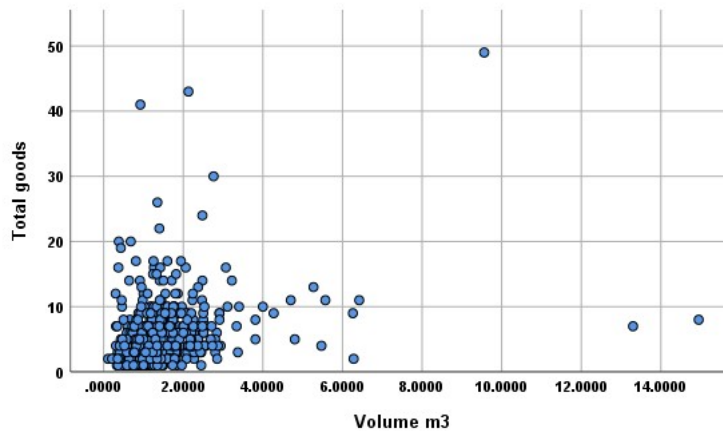
Figure 5.9a: Relationship between total goods and volume (m^3) (Naqada IIIA2).
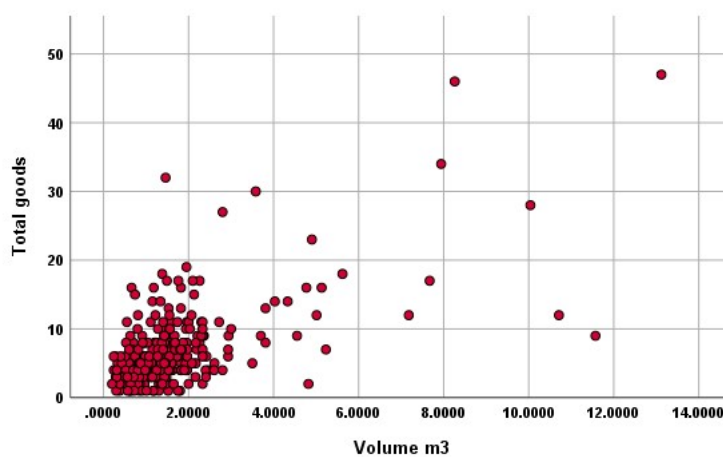
Figure 5.9b: Relationship between total goods and volume (m^3) (Naqada IIIB).

There was little relationship between the number of artefact types deposited in burials and enhanced grave volume (**Figures 5.10a-b)**. While four hill graves > 9 m^3 in volume contained more than four types, there were a greater number of types associated with smaller graves. Two undisturbed valley graves highlight the contrast between grave size and number of artefact types. Small Naqada IIIB valley grave 1557 (1.46 m^3) contained 11 artefact types, which included multiple examples of stone vessels, palettes, beads and spoons amongst other goods. This is compared with large Naqada IIIA2 hill grave 870 (13.3 m^3) with five pots, one wooden coffin and a palette, or three artefact types.
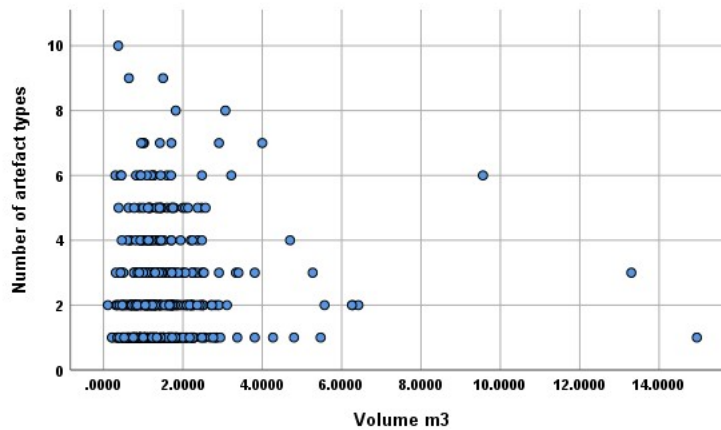
Figure 5.10a: Relationship between number of artefact types and volume (m^3) (Naqada IIIA2).
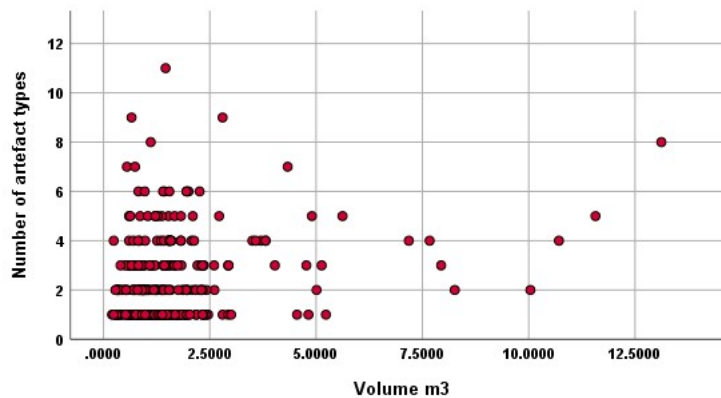
Figure 5.10b: Relationship between number of artefact types and volume (m^3) (Naqada IIIB).

Differences between large-scale graves can also be seen. For example, Naqada IIIA2 hill grave 1006 (14.95 m^3) was recorded with eight pottery vessels, each of which contained an unknown scented substance. This equates to one artefact type. Even though the grave was considered to be disturbed there was no clear evidence on the tomb card of internal disarray. This was often recorded on the hill cards as badly plundered or completely disturbed. The grave was brick-lined, plastered and lined with matting (Petrie et al. 1913, 8). It is possible that emphasis was placed on the internal elaboration of the pit together with the provision of scented jars. These jars are rare in the dataset; being found in eight Naqada IIIA2-IIIB graves.

In comparison, disturbed Naqada IIIA2 hill grave 1023 (9.56 m^3) contained six artefact types, including 25 pots, 11 stone vessels, 10 cooper model tools, cooper ore, beads and an ivory spoon. Expectations that enhanced grave size determined the total number of goods or the

variety of materials placed in each grave cannot be demonstrated with any clarity. This may have been the case for some large graves but not for others. Such contrasts are consistent with the depositional practices observed for large graves at Delta and Memphite cemeteries (Rowland 2003, 289; Janulíková 2017, 79). Tomb robbing could account for some of the differences seen in overall grave good numbers at Tarkhan. This form of disturbance would have been a site-wide problem, which impacted many burials regardless of size.

It remains unclear whether variety or the overall number of grave goods best correlates with concepts of wealth at Tarkhan. Importantly, the evidence would suggest that grave size did not determine depositional practice for most burials. More nuanced patterns of mortuary displays and behaviors are therefore suggested by these data (Janulíková 2017, 79). Ultimately, decisions made by family members would have determined the size and principal content of each grave for most people. Exceptions to this may be the small mastabas, or those graves considered to represent founding or other important members of Tarkhan society (**Chapters Six** and **Nine**). Greater community involvement in presentation and content may have occurred in these cases.

5.11   Non-ceramic artefacts

This section presents an overview of the major artefacts and materials recorded for the 968 Naqada IIIA2-IIIB burials (**Appendix C**). For quantitative purposes, individual artefact types for copper, flint, coffins and ivory have been consolidated into artefact categories (**Tables 5.5a-b**). For example, there are three artefact types made of flint (blades, flakes and knives) and these have been consolidated into the category of flint objects. Information on general distributive patterns, forms and raw materials associated with the major artefact types of palettes, beads and stone vessels is also presented (**Sections 5.11.2-5.11.4**). Further depositional trends associated with these artefact types are examined in the sex-determined and age-related datasets (**Chapters Seven** and **Eight).**

Of the 5844 grave goods recorded in all Naqada IIIA2-IIIB graves, the following represent the major non-ceramic artefact categories: palettes (4.8%); stone vessels (4.5%); and coffins (3.3%). Beads constitute approximately 3% of total goods, although this percentage is based on the number of graves containing beads and does not reflect the exact number of single beads or bead-sets placed in graves. Other artefact categories included: minerals (1.9%); ivory objects (1.5%); flint objects (1%); pebbles (0.9%); and copper objects (0.8%).

Table 5.5a: Percentages of artefact categories within total goods (Naqada IIIA2).

Artefact category	No. of objects	Hills No. of objects	Valley No. of objects	% within total goods (n =3459)
Palettes	179	17	162	5.2%
Stone vessels	141	35	106	4.1%
Beads*	134	12	112	3.9%
Coffins	113	25	88	3.3%
Minerals/ores	75	11	64	2.1%
Ivory objects	58	12	46	1.6%
Flint objects	46	7	39	1.3%
Pebbles	36	5	31	1%
Shell objects	33	14	19	1%
Copper objects	29	16	13	0.8%
Bone objects	21	4	17	0.6%

*Based on the number of graves containing beads

Table 5.5b: Percentages of artefact categories within total goods (Naqada IIIB).

Artefact category	No. of objects	Hills No. of objects	Valley No. of objects	% within total goods (n = 2385)
Stone vessels	124	54	70	5.2%
Palettes	101	10	91	4.2%
Coffins	80	29	51	3.3%
Beads*	72	12	60	3%
Minerals/ores	42	4	38	1.8%
Ivory objects	36	4	32	1.5%
Pebbles	19	3	16	0.8%
Copper objects	17	9	8	0.7%
Flint objects	15	3	12	0.6%

*Based on the number of graves containing beads

Copper, ivory and flint objects are poorly represented. These patterns are consistent over time and could relate to broader issues of material accessibility. It is also possible that objects made from copper and ivory were considered high-value items and therefore more vulnerable to targeted plundering activities. By Naqada IIIB stone vessels replaced palettes as the most popular non-ceramic artefact type deposited in graves, although this increase is connected with hill rather than valley burials.

A number of Chi-Square tests were run on SPSS version 26 to assess distributive patterns relating to the presence of artefact categories by volume and location for each temporal phase ($p < 0.05$) (**Tables 5.6a-b**). These tests are based on the number of graves containing the seven most popular non-ceramic artefact categories. Only wooden coffins have been

considered in these tests. All 968 graves are included by location and period, while 64 graves have been omitted from the volume tests (**Table 5.1).**

Table 5.6a: Artefact distribution by volume and location (Naqada IIIA2).

Artefact category	< 3m^3 (n = 545)	≥ 3 m^3 (n =21)	X^2	Hills (n = 87)	Valley (n = 527)	X^2
Palettes	155 (28.4%)	5 (23.8%)	$p > .05$	16 (18.4%)	155 (29.4%)	***p < .05***
Stone vessels	83 (15.1%)	8 (38.1%)	***p < .05***	20 (23%)	79 (15 %)	$p > .05$
Beads	114 (20.9%)	5 (23.8%)	$p > .05$	12 (13.8%)	112 (21.2%)	$p > .05$
Copper objects	15 (2.8%)	2 (9.5%)	$p > .05$	5 (5.7%)	12 (2.3%)	$p > .05$
Ivory objects	30 (5.5%)	6 (28.6%)	***p < .05***	11 (12.6%)	28 (5.3%)	***p < .05***
Flint objects	18 (3.3%)	2 (9.5%)	$p > .05$	5 (5.7%)	18 (3.4%)	$p > .05$
Wooden coffins	45 (8.3%)	6 (28.6%)	***p < .05***	20 (22.7%)	44 (8.3%)	***p < .05***

Table 5.6b: Artefact distribution by volume and location (Naqada IIIB).

Artefact category	< 3m^3 (n = 309)	≥ 3 m^3 (n =24)	X^2	Hills (n = 74)	Valley (n = 279)	X^2
Palettes	82 (26.5%)	4 (16.7%)	***p < .05***	10 (13.5%)	83 (29.7%)	***p < .05***
Stone vessels	49 (15.9%)	15 (62.5%)	***p < .05***	27 (36.5%)	46 (16.5%)	***p < .05***
Beads	63 (20.4%)	6 (25%)	$p > .05$	12 (16.2%)	60 (21.5%)	$p > .05$
Copper objects	6 (1.9%)	8 (33.3%)	***p < .05***	10 (13.5%)	7 (2.5%)	***p < .05***
Ivory objects	2 (6.8%)	2 (8.3%)	$p > .05.$	4 (5.4%)	21 (7.5%)	$p > .05$
Flint objects	10 (3.2%)	3 (12.5%)	$p > .05$	3 (4%)	11 (3.9%)	$p > .05$
Wooden coffins	40 (12.9%)	8 (33.3%)	***p < .05***	17 (23%)	35 (12.5%)	***p < .05***

For Naqada IIIA2 significant differences in the presence of palettes, stone vessels, ivory objects and wooden coffins can be observed. The presence of palettes favoured valley graves but no difference by volume was determined. A significant difference in the presence of stone vessels in graves ≥ 3 m^3 in volume can also be seen but this does not extend to location. By Naqada IIIB the presence of stone vessels and copper objects privilege graves ≥ 3 m^3 in volume and those burials situated in the hills. It is interesting to observe that significant differences in the use of wooden coffins were determined by both location and volume, and these results were consistent over time.

5.11.1 Raw materials

A range of raw materials can be identified at the cemetery and these have been summarised in **Table 5.7** (see **Appendix C).** A full account of the range of materials has not been possible given problems of preservation and issues associated with the location of artefacts. Greywacke, faience or glazed steatite, wood and carnelian represent the major materials used in the production of artefacts. While wooden coffins have been considered rare (Ellis 1996, 160), the raw material is the third most prolific matter in the dataset.

A more comprehensive investigation of available artefacts, such as stone vessels and beads would increase the recorded presence of travertine and gemstones. Objects made from bone and ivory require expert examination in order to identify the exact raw material type (Krzyszkowska and Morkot 2000). This is also the case for faience and glazed steatite materials used in the manufacture of vessels and beads; and for objects described as flint (Petrie 1914a, 10, IV-V; Kaczmarczyk and Hedges 1983; Vandiver 1983; Aston et al. 2000, 28-29; Köhler et al. 2017). The term flint rather than chert is maintained here and was used to describe both the raw material and the objects (blades, scrapers, flakes and bracelets) in the reports and tomb cards (Petrie et al. 1913, 23, VII; Petrie 1914a, 10-11, VI-VII; **Appendix C).**

Table 5.7: Major raw materials by period and number of graves.

Raw materials	IIIA2	IIIB	No. of graves
Greywacke	171	94	265
Carnelian (beads/amulets/pendants)	78	46	124
Wood	68	57	125
Faience/ glazed steatite (beads and jars)	74	39	113
Ivory	40	25	65
Travertine	33	28	61
Flint	23	14	37
Malachite	38	19	57
Shell	24	5	29
Copper (finished product)	17	17	34
Galena	23	18	41
Garnet	13	8	21
Hematite	15	7	22
Quartz (all varieties)	7	4	11
Limestone	5	5	10

5.11.2 Palettes

Greywacke palettes represented an important class of mortuary artefact and were deposited in 264 or 27.3% of Naqada IIIA2-IIIB graves. Palettes had a significant association with valley graves, thereby confirming the results obtained by Ellis (1996, 158; **Tables 5.6a-b**). It has been estimated that on average 15% of graves in any Predynastic cemetery would contain a palette, although this frequency declined into the Naqada III period (Stevenson 2007, 153; 2009c). This decreasing trend in mortuary use can also be seen during the Naqada IIIB at Tarkhan (**Table 5.5b**). While individual cemeteries vary, the percentage of palettes at Tarkhan far exceeds this estimated average of 15%. This trend is also seen in the sex-determined data, where palettes were found in over 30% of the female and male burials at the cemetery (**Chapter Seven**).

The increased number of palettes may indicate that the settlement had greater access to these objects than other regional centres. Levels of presumed access must be balanced by the fact that 280 or 4.8% of all recorded goods (n = 5844) in Naqada IIIA2-IIIB graves are palettes (**Tables 5.5a-b**). This can be compared to Minshat Abu Omar (MAO I-IV) where palettes represented less than one percent of all goods at the cemetery (Kroeper 1996, 82-83; Rowland 2003, 218-220).

Greywacke was sourced from the Wadi Hammamat in the Eastern Desert of southern Egypt (Aston et al. 2000; Harrell 2002; 2012; 2013; Bloxam et al. 2014).[20] By virtue of palette numbers, this stone was the most prolific non-ceramic raw material used at Tarkhan. Studies of greywacke mining activities indicate that the quarrying and preliminary manufacture of materials was probably undertaken on a small-scale by specialised workers (Harrell and Storemyr 2009; Bloxam 2010; 2020; Bloxam et al. 2014). It seems likely that palette blanks were finished in the Nile Valley and it is possible that work on generic shapes could have been undertaken at Tarkhan.

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[20] For consistency, the term greywacke is used throughout this study. On the petrological nomenclature see Aston et al. (2000, 57-58) and Harrell (2000; 2013).

A: Falcon palette from valley grave 873 (Naqada IIIA2). Type 10d (Petrie 1914a, XXII). (Petrie Museum of Egyptian Archaeology UC15778; Courtesy of Petrie Museum of Egyptian Archaeology, UCL). Height: 31.5 cm. (Female burial as determined by excavator).

B: Turtle-shaped palette from valley grave 934 (Naqada IIIA2). Type 41k (Petrie 1914a, XXII). (Manchester Museum 5709; Courtesy of Manchester Museum, University of Manchester).
Height: 17.6 cm; Width 16.5 cm. Scale unknown. (Male burial as determined by excavator).

C-D: Rectangular-lined palette and close-up of incised image of a man holding a staff and mace from valley grave 1579 (Naqada IIIB). Type 98d (Petrie 1914a, XXIV). (Petrie Museum of Egyptian Archaeology UC15841; Author's photograph; Courtesy of Petrie Museum of Egyptian Archaeology, UCL). Height 16.8 cm. Scale unknown.

Figure 5.11: Palettes from Naqada IIIA2-IIIB graves.

A range of shapes can be identified within the repertoire of palettes. These include rectangular, circular, scutiform and zoomorphic forms, such as fish, falcons or generic birds, turtles and a gazelle (Petrie et al. 1913, XXIX; Petrie 1914a, XXII-XXIV; Ciałowicz 1991; Regner 1996; Stevenson 2004; 2009c; **Figure 5.11a-c; Chapters Seven** and **Eight)**. One unusual palette was incised with a man holding a staff and mace from valley grave 1579 (Naqada IIIB) (Petrie 1914a, 10, VI; **Figure 5.11c-d**). It is unfortunate that over 20% of palette types cannot be identified from the details provided on the tomb cards. Despite this issue, the rectangular lined and unlined varieties do dominate the palette repertoire. This is consistent with overall trends in the temporal distribution of palette forms documented for the Naqada III period (Ciałowicz 1991; Regner 1996; Stevenson 2004; 2009b).

5.11.3 Beads

While Petrie (1914a, 13, 24, XLIV-XLV) tabulated bead shapes and raw materials, no clear estimates of numbers were provided. This is not surprising given the fragmented nature of most bead-sets. Partly filling this gap is Xia's (2014) bead catalogue. This study documented shapes and materials, and percentages of these within bead-sets held largely at the Petrie Museum of Archaeology, UCL. This work was based on an extensive card index generated by Xia (2014), which included material from Tarkhan.

Carnelian was the most prolific gemstone used in the production of beads and was recorded on the tomb cards of least 119 graves (**Figure 5.12**). The popularity of carnelian is also attested at many cemeteries throughout Egypt, including Hierakonpolis, Minshat Abu Omar, Kufur Nigm, Kafr Hassan Dawood and Tell el-Farkha (Rowland 2003, 215; 2014, 280; Hikade 2004; 187-190; Xia 2014, 83; Chłodnicki 2017b, 211). As well as beads, carnelian was also fashioned into pendants and amulets of various shapes. As many of these objects contained holes for stringing, it is possible that they were worn in necklaces and may have performed a protective function.

After carnelian, glazed steatite and faience beads were popular being found in 114 graves (Xia 2014, 37-40, 83) (**Figure 5.12**). Glazed pottery was used as a generic descriptive term by the excavators, although the beads are composed of either faience glaze on steatite (soft stone), or complete faience (Kaczmarczyk and Hedges 1983; Vandiver 1983; Xia 2014). A range of colours were recorded including blue, green, black and white. Given the blue and green appearance of many of these beads it would appear that early glazed stone and faience

technology was first developed to imitate the properties of rare materials, such as turquoise and lapis lazuli (Vandiver 1983; Horn 2015).

A: Carnelian and faience/glazed steatite beads from valley grave 1878 (Naqada IIIB). (Petrie Museum of Egyptian Archaeology UC17249; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Scale unknown. (Female burial as determined by excavator).

B: Carnelian and faience/glazed steatite beads from valley grave 1378 (Naqada IIIA2). (Petrie Museum of Egyptian Archaeology UC28515; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Scale unknown. (Female burial as determined by excavator).

Figure 5.12: Beads from Naqada IIIA2-IIIB graves.

Other hard stones, such as garnet, rock crystal, agate, amethyst and hematite were recorded in fewer numbers; as were soft stones including travertine, malachite and steatite. Materials such as ivory and shell were noted on the tomb cards, although these are not well-represented. The application of gold-leaf to steatite beetle amulets was also identified in one subadult burial, while gold beads were noted on the tomb card for hill grave 19. Very rare beads of lapis lazuli sourced from Afghanistan were also attested in two Naqada IIIB burials (graves 19 and 1557) **(Chapters Eight and Nine).**

The majority of the gemstones would have been sourced from the Eastern Desert in Upper Egypt, or as pebbles from Nile Valley terraces (Aston et al. 2000; Hikade 2004, 187-190; Harrell 2012; 2017). No known quarries have been identified for these materials with the possible exception of an amethyst mine in Wadi Abu Had near Aswan (Aston et al. 2000, 50-52; Shaw 2000, 225-226; Harrell 2012, 4, Fig. 1; 2017, 8). Distributive pathways to northern cemeteries such as Tarkhan are unknown, but it is likely that materials were acquired in both pebble and finished forms (Chłodnicki 2017b, 211). It is interesting to note that bead industries have been identified at Tell el-Farkha in the Delta and Hierakonpolis in Upper

Egypt (Hikade 2004, 187-190; Chłodnicki 2017b). It is possible that some of the finished Tarkhan beads were sourced from these or other workshops.

5.11.4 Stone vessels

Stone vessels were the third most popular artefact type after ceramics and palettes. A minimum of 265 stone vessels were identified in 172 graves. It is possible that the number of vessels was actually higher than recorded because many vessels were broken and recovered fragments may represent more than one vessel.

	type 14	type 18	type 19	type 26	type 50/51	corded cylinder types	plain cylinder types	type 71
■ IIIA2	20	6	12	10	6	0	1	33
■ IIIB	12	13	13	3	7	10	3	19
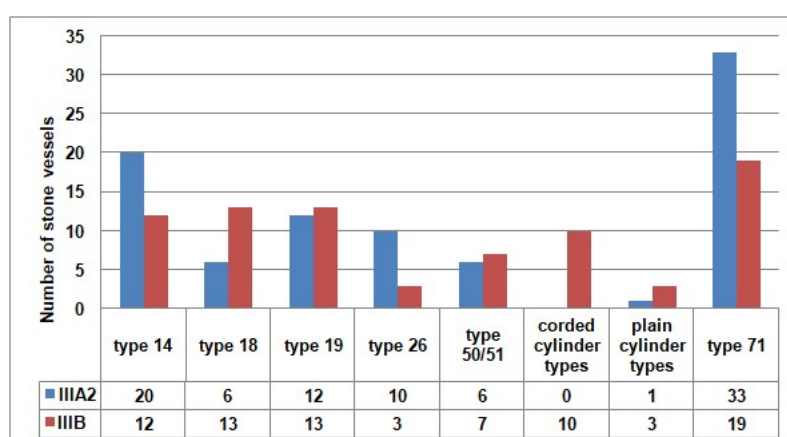
Figure 5.13: Major stone vessel types (Naqada IIIA2-IIIB).

For Naqada IIIA2 graves, 27 stone vessel types were recorded, while 32 types were identified in Naqada IIIB graves (Petrie et al. 1913, XXXII-XLIV; Petrie 1914a, XXV-XXVII). Small jars with lug handles (type 71) were popular during both phases, along with flat-based bowls and cups of Tarkhan types 14, 18 19 and 26 (Petrie et al. 1913, XXXII-XLIV; Petrie 1914a, XXV-XXVII; **Figures 5.13-5.15**). Wavy-handled (types 50/51) and the corded and plain varieties of cylindrical shapes increase in use during Naqada IIIB (**Figure 5.14c**). Similar to the distributive patterns of pottery, there are a limited number of examples across a wide range of stone vessel types. This could suggest that a greater diversity of vessel shapes were available to people for domestic and other non-mortuary purposes.

The majority of Naqada IIIA2-IIIB vessels at Tarkhan were carved from the soft stone travertine (**Figure 5.14**). The nomenclature of this stone varies and it is often referred to as calcite or alabaster, although this study uses the term travertine (Aston 1994; Aston et al. 2000, 59; Rowland 2003, 190; Klemm and Klemm 2008; Harrell and Storemyr 2009; Shaw 2010; Harrell 2013). Due to Petrie's identification of the stone as 'alabaster' it is possible that

a small percentage of these vessels may have been limestone. By the Naqada IIIC2 period, gypsum vessels become popular and these may have also been erroneously identified as alabaster by the excavators (Aston 1994). However, when I have been able to examine vessels from Naqada IIIA2-IIIB graves in museum collections, they are travertine (**Appendix C**). The mortuary dominance of travertine is also attested at other northern cemeteries including Kafr Hassan Dawood, Minshat Abu Omar, Helwan, Saqqara and Turah (Rowland 2003, 190-196; Janulíková 2017, 147).

Despite the popularity of travertine as a workable soft stone it is not possible to identify the exact quarry sources for the Predynastic-Early Dynastic vessels (Aston 1994, 46). Only nine quarries have been documented throughout Egypt with earliest use attributed to the Old Kingdom at Wadi Gerrawi near Helwan (Aston 1994, 44-47; Aston et al. 2000, 14; Harrell and Storemyr 2009). The majority of vessels at Tarkhan were produced from the white-yellow varieties of the stone, although several examples of brown-grey banded stone can be identified (**Figure 5.14d; Chapters Seven** and **Eight**). While there are similarities in appearance between published samples of the banded stone from three quarries (Wadi Araba, Wadi Gerrawi and Wadi Asyut) and the Tarkhan examples, a more definitive connection cannot be made at this stage (Harrell and Storemyr 2009; Shaw 2010, 19-25).

Limestone (soft stone) does not figure prominently and may not have been favoured by the early communities of Tarkhan. The 13 examples associated with 12 graves include white, pink, grey, yellow and red breccia limestones (**Figure 5.15; Chapter Seven**). Limestone outcrops are found along the Nile Valley and in the Memphite region, so it is possible that the white and yellow limestones were obtained locally (Aston 1994, 38). No specific sources for the pink and grey limestones have been established (Aston 1994, 38-39; Klemm and Klemm 2008, 23-145). The red breccia limestone may have originated from deposits in the Akhmim or Matmar areas of Upper Egypt. However, most of the ancient stone working activities at these deposits were probably associated with the Pharaonic period (Aston et al. 2000, 43; Klemm and Klemm 2008, 140-141).

A. White travertine shell-shaped vessel from valley grave 1479 (Naqada IIIB). Type 48 (Petrie 1914a, XXVI). (Manchester Museum 5725; Courtesy of Manchester Museum, University of Manchester). Height: 10 cm; Width: 8.2 cm. Scale unknown.

B. Travertine jar with small lug handles from valley grave 1300 (Naqada IIIB). Type 71h (Petrie et al. 1913, XLIII). (Human Culture Collection, University of Aberdeen, ABDUA 21768; © University of Aberdeen). Height: 8.7 cm; Maximum diameter: 5.9 cm. Scale unknown. (Female burial as determined by the excavator).

C. Travertine cylindrical jar from hill grave 10 (Naqada IIIB). Type 51p (Petrie et al. 1913, XXXIX). (Petrie Museum of Egyptian Archaeology UC16907; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 22.2 cm; Maximum diameter: 8 cm. Scale unknown.

D. Grey-banded travertine deep bowl from hill grave 1023 (Naqada IIIA2). Type 14t (Petrie et al. 1913, XXXIV). (Petrie Museum of Egyptian Archaeology UC16900; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 12.2 cm; Maximum diameter: 14 cm. Repaired with plaster.

Figure 5.14: Travertine vessels from Naqada IIIA2-IIIB graves.

A. Red breccia limestone jar from valley grave 1479 (Naqada IIIB). Type 71g (Petrie et al. 1913, XLIII). (Manchester Museum 5726; Courtesy of Manchester Museum, University of Manchester). Height: 8.5 cm; Maximum diameter: 4.4 cm. Scale unknown.

B. Grey limestone jar from hill grave 315 (Naqada IIIA2). Type 51c (Petrie et al. 1913, XXXIX). (Petrie Museum of Egyptian Archaeology UC16936; Author's photograph; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Minimum Height: 27 cm; Maximum diameter: 14.4 cm. Scale unknown.

Figure 5.15: Limestone vessels from Naqada IIIA2-IIIB graves.

There are few hard stones represented and these include possible single examples of greywacke and porphyry. The location of these vessels is unknown so material identification was not possible. One of the better published hard stone vessels was discovered in Naqada IIIB valley grave 1739. This bowl was made of basalt (Mallory 2000; Mallory-Greenough 2002, 67-81; Kopp 2007, 194; **Figure 7.13b** in **Chapter Seven).** A northern source from the Haddadin basalt flow near Cairo or the Fayum has been suggested for such vessels (Mallory-Greenough et al. 1999, 1270-1271). Given the specialist skill required to produce vessels in hard stone, this bowl was probably crafted in a northern workshop (Mallory-Greenough et al. 2002, 1042).

Stone vessels are considered to have elite associations and used as symbols of wealth and prestige (Mallory-Greenough 2002; Raffaele 2005; Bevan 2007). In agreement with Janulíková (2017, 148), such statements are simplistic given that stone vessels were found in a wide range of graves at Tarkhan. This does not discount the possibility that statements of group identity may have been expressed through the use of stone vessels or other goods such as wooden coffins (**Chapters Six** and **Nine**). The inclusion of stone vessels, like other

precious materials, was dependent on what the living were prepared to remove from circulation to gift to the dead.

5.12 Concluding comments

The number of goods and variety of artefact types suggest that Tarkhan was a centre of economic diversity during the Naqada IIIA2-IIIB periods. Materials and finished products sourced from distant places speak to those direct and indirect interactions between the people of Tarkhan and the outside world. Mortuary practices also demonstrate the habitual nature of death as lived experience for these people. There is little evidence to suggest that the various communities adhered to any over-arching rules of practice, other than those associated with the disposal of the dead by burial. The presentation of death at the cemetery does, however, engage with notions of agency. The construction of the grave, the preparation of the body and the selection of grave goods were actions driven by decisions once made by family members. The fact that each grave was different would indicate that interpersonal relationships between the living and the dead were not expressed in a formulaic manner. While many actions and activities are archaeologically invisible, those that remain provide an insight into how the various communities of Tarkhan dealt with death over time.

Chapter Six: Landscapes and the spatial dimensions of social relationships

6.1 Introduction

When considering the nature of relationships between individuals and groups at Tarkhan the premise adopted here is that the funerary landscape represented an actively constituted social context that had both "spatial and material dimensions" (Schülke 2016, 325-326). Over time, the cemetery served to connect people in a complex network of relationships that could "be political, mythical, and full of memories" (Schülke 2016, 321). Some of these interactions may have been represented visually by such means as the physical gathering of burials or the deliberate demarcation of mortuary space. Less obvious but perhaps of equal significance to communities was the importance of social memory in the construction of past and future connections for the living. As noted by Ingold (1993, 153) landscapes enfold "the lives and times of predecessors who, over the generations, have moved around in it and played their part in its formation". At Tarkhan such connections may have been expressed through the conscious clustering and layering of burials over time, or commemorative practices that sought to engage the dead in new and invigorated relationships with the living.

Understanding the funerary landscape, those interactions between people and their surroundings and how the ancient communities may have commemorated their own pasts and articulated their own futures forms the core of this discussion. Specifically, this chapter examines the social construction of mortuary space in the valley cemetery, and considers how this information may contribute to our understanding of social relationships at Tarkhan. The seven small mastabas are also examined as these structures represent important and unique features within the valley cemetery. Consideration will be given to the role kinship and group-related agency, social memory and changing ideologies may have played in determining significant interactions between the living and the dead.

6.2 Considering spatial relationships, kinship and memory in funerary contexts

Anthropological studies of non-state societies have posited the social organisation of village life along kinship lines (Campagno 2000; 2003, 15; 2009, 5). These living relationships may have been expressed visually within cemeteries through the simple act of burying people together. Few studies of early Egypt have considered the role of kinship in the construction of social relationships and in the shaping of mortuary identities for these ancient communities (see however, Savage 1995; Campagno 2000; 2003; 2009; Rowland 2003; Stevenson 2009b;

2013). This assessment can also be extended to role that memory may have played in creating and re-affirming connections between people and communities.

As kinship is considered to have "clear spatial and material dimensions" it offers the potential to focus upon the interactions of people and the connections they may make within their social environment (Souvatzi 2017, 173). Spatial and clustering practices in cemeteries therefore assume some importance in discussions of social relationships, particularly as an aid in the identification of kinship or descent groups (Chapman and Randsborg 1981; Goldstein 1981; Carr 1995; Savage 1995; 1997; Campagno 2000; 2003; Stevenson 2009b). Such familial associations as witnessed in ethnographic contexts have been an influential driving-force in theoretical discussions of ancient mortuary behaviour, although not without scrutiny (Ucko 1969; Saxe 1970 (Hypothesis 8); Chapman and Randsborg 1981; Goldstein 1981; Pader 1982; Carr 1995; Keswani 2004).

A multi-dimensional approach to the identification of clustering practices is a consistent methodology adopted by Egyptian-specific mortuary studies (Bard 1988; 1994; Anderson 1992; Savage 1995; 1997; Delarue 2001; Rowland 2003; 2007; Stevenson 2009a; 2009b; 2013). Space (between and within graves), and dimensions such as body orientation, grave size and patterns of artefact distribution have been used to identify the presence of possible non-random descent-based spatial clustering within cemeteries (Chapman and Randsborg 1981, 15; Goldstein 1981, 58-67). Spatial associations based upon some of the above attributes have been interpreted as evidence for the existence of descent, kinship or corporate groups at the Badarian cemeteries in Middle Egypt; and at the Upper Egyptian cemeteries of Armant (Cemetery 1400-1500), Naga ed-Dêr (N7000) and Naqada (Cemeteries B, N and T) (Friedman 1981; Anderson 1992; Bard 1994; Savage 1995; 1997; Campagno 2000; 2003; Delarue 2001; Stevenson 2009b; 2013).

More recent engagement with data from Delta and Fayum-based sites has further highlighted the diversity and complex nature of organisational and clustering practices within cemeteries. At Gerzeh, Stevenson (2009a; 2009b, 183-184) has identified spatial associations based upon the alignment of pits, orientation of bodies, depositional practice and the positioning of child and infant graves. Similarities within and between some graves suggested that group membership was an important element in the construction of "identities in death for certain members of the community, which may or may not have included kin-based considerations" (Stevenson 2009b, 183-184). At Kafr Hassan Dawood spatial clustering of smaller graves

around large-scale constructions was observed in certain areas of the mortuary landscape by Rowland (2003; 2007). It was suggested that some of these large graves could represent the burials of initial kin-leaders within the early community (Rowland 2003, 347-348).

At Tell el-Farkha a small group of early Naqada IIIB graves appear to have been surrounded by other burials ranging in date from the late Naqada IIIB to the Naqada IIIC2 periods (Dębowska-Ludwin 2012, 55). Interestingly, there are distinct secondary intrusions of later Naqada IIIC2-IIID burials over some of the early Naqada IIIB graves (Dębowska-Ludwin 2012, 54). It was suggested that a combination of environmental factors, faded memory or community change may explain this seemingly incongruous spatial strategy (Dębowska-Ludwin 2012, 67). In contrast to the above results, work undertaken at cemetery of Minshat Abu Omar has observed an overall the lack of regularity in grave arrangement throughout the cemetery. Therefore, little correspondence between such practices and the existence of family groups could be identified (Kroeper 2004, 867).

The diversity of practice seen at cemeteries throughout Egypt, particularly those situated in the Delta and Fayum regions, draws attention to the fact that social formation processes as reflected in spatial organisation were vastly different at each site (Rowland 2003; 2007; Kroeper 2004; Stevenson 2009a; 2009b; 2013; Dębowska-Ludwin 2012). Therefore, similarities in organisational practices cannot be assumed based upon regional connectivity. Adopting a subjective position, I would suggest that if all other considerations are equal people will actively decide to bury the recent dead in proximity to previously deceased family members. As Tarkhan has a long life-history such practices may invoke other engagements between people in ways that projected idealised remembrance rather than actual relationships.

The connection between landscape, people and memory has thus become a crucial investigative theme in a range of world-wide archaeological studies (Bender 1999; Richards 1999; Cannon 2002; Silverman 2002; Kuijt 2008; Rubertone 2009; Wilson 2010; Jones 2013; Mixter 2017). Memory can take on many forms and differ in consistency and intensity over time. Shorter-term memories are created through lived experiences and shared associations with a deceased individual, place or activity. Such personal memories may influence kin-based placement strategies but have a "restricted spatial scale and limited duration" (Cannon 2002, 193). This is akin to Jan Assmann's (2011, 36) communicative memory, which is based upon personal experience and may last only several generations until the last participant or holder of that memory is dead.

More enduring forms of shared social or cultural memory, move beyond the individual to take on abstract concepts of commemoration that are enhanced through ritual actions, symbols and the construction of new narratives designed to emphasise identities, strengthen power and define ideologies (Cannon 2002, 192-197; Wilson 2010, 4; Assmann 2011, 42). Communities are therefore provided with a means of engaging and making sense of the world in ways that contribute to the development of a knowledge of the past (Jones 2013, 55). This view has some resonance when considering that the accumulated knowledge of people and practices would have been a "means of organizing, using, and living in the landscape" (Knapp and Ashmore 1999, 14).

Memories of such pasts are often associated with elite strategies of landscape appropriation and status manipulation through active reference to ancestral connections (Arnold 2002, 132; Cannon 2002, 194; Wilson 2010, 10; Jones 2013, 55; Overholtzer and Bolnick 2017, 52). The mortuary landscape could therefore be viewed as a locale that incorporates the real and imagined (Gibson 2013, 119). Social memory at this more abstract level should not be considered the exclusive purvey of the elite as all members of the community could draw upon real or imagined ancestors to enhance or negotiate political or economic interests (Wilson 2010, 4; Jones 2013, 55; Overholtzer and Bolnick 2017, 51-52). Such strategic manipulation and memorialising of the past could be achieved through the appropriation of space, the construction or re-use of monuments and the enactment of ritual practices (Wilson 2010, 15; Jones 2013, 55; Overholtzer and Bolnick 2017, 52). Such practices, while commemorative and mnemonic can also be disjunctive or disruptive with rituals and actions 'misremembered' or distorted over time (Meskell 2003, 49-53; Jones 2013, 55).

6.3   Identifying broad spatial patterns in the cemetery

The original valley map has been maintained with the major graves and features highlighted for the purposes of this discussion (Petrie 1914a, XLVI; **Map 3**; **Figure 6.1)**. This map has also been deconstructed into two temporal phases representing the Naqada IIIA2 and Naqada IIIB periods (Petrie 1914a, XLVI**; Figures 6.2-6.3)**. These maps are based on the relative horizontal stratigraphy for the valley established in **Chapter Three**. The aim is to identify simple organisational patterns throughout the valley based upon a visual 'reader's eye' approach rather than to conduct complex spatial analyses of these data (Chapman and Randsborg 1981, 15; Goldstein 1981, 67; Ringtved 1997, 117; Brass 2016). Further spatial analysis would assist in refining some of the key observations presented in this chapter (see

the studies by Rowland 2003; Stevenson 2009a; Brass 2016 and van Wetering 2017, for example).

The process of selection was based on the presence of a mastaba or large grave or a defined pattern of physical clustering within the landscape. Emphasis is, however, placed upon examining spatial practices associated with the seven mastabas. These unusual structures were built from the late Naqada IIIA2 to the early Naqada IIIC1 periods. On the basis of accompanying pottery, 852 and 1845 represent the earliest structures (late Naqada IIIA2), with 740, 1889, 1890 attributed to the Naqada IIIB and 1674 to the early Naqada IIIC1 period (Hendrickx 2001, 100; Mawdsley 2012a). Mastaba 1231 cannot be dated precisely but is considered to be Naqada IIIB-early IIICI in date. Six of the mastabas were situated in the western area of the wadi, while 1674 was positioned in the centre of the cemetery away from the older structures (**Figure 6.1**).

A number of other large-scale graves were present in the valley. For the Naqada IIIA2 period grave 870 (13 m^3) seemingly commanded a key position in the centre of the wadi while two large-scale graves, 666 (5.3 m^3) and 751 (6.3 m^3) were located in the north-east of the cemetery (**Figure 6.1**). These graves represent important features in the social landscape and may have provided a focus for clustering practices in certain areas of the valley. It must also be noted that 97% of graves in the valley are < 3 m^3 in volume. Hence, the term micro-cluster is used here to describe those many groupings that do not contain a large-scale grave or mastaba.
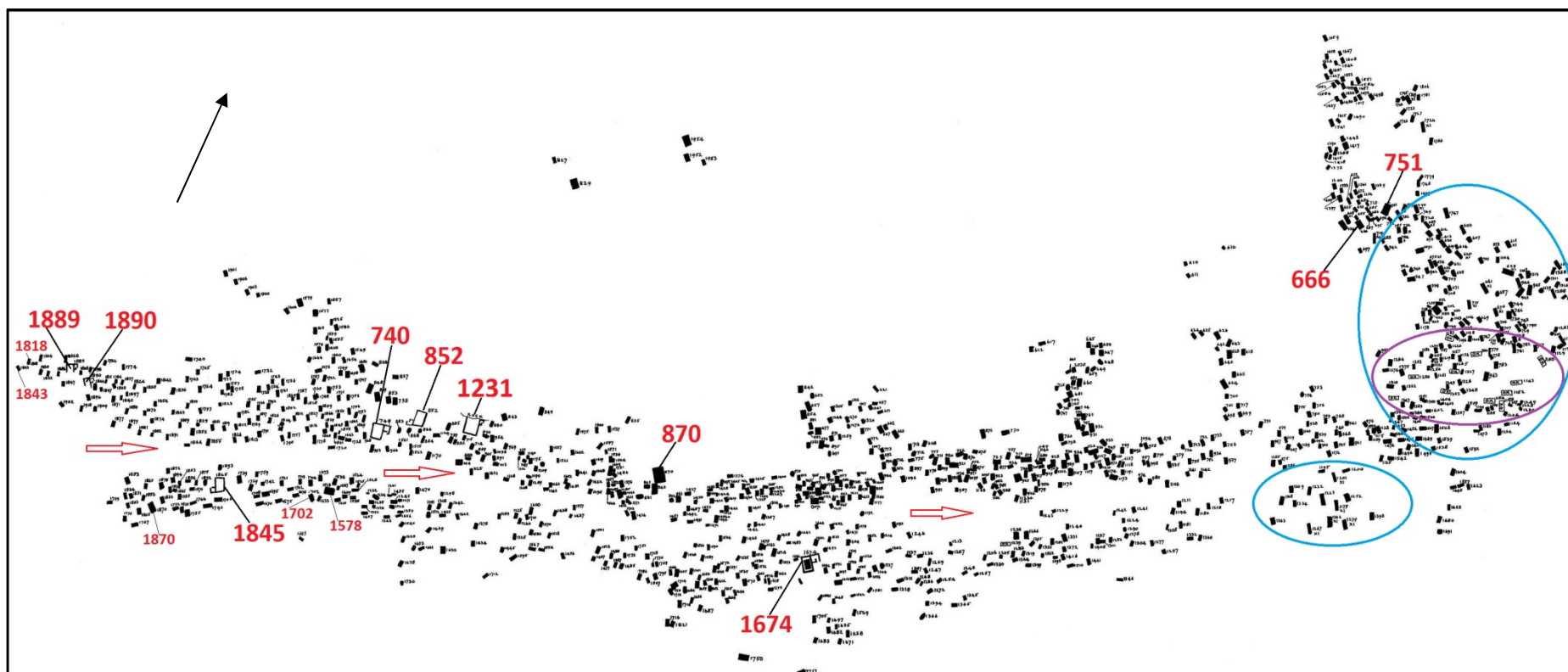
Figures 6.4-6.8 are close-ups of areas around the mastabas and graves 666 and 751 in the eastern valley. The main area of bovine burials is circled in purple and enlarged in **Figure 6.10.** Areas of Eleventh Dynasty graves are circled in blue. The pathway dividing the north and south of the valley is indicated by arrows.

Figure 6.1: The small mastabas and other large graves in the valley cemetery (after Petrie 1914a, XLVI).
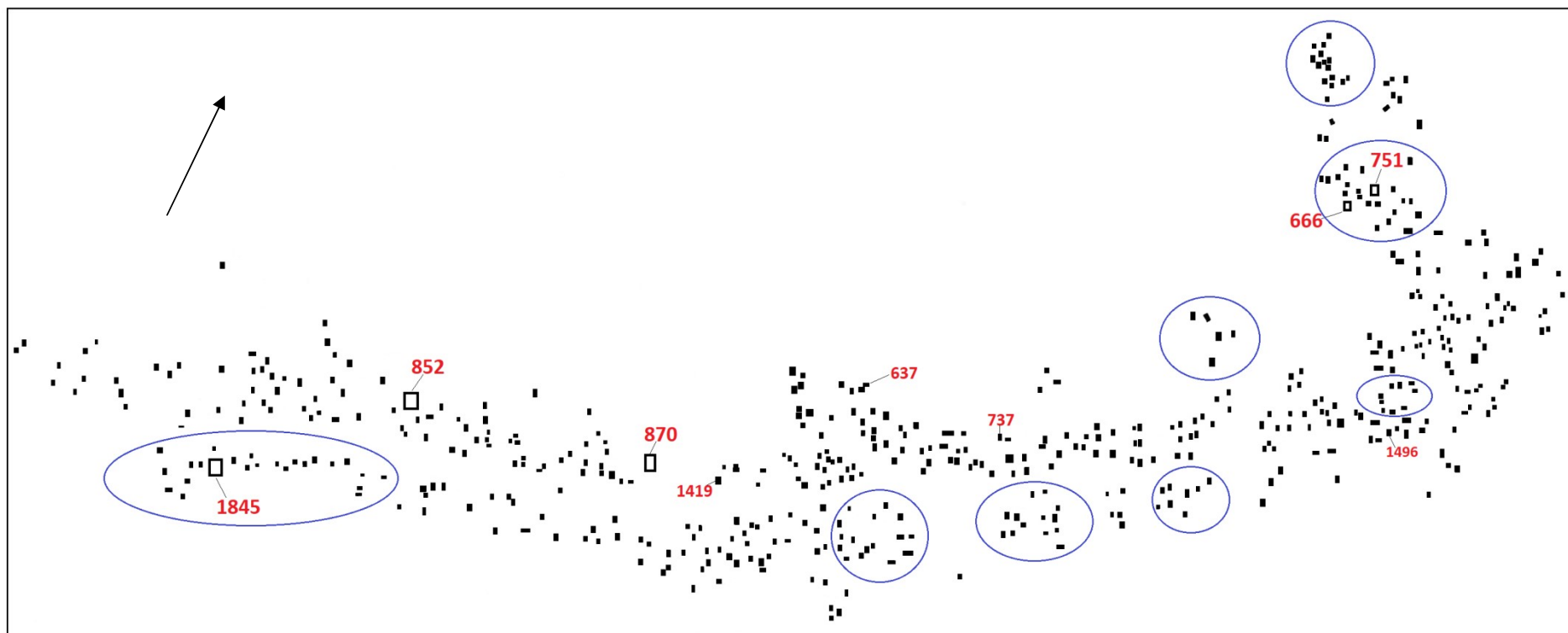
Areas of mortuary space near mastaba 1845 in the west and the large graves 666 and 751 in the east are circled. Examples of possible micro-clustering practices circled. The linear arrangement of graves along the north and south of pathway can also be seen. Numbered graves are mentioned in the text.

Figure 6.2: Valley cemetery during the Naqada IIIA2 period (after Petrie 1914a, XLVI).
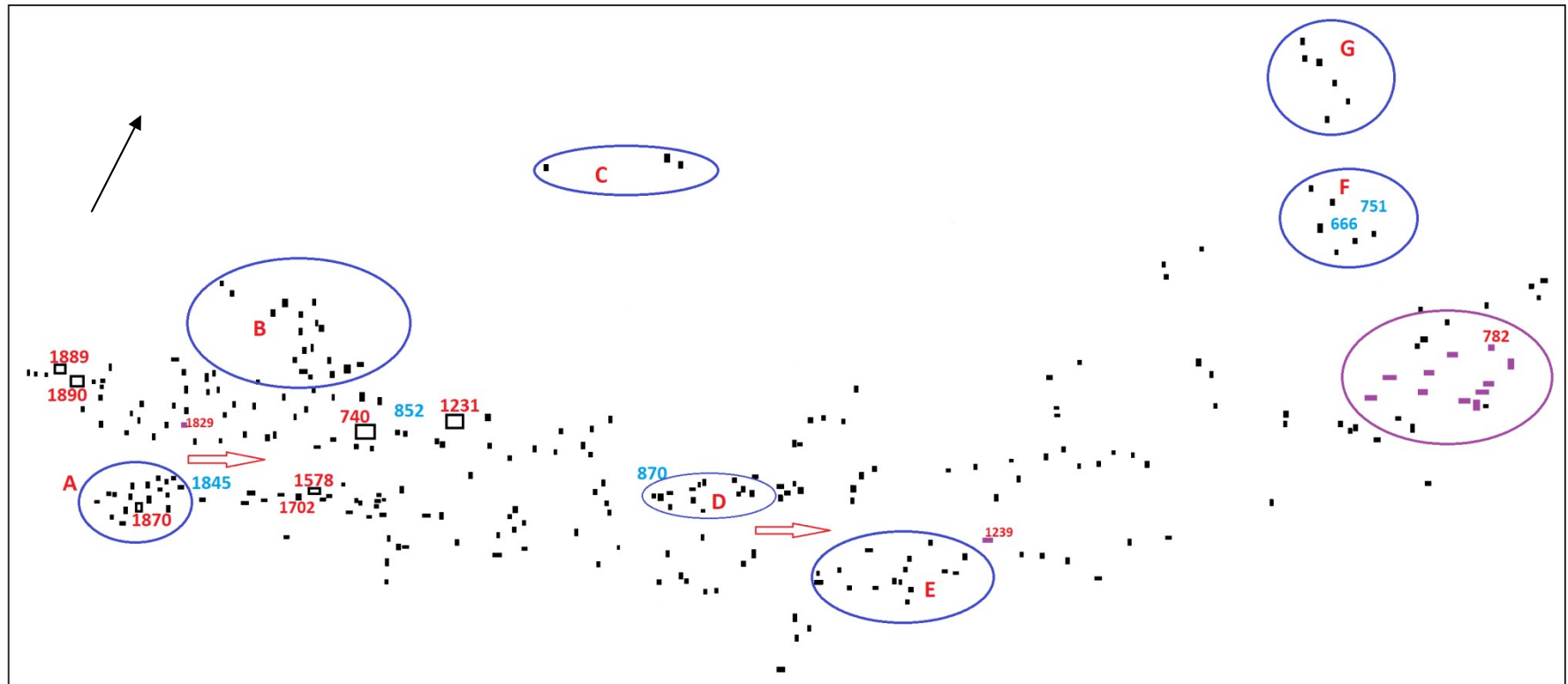
A: Extension of space beyond mastaba 1845; **B-C**: New Naqada IIIB space; **D-E**: Extension of existing Naqada IIIA2 space; **F-G**: Limited placement of Naqada IIIB graves in Naqada IIIA2 space. Area of bovine burials circled in purple and location of bovine graves 1829 and 1239 marked. Continued use of pathway indicated by red arrows. The shift of human graves from the east to the centre and west of the valley is now apparent. Numbered graves are mentioned in the text.

Figure 6.3: Valley cemetery during the Naqada IIIB period (after Petrie 1914a, XLVI).

6.4 Forging a new future in the valley

For the early settlers the selection of a suitable burial ground must have been a priority. While it is difficult to pinpoint where the first graves were cut, given the number of Naqada IIIA2 burials in the valley it seems likely that most of the first members of the community to die were interred here. This view is tempered by the fact that ten of the hills contained burials that can be attributed to the Naqada IIIA2 period, although the density of this distribution is sporadic with 87 graves identified (**Chapter Three**). By the Naqada IIIB period only 74 graves are represented with a slightly different distributive pattern across a similar number of hills. The dispersal of graves throughout the hills during the Naqada IIIA2 could indicate the presence of early satellite villages, which in conjunction with a more central primary village, comprised members of the founding community (**Chapter Nine**).

A compelling explanation for this patterning draws upon Rubertone's (2009, 13) concept of placemaking, which is described as "the social practices of constructing place and inscribing memories". In this scenario, the spread of burials could be viewed as a means of 'claiming' the landscape for the community thus defining the rights of the group over any future claims or incursions by other peoples. Through such actions the members of the early community become the 'placemakers', determining not only the extent of the surroundings but also establishing what is remembered within that landscape (Rubertone 2009, 13).

The founding community had the advantage of space and nearly 300 metres of available landscape was utilised over time. Petrie (1914a, 2) identified what he called a pathway and this ran through the middle of the wadi (**Figure 6.1**). Graves extended along the length of this feature. In **Chapter Three** it was suggested that the eastern and central areas of the valley may have represented spaces of initial burial for the early Naqada IIIA2 community. However, a spread of graves along both sides of the pathway towards the west of the wadi was also observed. These graves contained pottery that can be assigned to the Naqada IIIA2 period (Hendrickx 1996, 59; 2011a). Such patterns would suggest that the occupation of this space was not a later feature of spatial practice but occurred early in the life-history of the cemetery.

It is further observed that the two most western positioned graves, 1818 and 1843 are Naqada IIIA2 contexts (**Figure 6.1**). Rather than gather together in a more circular arrangement in the middle or eastern ends of the wadi, this linear distribution is perhaps indicative of a deliberate strategy to utilise the full extent of available space by different family groups. The role of the pathway as a structuring feature is strongly suggested here. As such, a linear approach to the placement of burials may have been employed by some family groups to ensure a prime spatial location.

As a visual mnemonic device, placement at the front of the pathway would ensure that those individuals were seen and remained relevant to the living. As a social strategy of remembrance, this pattern could also be framed within Rubertone's (2009, 13) concept of placemaking. By spreading along this constructed feature, the founding population were again laying the physical ground-rules for the placement of burials, which were designed to be followed by their descendant communities. By constructing the means for people to move through their surroundings a common and shared cultural understanding of the past was created (Schülke 2016, 340; Mixter 2017, 268). Over time the pathway served to bind the community through habitual everyday activities such as walking through the cemetery. The juxtaposition of pathway and burials could indicate that natural features of the landscape were linked to religious or other ideas of importance to the early community (Thäte 2009, 115-118). While speculative, it is possible that the pathway served the performative function of a processional way during the burial ritual (Bender et al. 1997, 174; Thomas 2001, 175-176).

6.5 Micro-clustering practices

It would appear that the structural dynamics of the valley during the Naqada IIIA2 period was fluid and able to accommodate differences in group-related placement strategies. Individuals seemingly took advantage of the unrestricted nature of grave placement to create discrete spatial associations throughout the wadi during the Naqada IIIA2 period (**Figure 6.2**). For the Naqada IIIB period most of the spatial activity had shifted to the centre and western areas of the valley, although several groups continued to maintain space in the east (**Figure 6.3**). It is likely that clustering practices were more defined, particularly in the Naqada IIIA2 period, but have since been obscured by the gradual spreading and merging of burials in certain areas of the wadi.

The concept of micro-clusters based upon family groups as cemeteries within cemeteries is a plausible explanation here. This model could be carried forward throughout the life-history of the valley to explain micro-clustering practices over time. The majority of graves comprising these micro-clusters are generally small-scale pits and this is a consistent association regardless of temporal phase. Importantly, such arrangements demonstrate that placement strategies were not always dependent upon, or determined by, the location of a large-scale mortuary structure.

Drawing a parallel to Gerzeh, it is possible that micro-clustering practices demonstrate that the cumulative structure of the cemetery was driven by relationships enacted at a localised level rather than determined by any "overarching cultural rules" (Stevenson 2009a, 143; 2009b, 183; 2013, 27). Furthermore, such practices provide direct evidence of the agency of differing social groups in determining the nature of individual and collective engagements within the mortuary landscape. It is clear, therefore, that the owners of these small-scale graves were not passive observers but rather sought actively to construct their own familial space imbued with their own memories. Through such actions these people contributed to the tradition of placemaking established by the earliest members of the community (Rubertone 2009, 13). Based upon this evidence, it could be argued that these are the real patterns of interest in determining how the cemetery was built over time. This is an area of research that certainly warrants more detailed analysis.

The social implications of micro-clustering, particularly during the Naqada IIIA2 phase, demonstrate a preference for intimate commemorative practices. Some consideration should be given to the idea that the early community adopted a more egalitarian mode of social engagement within the funerary landscape. The core of such relationships must have been kin-based and not dependent, in the first instance, upon conspicuous construction-related status display or associations. The concept of "an egalitarian dead within an inegalitarian society" (Parker Pearson 1993, 226) may be relevant when contemplating the developing spatial traditions of the early community.

The transformation and extension of mortuary space by Naqada IIIB graves is apparent behind the original straight line arrangements of graves situated to the east of mastaba 1845, and along the northern boundaries of the pathway in the central valley (**Figures 6.3-6.4**). This blending could be viewed as a "form of self-structuring social practice" (Chapman 2000, 190). In this scenario, a "kinship calculus" determined the placement of successive graves

relative to the interment of the first member of that kin-group (Chapman 2000, 190). This habitual blending of old and new graves provides evidence of the process through which the living evoked ancestral connections to earlier founder kin-members. Active decisions to map the newly dead within these temporally-blended spaces demonstrate the importance of maintaining kinship links throughout life and death (Chapman 2000, 177; Cannon 2002, 192).

Such spatial practices could also be viewed as part of a broad scheme of ritual and social behaviours associated with burial, which were designed to co-opt the ancestors for the socio-political or economic benefit of the surviving group (Arnold 2002, 132; Fahlander and Oestigaard 2008, 11). As highlighted by Thomas (2001, 175) "the landscape provides a continuous reminder of the relationship between the living and past generations". Therefore, as a strategy of appropriation, the continued placement of graves within specific areas from the Naqada IIIA2 to Naqada IIIB periods served to reinforce any collective claim to mortuary space held by that particular group. The continual re-use of ancestral space at this level could be conceived as a mechanism through which various kin-groups constructed their own view of the world and forged their own concepts of identity, independent of those prescribed within an otherwise increasingly structured society. The ability to use mortuary space in such ways may have also served to neutralise any tensions between different social groups in the living community.

6.6 Kinship and family as spatial constructs

The idea of an organisational structure for the built environment based upon kinship connections is a consistent observation made in numerous anthropological and archaeological studies (Allen and Richardson 1971; Campagno 2000; 2003; 2009; Ensor 2013; Souvatzi 2017). My interpretation of mortuary behaviour at Tarkhan also favours familial affiliation as an important structuring principle at the cemetery. This rests on the belief that people would choose to be buried near immediate or significant family members if able to do so. There is, however, no scientific proof available to substantiate a claim that will remain largely hypothetical at this time. While human remains exist and are housed at the Duckworth Laboratory, University of Cambridge, this skeletal material has not been assessed from such a perspective (**Chapter 7**). Nonetheless, the physical clustering of graves containing the remains of both sexes and subadults could be interpreted as evidence of spatial practices associated with numerous family groups.

Interestingly, there are a small number of graves in the valley that may contain multiple burials. For the Naqada IIIA2 period three graves (637, 737 and 1419) contained an adult together with the partial remains of a subadult (**Figure 6.2; Chapter 8**). As the information on the respective tomb cards is not clear, it is possible that the excavators were mistaken in their assumptions about these remains. A second complete skull was found in grave 1496 (Naqada IIIA2); and fragments of a second skull were identified in the pit of 846a (Naqada IIIB).[21] Multiple burials containing two or more bodies have also been identified at Gerzeh, Kafr Hassan Dawood and Tell el-Farkha (Rowland 2003, 154, 376-377; Stevenson 2009a, 11-12; Dębowska-Ludwin 2012, 60-63). There are further references on the tomb cards to graves placed over the top of earlier interments, or beside each other in a manner suggestive of shared mortuary space. It is also possible that these examples represent accidental intrusions upon pre-existing graves.

6.7 Large graves as focal points in the landscape

The use of natural features or man-made structures as focal points for group-related placement strategies is well-documented in a range of geographically-diverse mortuary studies (see for example, Buikstra and Charles 1999; Jones 2003; Schwartz 2007; Stevenson 2009b; Thäte 2009; Gibson 2013; Thomas 2013; Brass 2016). It is also apparent from the Egyptian-based literature that large-scale or wealthy mortuary constructions may have been influential forces in determining spatial practice over time at cemeteries such as Kafr Hassan Dawood and Tell el-Farkha in the Eastern Delta and Naga ed-Dêr (N7000) in Upper Egypt (Delarue 2001; Rowland 2003; 2007; Dębowska-Ludwin 2012).

Such assessments are consistent with the results of a previous study of the valley cemetery by Ellis (1992, 248, 254), who determined that larger and wealthier graves had a stronger locational association with the western area of the wadi. The common spatial denominator between such graves was their respective proximity to a small mastaba, thus suggesting that this broad western location may have represented a "special area for a specific corporate group" (Ellis 1992, 254). While these observations are important they were interpreted within a framework focussed upon the determination of social differentiation at the cemetery. However, when the placement of these structures is viewed from a 'bottom-up' perspective

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[21] It is not possible to identify the location of grave 846a as there are two graves numbered 846 on the valley map.

some interesting observations can be made, one of which highlights the role of small-scale graves in the construction of spatially-important relationships.

The horizontal stratigraphy of the valley during the Naqada IIIA2 period is suggestive of multiple areas of development with mastabas 1845 and 852 situated towards the end of this relative sequence. On this basis it would appear that the individuals contained within these structures were not kin-group founders for the early community. Graves in the vicinity of mastaba 1845 contained varieties of type 46 cylindrical jars, which may suggest that some of these were earlier interments (**Figures 6.2** and **6.4**). It is interesting to note that mastaba 1845 contained a cylindrical jar of type 47h. These vessels are considered to appear later in the material practice of this phase (**Chapter Three**). Grave 1693 is the only other Naqada IIIA2 burial situated along the pathway near mastaba 1845 to contain a type 47h jar. Therefore, the linear arrangement observed here probably began to take shape earlier than the building of mastaba 1845. This original alignment may reflect actions related to the defining of place and the appropriation of prime pathway space by earlier members of the community. While speculative, it is possible that these earlier graves represented members of the family group associated with 1845. A familial association may be one reason why the mastaba was constructed in this location.
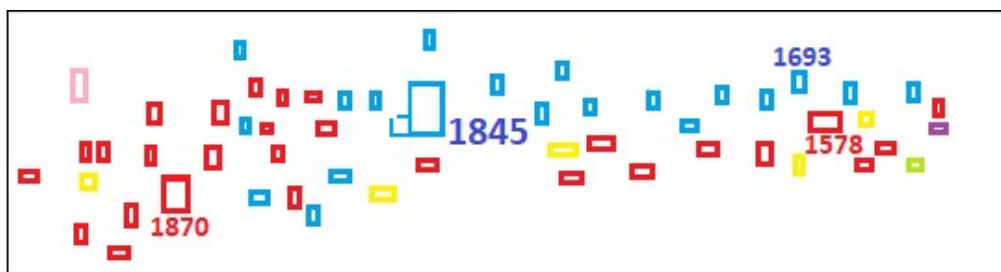
Key: Blue = Naqada IIIA2, Red = Naqada IIIB, Green= Naqada IIIC1, Purple= Naqada IIIC2, Yellow = Naqada III, Pink = Eleventh Dynasty.

Figure 6.4: Graves surrounding mastaba 1845.

Mastaba 852 is located slightly further north from the pathway and there is a sense of social separation from mastaba 1845 (**Figure 6.2**). This could be linked to the late inclusion of 852 into vacant mortuary space. A broad arrangement of smaller Naqada IIIA2 graves can be seen between 852 and the large structure 870, many of which contain type 46 net-patterned jars. The presence of potentially earlier graves between these two structures would counter any notion of exclusivity for this space.

By the Naqada IIIB period a distinct spatial shift of graves to the centre and the west of the valley can be seen (**Figure 6.3**). It is during this phase that mastabas 740, 1889, 1890 and possibly 1231 were constructed. It seems likely that any centralising tendencies created by 1845 were felt at this stage as suggested by the extension of Naqada IIIB graves west-ward from this mastaba. However, it is also possible that the larger Naqada IIIB grave 1870 (4 m^3) now provided the focus for placement strategies within this group (**Figures 6.3-6.4**). This may also be the case for Naqada IIIB grave 1578 (4.77 m^3) to the east of mastaba 1845.
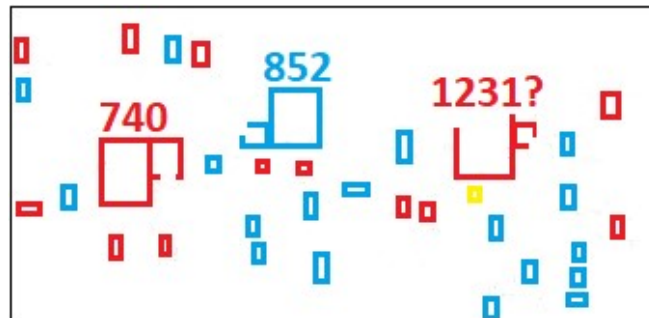
Key: Blue = Naqada IIIA2, Red = Naqada IIIB, Green= Naqada IIIC1, Yellow = Naqada III.

Figure 6.5: Graves surrounding mastabas 852, 740 and 1231.

The placement of mastabas 740 and 1231 in close proximity to 852 could indicate that the earlier mastaba provided an ancestral focus for these structures (**Figures 6.3** and **6.5**). Some consideration must therefore be given to the changing nature of this area as a recognised space of social significance to the Naqada IIIB community. The use of this area could be viewed as an attempt to establish a specialised area for the exclusive use of a corporate group (Saxe 1970, 119 (Hypothesis 8); Goldstein 1981, 53-69) as suggested originally by Ellis (1992).

Against this idea, is the fact that these mastabas are in close proximity to existing Naqada IIIA2 graves. Furthermore, there is a continued use of space in the vicinity of these structures by smaller Naqada IIIB graves. There is also an absence of evidence regarding the presence of grave markers or post-holes, which could have been used to demarcate this space from inappropriate use. Nonetheless, any restrictions or sanctions lost strength once the marker and its position faded from collective memory (Brass 2016, 120). Over time such constraints held little relevance to communities, particularly in those cemeteries where rigid adherence to status-based spatial segregation is less discernible. This is exemplified by the secondary intrusion of a small undated grave cut into the wall of mastaba 1231. While this mastaba

cannot be dated precisely it is considered to be a Naqada IIIB-IIIC1 structure. The fact that it is situated near mastabas 852 and 740 could suggest a Naqada IIIB date, although this remains speculative.

A distinctly different arrangement is observed around the smaller Naqada IIIB mastabas of 1889 and 1890. While they appear to have a centralising function in this space, these mastabas are actually placed within an existing group of Naqada IIIA2 graves (**Figure 6.3** and **6.6**).
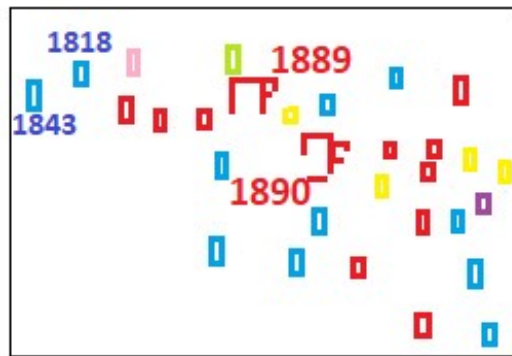
Key: Blue = Naqada IIIA2, Red = Naqada IIIB, Green= Naqada IIIC1, Purple= Naqada IIIC2, Yellow = Naqada III, Pink = Eleventh Dynasty.

Figure 6.6: Graves surrounding mastabas 1889 and 1890.

The location of the Naqada IIIC1 mastaba 1674 presents an interpretive challenge. While this structure sits outside of the temporal frame of discussion an important observation can be made that has relevance to the placement of the earlier mastabas. The structure is seemingly isolated from all other large-scale constructions and embedded in an area devoid of other identifiable Naqada IIIC1 contexts (**Figures 6.1** and **6.7**). At least fifteen of the surrounding burials can be assigned to the Naqada IIIA2 period. A descent-based relationship between the individual of 1674 and the surrounding earlier graves is one possible explanation here. The power of large structures as centralising forces in cemetery organisation is well-documented; however, the notion of smaller burials assuming ancestral significance has been suggested by Rowland (2003, 285) in relation to spatial practices at Kafr Hassan Dawood. Such an idea may explain the embedded nature of 1674 within a ring of earlier Naqada IIIA2 burials.

Key: Blue = Naqada IIIA2, Red = Naqada IIIB, Green = Naqada IIIC1, Yellow = Naqada III

Figure 6.7: Graves surrounding mastaba 1674.

The appropriation of the distant dead into new networks of relationships may have been equally significant to the individual in 1674 and to the family group. This use of 'old' space could have been designed to highlight continuity with the past, regardless of whether such relationships were real or imagined. A similar situation may also be posited for the Naqada IIIB mastabas 1889 and 1890. This interpretation stresses the importance of connecting both the individual and the group to an ancestral past. Thus, the "presence of the past in the present" (Bloch 1977, 287) was actively constituted through the conscious placement of these innovative and ritually charged structures within an already ancient landscape.

Returning to the Naqada IIIA2 period, it is clear that graves 666 and 751 in the eastern valley were considered significant structures within their contemporary social group and over time (**Figure 6.1**) On the basis of pottery it would appear that both graves were cut earlier than mastabas 1845 and 852. As such, they could represent the first large-scale constructions in the valley designed to memorialise the founding placemakers or kin-leaders of the early community. This scenario of commemoration may be similar to that posited by Rowland (2003, 347) to explain the social significance of early large-scale graves within the mortuary landscape at Kafr Hassan Dawood.
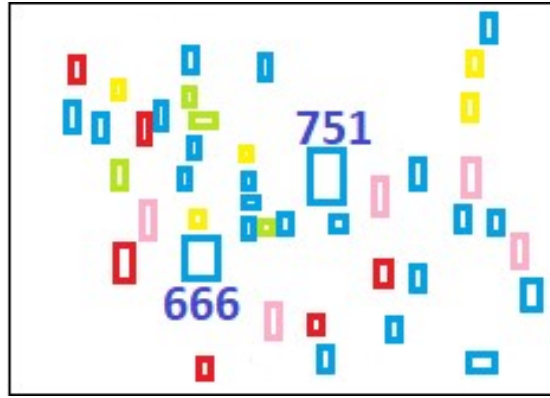
Key: Blue = Naqada IIIA2, Red = Naqada IIIB, Green = IIIC1, Yellow = Naqada III,
Pink = Eleventh Dynasty

Figure 6.8: Graves surrounding Naqada IIIA2 graves 666 and 751.

There is also a distinct clustering of Naqada IIIA2 graves around and between both structures, and the importance of these spatial associations continued into the Naqada IIIB period (**Figures 6.2** and **6.8**). By the Naqada IIIC1 period there is a small group of graves within the cluster. Such placements may represent an attempt to associate in death with burials of significant social importance in the collective memory of this dwindling community. It is also interesting to observe the presence of several Eleventh Dynasty graves close to 666 and 751 (see **Table 1.1** in **Chapter One**).

The fact that most of the Eleventh Dynasty graves in the eastern valley did not intrude upon the Naqada III burials may indicate that the memory of the past also influenced the spatial practices of these people.[22] The presence of Eleventh Dynasty and possibly Late Period and Graeco-Roman graves amongst the burials in the eastern valley certainly warrants further investigation (Petrie and Mackay 1915).[23]

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[22] Intrusions to Naqada IIIA2 graves 778 and 943 by Eleventh Dynasty graves 779 and 944 were noted on the respective tomb cards.

[23] The fill of several graves also contained Late Period and Graeco-Roman material, including fragments of Roman pottery, a Late Period spiral bracelet and a Ptolemaic bowl. These artefacts could have originated from graves in the water-logged areas of the eastern valley (Petrie 1914a, 13). As graves from these periods were situated in the hills it is also possible that this material was washed down into the wadi by flash flooding (Petrie and Mackay 1915, 33-38, XXX-XXXVIII).

6.8 The small mastabas

The seven bipartite superstructures situated in the valley were referred to as the small mastabas by Petrie (1914a, 2). These unique constructions are otherwise unattested outside of Tarkhan, and therefore represent important social and ideological features within the mortuary landscape. Information on each mastaba is presented in **Appendix D** so only salient features are discussed here**.** The mastabas were constructed in mudbrick with a roughly rectangular superstructure over the burial pit. A smaller mudbrick forecourt was placed adjacent to either the east or west wall of each respective mastaba. Two slits in the brickwork connected one retaining wall to the forecourt (Petrie 1914a, 2-3, XII-XIV; **Figure 6.9**). A key feature of practice was the placement of numerous offering jars outside and/or within the forecourt.

After the body and grave goods were placed in the pit, each substructure was then back-filled with sand and gravel forming a flat-topped mound over the burial (Petrie 1914a, 2-3; Bárta 2011, 29). The use of back-filling techniques combined with the solid retaining walls of the mastabas would have been intended to provide greater security for the burial (Köhler 2012, 285; Clark 2016, 26). It is unclear from the original description whether all of the forecourts were covered or left open (Petrie 1914a, 2-3; Bárta 2011, 29). The mudbrick walls of the forecourt attached to mastaba 740 were whitewashed, which could suggest that this feature was intended to be viewed by the community (Petrie 1914a, 3). After excavation the mastabas were covered with sand by the excavators for protection, so remnants of these structures may still remain within the modern landscape (Petrie 1914a, 3).
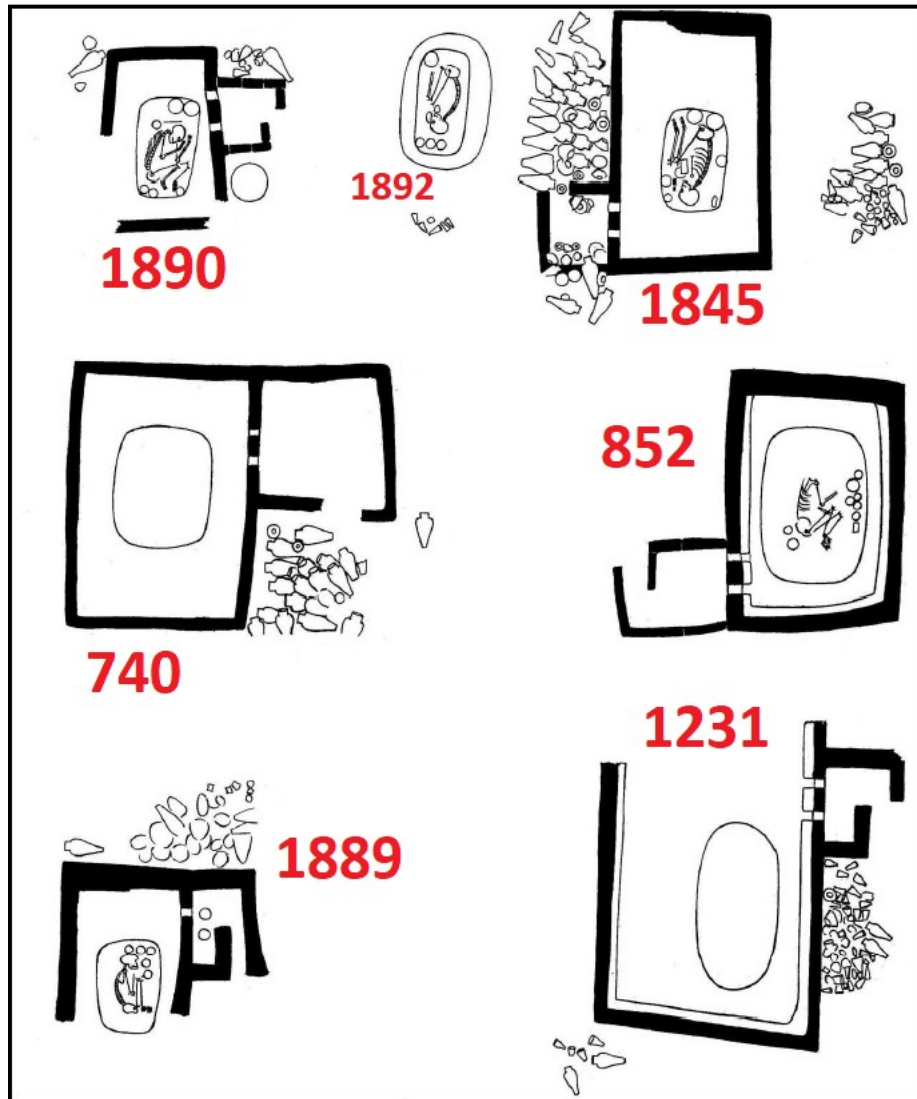
*Mastaba 1674 (Naqada IIIC1) was not drawn on the plate

Figure 6.9: Valley mastabas (Petrie 1914a, XIV).

6.8.1 The forecourts and slits

A small mudbrick forecourt was situated to either the south-west (852 and 1845), or north-east (740, 1231, 1674, 1889 and 1890) corner of every mastaba **(Figure 6. 9)**. Each forecourt was designed with an opening to facilitate entrance into the structure. For mastabas 852 and 1845 entrance was from the north, for 740 and 1889 from the south, and for 1231, 1674 and 1890 from the east. While there is an overall consistency of design it is important to note that the orientation of the forecourt does appear to change from the southern end of the western wall (852 and 1845) to the northern end of the eastern wall (740, 1231, 1889, 1890 and 1674) of these structures. This change may be a temporal marker and probably situates mastaba 1231 in the Naqada IIIB-IIICI range.

The changing position of cult or offering niches on First and Second Dynasty superstructures has been well documented by Köhler (2012, 285). For those Early Dynastic cemeteries situated on the west bank of the Nile, a gradual shift in the position of cult niches towards the valley floodplain or east side of the tomb is apparent. This shift seems to have been formalised by the Second Dynasty (Köhler 2012, 289-291). The reasons for this movement are unclear, but were probably linked to issues of practicality in the first instance (Köhler 2012, 291). The shift to the east may have enabled mourners to move from the floodplain settlements directly towards the offering niches on these structures. Although in the case of Helwan on the east bank, the shift from the west (Type 1 structures) to the east (Type II structures) meant that the niches were no longer facing the floodplain (Köhler 2012, 291).

Early niche façade architecture dating from the Naqada IIIA2-IIIB period has also been excavated at the Delta site of Tell el-Farkha (Dębowska-Ludwin 2012, 57-61, Fig. 1; 2016, 47-61). It is worth noting that the niches on the Naqada IIIB mastaba (Grave 100) are absent from the western side of this structure (Dębowska-Ludwin 2016, 51-52). Whether this has any chronological or ideological relationship to the shifting of the Tarkhan forecourts from the west to the east in the early Naqada IIIB is unclear at this stage.

As Tarkhan is on the west bank of the Nile, it would be natural to assume that all of the forecourts would be placed to the east to allow easy access from the floodplain. However, the western position of the early forecourts of 1845 and 852 would have required mourners to move around the structure in a manner similar to the Type II structures at Helwan. As most of the Tarkhan mastabas are situated in the west of the valley ease of access from the floodplain may not have been paramount. Alternately, the mode of entry via the pathway may have initially determined the position of the forecourt entrance. For example, mastaba 1845 was placed to the south of the pathway so the entrance to the forecourt is directly from the north. In the cases of mastabas 852 and 1674 mourners did not have direct access to the entrance of the forecourt from the pathway, so there is a lack of consistency from this perspective.

Another intriguing design feature seen on the Tarkhan structures is the presence of two slits in the mastaba wall linked to the forecourt (**Figure 6.9**). These features were seen to be the mechanism through which offerings could reach the deceased (Petrie 1914a, 2). It is interesting to see that each body was orientated with the face looking towards these

openings.[24] This further reinforces the idea of an offering function for the both the forecourt and the slit design (Petrie 1914a, 2; Bárta 2011, 29-30; Snape 2011, 11-13).

Slits have been observed in the substructure walls of Tomb U-j at Abydos; and were also found in the substructure walls of another six Naqada IIIA tombs at the cemetery (Dreyer et al. 1996, 30; Dreyer 1998; Hendrickx 2001, 100). These slits have been interpreted as internal doorways designed to replicate features of domestic architecture within a mortuary context (Dreyer et al. 1996, 30; Dreyer 1998, 6-7). One obvious problem with this parallel is the fact that the slits were placed in the substructure walls of the Abydos tombs. Therefore, it is difficult to explain how the conceptual transition from substructure to superstructure occurred from Abydos in the south to a Fayum cemetery without any clear intermediary in design. It is possible that the intermediary forms existed but did not survive due the vagaries of mudbrick preservation (Hendrickx 2001, 100). No parallel in the forecourt-slit architecture can be identified at Abusir el-Meleq, even though this Fayum cemetery contained graves dating from the Naqada IIIA1 to Naqada IIIB periods.

6.8.2 Ideology and materiality

The construction of these mastabas in the valley could signal that "an idea or ideology was being monumentalised" (Schülke 2016, 344). The combination of a forecourt with slits suggests that formalising performative actions associated with the well-being of the dead was of paramount concern (Snape 2011). Alternately, the architecture may have reflected over-arching ideologies associated with formative religious concepts of the West and the Netherworld (Snape 2011, 10-11; Köhler 2012). Such connections remain unproven for the Early Dynastic Period (Köhler 2012); and on this basis, are not relevant to what is seen at Tarkhan.

From the perspective of landscape, the mastabas were "a place-bounded feature, in an otherwise moving and changing world" (Schülke 2016, 328). This has some resonance when considering how broader processes of social change may have impacted the Tarkhan communities over time. Each structure could have been considered a focal point within the landscape where memories of people and the ancestral past were given visual and performative expression. As a result, people and ritual action coalesced at one focal point

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[24] The drawing of mastaba 852 (**Figure 6.9**) has the body placed in a north-east orientation; however, this is incorrect. According to both the tomb card and the register entry the body was placed in a south-west orientation and therefore faced the slits (Petrie 1914a, XXXVII).

(Schülke 2016, 327). As relationships are communicative and social, the slit and forecourt design provided a means of communicating with the deceased, while also enabling them to maintain their once active connections with the living world (Schülke 2016, 329, 339).

By virtue of architectural design the occupants of these mastabas were considered to be different in some way from others within their respective communities. As discussed in **Chapter Five,** the restricted nature of the construction practice would suggest that emphasis was placed upon single individuals as the recipients of special mortuary treatment. It is possible that the intertwining of narratives of power and ideology eventually created specific ritual specialists amongst social groups that could be defined as elite (DeMarrais et al. 1996; Joyce and Winter 1996). The fact that both males and females were buried within these structures indicate that such roles were not determined by gender but by other factors. These positions may have been inherited or generational and transferred from one selected individual to another over time (Sayer 2013, 154). This may account for the limited number of mastabas in the valley cemetery.

From a practice-based perspective, these mastabas demonstrate the agency of certain individuals and their immediate family groups to change the visual expectations of burial and the ritual activities associated with the presentation of death. Offering activities were pronounced around the retaining walls and forecourts of the mastabas. The performative aspects of presenting these jars may have also reinforced any claim to special knowledge held by these people. While offering jars were used in a limited fashion in the valley, it was not an activity replicated in the hills. Importantly, offering jars were not employed as part of the funerary ritual for any of the large-scale graves throughout the cemetery.

It is possible that the architecture of the mastabas may have been used to define economic distinctions between social groups throughout the cemetery (Ellis 1996, 160-161). This is balanced by a minimalism seen in the overall size of the substructure pits, with 740, 1845, 1889 and 1890 all < 2.5 m^3 in volume (Snape 2011, 10). By virtue of pit size, 852 (5.4 m^3) would be considered a large-scale grave, with 1674 (3.2 m^3) similarly situated for the Naqada IIIC1 period.[25] Pottery dominated the repertoire of materials placed within each pit. Other materials included stone vessels of travertine, flint blades, a copper lid and pin, palettes and beads. Mastaba 1845 also contained a gazelle skull (**Appendix D**). These materials and the staging of mortuary space were similar to practices enacted in many other graves of varying

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[25] No substructure measurements were provided for mastaba 1231.

sizes throughout both the valley and the hill cemeteries. The contrast between external and internal presentation may suggest that the focus of ritual and commemoration was placed upon those features seen and available to the living.

Wooden coffins were not used in the mastabas, although such artefacts are associated with the large-scale graves 666, 751 and 870. Coffins were also associated with at least six large Naqada IIIB graves situated on Hills F and G. These hills overlook areas of the eastern valley (**Chapter Nine**). This may signal that another elite mortuary identity was given expression through the use of wooden materials. As the majority of graves containing wooden coffins were small burials < 3 m^3 (88%), the presence of these items may be related to broader concerns over the protection of the body and unrelated to issues of status (Janulíková 2017, 106-108, 110-117). In the case of the valley mastabas, it is possible that the superstructure served to replace the coffin as a symbolically enhanced protective container for the body. The lack of coffins in graves with more complex architecture has also been observed at Helwan (Janulíková 2017, 107-108). It is interesting to note that there is limited use of wooden coffins by Naqada IIIA2-IIIB graves in the vicinity of the mastabas.

Ellis (1992, 248-252, 254; 1996, 160-161) has already observed an increased concentration of materials such as stone vessels in graves surrounding the mastabas, which suggested an unequal access to resources by these groups. When the distribution of stone vessels is analysed in more detail some interesting observations can be made. These vessels are absent from mastabas 1231 and 1889, which is inconsistent with the artefactual practice observed in the remaining five mastabas. With the exception of graves in the vicinity of mastaba 1845, no definitive association can be made between the presence of a large-scale structure and an increased preference for stone vessels within surrounding graves. In this respect my assessment differs from that of Ellis (1992; 1996).

If mastaba 1845 represented the first structure of this type in the valley it is likely that some of the graves situated around this space were the burials of direct or descendant family members. Hence, there was an effort to replicate the material practice of 1845 within these family-related graves. This is exemplified by the fact that at least nine of the 19 Naqada IIIA2 graves in the vicinity of 1845 contained such artefacts (47%). Eleven of the 28 Naqada IIIB graves (39%) located to the west and east of 1845 also contained stone vessels, although such displays may now be linked to material practices associated with the larger grave 1870 (**Figure 6.4**). This grave included three stone vessels of travertine (Petrie 1914a, IV). Some

form of group identity or demonstration of disposable wealth could be inferred by the presence of high-value material in these graves.

The lack of emulated practice for graves in the vicinity of the remaining mastabas is problematic. Perhaps the knowledge of material practice had faded from the memories of any descendant family members. It could also suggest that direct spatial associations with large-scale graves did not necessarily confer a commensurate provisioning of high-production materials such as stone vessels (see also Rowland 2003). This material dichotomy may have served to underscore the difference between the majority of these mastabas and surrounding contemporaneous graves, regardless of any kin-based associations in life. Thus, separation was not enforced through spatial boundaries but was psychological in nature driven by ideological and material expressions designed to accentuate the social uniqueness of these individuals.

6.9 Shifting spaces and bovine burials

The shifting of mortuary space during the Naqada IIIB period has already been noted in **Section 6.7.** This was linked to changes in the ritual 'focus' of space as exemplified by the construction of the small mastabas by Ellis (1992; 1996, 160) This is a relevant observation considering the nature of the data. However, little consideration has been given to the enigmatic bovine burials situated principally in the eastern valley, and to their possible role in re-configuring the relational development of mortuary space. While the graves are mapped there is no mention of these bovine burials in the second excavation report (Petrie 1914a, XLVI; **Figures 6.1** and **6.3**)

Fourteen graves were excavated, 11 of which were mapped in the eastern wadi and include the following : ox- graves 780, 1150, 1152, 1153, 1154, 1187, 1280 and 1323; bull- grave 1353; cow- grave 1143 and antelope- grave 1385. Grave 782 was marked on the map as a triangular-shaped human burial, but this was in error as the tomb card indicated that the pit contained the remains of a calf (**Figures 6.10** and **6.11**). A similar mapping error was identified with western-placed grave 1829 where the 'bones of abnormal size-evidently not human' were discovered within the pit. As a result, it would appear that these two graves were counted by Ellis (1992, 42) and Hendrickx and van den Brink (2002, 351) as human burials. A further mapped bovine grave (1239) in the centre of the valley contained remains described as belonging to that of an ox.
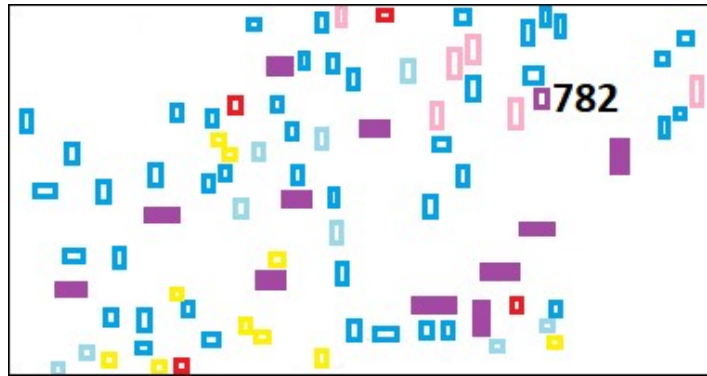
Purple= Bovines. Human graves: Blue = Naqada IIIA2, Light blue = subadult Naqada IIIA2,
Red = Naqada IIIB, Yellow = Naqada III, Pink = Eleventh Dynasty

Figure 6.10: Bovines burials in the eastern valley.

To date, the current location of the skeletal remains of these animals is unknown. As a result it is not possible to determine whether the remains belong to those of wild aurochs (*Bos primigenius*) or the domesticated cow (*Bos taurus*). One animal was described as an antelope, although as there are numerous species this term is considered generic (Bro-Jørgensen 2016, 3-5). There was no indication of butchery associated with these remains. Therefore, the bovines buried here were treated differently to other faunal species found in human graves.[26]

It is interesting to observe that a drawing on the tomb card for grave 782 seems to indicate that the skeleton was disarticulated and then arranged in a contracted position mimicking the human body placement (**Figure 6.11**). The tomb card recorded that the animal was placed with the head to the east facing the floodplain and on its back. Eleven of the bovines (78.5%) were placed with the head to the west, although two (graves 1153 and 1285) were found with the heads facing to the south. It would appear that the orientation of the majority of the animals towards the west follows the movement of human graves to the centre and west of the valley during the Naqada IIIB period.

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[26] Remains of antelope or gazelle were recorded in ten graves including mastaba 1845 and nearby Naqada IIIB grave 1805. Bovine and ovicaprine bones and horns were also identified in 14 graves at the site. It is presumed that these represent either the sacrifice of an entire animal for ritual purposes or cuts of meat used as food offerings. Sacrificial offering practices associated with bovines and other animals have identified at a number of northern cemeteries including Tell el-Farkha, Helwan, Abusir el-Meleq and Gerzeh (Möller and Scharff 1926; Stevenson 2009a, 103; Ablamowicz 2011, 373-378; 2012; Abd El-Karem 2014, 85-87; see also Flores 2003; 2004; Van Neer et al. 2004, 67-130). Dog remains were also recorded for Naqada IIIA2 valley graves 838 and 857.
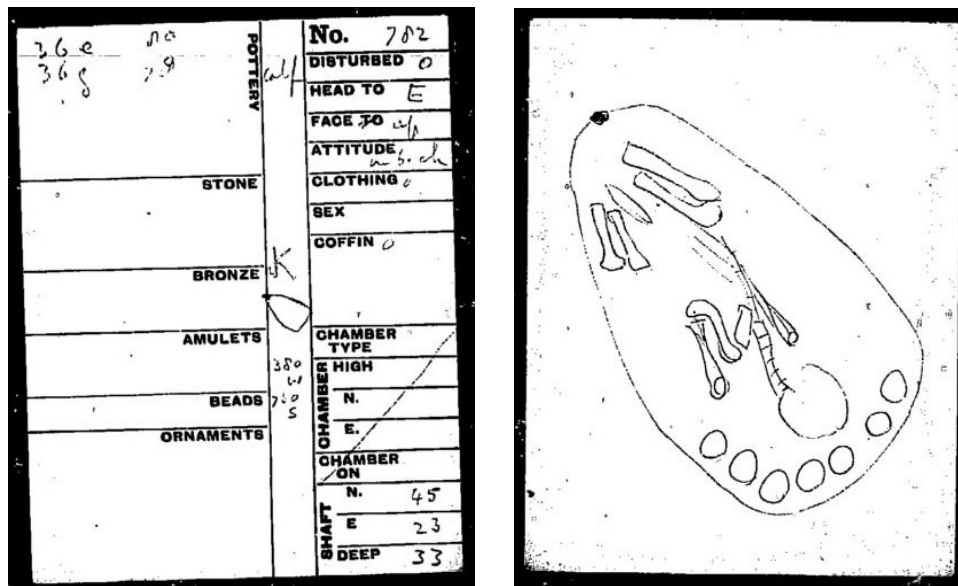
Figure 6.11: Tomb card for bovine grave 782.
(Courtesy of the Petrie Museum of Egyptian Archaeology, UCL).

Fortunately, the remains of the calf in grave 782 were accompanied by seven pottery vessels. These vessels were placed in a semi-circular arrangement at the eastern end of the pit above the cranium of the bovine (**Figure 6.11**). Two small rough pottery types, 36e and 36g were recorded on the card and it is presumed that the remaining vessels were similar. Forms of type 36 appear predominately in Naqada IIIA2-IIIB graves at Tarkhan, although some examples are found in Naqada IIIC1-IIIC2 graves. Type 36g has been associated with ten Naqada IIIA2 graves, eight Naqada IIIB graves and one Naqada IIIC1 grave. An unknown number of type 36g were also deposited as offering jars at the north-west corner of mastaba 740 (Naqada IIIB). Examples of type 36e are rare and are only recorded in the Naqada IIIB-IIIC1 period (**Appendix B**).

On the basis of frequency of appearance as established in **Chapter Three**, grave 782 should be allocated in the first instance to the Naqada IIIB phase. While the remaining bovine burials cannot be dated they are considered to represent practices associated with the Naqada III community rather than connected to the Eleventh Dynasty graves positioned in this area of the valley (**Figures 6.1** and **6.10**).[27]

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[27] I would like to thank Salima Ikram for examining the tomb cards and for her opinion regarding a Naqada III association for these bovine burials.

Interestingly, it can be observed that all of the burials regardless of location are embedded within space already occupied by Naqada IIIA2 graves (**Figure 6.2**). While there are at least ten undated Naqada III graves in the broad area occupied by the eastern group of bovines, there is a minimal representation of Naqada IIIB graves here (**Figures 6.3** and **6.10**). If the bovine graves were placed here during the early Naqada IIIB period, this arrangement could signal a distinct conceptual change in the way in which this area was utilised from this time. The burial of the majority of these animals in what could be described as an exclusive bounded ritual space could have 'forced' the movement of Naqada IIIB graves into the central and western areas of the valley. Thus the creation of a ritually-charged space may again reference the concept of a cemetery within a cemetery, a term that can be applied equally to the burial of animals as to humans.

Cattle worship and the concomitant burial of bovines has a long history of practice as witnessed from Late Neolithic tumuli at Nabta Playa in the Western Desert (McKim Malville et al. 1998; Brass 2003, 105). Bovine graves (5422 and 5434) and possible ovicaprine graves (5423 and 5424) were discovered in Cemetery 5300-5400 at Badari in Middle Egypt (Brunton and Caton-Thompson 1928, 12, IV, X.6; Hendrickx 2002, 276; Brass 2003, 105). A significant burial of a wild *Bos* (Tomb 19) was excavated within the elite cemetery of HK6 at Hierakonpolis, Upper Egypt (Warman 2000, 8-10; Van Neer et al. 2004, 99-101; Friedman 2011, 36-40). Interestingly, the burial contained black-topped and straw-tempered pottery fragments attributed to Naqada IC-IIA period (3700-3600BCE) (Warman 2000, 8-10; Van Neer et al. 2004, 99). Bovine burials accompanied by grave goods dating to the Naqada IIIA-C periods have also been identified at Cemetery L Qustal, Nubia (Williams 1986; Roy 2011, 156). Hence, the provision of pottery in Tarkhan grave 782 appeared to follow ritual practices that may have originated in the elite cemetery HK6 at Hierakonpolis.

The distinction between wild and domestic at Tarkhan is unclear and the inclusion of these animals into the mortuary landscape may represent a ritual attempt at establishing 'order over chaos'. A practice of spatial incorporation and separation is thus created by placing most of the bovines at the outer eastern boundary of the cemetery. A similar practice can also be observed at the Badarian Cemetery 5300-5400 where the bovine and ovicaprine burials are positioned in close proximity to the interments of humans yet remain contained within a discrete area of the mortuary landscape (Brunton and Caton-Thompson 1928, IV). In contrast, a symbiotic spatial association between the burials of domestic and exotic animals

with elite human burials can be seen on a grand scale at HK6 at Hierakonpolis (Van Neer et al. 2004, 67-130, Tab. 1).

The bovine burials at Tarkhan provide tangible evidence of a global connection to ritual practices that were enacted and memorialised by communities outside of the Fayum, although the comparative data is extremely limited for the Naqada III period. The existence of a bovine cult with strong spatial connections to the valley cemetery may be one interpretation of these intriguing data. There is a distinct absence of any bovine graves associated with the hill cemeteries and this may hint at some form of conceptual, ideological or ritual separation between the two areas of mortuary space at Tarkhan (**Chapter Nine**).

While speculative, it is possible that movement of human graves to the west was initiated by the placement of the bovine burials in the east. Alternately, the construction of mastabas 1845 and 852 may have re-focussed the use of space in the west thereby leaving a void in the east of the valley. Nonetheless, the mastabas and the bovine burials represented new ideological practices, which would have changed the nature of the mortuary landscape for some people. Despite such innovations or ideological shifts, it is clear that micro-clustering practices still occurred throughout the valley and demonstrate the continued agency of differing family groups within the living community. The blending of new ideologies and enduring practice were thus intertwined in the valley cemetery.

6.10   Concluding comments

Organisational strategies in the valley cemetery incorporated a range of group-related practices and social relationships, ideologies and memories. These were expressed in differing ways through grave placement strategies, micro-clustering practices and activities associated with placemaking (Rubertone 2009). The agency of kinship and other social groups in the creation of important social narratives within the mortuary landscape can also be inferred from these diverse practices.

New ideologies were given expression through the construction of unique bipartite superstructures and the bovine burials. The presence of these mastabas and animal graves would suggest that different ways of thinking about space and ritual practice may have been important to some social groups. By approaching old data from the perspective of social relationships provides an innovative interpretation of how the communities of Tarkhan constructed and engaged with mortuary space in the valley cemetery over time.

Chapter Seven: Relationships between sex and mortuary practices

7.1 Introduction

Discerning differential treatments in mortuary practices between males and females represents an important field of investigation in both archaeological and ethnographic studies of society (McHugh 1999, 30-39; Clayton 2011, 31-32). From an Egyptian perspective, tracking changes in the ways in which males and females were buried has been seen to reflect broader changes in the political, economic, ideological and structural dimensions of early communities (Ellis 1992; 1996; Rowland 2003). Any differences in practice over time have been inextricably linked to state formation and therefore deemed to be an inevitable consequence of such processes of structural change (Savage 2000, 91).

Quantitative analysis of data from a limited number of Egyptian cemeteries suggest that women held comparable or higher status than men in the mortuary realm of the Predynastic (Savage 2000; Hassan and Smith 2002; Rowland 2003). By the Naqada III period this social narrative would appear to have changed with women becoming increasingly marginalised from power and their collective status in decline (Hassan and Smith 2002, 63). This dramatic structural transformation was coupled with a corresponding increase in socio-political power for men (Ellis 1992; 1996; Hassan and Smith 2002; Rowland 2003). As argued astutely by Wrobel (2004, 163), such assessments are grounded in evolutionary models of society and are rarely challenged in Egyptology. A symbiotic connection between sex and fundamental structural differences within societies has, however, been disputed in gender-based studies of pre-modern populations (De Lucia 2008, 17-18; Geller 2009, 506; Clayton 2011, 46).

As Tarkhan is one of the better-documented Fayum cemeteries in terms of original sex determinations, this allows for a more textured analysis of the ways in which men and women were treated in death during the early Naqada III period. This chapter examines sex-related mortuary practices and will consider how these data inform our understanding of gender relationships at Tarkhan.

7.2 Sex and gender

The terms female and male (biological sex) and sex-determined are applied to the human remains excavated by Flinders Petrie and his team. The term sex-related is used to describe practices and trends related to the data more generally. While I utilise the concept of gender, there remains some uncertainty over how this modern theoretical construct would have translated within a Naqada III pre-state context. I follow Sørensen (2000, 59) in the understanding that the "separation of sex and gender is generally agreed upon due to the universal fact that there are biological differences between men and women and that societies react differently to those". Gender is defined here as "the sum of constantly changing associations, attitudes, and practices prescribed by human social groups for their members according to their sexed bodies (Sweeney 2011, 1). In agreement with Clayton (2011, 33), I also adhere to the idea that an "individual's sex intersects with several constructs of identity…including age, ethnicity, occupation, status…It is not sex, but the articulation of sex with other facets of life that constitutes gender".

Considering such perspectives, I would argue that the multi-dimensional nature of social interactions and interpersonal relationships would have been instrumental in constructing and enacting the lived experience of sex-related practice and gender roles for women and men at Tarkhan. Attempting to identify how such roles, identities and relationships were expressed within the mortuary realm is, however, problematic given the nature and complexity of the data.

7.3 Previous research

The study of gender or sex-related mortuary practice in the Egyptian Predynastic is represented largely by the work of Savage (2000), Hassan and Smith (2002) and Wrobel (2004). Additional work from a site-specific perspective can be found in Podzorski (1990; 1993) and (Savage 1995; 2000) for the Upper Egyptian cemetery of Naga-ed-Dêr; Ellis (1992; 1996) and Janßen (2015) for Tarkhan; and Rowland (2003) for selected Delta cemeteries including Minshat Abu Omar. For the Early Dynastic Period, Janulíková's (2017) work on the non-elite in Memphite cemeteries includes a statistical analysis of sex-related mortuary practices. In addition, recent research on the funerary stelae of Early Dynastic women has been undertaken by Kelly (2016; 2019).

7.4   The sex-determined data

This discussion of sex-related mortuary practices focuses on 572 graves. Human remains associated with 511 of these graves were originally sex-determined in the field by the excavators. These remains do not appear to have been preserved and may have been left within the grave of origin. For the other 61 graves, human remains were removed by the excavators for further study. These remains are now held in the collection of the Duckworth Laboratory, University of Cambridge (**Table 7.1**).

For analytical purposes, all graves will be examined as one dataset (n = 572). Biological sex (female or male) and temporal phase (Naqada IIIA2 or Naqada IIIB) form the major dimensions used to divide these graves for analysis. The overall female: male ratio is 306: 266 or 53.5%: 46.5%. The Naqada IIIA2: Naqada IIIB ratio is 370: 202 or 64.7%: 35.3% (**Tables 7.1-7.2).**

Table 7.1: Number of graves containing human remains with original or modern sex determinations (n = 572).

Period	Sex	Number of graves used with orginial sex determinations	Number of graves used with modern sex deteminations	Total
IIIA2	Female	171	20	191
	Male	157	22	179
IIIB	Female	111	4	115
	Male	72	15	87
Total		**511**	**61**	**572**

Table 7.2: Number of graves containing human remains by period, sex and location (n = 572).

Period	Sex	Hills	Valley	Total
IIIA2	Female	11	180	191
	Male	10	169	179
IIIB	Female	1	114	115
	Male	11	76	87
Total		**33**	**539**	**572**

The majority of all remains (94%) were associated with valley graves (**Table 7.2**). Unfortunately, issues of preservation impacted negatively upon the survival of human remains throughout the hill cemeteries (Petrie et al. 1913, 8). For this reason, the sex-determined data will not be analysed by location. At least 55% of the sex-determined graves across both temporal phases were considered to be disturbed by the excavators. The disturbed: undisturbed ratio of graves for females is 52%: 48% and for males is 59%: 41%.

7.4.1 Skeletal remains in the Duckworth Laboratory, University of Cambridge

The Duckworth Laboratory, University of Cambridge holds remains from Naqada III period and Dynastic burials excavated by Petrie at Tarkhan. This collection consists of approximately 180 crania and 44 post-cranial remains that can be attributed to at least 157 graves. These remains have been sex-determined by a physical anthropologist in 2011.[28] Little documentation exists on the Tarkhan remains apart from an attribution to the site and a grave number. The presumed grave of origin forms the basis of the catalogue number assigned to each box of remains in the collection. Due to uncertainty over whether some of the remains were removed from Naqada III period or Dynastic graves only 60% of the material is considered suitable for use (n = 94 graves). The majority of this material sits within the Naqada IIIA2-IIIB periods (n = 61 graves) (**Tables 7.1-7.2).**

The human remains were removed from graves situated in both the valley and hills (Petrie 1914a, 13-26, XLIX-LXXII; **Table 7.2**). The original removal strategy probably reflected issues of both preservation and ease of extraction from the graves. Confirming ideas on population change could have determined whether remains were ultimately removed and preserved for future research (Petrie et al. 1913, 20; Petrie 1914a, 13-26; **Chapter Two**). Unusual features or pathological conditions may have also motivated collection strategies. For example, a small well-healed trephine hole is visible on a cranium removed from hill grave 141 (Naqada IIIA2). The sex was not provided on the tomb card but the remains have been determined to be male by the physical anthropologist. This is one of the earliest examples of trephination in Egypt thereby making the remains valuable from the perspective of early medical practice (Oakley et al. 1959, 95; Mudry and Pirsig 2007, 24).

Of the 61 graves included in this study, remains associated with 47 graves were originally sex-determined in the field by the excavators. For the other 14 graves, the sex of the occupant was determined by the physical anthropologist. Of the 47 original determinations, 38 were confirmed to be accurate. The remaining nine were considered to be inaccurate. This would indicate a rate of inaccuracy of 19%. Errors in the original sex determinations of remains from Guy Brunton's (1927) excavation at Qau have been estimated at 20.3% by Mann (1989) and between 14.8% and 15.7% by Beuthe (2013, 310). The Tarkhan percentage sits within these estimates, although at the higher end.

7.5   Sex-related associations of materials and practice

Considering grave goods represent tangible evidence of mortuary behaviours, it is not surprising that such artefacts have been used to identify perceived gender-related practices in ancient societies (Doucette 2001, 159-160). There are, however, significant problems relating to the ways in which associations have been drawn between specific grave goods and gender identities (Pader 1982; Doucette 2001, 160; Cannon 2005, 55-56). Such associations are often based upon *a priori* expectations of what male and female gender roles should be (Conkey and Spector 1984; Doucette 2001, 160). As a result, artefacts associated with bodily adornment have been seen to represent femaleness, whereas maleness has been embodied in artefacts associated with hunting, warfare or power regardless of the actual and original function of this material (Pader 1982, 18; Conkey and Spector 1984; McHugh 1999, 32; Parker Pearson 1999, 96-98; Doucette 2001, 160-161, 169-170).

A strong quantitative association between females and "artefacts associated in some way with bodily adornment", such as palettes, ivory pins, armlets and beads has been made for the Tarkhan data by Ellis (1992, 252). A similar conclusion was drawn for Minshat Abu Omar, where a statistical analysis detected a sex-related preference for certain goods (Rowland 2003, 169, 180; 2004, 1636-1637). A closer association existed between females and artefacts identified as objects of personal adornment such as palettes, while males displayed a stronger preference for functional or ritual-related objects including copper knives, chisels and flint knives (Rowland 2003, 168-169; 2004, 1637). The attachment of functional descriptions to artefacts deposited in the graves at both cemeteries may be problematic. Such associations are prevalent in the literature and contribute to the stereotyping of gender roles within early Egyptian communities (Ellis 1992; 1996; Savage 2000; Hassan and Smith 2002; Rowland 2003; 2006; Wilfong 2010, 169; Kuhn 2017). As the human remains from Minshat Abu

Omar have been sex determined by modern methods, the material should more accurately reflect any site specific preferences and this is not disputed. Regardless of terminology, it is clear that some consideration must be given to how localised grave good preferences may fit into broader discussions of early Egyptian gender practices (see also Rowland 2004, 1636-1638).

From the perspective of Tarkhan, sex-based associations with material types are visible in the original sex determinations made by Petrie and his team. For example, one body (grave 694) was considered to be female on the basis of bracelets found in the grave. Such views were likely exacerbated by the inherent biases of early 20th century archaeologists regarding male and female social roles in their own society. When considering the nine incorrect determinations identified in the Duckworth graves, some important observations can be made. The one female originally assigned sex as male originated from Naqada IIIA2 hill grave 333. A closer look at the contents of this grave reveals that it contained 17 pots, one complete stone vessel and a fragment of another, a wooden coffin, one pebble and one antelope horn. In this instance, the large number of pots combined with the horn may have suggested to the excavator that the body was male.

For the five males originally assigned sex as female, three of the graves (656, 1338 and 1461) contained palettes. Petrie (1914a, 24) had observed that palettes appeared in half the 'lower class' graves of women and a quarter of the men. On this basis, I would suggest that a sex-based association between females and palettes was made by the excavators. As pottery represented the principal artefact type placed in the other two graves (3 and 1160), it is possible that perceived physical traits were determinative in these cases. The remains from another three graves were considered to be those of children or young individuals by the excavators. As these graves contained few grave goods, it is possible that body size influenced such decisions. These remains have now been reassessed as female (graves 648 and 1516) and male (grave 180).

As noted in **Section 7.4,** there was a rate of error in the range of 19% for the Duckworth material. It is difficult to predict how such errors may have been patterned across the remaining 511 graves with original sex-determinations. It is acknowledged, therefore, that the assessments offered in this chapter are based, in part, upon an unknown rate of inaccuracy associated with the original sex-determinations of remains from these 511 graves.

7.6 Trends in practice

This section examines key trends in sex-related mortuary practice. The variables of volume (m^3), total goods, total pottery and number of artefact types will be analysed by temporal phase. This approach is designed to identify whether there are any differences in practice between males and females across these variables, and whether such trends change from the Naqada IIIA2 to IIIB periods. These variables have been used to determine wealth and status differentials in studies of ancient societies and are based largely on the methodologies of Saxe (1970), Binford (1971) and Tainter (1978). While I am critical of such approaches, nonetheless, it is essential to examine these variables in order to demonstrate that gender practice at Tarkhan was more complex than traditional models tend to suggest.

Large-scale Naqada IIIA2 graves 666 (5.27 m^3), 751 (6.26 m^3) and 870 (13.3 m^3) are included in the analysis of volume (m^3) and in the three material variables of total goods, total pottery and number of artefact types. Objects derived from several valley mastabas are also included in the analysis of the three material variables. These mastabas include Naqada IIIA2 mastabas 852 and 1845; and Naqada IIIB mastabas 1889 and 1890. Due to the unique design of these structures they do not form part of the analysis of grave volume. Calculations of grave volume (m^3) for these mastabas are provided in **Appendix D.**

7.6.1 Grave volume

For this variable, 539 or 94% of graves had substructure measurements annotated on the tomb cards. The volume range for female burials was 0.31 m^3 - 3.81 m^3; and 0.21 m^3 - 13.3m^3 for male burials (**Figure 7.1a-b).** The median and range of volume for males exceeded that of females for both phases (**Figure 7.2).** Much of the difference is situated in the range rather than the median. The similarity in the median reflects the fact that the majority of graves in the sample were small-scale constructions ≥ 2.5 m^3 in volume (**Figures 7.1a-b**). Nonetheless, an increase in the range of volume can still be observed for males in Naqada IIIB.
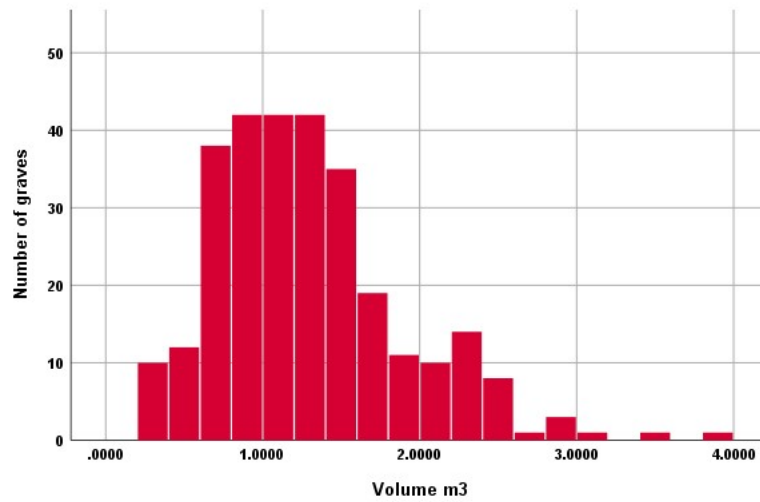
Figure 7.1a: Grave volume for female burials (Naqada IIIA2-IIIB).
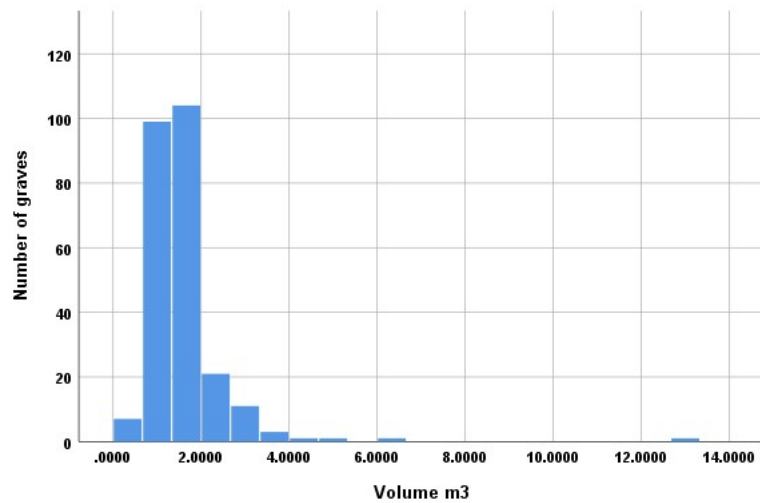
Figure 7.1b: Grave volume for male burials (Naqada IIIA2-IIIB).
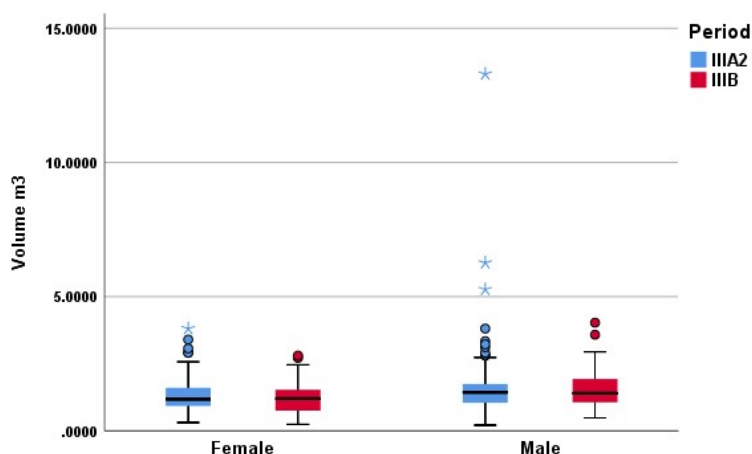
Figure 7.2: Grave volume (m^3) by sex and period.

These findings would appear consistent with the broad trends in grave volume identified by Castillos (1982, 162) and Ellis (1992, 245-246) for Tarkhan. At face value, this information could be interpreted as evidence of enhanced investment in male funerary display over time. In contrast to this status-driven interpretation, I suggest that at this level of presentation such differences may be related to issues of body size and the need to cut a suitable pit to accommodate both remains and grave goods. This view is consistent with that expressed by Podzorski (1993, 121) in a study of skeletal remains from the Upper Egyptian cemetery of Naga-ed-Dêr. Wrobel (2004, 167) has also argued that factors such as body size, space within cemeteries and soil erosion are often omitted from discussions of pit size. Such factors would have impacted the measuring process at Tarkhan, and therefore adds a degree of uncertainty regarding the accuracy of volume calculations (**Chapter Five**). This does not discount the overall conclusion that the graves of males were generally larger than those of females, but rather that we need to consider all influencing factors before assessing such results as intrinsic evidence of enhanced male status, or indeed, evidence of decreasing female status over time.

As the majority of large-scale graves at Tarkhan were found with either poorly preserved remains or without remains, it is difficult draw any firm conclusions about the relationship between sex and elite status along this dimension. The occupants of the Naqada IIIA2 outlier graves 666, 751 and 870 were determined to be male by the excavators (**Figure 7.2**). All of these graves were > 5m^3 in volume. Only one extreme outlier grave (925) was associated with the remains of a female. In comparison, this grave was 3.8 m^3 in volume. Remains found in

mastabas 852 and 1845 (Naqada IIIA2) were identified as male, while remains in the smaller mastabas, 1889 and 1890 (Naqada IIIB), were identified as female. Such designations could reflect excavator bias regarding grave size and it is unfortunate that none of these remains are in the Duckworth Laboratory. If these designations are correct, it would indicate that the ownership of large-scale or important constructions was not restricted by sex.

When comparing the results from Tarkhan to other northern sites, it is clear that practices vary. This can be seen from the binary associations between grave size and sex of occupant generated by Castillos (1982) for the cemeteries of Saqqara and Abusir el-Meleq. A decrease in grave volume for published female burials has also been observed at Minshat Abu Omar from MAO III to MAO IV (Rowland 2003, 269). In contrast to these observations, Janulíková (2017, 93, 127) has determined that there were no statistically significant differences in grave volume between the sexes at the Early Dynastic cemeteries of Saqqara or Helwan, although some of the larger graves did belong to men.

7.6.2 Considering trends in non-ceramic and ceramic goods

Like grave size, counts of non-ceramic and ceramic goods have been used to quantify notions of gender-based wealth and status differentials in ancient societies (Pader 1982; Conkey and Spector 1984; Savage 2000; Doucette 2001; Hassan and Smith 2002; Wrobel 2004; Sayer 2013). As many Predynastic graves were subjected to opportunistic plundering, items of value, such as copper, gold or precious stones were prime targets for removal. Pottery, on the other hand, due to its size, weight or frequency of circulation, often remained untouched. Due to this survival rate, pottery therefore represents the primary category of artefact found in most Predynastic-Early Dynastic graves (Stevenson 2009a, 162; Janulíková 2017, 134). For this reason, pottery has assumed significance as a reliable indicator of original grave wealth (Seidlmayer 1988; Wilkinson 1996, 26; Stevenson 2009a, 162).

Conversely, it could be argued that as pottery was more readily produced in substantial quantities, and therefore ubiquitous, its reliability as an indicator of wealth could be questioned. Nonetheless, the relative amount of pottery and its original contents still represented an initial investment by the family. It is also unclear whether mortuary pottery represented commodities of economic worth, or gifts designed to link people "in the flow of social relations" (Appadurai 1986, 11). It is possible that pottery deposited in the graves at Tarkhan represented a comment on the commonality of community practice rather than the quality of that practice. This argument has some relevance in discussions of sex-related

practices as a stronger correlation between the graves of males and pottery has been demonstrated in mortuary studies (Ellis 1992; 1996; Hassan and Smith 2002; Rowland 2003). As a result, male mortuary preferences for pottery and notions of wealth and status in early Egyptian communities have the potential to become inextricably linked. Such issues need to be taken into account when interpreting the data relating to this variable.

7.6.3 Total goods

Table 7.3: Percentages of total goods by sex and period.

Period	Total goods for all graves in the sex-determined dataset (n = 572)	Total goods for females	% within total goods	Total goods for males	% within total goods
IIIA2	2076	1116	53.7%	960	46.2%
IIIB	1226	695	56.6%	531	43.3%
Total	3302	1811	54.8%	1491	45.2%
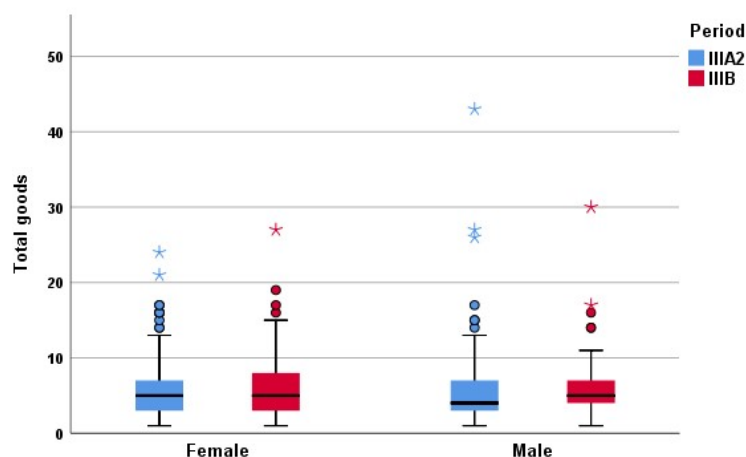
Figure 7.3: Total goods by sex and period.

Nearly 55% of all recorded goods were associated with female burials (**Table 7.3).** A slight increase in the percentage is seen for females from Naqada IIIA2 to Naqada IIIB with a corresponding decrease for males. The median and range of total goods for females exceeded that of males for both periods (**Figure 7.3**). A slight increase in the median is seen for males during the Naqada IIIB period, although the range decreased over time. This may indicate that depositional practices for males changed during the Naqada IIIB period.
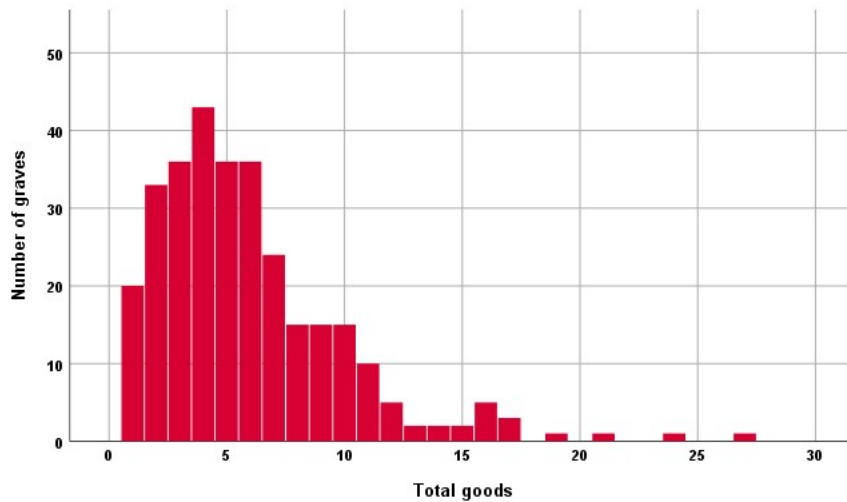
Figure 7.4a: Total goods for female burials (Naqada IIIA2-IIIB).
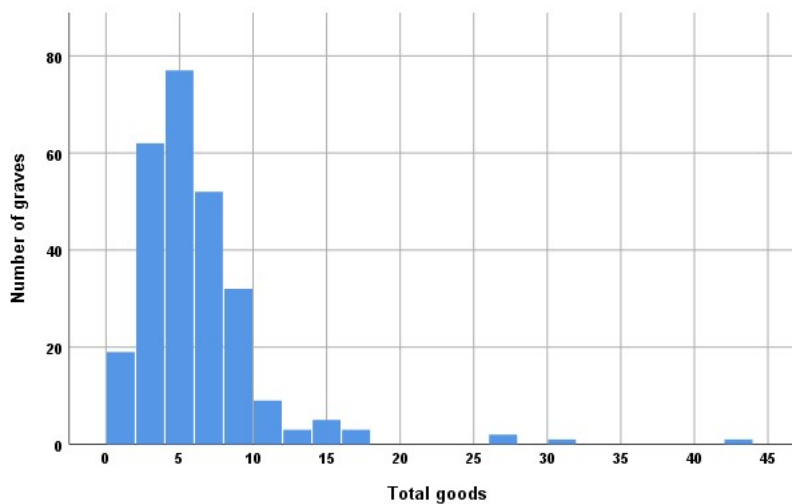
Figure 7.4b: Total goods for male burials (Naqada IIIA2-IIIB).

The majority of all graves (83%) contained between one to eight goods. This trend in depositional practice was apparent for both sexes **(Figures 7.4a-b).** Only 14% of male burials were recorded with more than eight goods compared with 20.5% of female burials. There were also seven extreme outliers containing from 21 to 43 goods, three of which are associated with remains housed in the Duckworth Laboratory. These include grave 333 of a female with 21 goods; and the graves of males with 26 goods (183) and 27 goods (184) respectively. While the Duckworth sample is small, the evidence would suggest that the sex of the occupant was probably not the determining factor in total grave good provision. This

observation is consistent with Janulíková's (2017, 94) findings for this variable at the First Dynasty cemeteries of Saqqara and Helwan.

7.6.4 Total pottery

A stronger preference for pottery in the graves of males would appear to be a feature of funerary practice identified at a number of early cemeteries (Ellis 1992; 1996; Hassan and Smith 2002; Rowland 2003). This trend is apparent at Tarkhan where pottery was the major artefact category (83.8%) deposited in the graves of males. In comparison, pottery represented 63.4% of the total goods recorded for female burials (**Table 7.4)**. This gender preference for ceramics is confirmed by the Duckworth data, where pottery comprised 86.6% of the total goods found in male burials and 64.7% in female burials. In spite of these differences, pottery still constituted the principal artefact category found in all graves.

Table 7.4: Percentages of total pottery within total goods by sex and period.

Period	Total goods for females	Total pots for females	% of pots in total goods	Total goods for males	Total pots for males	% of pots in total goods
IIIA2	1116	682	61%	960	792	82.5%
IIIB	695	467	67%	531	458	86.2%
Total	1811	1149	63.4%	1491	1250	83.8%
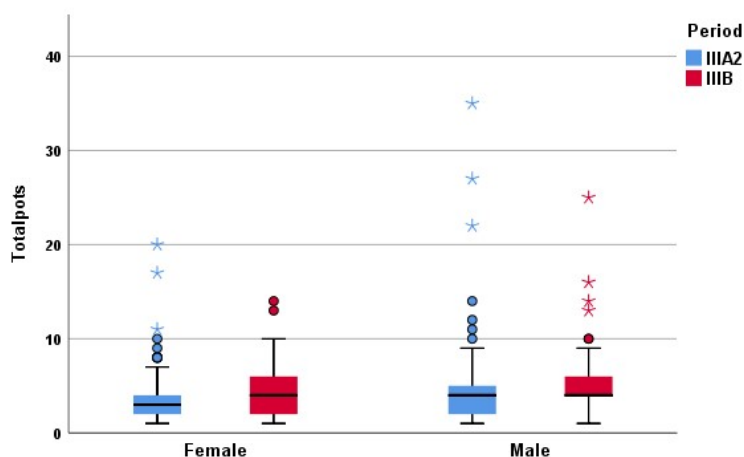
Figure 7.5: Total pottery by sex and period.
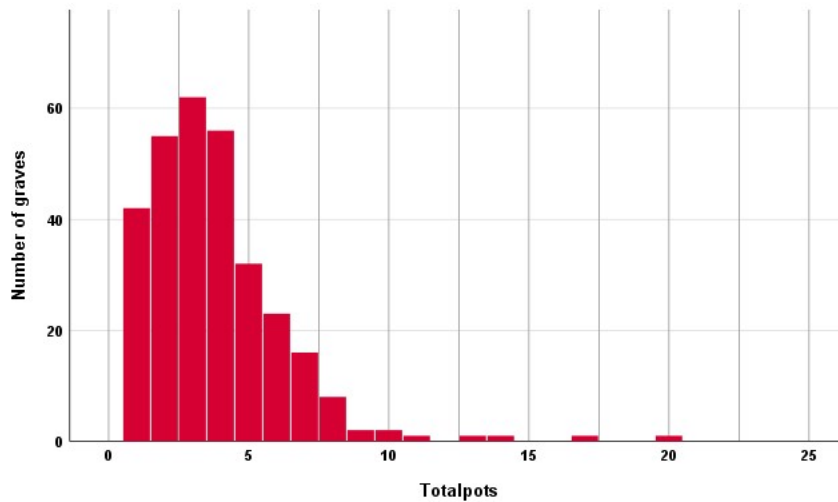
Figure 7.6a: Total pottery for female burials (Naqada IIIA2-IIIB).
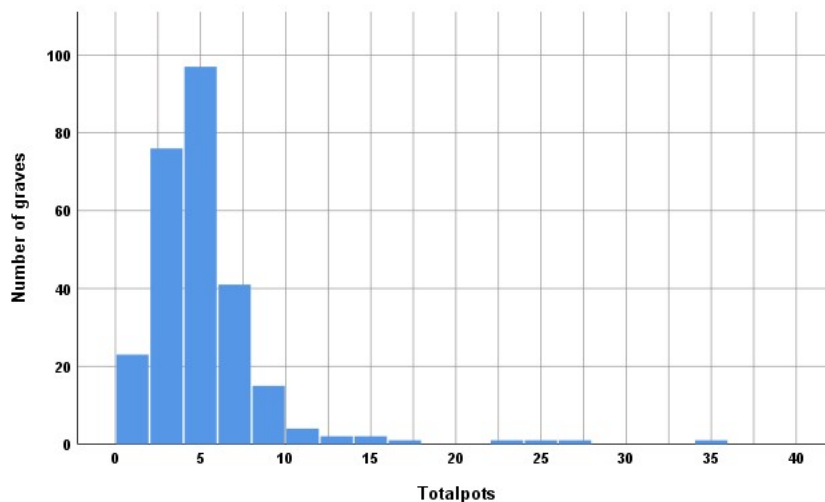
Figure 7.6b: Total pottery for male burials (Naqada IIIA2-IIIB).

An increase in the ratio of pottery to total goods can be observed for both females and males from Naqada IIIA2 to Naqada IIIB (**Table 7.4**). While these percentages change for both sexes, there would appear to be an increasing trend towards the standardisation of mortuary presentation in the graves of males over time. This observation is confirmed by trends recorded for the Duckworth male burials, where pottery constituted 81.4% of total goods for Naqada IIIA2 graves and 88.8% for Naqada IIIB graves. These temporal changes in practice can also be seen in the median and range of total pottery for both sexes **(Figure 7.5)**. Regardless of the sex of the occupant, the majority of graves (77%) contained from one to five pots **(Figures 7.6a-b).**

7.6.5 Frequency of artefact types

One major difference in depositional practice between females and males at Tarkhan can be seen in the number of artefact types found in their respective graves (Ellis 1992, 252; 1996). Lists of the different non-ceramic artefact types recorded in female and male burials are provided in **Appendix C**. There were 33 different ceramic and non-ceramic artefact types recorded in the sex-determined dataset for Naqada IIIA2 graves. The female: male ratio for these graves is 29 types: 22 types. For the Naqada IIIB period, 28 ceramic and non-ceramic types were recorded. The female: male ratio is 22 types: 16 types. The principal artefact types were pottery, palettes, stone vessels, coffins and beads.

While pottery was found in the majority of graves, different combinations of the non-ceramic types were recorded. For example, Duckworth grave 183 of a male contained pottery, stone vessels and beads for a total of three artefact types. Duckworth grave 2036 of a female also contained pottery, but in this case a palette, shell bracelets and beads completed her funerary gifts. A total of four artefact types were therefore recorded for this burial.
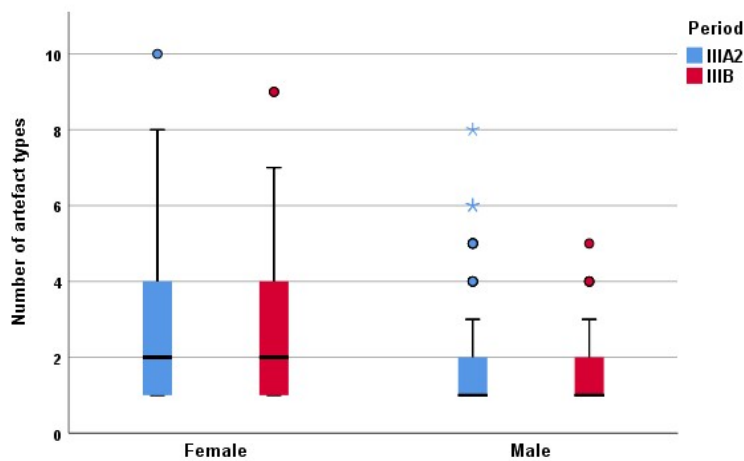
Figure 7.7: Number of artefact types by sex and period.
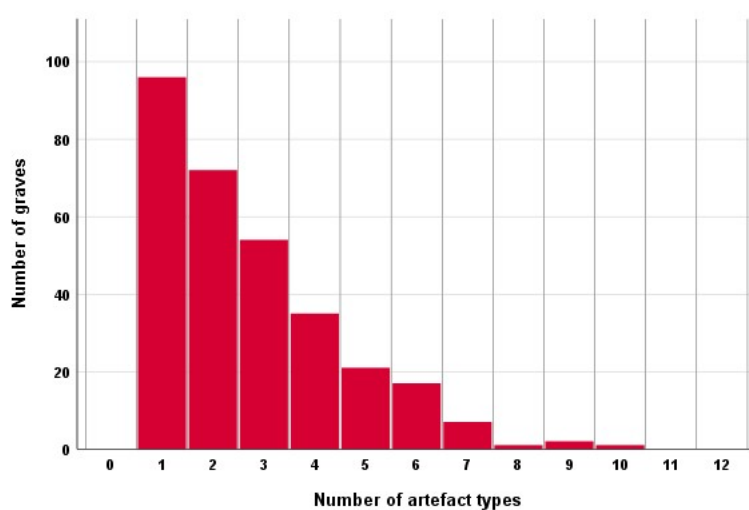
Figure 7.8a: Number of artefact types for female burials (Naqada IIIA2-IIIB).
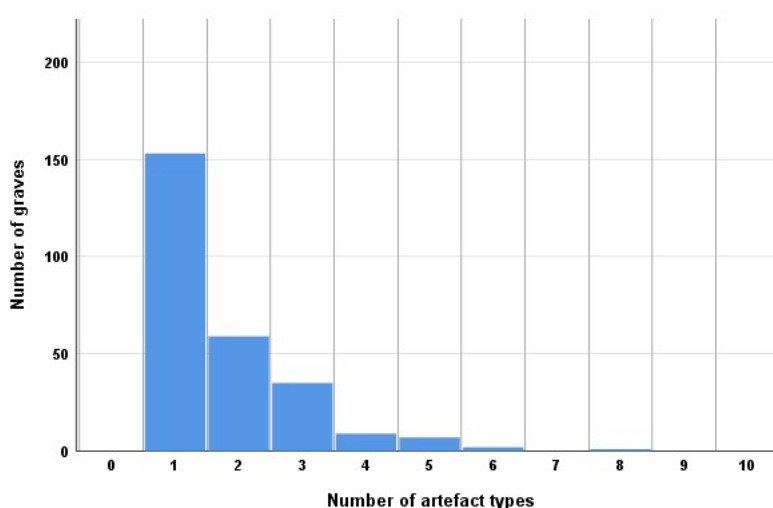
Figure 7.8b: Number of artefact types for male burials (Naqada IIIA2-IIIB).

The median and range of artefact types for females exceeded that of males, and this was consistent practice for both temporal phases (**Figure 7.7**). The number of artefact types ranged from one to ten types for female burials and one to eight types for male burials. Distributive patterns demonstrate that 80% of all male burials contained two artefact types, while 55% of all female burials were similarly provided **(Figures 7.8a-b)**. Only 7% of male burials contained three or more types compared with 27.5% of female burials. This information builds upon the results obtained for the variables of total goods and total pots, and would appear to confirm that an increasing conformity of mortuary presentation within the graves of males occurred over time.

Ellis (1992, 254) has suggested that as male graves at Tarkhan were generally larger and perhaps marked, they provided more obvious targets for plundering activities. As there is little evidence to indicate that grave marking was an active practice at the cemetery, this factor cannot account for any gender differences seen in the number of artefact types. Furthermore, both sexes have similar disturbance rates with females at 52% and males at 59%. Given such issues, it is likely that observed patterns in the number and frequency distribution of artefact types were more strongly related to differences in depositional practice between the sexes.

Comparative data is restricted to only a few published cemeteries but would indicate that depositional practices were variable. At Minshat Abu Omar (III-IV), female burials were found to contain a higher variety of artefact types than those of males (Rowland 2003, 176; 2006, 307-308). For the Memphite cemeteries of Helwan and Saqqara, male burials contained a wider variety of objects, although females were under-represented in the sample (Janulíková 2017, 154-159).

7.6.6   Relationships between variables

No clear sex-related associations between the number of grave goods and enhanced grave volume could be established (**Figure 7.9a**). This is consistent with observations made by Janulíková (2017, 99) for non-elite gender practice at Early Dynastic Memphite cemeteries. An excellent example of the lack of correspondence between grave size and number of goods can be seen with grave 870 (Naqada IIIA2). At 13.3 m^3 in volume, this male burial was the largest non-mastaba structure discovered in the valley, yet the undisturbed pit contained a wooden coffin, one palette and five pottery vessels (**Figure 7.9a)**. At the other end of the scale, undisturbed valley grave 1805 (Naqada IIIB) was 2.8 m^3 in volume. This relatively small-scale female burial contained a total of 27 grave goods, including 13 pots, four stone vessels, beads, copper and ivory objects (**Figure 7.9a)**. Despite these variations, the majority of the data are situated amongst those graves < 3 m^3 in volume containing between one to ten grave goods.
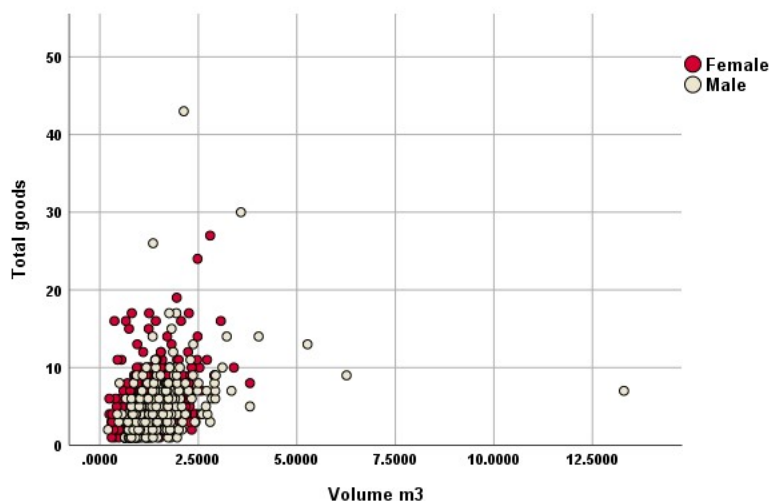
Figure 7.9a: Relationship between total goods and volume (m³) by sex (Naqada IIIA2-IIIB).
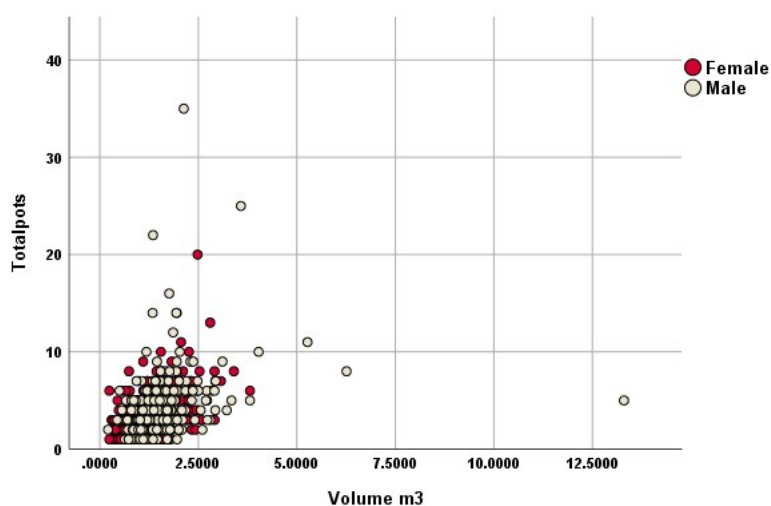
Figure 7.9b: Relationship between total pottery and volume (m³) by sex (Naqada IIIA2-IIIB).

With regard to pottery, no clear sex-related associations between the number of these objects and enhanced grave volume could be determined (**Figure 7.9b**). As discussed in **Section 7.6.2,** pottery has been considered a reliable indicator of grave wealth in early Egyptian mortuary contexts. Given the strong presence of pottery in male burials, the use of this artefact class as an indicator of grave wealth remains problematic. Combining counts of pottery with grave size as a means of determining either the wealth or status of the occupant privileges male over female burials. It is clear from the scattergrams that ideas of enhanced status or wealth for either sex cannot be inferred from the combination of these variables. This observation is important given the trends relating to grave volume and the presence of

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pottery for male burials at Tarkhan. Overall, the lack of any strong correlations between the variables of total goods or total pots and enhanced grave volume further highlights the complexity of gender practice at Tarkhan.

7.6.7 Trends in pottery use

Cylindrical jars (39%) and type 60 storage jars (13.5%) represent the major classes of pottery deposited in graves regardless of sex or temporal phase (**Figures 7.10a-b)**. Pottery types 3, 36, 66 and 73 were often interred with the cylindrical and type 60 storage jars. These trends follow site-wide practice as discussed in **Chapter Three.** Examples of other flat and round-based bowls, plates and cups were deposited in the graves of both sexes, although there is greater diversity of forms seen in male burials.

	type 46	type 60	type 46 net	type 66	type 36	type 3	type 73	type 47	type 87
Male	297	156	65	61	33	27	20	15	2
Female	270	134	61	44	3	32	7	21	13
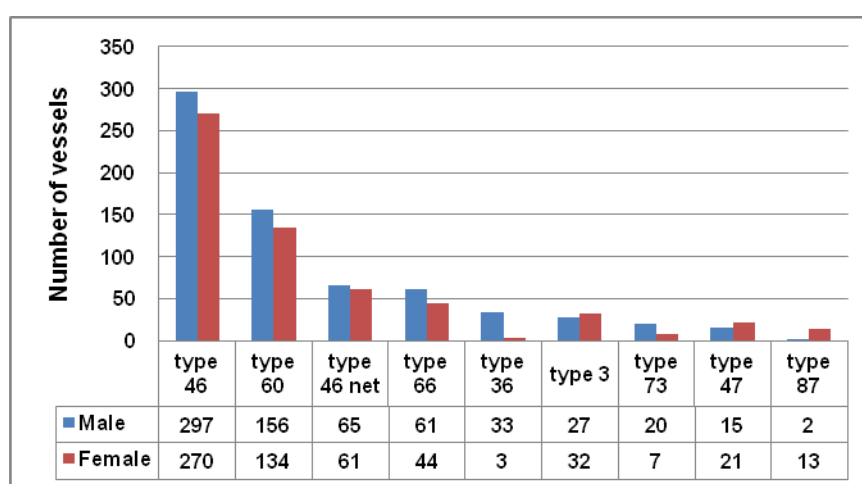
Figure 7.10a: Major pottery types by sex (Naqada IIIA2).

	type 49	type 46	type 60	type 47	type 48	type 3	type 73	type 36	type 81	type 75
Male	106	85	77	52	33	8	12	7	7	5
Female	119	79	89	51	30	13	7	10	3	0
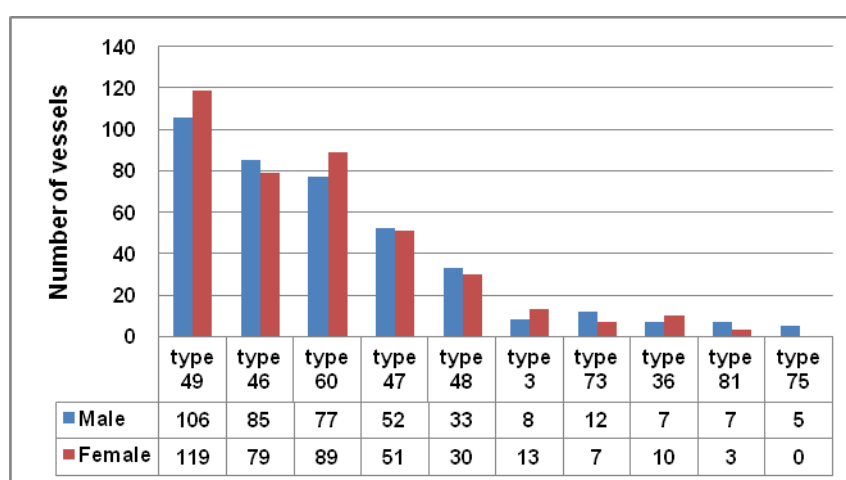
Figure 7.10b: Major pottery types by sex (Naqada IIIB).

As many of these types are represented infrequently across the dataset (**Appendix B**), it becomes difficult to judge whether their inclusion in some male burials is significant or not. Due to the similarities in pottery preferences, the crucial difference between the sexes remains one of quantity.

External offering jars were also associated with 17 burials. It would appear that bowls and cups of types 3, 5, 8 and 36; and jars of types 66 and 73, were favoured over other ceramics as offering gifts. While such practices are strongly associated with the valley mastabas, any possible ritual use of these ceramics was not restricted by sex or age (**Chapters Six** and **Eight**). Materials such as ash, mud, sand and other organic substances were identified mainly in the cylindrical and type 60 storage jars. As all of these activities are poorly represented across the entire Naqada IIIA2-IIIB dataset it is difficult to assess the significance of such actions. Overall, there is insufficient evidence to link either offering jars or vessel content with gender practice.

Many of the vessels were probably placed in the grave empty and a symbolic rather than actual presentation of foodstuffs to the deceased may have been sufficient from a ritual perspective. This may explain the irregular placement of both filled and unfilled pots in some graves. A similar situation may be posited for the external offering jars. Ellis (1992, 253) has suggested that male hierarchical differences were invested in non-material mortuary behaviours such as feasting or dancing. Even if correct, these activities cannot be identified within the context of what was recorded at Tarkhan. However, the greater prevalence of ash over other contents could be linked to burnt offerings or the remnants of funerary feasts (Stevenson 2009a, 100). Even though consumption may have played an important role in the funerary ritual it should not be considered an exclusively male practice but rather one of community participation and engagement.

7.7 Non-ceramic artefacts

This section presents an overview of the non-ceramic artefacts and raw materials recorded for female and male burials. Lists of artefact types for each period are presented in **Appendix C.** The female: male ratio for non-ceramic artefact types is 28 types: 21 types for the Naqada IIIA2 period; and 21 types: 15 types for the Naqada IIIB period. While there is a reduction in the number of different types in female burials over time, they remain better provided in terms of artefact variety than their male counterparts. This would confirm the broad trends in practice observed for females and males by Ellis (1992; 1996).

For quantitative purposes, individual artefact types for copper, flint and ivory have been consolidated into artefact categories as outlined in **Chapter Five.** Distributive patterns confirm that palettes and stone vessels were the principle objects deposited in graves regardless of sex (**Tables 7.5a-b**). The tabulated percentages also demonstrate that individual artefact categories formed a relatively small component of the grave goods for both sexes. When all of the non-ceramic objects are tallied they comprise 36.5% of the total goods recorded for female burials and 16.2% of the total goods recorded for male burials.

Table 7.5a: Percentages of non-ceramic artefacts within total goods (Naqada IIIA2).

Artefact categories	No. of objects	Females No. of objects	% of objects within total goods (n =2076)	Males No. of objects	% of objects within total goods (n =2076)
Palettes	116	90	4.3%	26	1.2%
Stone vessels	88	53	2.5%	35	1.7%
Beads*	85	63	3%	22	1%
Minerals/ores	58	37	1.8%	21	1%
Coffins (wood)	37	16	< 1%	21	1%
Flint objects	35	32	1.5%	3	< 1%
Ivory objects	34	28	1.3%	6	< 1%
Pebbles	30	21	1%	9	< 1%
Copper objects	7	5	< 1%	2	< 1%

*Based on the number of graves containing beads

Table 7.5b: Percentages of non-ceramic artefacts within total goods (Naqada IIIB).

Artefact categories	No. of objects	Females No. of objects	% of objects within total goods (n =1226)	Males No. of objects	% of objects within total goods (n =1226)
Palettes	67	51	4.1%	16	1.3%
Stone vessels	56	34	2.8%	22	1.8%
Beads*	49	39	3.2%	10	<1%
Minerals/ores	28	27	2.2%	1	<1%
Coffins (wood)	21	11	<1%	10	<1%
Ivory objects	18	16	1.3%	2	<1%
Pebbles	11	10	<1%	1	<1%
Copper objects	8	6	<1%	2	<1%
Flint objects	5	2	<1%	3	<1%

*Based on the number of graves containing beads

Chi-Square tests were run on SPSS version 26 to assess distributive patterns relating to the presence of artefact categories by sex for each temporal phase ($p < 0.05$) (**Tables 7.6a-b).** This information is arranged by the number of graves and therefore provides a different perspective on practice from the data presented in **Tables 7.5a-b**.

Table 7.6a: Artefact distribution by sex (Naqada IIIA2).

Artefact categories	Females (n = 191)	Males (n = 179)	X^2
Palettes	87 (45.5%)	26 (14.5%)	**p < .05**
Beads	63 (33%)	22 (12.3%)	**p < .05**
Stone vessels	42 (22%)	27 (15.1%)	p > .05
Wooden coffins	16 (8.4%)	21 (11.7%)	p > .05
Ivory objects	14 (7.3%)	6 (3.4%)	p > .05
Flint objects	10 (5.2%)	3 (1.7%)	p > .05
Copper objects	5 (2.6%)	2 (1.1%)	p > .05

Table 7.6b: Artefact distribution by sex (Naqada IIIB).

Artefact categories	Females (n = 115)	Males (n = 87)	X^2
Palettes	48 (41.7%)	15 (17.2%)	**p < .05**
Beads	39 (33.9%)	10 (11.5%)	**p < .05**
Stone vessels	23 (20%)	14 (16.1%)	p > .05
Ivory objects	14 (12.2%)	1 (1.1%)	**p < .05**
Wooden coffins	11 (9.6%)	10 (11.5%)	p > .05
Copper objects	4 (3.5%)	2 (2.3%)	p > .05
Flint objects	2 (1.7%)	3 (3.4%)	p > .05

A statistically significant difference in the presence of palettes and beads can be observed for both periods (**Tables 7.6a-b**). The mortuary use of these objects favoured female burials. By Naqada IIIB, a significant relationship between ivory objects and female burials can also be seen. For the remaining artefact categories, no significant differences could be determined by sex for either period.

These patterns do vary slightly from those obtained for the presence of objects by location and grave volume presented in **Chapter Five.** For example, the use of wooden coffins favoured large graves and those burials situated in the hills and this was consistent over time. Therefore, it is informative to find that the sex of the occupant was not a determining factor in the mortuary use of these items. A similar situation can be observed for copper artefacts in the Naqada IIIB period where interment also favoured large graves and hill burials (**Chapter Five**). In comparison, no significant difference in the presence of these objects by gender

could be established for either temporal phase. These patterns are important and demonstrate that depositional practices associated with valuable or rare materials did not privilege male over female burials.

7.7.1 Raw materials

A range of raw materials were recorded in the graves of both sexes (**Appendix C**). A number of Chi-Square tests were run on SPSS version 26 to assess distributive patterns associated with the most prevalent materials ($p < 0.05$). This information is arranged by the number of graves rather than the quantity of raw materials (**Tables 7.7a-b**). There were significant differences in the presence of greywacke, carnelian, and faience or glazed steatite by sex. All of these materials were more strongly associated with female burials. Ivory and minerals were also more common in female burials in Naqada IIIB. Varieties of stone used in the manufacture of beads, such as garnet, agate, serpentine, amethyst and other forms of quartz were poorly represented in the graves of both sexes (**Appendix C**).

Table 7.7a Raw material distribution by sex (Naqada IIIA2).

Raw materials	Females (n = 191)	Males (n = 179)	X^2
Carnelian	45 (23.5%)	15 (8.4%)	***p < .05***
Copper	5 (2.6%)	2 (1.1%)	*p > .05*
Faience/ glazed steatite	33 (17.2%)	11 (6.1%)	***p < .05***
Flint	10 (5.2%)	3 (1.7%)	*p > .05*
Galena	11(5.7%)	4 (2.2%)	*p > .05*
Greywacke	87 (45.5%)	26 (14.5%)	***p < .05***
Hematite	5 (2.6%)	2 (1.1%)	*p > .05*
Ivory	14 (7.3%)	6 (3.4%)	*p > .05*
Malachite	11 (5.7%)	9 (5%)	*p > .05*
Travertine	27 (13.6%)	18 (10 %)	*p > .05*
Wood	16 (8.4%)	22 (12.3%)	*p > .05*

Table 7.7b: Raw material distribution by sex (Naqada IIIB).

Raw materials	Females (n = 115)	Males (n = 87)	X^2
Carnelian	30 (26%)	7 (8%)	*p* < .05
Copper	4 (3.5%)	2 (2.3%)	*p* > .05
Faience/ glazed steatite	20 (17.3%)	4 (4.65)	*p* < .05
Flint	2 (1.7%)	3 (3.4%)	*p* > .05
Greywacke	48 (41.7%)	15 (17.2%)	*p* < .05
Ivory	14 (12.2%)	1 (1.1%)	*p* < .05
Minerals*	23 (20%)	1 (1.1%)	*p* < .05
Travertine	17 (14.7%)	10 (11.5%)	*p* > .05
Wood	11 (9.6%)	11 (12.6%)	*p* > .05

* Includes galena and malachite

7.7.2 Palettes

Palettes were found in 176 or 30.7% of graves in the sex-determined dataset. This represents 67% of the 264 Naqada IIIA2-IIIB graves with palettes at the cemetery. As discussed in **Chapter Five**, it has been estimated that on average 15% of graves in any Predynastic cemetery would contain a palette (Stevenson 2007, 153; 2009c). The above figure of 30.7% clearly exceeds this estimated average. The enhanced trend at Tarkhan is replicated in the Duckworth graves where 15 or 24.5% were recorded with palettes. This point is important as without it we may conjecture that the increased number of palettes seen in the sex-determined data was based solely upon connections made between these objects and females by the excavators (**Section 7.5**).

As a class of artefact, palettes have attained significance as key indicators of sex-related differences in mortuary practices and social roles (Savage 2000; Hassan and Smith 2002; Stevenson 2004). It is the generally held view that these objects were more strongly associated with female rather than male burials (Ellis 1992; 1996; Kroeper 1996; Hassan and Smith 2002; Rowland 2003; Stevenson 2004; 2007; 2009b; Baduel 2008). Despite this viewpoint, a statistically valid association between female burials and palettes can only be determined for a few sites, including Tarkhan (valley), Minshat Abu Omar, el-Amrah and Mahasna (Stevenson 2004; 2007; 2009b). These results were confirmed for Tarkhan (**Table 7.6a-b**). However, any statistical association by sex only confirms patterns related to the interment of these artefacts in graves and should not be linked to gender roles in life.

A pre-mortuary function associated with the preparation of malachite eye or body makeup has connected these artefacts to concepts of beautification, and to the feminine aspect of bodily transformation and rebirth (Hassan and Smith 2002, 61-63). Palettes interred in the graves of some females do display evidence of pre-mortuary use in the form of possible malachite or red ochre patches, such as those found in graves 1124, 1348 and 1757 (Naqada IIIA2). There are also other examples where palettes in female burials were noted to be unmarked or not used. Therefore, it cannot be assumed that all palettes represented items of habitual pre-mortuary use, nor can it be assumed that such use was restricted to the grinding of pigments and the preparation of make-up (Baduel 2008, 1068).

On this point, Petrie (1920, 36) was of the opinion that palettes were "usually accompanied by a pebble of jasper for grinding". A sex-related link between palettes, minerals and pebbles at Tarkhan is tenuous, and only one male and six female burials contained all three items. At Minshat Abu Omar only two graves contained a combination of palettes and minerals, although a stronger association between palettes and pebbles was identified (Kroeper 1996, 83-84). At Tarkhan, a stronger relationship is seen between palettes and minerals with 21.5% of burials containing both items, while 16% of burials contained the palette-pebble combination. Importantly, minerals and pebbles are also found in the Duckworth graves of both sexes, thereby confirming that the funerary use of these materials should not be considered gender specific.

It is interesting to note that some palette forms contained holes presumably for the purpose of hanging the palette (Baduel 2008, 1068). The function of such forms as items of status or display cannot be under-estimated. While this has been linked to bodily adornment, it is also possible that they were attached to walls and may have served to signify that the owner had connections to distant places and people (Helms 1986; Baduel 2008, 1068-1069; Stevenson 2004, 29). Of importance within this context is the discovery of a palette attached to the south wall of valley grave 1880 (Naqada IIIA2). The grave contained remains identified as belonging to a female by the excavators. It is possible that this placement was intended to evoke habitual practices of display seen in the houses of the living. This example would demonstrate that the use and significance of these artefacts was more complex than gender-related assumptions associated with cosmetic preparation, fertility and rebirth would suggest.
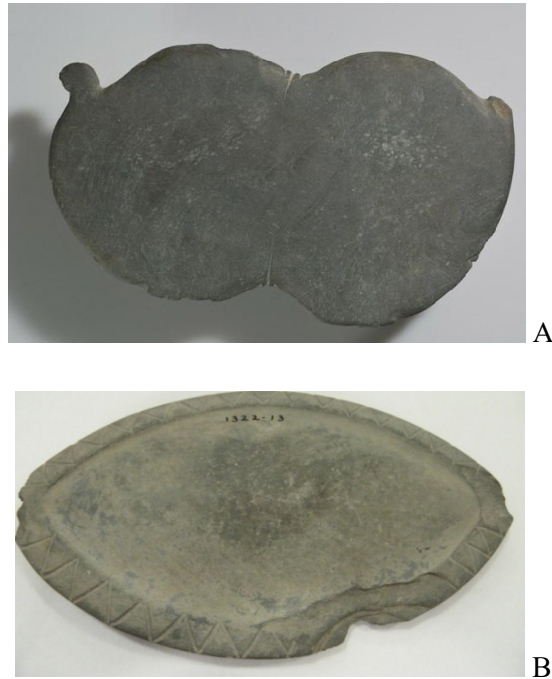
A. Double bird palette from valley grave 857 (Naqada IIIA2). Type 20h (Petrie 1914a, XXII). (Royal Museums of Art and History, Brussels E04460; Courtesy of the Royal Museums of Art and History). Height: 16 cm; Width: 26 cm. Scale unknown. (Male burial as determined by excavator).

B. Stylised fish palette from valley grave 1593 (Naqada IIIA2). Type 82h (Petrie 1914a, XXIII). (The Fitzwilliam Museum E.16.1913; Author's photograph; Courtesy of The Fitzwilliam Museum, University of Cambridge). Height: 11.6 cm; Width: 19.5 cm. Scale unknown. (Female burial as determined by excavator).

Figure 7.11: Examples of palette types in female and male burials.

In terms of more general patterns, a range of shapes can be identified with plain scutiform (16%), double-bird scutiform (8%), and circular (7%) forms found in the graves of both sexes. The rectangular lined and unlined varieties (Petrie types 92-98) were very popular representing 39% of all shapes. This preference for rectangular forms can be seen in the Duckworth graves where eight of the fifteen palettes are variants of this shape. Fish, birds, turtle and animal shapes continue to appear in smaller numbers (12%) and attest to the longevity of a range of forms at the cemetery (Regner 1996, Abb. 33-36; Stevenson 2004, 25-30; 2009b; **Figure 7.11;** see also **Figures 5.11a-b** in **Chapter Five**). Palettes were also found in a range of positions including in front of the face or hands and over and around the body (Kroeper 1996, 82; Regner 1996, 33, Abb. 41; Stevenson 2009c). Placement in front of the face and the hands would appear to be the preferred position for both sexes.

7.7.3 Stone vessels

Stone vessels represent an important class of mortuary artefact and were recorded in 21% of female and 15.4% of male burials. Vessel preferences were similar for both sexes. The small barrel jars with lug handles (type 71) were common constituting 24% of all vessels for females and 23% for males. Bowls and cups of types 14, 18 19 and 26 were also popular. By the Naqada IIIB period cylindrical forms appear in the graves of both sexes, although in smaller numbers (n = 6) (Petrie et al. 1913, XXXII-XLIV; Petrie 1914a, XXV-XXVII). These patterns are consistent with site-wide trends seen in vessel preferences (**Chapter Five**).

The majority of Naqada IIIA2-IIIB vessels at Tarkhan were carved from travertine. The mortuary dominance of travertine is also seen at Helwan and Saqqara where it figured strongly in the graves of both sexes (Janulíková 2017, 154-159). At Minshat Abu Omar travertine is more strongly associated with females than males (Rowland 2003, 168-169). No significant difference in the presence of travertine by sex could be determined at Tarkhan (**Tables 7.7a-b**). As this stone dominated the vessel repertoire it is not considered to be a gender-specific raw material. While the majority of vessels were produced from the white-yellow varieties of travertine there are several examples of the more unusual brown-grey banded stone in the graves of both sexes (**Figure 7.12**).

Other unusual vessels included a pink/yellow limestone jar interred in a Naqada IIIA2 female burial (grave 81) **(Figure 7.13a**). Given the rarity of limestone vessels at Tarkhan, this jar should be considered special and may have served to demonstrate that the owner had connections to exotic or valuable materials from distant places (Helms 1986; Stevenson 2009a, 195). One hard stone basalt bowl was also found in a Naqada IIIB male burial (grave 1739) (Mallory 2000; Mallory-Greenough 2002, 67-81; Kopp 2007, 194; **Figure 7.13b)**. The presence of banded travertine, limestone and basalt vessels demonstrate that access to aesthetically different stone materials was not restricted by sex.
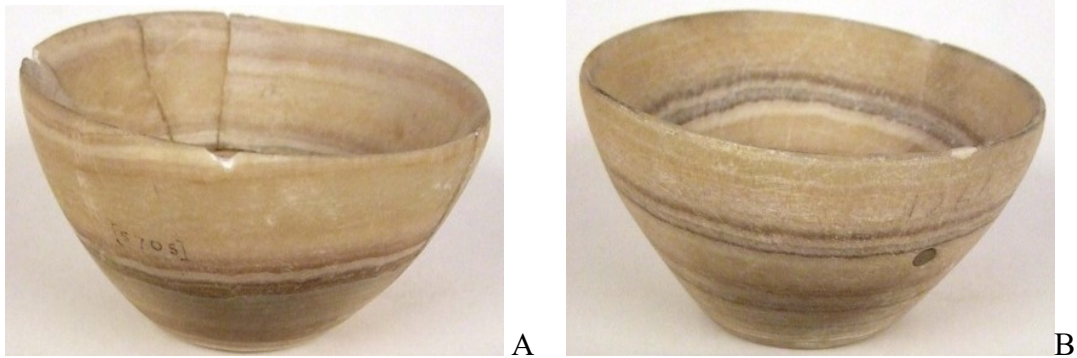
A. Banded grey/brown travertine bowl from valley grave 1893 (Naqada IIIA2). Type 14m (Petrie 1914a, XXV). (Manchester Museum 5705; Courtesy of Manchester Museum, University of Manchester). Height: 5.7 m; Diameter: 10.6 cm. Scale unknown. (Female burial as determined by excavator).

B. Banded grey/brown travertine bowl from valley grave 1266 (Naqada IIIA2). Type 14m (Petrie 1914a, XXV). (Manchester Museum 5715; Courtesy of Manchester Museum, University of Manchester). Height: 6.2 cm. Diameter: 10.1 cm. Scale unknown. (Male burial as determined by excavator).

Figure 7.12: Banded travertine bowls in female and male burials.

A. Pink/yellow limestone jar from hill grave 81 (Naqada IIIA2). Type 73g (Petrie et al. 1913, XLIII). (Petrie Museum of Egyptian Archaeology UC16940; Author's photograph; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 4 cm; Width: 5.3 cm. Scale unknown. (Female burial as determined by excavator).

B. Basalt bowl from valley grave 1739 (Naqada IIIA2). Type 14m (Petrie 1914a, XXV). (Brighton and Hove HA281820. Author's photograph; Courtesy of Royal Pavilion and Museums, Brighton and Hove). Height: 6.7 cm; Diameter: 12.8 cm. Scale unknown. (Male burial as determined by excavator).

Figure 7.13: Rare stone vessels in female and male burials.

Vessels were often positioned in front of the face or chest, behind or above the head and near the legs of both sexes. The use of stone vessels as containers of portable materials such as minerals or beads was also recorded. Many of the vessels display signs of pre-mortuary damage particularly around the rim. This could suggest that some of these objects were used in life by the occupant of the grave.

A further trend in the interment of broken stone vessels was noted on the tomb cards. Some damage may be related to grave disturbance, although the majority of examples appear deliberate with the placement of fragments choreographed for visual effect. These practices do not appear to be gender specific and were similar to the treatment afforded to palettes. This would suggest that such actions were aspects of shared communal practice. These activities touch upon notions of loss, the construction of memory and the enactment of both habitual and ritual practices, and give visual expression to those intimate relationships between the living and the dead.

7.8 Considering differences and similarities

In drawing this complex information together several key observations can be made. The first relates to the prevalence of pottery in male burials; the second to the number of different artefact types found in female burials. These observations are reliant largely upon sex determinations that may or may not be correct; however, they do follow general trends seen in a number of published cemeteries. Regardless of any disparity in numbers there is a commonality in depositional practice. On this basis, I would suggest that we must consider the mortuary artefacts found in graves at Tarkhan to be neither exclusively male nor female objects. This is an important point as the presence of objects, such as palettes have been connected to female activities in life. We know very little about how social roles in early Naqada III communities may have been structured and this presents major interpretative problems for the study of gender practice. The presence of similar objects in both female and male burials cautions against assuming a direct association between mortuary artefacts and the performance of gender-based social roles in living communities.

It is also possible that some of what is seen related to variations of practice within male and female groups (Hassan and Smith 2002, 49). This is an important point as not all members would necessarily have been treated in the same way. Differences within male and female groups may have been age dependant and not related directly to factors such as wealth or socio-political status. Other factors, such as ideological or ritual roles and activities could

have determined the style and content of mortuary presentation for some people. This may be the case for the individuals buried in the small mastabas (**Chapter Six**).

Another difference in practice related to the cutting of larger pits for males. While issues of practicality probably figured strongly in grave construction, such activities could have reflected competition within male groups at the cemetery. As the majority of the volume data represented graves < 3 m^3, assessing within sex competition along this variable is difficult. Even if all large-scale graves contained remains with accurate sex determinations, the privilege of enhanced expenditure may still have represented restricted practice (**Chapter Five**). Therefore, differences in mortuary energy expenditure may occur amongst individuals who do not differ in terms of social standing or importance (Braun 1981, 411; Richards 2005, 57). Group-related competition is relative and dependent upon what is considered important to people at a particular time. On the other hand, disadvantaged individuals can never compete with wealthy individuals in terms of depositional practice or enhanced grave construction, so attempting to compare gender practice on this basis remains problematic. As discussed above, other layers of relationships within male and female groups probably served to neutralise any overt economic differences.

While the depositional preference for pottery at Tarkhan may be related to the ubiquitous nature of this class of artefact, ease of production or access does not account for its greater prevalence in male burials. However, the reduced number of non-ceramic artefacts in male burials is perhaps more problematic from an interpretative perspective. In order to explain this trend, Ellis (1992, 253) has proposed an alternate investment for men in enhanced grave construction, feasting and cattle ownership. This view has been challenged by Wrobel (2004, 167) as such explanations tend to conform to standard evolutionary expectations of the construction of male status in ancient societies. At Tarkhan there is absolutely no evidence that cattle ownership was a factor in gender-related expressions of status or economic control. While there are bovine burials in the eastern valley, both male and female burials were recorded in this broad area. Therefore, no spatial associations between the bovine and male burials can be made. Bovine and antelope bones or horns are rare as grave offerings and a limited range of artefacts contained bovine imagery (Petrie et al. 1913, II, VIII, XII-XIV; **Chapter Nine**). The use of this material is not sex-specific as can be seen from the placement of an antelope horn in the grave of a female (333). Activities associated with feasting, or with the ritual slaughter of animals for mortuary purposes, should be considered aspects of communal practice rather than an exclusively male oriented activity.

In contrast to Ellis (1992; 1996), I would argue that increasing conformity of practice may account for some of the patterns seen in male burials. This conformity was expressed materially through an increase in the number of ceramics and a decrease in the number of non-ceramic artefact types interred in these graves. It is possible that the effects of any political or structural change within Fayum communities during the Naqada IIIB period had a greater socio-economic impact on males than females. As stated in **Chapter Four**, processes of urban development in the Memphite region may have initiated population moves away from Tarkhan. Therefore, any structural divisions in the remaining community could have become more pronounced as individuals sought to reposition themselves within new social environments. This could also signal a shift from heterarchical towards more hierarchical patterns of community engagement, which in the first instance, created greater social disparity within male groups. This, of course, represents a one-sided mortuary perspective and how any structural change played out in the living communities remains speculative. Nonetheless, the data from Tarkhan would tend to challenge standard narratives of a wide-spread increase in male status from the Naqada IIIB period. It is acknowledged that this is a site-specific assessment and that the patterns and activities identified here may not have been enacted in the same ways at other cemeteries.

De Lucia (2008, 31) has argued that expectations of gender hierarchy can result in misleading conclusions and that social change does not always equate with gender inequality. This is an important observation in the context of Tarkhan as it would appear that depositional practices associated with female burials did not decline dramatically from the Naqada IIIA2 to Naqada IIIB period. This continuity of access to materials and finished products would also challenge notions of a declining socio-economic status for women prior to the establishment of the state. The presence of two mastabas attributed to females in the valley cemetery would also support ideas of continued social standing for women during the Naqada IIIB period at Tarkhan.

7.9   Concluding comments

This analysis has demonstrated that presumed correlations between gender practice and the traditional quantitative variables associated with wealth and status are far more textured than standard evolutionary models suggest. This in turn would indicate that the nature of gender roles for females and males was probably more fluid within local communities than generally

presumed. This fluidity of practice is a key observation and further challenges assumptions about community construction more generally.

I would also argue that it is timely to reconsider preconceived notions of binary sex-related associations between artefacts and mortuary practice. Artefact usage at Tarkhan was neither exclusively male nor female. It is clear that access to prestige raw materials and objects was not socially restricted within the living communities of Tarkhan; and that the realities of mortuary use did not privilege men over women. Shifting the narrative to consider active female agency in the construction of community-based practice has the potential to provide a more textured interpretation of the Tarkhan data. The challenge remains to reframe the ways in which we think about gender relationships and social roles in early Egyptian communities; and the possible expression of these in mortuary contexts (Conkey and Gero 1991, 6).

Chapter Eight: Relationships between age and mortuary practices

8.1 Introduction

Like the study of women and gender-related mortuary practices, the archaeology of childhood has suffered from an historic lack of scholarly interest in this broad age group (Lillehammer 1989; 2018; Hinson 2018, 19). While considerable progress has been made to reinstate childhood into the archaeological discourse since the late 1980s, the study of children in early Egypt remains an under-investigated source of social information (Lillehammer 1989; 2018; Petkov 2014; Hinson 2018). This, in part, stems from perceived difficulties in identifying the material traces of children and childhood activities in the archaeological record (Lillehammer 1989; 2018; Hinson 2018, 19). As a result, studies of ancient communities have been framed by the activities and practices of the adult world (Lucy 2005, 43). Given that children once lived and died as members of such communities, the study of these young individuals should provide a vital perspective on the nature of relationships for past social groups (Lucy 2005, 43).

A number of theoretical and methodological issues constrain the study of childhood, particularly in relation to concepts of personhood and social marginalisation (Lillehammer 1989; 2018; Sofaer Derevenski 1994; Meskell 1994; 1999; 2000; McHugh 1999; Lucy 2005; Harris 2011; Hinson 2018). Children have been considered to lack social agency as their respective identities in ancient communities are not as easily defined within modern interpretative frameworks (Baxter 2005, 21-23; Stevenson 2009a, 168-170; Harris 2011, 122-123; Hinson 2018, 54-60). Negative assumptions regarding a child's limited integration into ancient communities have also hampered the ways in which children have been considered by archaeologists (Petkov 2014, 82-84).

Such issues are further exacerbated by the apparent under-representation of children in cemeteries (Sofaer Derevenski 1994, 8). Life expectancy and high infant mortality rates; issues of skeletal preservation; differing cultural practices, including burial within settlements; and even evidence of possible infanticide and sacrifice, have all contributed to notions of segregation, exclusion and social invisibility (Arden 2011, 133-138; Becker 2011, 24-25; Karl and Löcker 2011, 37).

Given the difficulties in conceptualising ancient childhood, it is not surprising that mortuary practices for this broad age group have traditionally been interpreted through the lens of social differentiation (Ellis 1992, 254; McHugh 1999; 24-29). A link between wealthy subadult burials and inherited or acquired kinship status has long been advocated in studies of ancient and ethnographic societies (Saxe 1971, 7; Tainter 1978, 106; Ellis 1992, 254; McHugh 1999, 24-26; MacDonald 2001, 712; Castillos 2015; 2016). Investments in mortuary wealth have also been associated with notions of marriage contracts, inheritance and the prestige of lineage groups, potential social roles and symbolic age achievement (Chapman and Randsborg 1981, 13; Hayden 1995, 44; McHugh 1999, 19-29).

While such positions appear logical given the constraining factor of age, the materiality of subadult mortuary practices also serve to communicate the more intimate character of relationships between people (Meskell 1999, 128-13; Tarlow 1999; 2000; MacDonald 2001, 704-714; Brück 2004, 311). For infants and young children, these relationships were centred naturally upon the mother and the family, and depending upon age, extended beyond the boundaries of kin to include social interactions with other unrelated people in the community. As an inevitable consequence of life, childhood death would have been a pervasive part of lived experience at Tarkhan. Hence, the materiality of burial touches on the more intangible aspects of death, namely the grief experienced by both the immediate family and wider community at the premature death of a child or adolescent (Meskell 1999, 128-133; MacDonald 2001, 704-714; Brück 2004, 309).

This discussion is reliant solely on cemetery data, and as a result "what can be observed is not childhood but the burial rituals for children" (Stevenson 2009a, 168). Previously, the graves of subadults have been incorporated into studies of Tarkhan by Ellis (1992; 1996) and Janßen (2015), but are only considered within the analyses of adult-and sex-related practice. As a result, they remain social adjuncts in discussions of mortuary behaviours at the cemetery. This chapter provides a more intensive investigation of the ways in which subadults were treated in death. It will also consider how these data inform our understanding of social relationships and community-based practices for subadults at Tarkhan.

8.2 The dataset

There were 100 Naqada IIIA2-IIIB graves with remains assigned to the age categories of 'infant, child or young'. These determinations were written on the tomb cards, although 'child' was used as a generic description in the register of graves accompanying each excavation report (Petrie et al. 1913; Petrie 1914a). Due to the inconsistent classifications applied by the original researchers it is difficult to distinguish the exact stage of childhood for these remains, so the term subadult is used instead of 'infant, child or young' (**Section 8.4**).

The majority of these 100 graves sit within the Naqada IIIA2 period (n = 67), while the remaining are Naqada IIIB in date (n = 33). These burials represent 10.8% of Naqada IIIA2 graves and 9.3% of Naqada IIIB graves. Most were located in the valley cemetery, with Naqada IIIA2 grave 1015 and Naqada IIIB grave 211 situated in the hills. The overall disturbed: undisturbed ratio for these graves is 48: 52. These 100 graves also represent 58% of the 172 graves considered to contain the remains of subadults by the excavators across all periods (Naqada IIIA2-IIIC2). Overall, these 172 subadult burials comprised almost 11% of the total number of Naqada III period graves (n = 1566) identified at the cemetery (**Chapter One**).

As mentioned in **Chapter Six**, three Naqada IIIA2 valley graves, 637, 737 and 1419, contained the combination of an adult together with the possible partial remains of an infant or child. As the tomb cards noted the very poor preservation of these remains, it is possible that some of this material was not human; or originally formed part of the adult skeleton. A further adult-child arrangement was identified in hill grave 39 (Naqada IIIB) and the bodies were drawn on the tomb card (Petrie et al. 1913, 9). As these graves represent possible multiple burials they are not considered in this discussion. While such practices were not common at the cemetery, these few examples suggest that personal relationships may have been maintained in death for some individuals.

8.3 Previous research

The majority of work on subadult mortuary practices has been based on material derived from Dynastic to Roman Period sites (see for example, Meskell 1994; Wheeler 2009; Power 2012; Petkov 2014; Harrington 2018; Hinson 2018). This imbalance in our understanding of Predynastic mortuary practices is gradually changing due to the analyses of well-documented subadult burials at the Upper Egyptian site of Adaïma (Crubézy et al. 2008, 289-310; Tristant

2012, 15-59). Recent discussions on the subject by Power (2012); Tristant (2012, 15-59) and Power and Tristant (2016, 1474-1488) have further challenged our understanding of subadult mortuary practices for the Predynastic-Early Dynastic periods

The graves of infants, children and adolescents have also been incorporated into studies of northern Egyptian cemeteries including those of Minshat Abu Omar (Kroeper 1992; 2004; Rowland 2003); Kafr Hassan Dawood (Rowland 2003); Gerzeh (Stevenson 2006; 2009a); Tell el-Farkha (Dębowska-Ludwin 2012); Helwan (Power 2012); and Saqqara and Helwan (Janulíková 2017). An examination of wealth in the graves of subadults and further quantitative material has also been presented by Castillos (1982; 2015; 2016).

8.4 Mortality rates and skeletal preservation

It is estimated that subadults would have comprised at least one third of most ancient populations, but these demographic expectations are rarely reflected in the mortuary record (Lewis 2007, 22; 2011, 5; Hinson 2018, 19). Mortality rates for both subadults and adults alike would have been influenced by many factors including disease, congenital conditions, nutritional stress, hygiene, and trauma (Lewis 2011, 6; Musselwhite 2011; Wheeler et al. 2011, 114-115; Smith-Guzmán 2015, 1-12).

Poor preservation of skeletal remains is often quoted as the prime reason for the under-representation of subadults in mortuary contexts (Lewis 2011, 4-5). This situation has been noted for populations at numerous sites, including the cemetery of Gerzeh (Mortensen 1991, 26; Stevenson 2009a, 169). Environmental conditions also impacted the preservation of human remains at Tarkhan, although these problems should not be considered age-specific (Petrie et al. 1913, 8; Petrie 1914a, 15, 24). More recently, the assumption that children were invisible or under-represented in Egyptian mortuary contexts has been challenged by the work of Power (2012). Over 1800 child, infant or foetal burials were identified from a survey of published excavation reports from the Early Dynastic to the Middle Kingdom Periods (ca. 3300-1650 BC) (Power 2012). Based on these data, it is now clear that burials of subadults do exist in significant numbers in many cemeteries (Power 2012).

Unfortunately, the reliance on old data frames modern perceptions of practice, and this is a particular problem for cemeteries within the Fayum (**Chapter Four**). This picture is further complicated by the absence of settlement information for Tarkhan. As a result, the number of infants afforded domestic burial will remain an unknown dimension of practice. As single

infant graves were recorded on the tomb cards, it would appear that there were no identifiable age restrictions on cemetery use. This does not preclude the burial of infants in homes or somewhere else within the boundaries of the settlement. Domestic infant burials were rarely recorded in this period, with examples found at Maadi (Lower Egyptian cultural site) and Adaïma (Naqada II contexts) (Tristant 2012, 44-49, Figs 34-36).

8.4.1 Problems of age identification

One of the major problems associated with studying this material relates to the accuracy of age identification (**Section 8.2**). This is exemplified by remains from Tarkhan housed in the Duckworth Laboratory, University of Cambridge (**Chapter Seven**). In particular, it is concerning that the adult skulls of one male and two females were originally designated as children by the excavators (Petrie et al. 1913, LXVI; Petrie 1914a, XXXV, XLII).[29] Only one subadult is represented in the Duckworth Laboratory by a cranium from valley grave 773 (Naqada IIIA2) (Petrie 1914a, LXI). The tomb card recorded that the body belonged to a young and possibly female individual (Petrie 1914a, XXXVII, LXI; **Figure 8.1**). However, the remains have been assessed as belonging to that of a child by a physical anthropologist (**Chapter Seven**). Another possible subadult cranium from grave 649 (Naqada III) was photographed by Petrie (1914a, LXI), although this material was not catalogued in the Duckworth Laboratory.

Of the 100 graves examined here, the remains of 37 were assigned sex as either female (n = 22) or male (n = 15). As in the case of grave 773, most of these assignments were associated with bodies identified as either a child or young. As sexual dimorphic characteristics between males and females do not become apparent until puberty assigning sex to such remains is considered problematic (Lewis 2007, 47-48; Janet Davey personal communication). The designation of young also lacks clarity and could have been used to identify a child or adolescent. Body size in this context may have created a false impression of age or sex. As demonstrated by the three examples from the Duckworth Laboratory, terms such as child and young appear to have been applied as generic age descriptors by the excavators and may not be correct.

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[29] The female remains were removed from valley graves 1516 (Naqada IIIA2) and 648 (Naqada IIIB); and the male remains from hill grave 180 (Naqada IIIA2) (**Chapter Seven**).
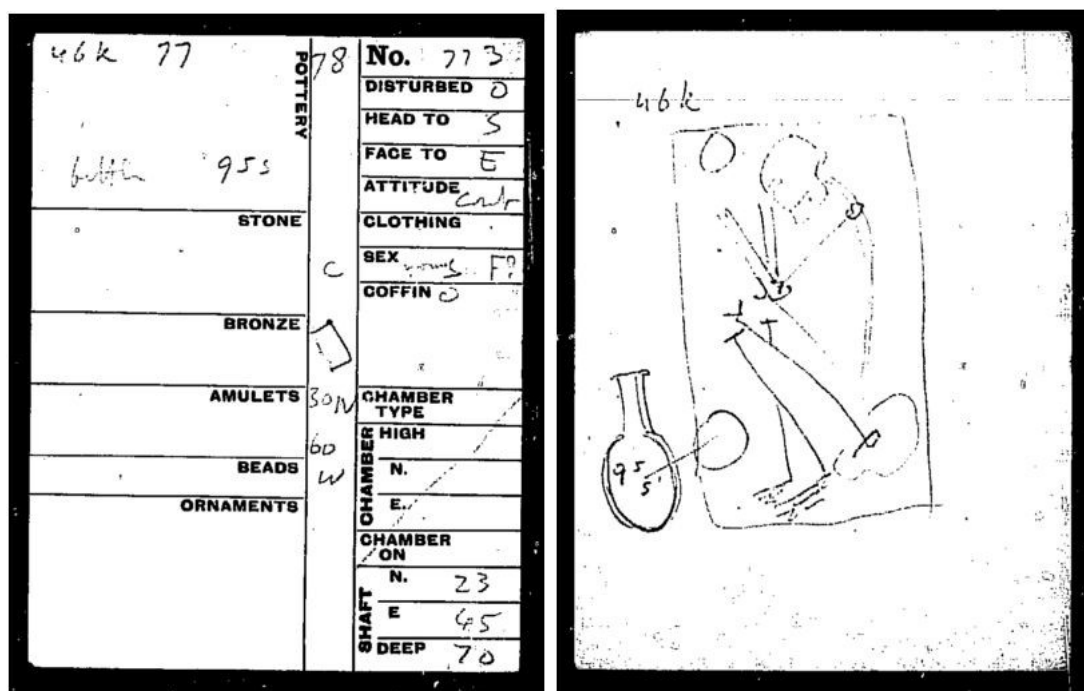
Figure 8.1: Tomb card for grave 773 (Naqada IIIA2).
(Courtesy of the Petrie Museum of Egyptian Archaeology, UCL).

Other problems are also apparent in the dataset, in particular hill grave 1015 (Naqada IIIA2) provides a possible example of how information was changed to match expectations regarding age and artefact ownership. The tomb card indicated that the shallow pit (0.68 m^3 in volume) contained the remains of a 'small boy'; however, this information was changed to male in the register entry for this grave (Petrie et al. 1913, LX). The reason for this change could be related to the presence of three copper adzes found in the grave, coupled with the assumption that this material could only have belonged to an adult male. In this case, the original identification used on the tomb card is followed (see also Janßen 2015, 194).

8.5 General trends in practice

This section examines a number of general trends relating to grave volume, orientation practice, the use of coffins and treatments to the body. For comparative purposes the term adult refers to those remains identified as either female or male (n = 572) (**Chapter Seven**). Age designations for another 296 Naqada IIIA2-IIIB burials could not be made due to the poor preservation of human remains or other recording issues.

8.5.1 Grave volume and construction

Graves of subadults were usually shallow cut pits ranging from 0.23 m^3 to 1.99 m^3 in volume. One exception is seen with grave 1495 (Naqada IIIA2), which was 2.8 m^3 in volume (**Figure 8.2**).
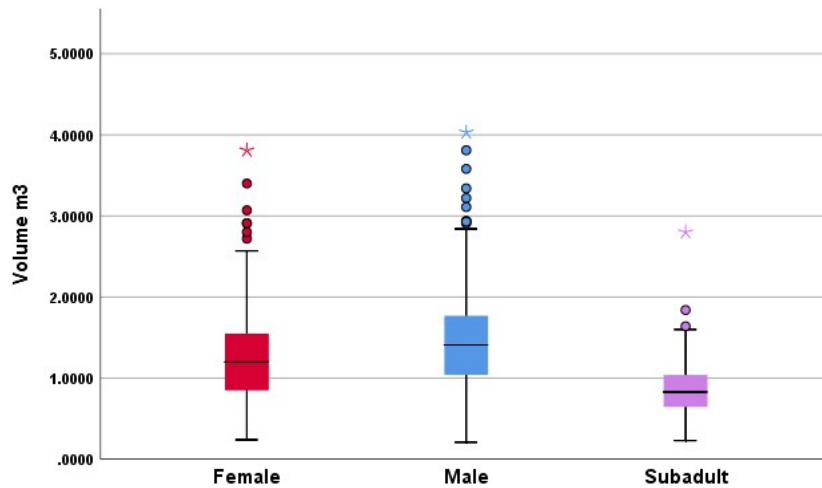
(Three male graves > 5 m^3 are not included in this box-plot).

Figure 8.2: Grave volume (m^3) by sex and age.

Graves of subadults had the smallest median and range of volume when compared to either male or female burials (**Figure 8.2;** see also Ellis 1992, Fig. 4). The practice of cutting smaller pits for subadults was probably linked to body size in the first instance and this association is seen at numerous cemeteries (Castillos 1982; Podzorski 1993, 121; Rowland 2003, 268, 270; Stevenson 2009a, 177). The small size of the pit may have been one reason why remains were attributed to children by the original excavators (**Section 8.4.1**). A large-scale mud-brick grave was, however, excavated at Minshat Abu Omar (MAO IV) belonging to a child estimated to be about nine years old (Kroeper 1992, 134-136).

The majority of pits were rectangular/square forms (n = 79) with a smaller number cut in an oval shape (n = 19) and this is consistent with observations made by Castillos (1982, 161).[30] There is little architectural elaboration and only two graves, 1345 and 2033 (Naqada IIIA2), were found to be covered with pole roofing. There is one example of possible shared or reused mortuary space with the grave of a subadult (1293) placed on top of the grave of an adult (1303) in the valley cemetery. Both graves are Naqada IIIB contexts and the use of

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[30] The forms of graves 1094 and 1527 (Naqada IIIA2) were not recorded on the tomb cards.

similar space could indicate a familial relationship between these two individuals. On the other hand, this example may just represent an accidental placement of one grave over another. The tomb card for grave 1094 (Naqada IIIA2) also indicated that another burial was found underneath it, although there is nothing provided on the card nor the valley map to verify this statement.

8.5.2 Orientation

The majority of bodies were placed in a contracted position with either a south/west or north/east orientation (**Table 8.1).** There is, however, a degree of diversity seen with placements to other cardinal points **(Figure 8.1)**. These patterns follow general orientation practices recorded for the cemetery (**Chapter Five**).

Table 8.1: Body orientation for subadults by period.

Orientation	IIIA2	IIIB
South/west	34	13
North/east	12	9
North/west	3	0
North/west (body extended)	0	1
East/south	2	2
West/north	2	1
South/east	1	4
East/north	1	1
South	1	0
North/face up (body extended)	1	0
Not recorded	10	2
Total	**67**	**33**

Memory of previous familial placements may have played a role in how people presented the recently deceased child, although this was contingent upon the strength of such recollections (**Chapter Six**). Other factors such as environmental conditions or space within a desired part of the landscape may have also determined the orientation of individual graves and bodies, independent of any group-related practices. Based on the available data, age does not appear to have been a determining factor in decisions made regarding body placement or orientation.

8.5.3 Body treatments

There is little information regarding unusual treatments afforded to subadults. The remains of one subadult in grave 668 (Naqada IIIA2) had the skull 'reversed' with a palette underneath it. Another card for grave 1699 (Naqada IIIB) noted that the skull was 'turned'. As both graves were disturbed it is difficult to ascertain whether such actions reflected practices enacted at the time of burial, or were the result of plundering or other activities. The displacement of these skulls could also be the result of natural decomposition processes (Tamorri 2017, 453).

There is little information regarding the application of linen as a mortuary treatment for subadults. Only one mention was found on the tomb card for grave 1236 (Naqada IIIA2) and it is unclear whether the cloth was used as wrapping or clothing. While the use of linen is poorly represented in Naqada IIIA2-IIIB graves (**Chapter Five**), based upon this one example, its application as a mortuary treatment was not restricted to adults (Mawdsley 2020).

8.5.4 Coffins

The majority of subadults were placed directly onto the floor of the pit without any container. This was a consistent practice throughout Egypt during the Predynastic-Early Dynastic Periods (Power and Tristant 2016, 1480). General trends in the published data for subadult burials would suggest a preference for wooden coffins over other forms of containment (Power and Tristant 2016, 1480, Fig. 5). At Tarkhan, the remains of subadults were found in both basket coffins (n = 6) and wooden coffins (n = 6), so no clear preferences are apparent.

The burial of neonates or infants in reused pots was not recorded at Tarkhan; however, these practices have been attested at cemeteries such as Gerzeh and Adaïma (Stevenson 2009a, 172-174; Tristant 2012, 15-59, Figs 13-14; Power and Tristant 2016, 1474-1488). The absence of reused pot burials at Tarkhan highlights the localised nature of mortuary practices relating to the burial of subadults.

8.6 Total goods

A total of 537 goods were recorded in the 100 subadult burials.[31] The Naqada IIIA2: Naqada IIIB ratio was 347 goods: 190 goods.
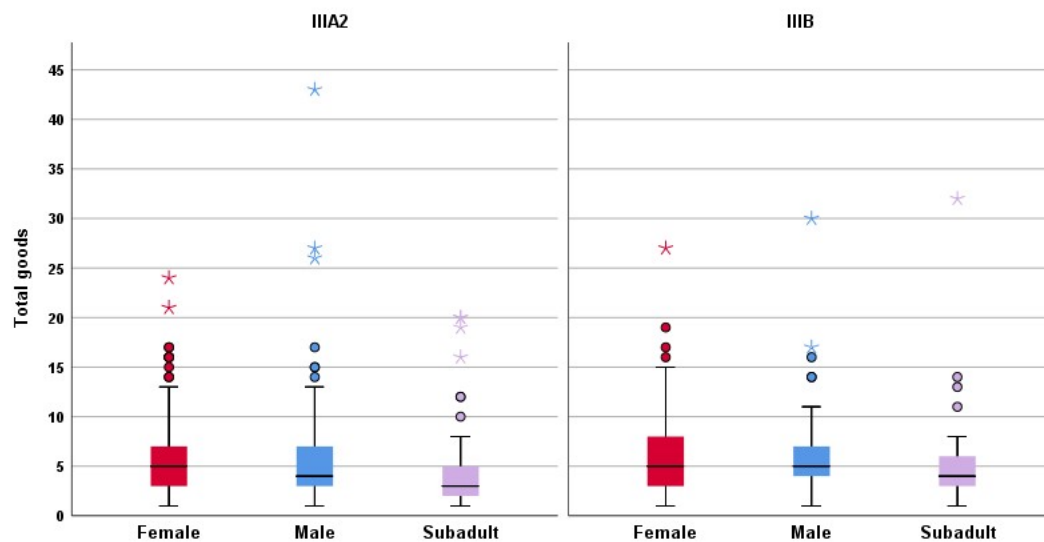
Figure 8.3: Total goods by age and period.

The median of total goods for subadult burials increased over time while the range was fairly consistent (**Figure 8.3**). The majority of subadult burials (89%) contained from one to eight goods and this follows depositional trends seen in adult burials (**Figures 8.3-8.4; Chapter Seven**). The largest grave (1495) was recorded with only four pots and a palette, while 11 smaller graves contained between 10-32 goods (**Figure 8.3**). The extreme subadult outliers for Naqada IIIA2 include graves 1635 and 1015 (20 goods), 753 (19 goods) and 1552 (16 goods), while the extreme subadult outlier for Naqada IIIB is grave 1557 (32 goods) (**Figure 8.3**).

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[31] Thirty-nine offering jars associated with four graves have been excluded from the calculations of total goods and total pots for reasons stated in **Chapter Five.**
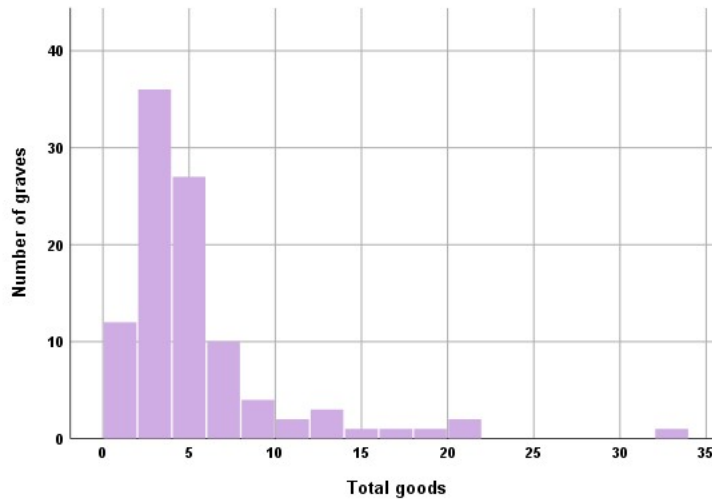
Figure 8.4: Total goods for subadult burials (Naqada IIIA2-IIIB).

It is possible that the size of the grave may have determined the number of goods placed in each pit. However, a scattergram depicting the relationship between total goods and volume confirms that there was variation in depositional practice regardless of grave size (**Figure 8.5**). This observation is consistent with trends seen more generally in the Naqada IIIA2-IIIB data (**Chapters Five** and **Seven**).
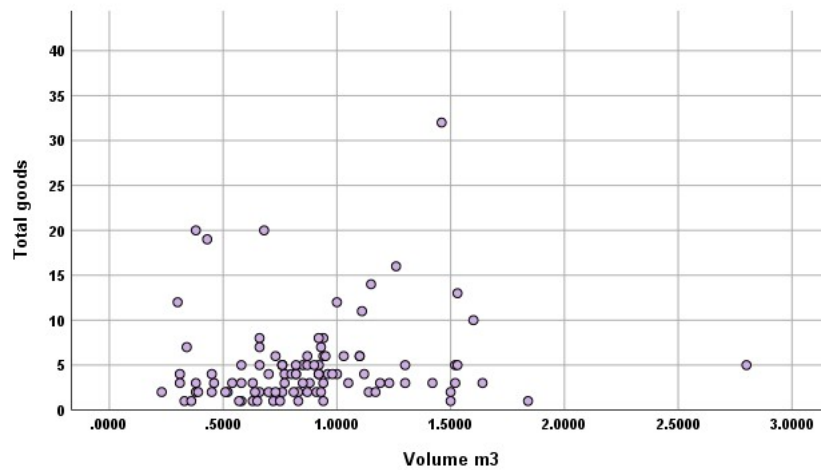
Figure 8.5: Total goods by volume (m³) for subadult burials.

8.7 Total pottery
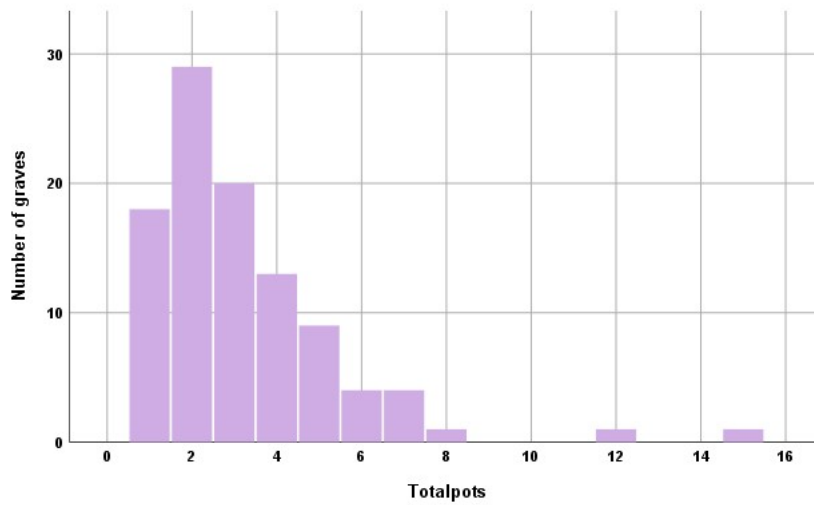
Figure 8.6: Total pottery for subadult burials (Naqada IIIA2-IIIB).
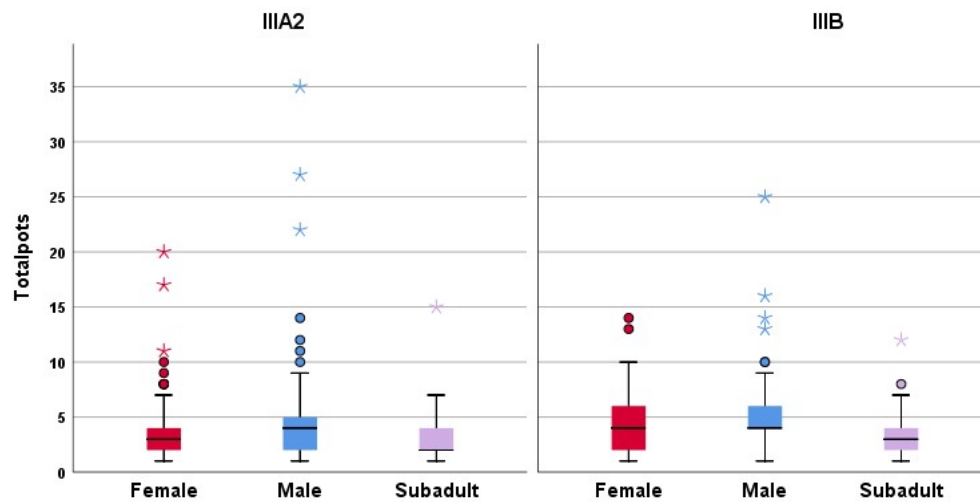
Figure 8.7: Total pottery by age and period.

There were 238 pottery vessels recorded in Naqada IIIA2 graves and 123 vessels in Naqada IIIB graves. Most subadult burials (89%) contained from one to five vessels (**Figure 8.6**). The median and range of total pottery for subadults remained fairly consistent over time compared with adult practices (**Figure 8.7**). The extreme subadult outlier for Naqada IIIA2 is hill grave 1015 (15 pots), while the extreme subadult outlier for Naqada IIIB is hill grave (12 pots) (**Figure 8.7**).

It is not surprising to observe that pottery was the most prevalent class of artefact in subadult burials and this is consistent with adult depositional practices (**Chapter Seven).** Pottery comprised 68.5% of total goods for Naqada IIIA2 graves and 64.7% for Naqada IIIB graves. While there was a decrease in the percentages over time, they are more similar to those associated with female (61%: 67%) rather than male burials (82.5%: 86.2%).

8.7.1 Trends in pottery use

The range of pottery deposited in the graves of subadults was similar to adult and site-wide trends in preference and practice (**Chapters Three** and **Seven**). The cylindrical jars and type 60 storage vessels dominate, along with types 3, 8, 36, 66 and 73. There are only a few references to the miniaturisation of forms noted on the tomb cards. For example, in grave 1094 (Naqada IIIA2) a smaller version of a type 19 bowl was found, while in grave 1782 (Naqada IIIB) a cylindrical jar (type 49d) was described as 'very diminutive to type'. One subadult in grave 1811 (Naqada IIIB) was also buried with a smaller version of a type 94m jar. Both graves 1094 and 1782 contained the remains of an infant and it is possible that the miniature versions of pottery forms were intended to symbolise young age. This idea is balanced by the fact that all three of the above graves contained standard sizes of other pottery types.

There are also several more unusual forms documented on the tomb cards. Of interest is a rare vessel impressed with small perforations from grave 2033 (Naqada IIIA2) (Petrie 1914a, 10, IV-V; **Figure 8.8a**). Similar decorative patterns have been identified on ceramic fragments from Tell el-Farkha and other sites in the Delta and Upper Egypt (Jucha 2005, 56-57, pl. 93; Hassan et al. 2017b, 631-644; Sobas 2017, 156). While the vessel was probably produced locally in the Delta, the decorative technique may have enhanced the perceived exotic nature of the Tarkhan pot. The tomb card indicated that the vessel once contained beads and was covered with a small lid that is now missing.

Other unusual vessels included a small globular jar decorated with a wavy-lined pattern interred in grave 1219 (Naqada IIIA2) (type 87k; Petrie 1914a, XXXI). These decorated vessels are poorly represented at Tarkhan and this is the only example associated with the grave of a subadult. A type 48l cylindrical jar with a post-firing incised potmark was also discovered in grave 1115 (Naqada IIIB) (**Figure 8.8b**). The unique mark is in the form of a Ka-like sign with a large star (Mawdsley 2011b, 1053, Fig. 2.3). This jar is the only marked vessel recorded in a subadult burial. The unusual visual appeal of these examples may have

identified each as a special and unique item, and this factor could explain why they were deposited as funerary gifts in these graves.

A: Vessel decorated with perforations from valley grave 2033 (Naqada IIIA2).
Late ware 75D in shape and D93 for decorative style (Petrie 1921, XXXVII, LI).
(Petrie Museum of Egyptian Archaeology UC17214; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 15.5 cm.

B: Cylindrical jar with post-firing potmark from valley grave 1115 (Naqada IIIB).
Type 48l (Petrie et al. 1913, IX). (Petrie Museum of Egyptian Archaeology UC17326; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 24 cm.

Figure 8.8: Pottery from subadult burials.

8.7.2 Offering jars and vessel contents

Ceramic offering jars (n = 39) were placed over or close to the covered pits of four graves.[32] No significant difference in the presence of offering jars between adults (17 graves or 3%) and subadults (4 graves or 4%) was identified. Pottery types included forms of 3, 8, 70, 87 and 88. These types are comparable to those recorded for the small valley mastabas; and for other graves with external offering jars. As well as performing a ritual function possibly related to food offerings, the jars may have also been used as a visual memory device. Not

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[32] These include Naqada IIIA2 graves 1236 (four jars), 1232 (14 jars) and 784 (17 jars); and Naqada IIIB grave 1102 (four jars).

only could family members be reminded of connections to recently dead children but such practices could also be manipulated in order to reinforce claims to ancestral space within the cemetery (**Chapter Six**).

The tomb cards recorded the presence of ash, sand and mud in vessels found in four graves.[33] Of interest is the observation that hill grave 1015 (Naqada IIIA2) contained seven scented mud jars. In the Naqada IIIA2-IIIB dataset, scented jars of mud or fat were recorded in only six other graves. All of these burials were located in the hill cemeteries and these practices were not attested in the valley cemetery. The human remains were poorly preserved in these six hill graves and no sex-determinations were made by the excavators.

It is possible that some of the contents recorded for subadult burials were intended to represent foodstuffs or perhaps medicinal or cosmetic materials. Similar practices were also observed for the graves of subadults at Gerzeh (Stevenson 2009a, 178). The minimal use of filled jars in the graves of subadults (4%) mirrors that seen in the adult data where 3.8% of burials contained vessels filled with mud or other organic materials.

8.8 Number of artefact types

A total of 28 ceramic and non-ceramic artefact types were documented on the tomb cards. Of this number, 26 types were recorded for Naqada IIIA2 graves compared with 17 types for Naqada IIIB graves. This reduction in the number of recorded types is consistent with trends seen across the Naqada IIIA2-IIIB dataset more generally (**Chapters Five** and **Seven**). Principal types included pottery, palettes and stone vessels. As each subadult burial was different variations existed in the combination of these types. A list of the different non-ceramic artefact types recorded in subadult burials is provided in **Appendix C**.

The majority of all subadult burials (87%) contained from one to three different artefact types (**Figure 8.9**). Notably, 12 graves contained from four to eight types while Naqada IIIB grave 1557 was recorded with 11 types (**Figure 8.10**). Depositional practices associated with subadult burials vary at northern Egyptian cemeteries. For example, at both Kafr Hassan Dawood and Kufur Nigm subadult burials contained a limited range of one or two artefact types, whereas at Minshat Abu Omar up to six artefact types were recorded (Rowland 2003, 261-267).

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[33] These include Naqada IIIA2 valley graves 756, 960 and 1477 and hill grave 1015.
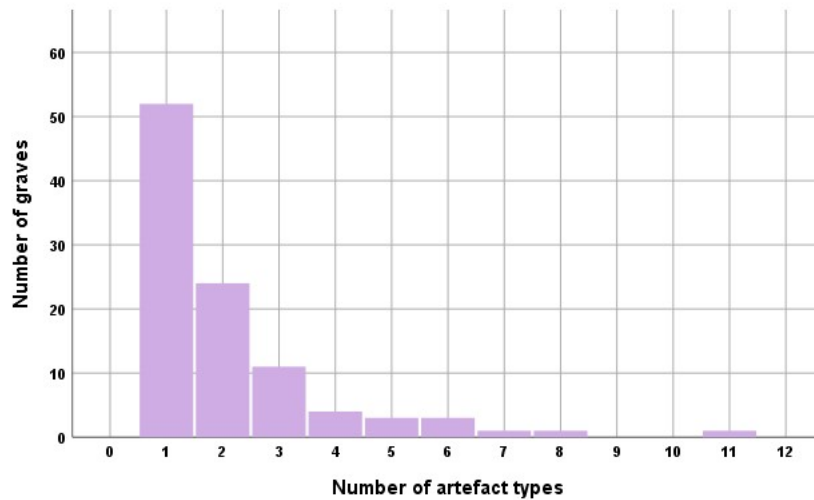
Figure 8.9: Number of artefact types for subadult burials (Naqada IIIA2-IIIB).
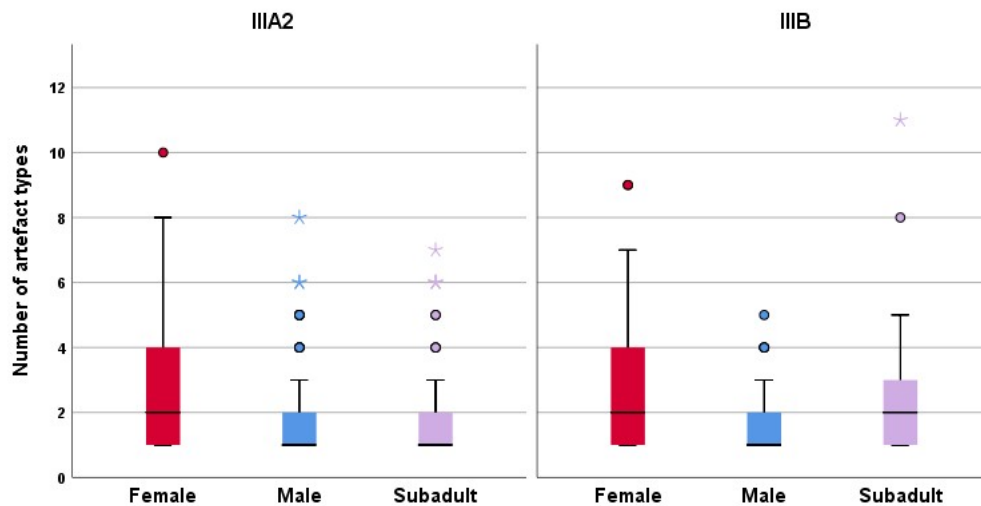
Figure 8.10: Number of artefact types by sex and age.

For the Naqada IIIA2 period the median and range of artefact types for subadults is very similar to male burials. This changed in Naqada IIIB when the median is similar to that of females while the range exceeded that of males (**Figure 8.10**). It is possible that a greater investment in some subadult burials during this phase may account for this distributive change. This is coupled by the fact that ceramics became an increasingly prominent class of artefact in male burials at this time (**Chapter Seven**). Extreme subadult outliers for Naqada IIIA2 include graves 1636 (7 types) and 753, 1552 and 2033 (6 types). The subadult outlier for Naqada IIIB is grave 1777 (8 types) and the extreme subadult outlier is grave 1557 (11 types).

8.9 Non-ceramic artefacts

There were 176 non-ceramic objects identified in the 100 subadult burials (**Appendix C**).[34] These objects represent a total of 27 different non-ceramic artefact types; and the Naqada IIIA2: Naqada IIIB ratio is 25 types: 16 types. The decrease in the number of non-ceramic artefact types is consistent with changes seen in the sex-determined data over time (**Chapter Seven**). Individual objects comprised 32.7% of the total goods for subadult burials (n = 537). This percentage is very similar to that seen for female (36.5%) rather than for male burials (16.2%) (Ellis 1992; 1996; **Chapter Seven**). It is clear, therefore, that the deposition of non-ceramic objects represented a more important aspect of mortuary practice for subadults and females.

For quantitative purposes, individual artefact types for copper, flint and ivory have been consolidated into artefact categories as outlined in **Chapter Five.** A number of Chi-Square tests ($p < 0.05$) were run on SPSS version 26 in order to test the association between age (subadult or adult) and the presence of seven major artefact categories in these graves (**Table 8.2**). This information is arranged by the number of graves containing these artefact categories.

Table 8.2: Major artefact categories by age.

Artefact categories	Adults (n = 572)	Subadults (n = 100)	X^2
Stone vessels	106 (18.5%)	13 (13%)	$p > .05$
Beads	134 (23.4%)	21 (21%)	$p > .05$
Palettes	176 (30.8%)	17 (17%)	$p < .05$
Ivory objects	35 (6.1%)	6 (6%)	$p > .05$
Copper objects	13 (2.3%)	3 (3%)	$p > .05$
Flint objects	18 (3.1%)	2 (2%)	$p > .05$
Wooden coffins	58 (10.1%)	6 (6%)	$p > .05$

For the majority of artefact categories, no significant differences can be determined by age (**Table 8.2**). Palettes are an exception to this trend. This is not surprising given the mortuary preference for palettes in the graves of adults (**Chapter Seven**). This trend would also

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[34] A total of 157 non-ceramic artefacts are listed for Naqada IIIA2-IIIB subadult graves in **Appendix C.** This total includes 21 graves with beads (see **Chapter Five** and notes in **Appendix C**). Another 19 objects cannot be identified with accuracy and have not been included in **Appendix C**. This includes 17 objects from Naqada IIIA2 graves and two objects from Naqada IIIB graves.

suggest that palettes played a greater role in activities performed by adults. The palettes deposited in subadult burials may therefore have been owned and used by family members. It is interesting to see that the age of the occupant was not a determining factor in the presence of wooden coffins. A similar conclusion was drawn regarding the use of these bodily containers by sex (**Chapter Seven**). These observations could suggest that family identity played a greater role in determining the mortuary use of wooden coffins rather than the respective age or sex of the occupant.

A range of raw materials including greywacke, travertine and carnelian, ivory, rock crystal and shell were recorded in the graves of subadults (**Appendix C; Sections 8.9.1-8.9.5**). Most of these materials were used in the production of palettes, stone vessels, bracelets, beads and amulets. Unusual or rare materials such as copper, gold and lapis lazuli were also identified by the excavators. The range of raw materials was similar to those recorded for the graves of adults, although in fewer numbers (**Chapter Seven**).

8.9.1   Stone vessels

Stone vessels are represented by 24 examples in 13 graves (**Appendix C**). Shape preferences across both phases are fairly similar and include forms of bowls, dishes or cups (types 11, 14, 18, 19, 20 and 26); lug-handled jars (types 71 and 72); barrel jars (type 78) and a lid (type 95). It is presumed that the majority of vessels were carved from travertine, although this can only be confirmed for two vessels. One stunning brown-white banded travertine dish was interred in hill grave 1015 (**Figure 8.11**). The travertine is similar to that seen in two bowls from adult graves 1266 and 1893 (Naqada IIIA2) and may therefore have been sourced from the same quarry **(Chapter Seven).** The second vessel was found in grave 1527 (Naqada IIIA2) and is a type 71g jar made of a poorer quality travertine.

Graves contained between one to three stone vessels, although four were recorded in valley graves 753 (Naqada IIIA2) and 1557 (Naqada IIIB).[35] This is considered exceptional given that only five other Naqada IIIA2-IIIB graves contained four or more vessels. The majority of adult burials (71%) usually contained only one or two vessels.

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[35] For Naqada IIIA2: graves 1015, 1386 and 1552 (one vessel); 1527 and 1671 (two vessels); 668 (three vessels) and 753 (four vessels). For Naqada IIIB: graves 211, 1102, 1235 and 1777 (one vessel); 1586 (two vessels); and 1557 (four vessels).

Figure 8.11: Banded travertine bowl from hill grave 1015 (Naqada IIIA2).
Type 11c (Petrie et al. 1913, XXXIII). (Manchester Museum 5428; Courtesy
of Manchester Museum, University of Manchester). Approx. width: 18 cm.

In terms of placement, the majority of vessels were found in front of the face and upper body, under the chin and near the feet. Broken vessels were also recorded in several graves. The tomb card for grave 1015 indicated that the travertine dish was broken into four pieces and placed near the feet in a manner imitating the original shape of the vessel (**Figure 8.11).** In another example, both halves of one bowl were placed near the face of the subadult buried in grave 1557 (Naqada IIIB). This grave was considered to be undisturbed by the excavator. A further tomb card for grave 1671 (Naqada IIIA2) recorded that two vessels were found broken and scattered in the pit. This grave was disturbed so the scattering of fragments may have been related to tomb plundering activities. While grave 1015 was disturbed, the reconstructed fragments suggest deliberate action rather than random disturbance. The orchestrated nature of stone vessel breakage recorded in graves 1557 and 1015 was also observed in adult burials. It is possible that the breakage and reconstruction of materials symbolised shared practices associated with remembering and forgetting and may have served to reify feelings of loss and mourning (Brück 2004, 309; Chesson 2007, 122).

Materials such as malachite, galena, pebbles and carnelian beads were identified in some of the vessels. Of particular note were pieces of galena and malachite wrapped in cloth discovered in a jar from grave 1557 (Naqada IIIB). Such actions highlight the participatory nature of funerals as individual mourners may have contributed small objects for inclusion into these stone vessels. Similar activities are also documented for both male and female burials.

8.9.2 Palettes

Greywacke palettes (n = 21) were found in 11 Naqada IIIA2 and six Naqada IIIB subadult burials (**Appendix C**). The majority of graves contained a single palette and this is consistent with depositional practices documented on the tomb cards of adult burials. Designs included rectangular forms of Petrie types 94, 97 and 98; round or elongated forms of types 75, 78, 80 and 89; and forms fish, birds, falcons and fish (Petrie 1914a, XXII-XXIV; **Figure 8.12a-b**).

A: Falcon palette from valley grave 1636 (Naqada IIIA2). Type 10l (Petrie 1914a, XXIII). (Egyptian Museum, Cairo JdE 44223D; Photograph courtesy of Juan de la Torre Suárez). Height: 16.6 cm. Scale unknown.

B: Fish palette from valley grave 1527 (Naqada IIIA2). Type 48s (Petrie 1914a, XXII). (Brighton and Hove HA281506; Courtesy of Royal Pavilion and Museums, Brighton and Hove). Length: 17 cm; Width: 10 cm.

Figure 8.12: Palettes from subadult burials.

Falcon or bird palettes were discovered in Naqada IIIA2 graves 1495 (worn type 21s) and 753 (type 24l); and in Naqada IIIB grave 1277 (partial type 21h). An unusual falcon design was also found in Naqada IIIA2 grave 1636 (Hendrickx and Eyckerman 2012, Fig.17c; **Figure 8.12a).** Falcon imagery has been associated with the iconography of the emerging state and has its origins in the visual practices developed at Hierakonpolis in Upper Egypt (Hendrickx and Eyckerman 2012, 43). Hence, some importance should be attached to the presence of such material in the graves of subadults. These artefacts may have been deposited due to the ideological significance of the imagery and could have been intended to demonstrate kin-group status or important connections to the outside world.

Palettes were usually positioned near face, in front of the body, behind the back and near the upper leg (Regner 1996, 33, Abb. 41). The unusual placement of a 'reversed' skull with a rectangular palette underneath has already been noted for Naqada IIIA2 grave 668 (**Section 8.5.3**). A malachite patch was identified by the excavator on a round palette from Naqada IIIA2 grave 1635. Signs of wear and perhaps the remnants of red pigment can also be seen on the fish palette from grave 1527 (**Figure 8.12b**). As palettes were more strongly associated with the graves of adults, the inclusion of worn objects may have been intended to connect the deceased child with the habitual activities of life. The presence of partial and worn palettes may also suggest that heirloom significance was attached to these objects (Lillios 1999; Jeffreys 2003).

8.9.3 Copper

Copper artefacts are rare at Tarkhan and only 3.5% of all graves in the Naqada IIIA2-IIIB dataset contained such material (**Appendix C**). The lack of copper at the cemetery is not surprising given the prestigious nature of this material (Golden 2002, 225-226). As such, objects of copper would have been prime targets for removal by plunderers. The theft and reuse of mortuary copper makes it difficult to estimate how common such items were in the graves of subadults. Data from northern cemeteries such as Helwan and Saqqara would suggest that the placement of copper artefacts in the graves of children or adolescents was an uncommon practice (Janulíková 2017, 151), although this could also reflect issues of grave robbery. At the Delta cemetery of Kafr Hassan Dawood, copper fishhooks have been found in a multiple child-adult burial. These items have been associated with the child rather than the adult female (Rowland 2003, 198, Fig. 6.71).

Copper artefacts were found in three Naqada IIIA2 subadult burials at Tarkhan. These include three adzes from hill grave 1015; a baboon figure and a conical object from grave 1552; and a cap or lid from grave 2033. The tomb card for grave 2033 recorded that the copper lid or cap was placed on top of a palette. These objects are not well-represented at the cemetery and were recorded in grave 1805 (Naqada IIIB) and the small mastaba 1889 (Naqada IIIB). Remains in both of these burials were sex-determined as female by the excavators (**Chapter Seven**). It is interesting to note that Petrie (1914a, 9) was of the opinion that these lids were used to cover powdered eye-paint on palettes, although any functional association between these artefacts cannot be confirmed.

Perhaps the most endearing piece amongst all of the artefacts associated with the subadult burials is the small baboon (**Figure 8.13**). Petrie (1914a, 9) was of the opinion that this was the oldest copper amulet found in Egypt, and no clear parallels in this medium can be identified for the Naqada IIIA2 period. Baboon figures in stone, faience, ivory (hippopotamus) and bone have been discovered as votive offerings in Early Dynastic temple or administrative buildings at Delta sites such Tell el-Farkha and Tell Ibrahim Awad; and at sites in Upper Egypt including Abydos, Hierakonpolis and Elephantine (Ciałowicz 2009, 86, 88, Fig. 16; 2011; Bussmann 2011, 753, Fig. 6). Representations of baboons have also been associated with Hedjwer "the Great White", a deity possibly associated with Early Dynastic royal ancestors (Wilkinson 1999, 285-286; Hendrickx and Förster 2010, 846). While the Tarkhan copper baboon is earlier than all of these examples, and from a mortuary context, the imagery combined with the medium of copper would indicate that this artefact should be considered an object of prestige and perhaps ideological value. The baboon was placed by the jaw of the infant and the copper conical object was found near the neck. It is possible that this object was a bead or a pendant (UC15274).

Figure 8.13: Copper baboon from valley grave 1552 (Naqada IIIA2).
(Petrie Museum of Egyptian Archaeology UC15271; Courtesy of the
Petrie Museum of Egyptian Archaeology, UCL). Height: 3.3 cm.

The discovery of three copper adzes in the burial of a subadult (grave 1015) is considered unusual as the majority of these artefacts are associated with adult burials (Martin Odler, personal communication; Petrie et al. 1913, 8, 23, V.26-28, VI.7-9). The three objects were placed behind the head of the subadult, although one adze may have been positioned partially underneath the skull (**Figure 8.14**). This adze is a particularly significant piece with a parallel identified from Grave P. 193 at the cemetery of Kubbaniya South, north of Aswan in Upper Egypt (Odler et al. 2018, 425-428). Model copper tools including variants of adzes were also discovered in Naqada IIIA2 hill grave 1023 (Petrie et al. 1913, V.16-24). Further adzes were recorded in Naqada IIIB hill graves 37 and 1933 (Petrie et al. 1913, 9, IV-VI; Petrie 1914a,

III.7; Odler 2015, 97-99, Fig.7, Tab. 3). The human remains in grave 1933 were determined to be male by the original excavator, while no identifiable remains survived in graves 37 or 1023.

Figure 8.14: Copper adze blade from hill grave 1015 (Naqada IIIA2). (Manchester Museum 5427.b/10804; Courtesy of Manchester Museum, University of Manchester). Length: 15 cm; Width: 5.3 cm.

In the case of grave 1015, the manipulation of wealth symbolism could be interpreted as a statement of the status and socio-economic connections of the kinship group in life. The presentation of such valuable artefacts may have symbolised unfilled economic potential and the extreme grief associated with kin-group loss (MacDonald 2001). As the location of grave 1015 was not recorded the significance of any spatially-driven group-related practice remains unknown.

8.9.4 Amulets and beads

Only three Naqada IIIA2 graves, 1552, 1626 and 1635 have items identified as amulets and these include falcons and beetles of carnelian and rock crystal (**Figure 8.15a-b**). Two beetles described as being "cut in a dark stone, apparently serpentine stained with copper" were discovered in grave 1552 (Petrie 1914a, 9, I). Rather than copper, one beetle amulet housed in the Petrie Museum (UC15270) appears to have been covered with gold leaf or foil (**Figure 8.15a**). It is unfortunate that the other treated beetle amulet cannot be located.

Gold is rare at Tarkhan and only one other unconfirmed reference to gold beads was recorded on the tomb card for hill grave 19 (Naqada IIIB; Petrie et al. 1913, LXIII; **Chapter Nine**). Gold has been identified in the burial of subadults at Tell el-Farkha (Graves 6 and 7); and in the subsidiary grave (S1427) of an infant associated with Naqada IIIC2 Mastaba M02 at Abu Rawash (Dębowska-Ludwin 2012, 63; Tristant 2017, 481). Gold has not been found in

subadult burials at Gerzeh, Helwan or Saqqara (Stevenson 2009a, Tab. 13; Janulíková 2017, 151). Therefore, the beetle amulet represents an item of considerable value. Rock crystal was also a prestigious raw material, and the rarity of the stone combined with the technical skill in carving hard quartz indicates that such objects would have been considered gifts of extreme value (Aston et al. 2000, 50).[36] Amulets carved in the shape of falcons from graves 1552 and 1626 accentuate the importance of these gifts as objects of social significance (**Figure 8.15b**).
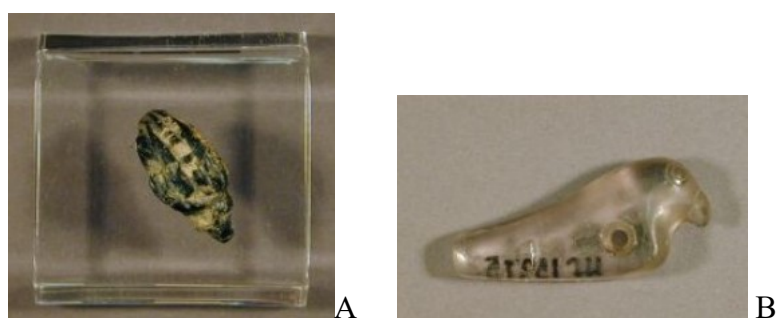
A: Beetle amulet from valley grave 1552 (Naqada IIIA2). Petrie Museum of Egyptian Archaeology UC15270; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Length: 2.3 cm. Scale unknown.

B: Falcon amulet in rock crystal from valley grave 1626 (Naqada IIIA2). (Petrie Museum of Egyptian Archaeology UC15275; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Length: 3.8 cm. Scale unknown.

Figure 8.15: Amulets from subadult burials.

Beads were found in 21% of subadult burials as presumed bead-sets and single items. Beads were also found in 33% of female and 12% of male burials. Bead materials included carnelian, garnet, shell, travertine, amethyst, glazed steatite and faience. Similar raw materials have been identified in bead-sets associated with the graves of subadults at Minshat Abu Omar, Tell el-Farkha, Helwan and Saqqara (Rowland 2003, 216; Dębowska-Ludwin 2012, 62-63; Janulíková 2017, 151). Lapis lazuli is also attested on the tomb card for one Naqada IIIB subadult burial (grave 1557).[37] This stone is considered rare at Tarkhan and was again associated with hill grave 19 (Petrie et al. 1913, LXIII; Hendrickx and Bavay 2002, 61-66; **Chapter Nine**). Lapis lazuli was not recorded in the graves of subadults at Gerzeh,

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[36] Quartz has a Moh's hardness of 7 and was one of the hardest stones worked by the ancient Egyptians (Aston et al. 2000, 50, 52).

[37] According to Petrie's distribution list the material from grave 1557 was sent to Leipzig (Ägyptisches Museum der Universität Leipzig). Unfortunately, the veracity of this information cannot be confirmed. At least half of all the Tarkhan material was destroyed during the Second World War and these beads were possibly amongst those lost artefacts. I would like to thank Dietrich Raue for his kind assistance on this matter.

Minshat Abu Omar or Abusir el-Meleq (Bavay 1997; Fig. 2; Hendrickx and Bavay 2002, Tab. 3.3; Stevenson 2009a, 118-119).

Beads were found on areas of the body suggesting that they were originally strung as necklaces, anklets or bracelets. Tiny blue glaze or faience beads were found on the skull of an infant in grave 1811 (Naqada IIIB) and these may have once formed a small headband. It is possible that concepts of continued kin-group membership may have been evoked by the use of beads and amulets as items of adornment in the graves of subadults (Stevenson 2009a, 115). Single beads were also recorded in several undisturbed graves and may have been given as individual gifts from mourners. It is interesting to note that the amulets associated with grave 1552 were positioned near the neck and jaw. Details of placement were not provided for the amulets from graves 1626 and 1635. The functional difference between amulets and single beads in the graves of subadults is not clear, and it is possible that both were considered to have protective or healing properties regardless of the form and mode of deposition.

8.9.5 Bracelets

Bracelets of different materials including bone, ivory and shell were popular and the majority were found upon on the arms or wrists of subadults. One of the most interesting items in the subadult collection is a small greywacke bracelet, which was placed in front of the face of an infant in valley grave 1386 (Naqada IIIA2) (**Figure 8.16**). Stone bracelets (greywacke, flint or limestone) are rare for any period at Tarkhan, and most are associated with the Naqada IIIC1-IIIC2 graves of adults (Petrie et al. 1913, II).

Figure 8.16: Greywacke bracelet from valley grave 1386 (Naqada IIIA2).
(Manchester Museum 5707; Author's photograph; Courtesy of Manchester Museum, University of Manchester). Outer diameter: 6.7 cm; Inner diameter: 4 cm. Scale unknown.

This bracelet is very small with an inner diameter of 4 cm and could not have been worn by an adult. The weight of the bracelet may have also precluded the actual wearing of it by infant or young child. Damage can be seen on both sides of the object, which suggests that it was not stored away but was used in some way prior to interment in the grave. It is possible that the bracelet had an heirloom significance associated with its ownership by other family members, such as a parent when young.

The object was probably produced in the Bir Hammamat bracelet workshops, Wadi Hammamat, Eastern Desert (Bloxam et al. 2014, 11-30, Fig. 2). This important object connects Tarkhan to social networks of exchange between production areas such as the Bir Hammamat workshops and settlements throughout Egypt (Bloxam et al. 2014, 21-27). Importantly, the presence of the bracelet highlights the fact that artefacts sourced from distant places were designed and commissioned specifically for children.

8.10   The social relations of space in the valley cemetery

The widespread distribution of subadult burials would suggest that the overall patterning was probably determined by kin-group associations in the first instance (**Chapter Six)**. A number of interesting observations can be made, foremost of which relates to the visible clustering of graves in the eastern area of the valley. These have been identified as **Group 1** and **Group 2** for the purposes of discussion and are indicated on **Figure 8.17.** Graves within these spaces are primarily Naqada IIIA2 in date. There is an inter-mingling of adult and subadult burials in both areas, so these spaces were not separated from the main body of the cemetery.

A similar scenario is observed at a number of northern cemeteries. For example, the clustering of infant and child burials has been identified at Gerzeh, while the pot burials of children were found in the central and southern areas of Kufur Nigm (Rowland 2003, 369, Fig 7.36; Stevenson 2009a, 172). Multiple burials containing the remains of children have also been observed to cluster in the north and north-east of the cemetery at Kafr Hassan Dawood (Rowland 2003, 366). In contrast, the distinct spatial separation of the graves of children has been observed in the Eastern Cemetery at Adaïma (Crubézy et al. 2008, 293, 301-310; Tristant 2012, 25-33). This remains the only early cemetery in Egypt where defined spatial practices relating to the burial of children have been identified.
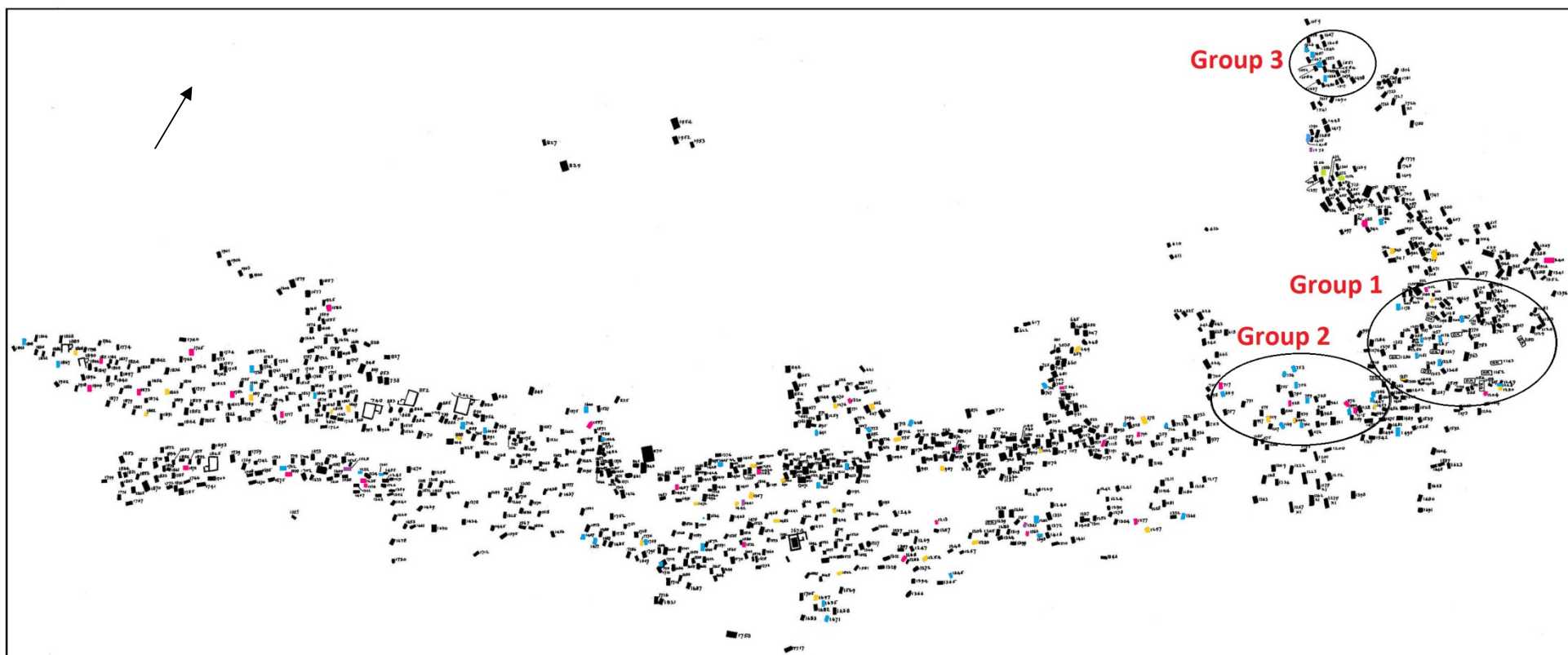
Key: Blue = Naqada IIIA2, Pink = Naqada IIIB, Green = Naqada IIIC1; Purple = Naqada IIIC2, Yellow – Naqada III.

Figure 8.17: Clusters of subadult burials in the valley cemetery (after Petrie 1914a, XLVI).

It is interesting to note that **Group 1** graves were situated in an area occupied by the bovine graves identified in **Chapter Six (Figures 8.17** and **8.18).** The concentration of subadult and bovine burials in this area is worthy of further comment. At least seven of the 12 bovine burials are situated near the graves of subadults. It is possible that an earlier presence of subadult burials may have contributed to the changing ways in which space was conceptualised for this area of the cemetery. However, this is reliant on people remembering exactly where the earlier subadult burials were situated in relation to other graves. The people burying the bovines may not have been related to those individuals buried in this area, so the availability of vacant space rather than the presence of subadult burials may have been a key factor in determining where these large animal graves could be placed. **Group 2** is outside of the bovine zone but contained at least 17 subadult burials, ten of which can be dated to the Naqada IIIA2 period (**Figures 8.17** and **8.19**).
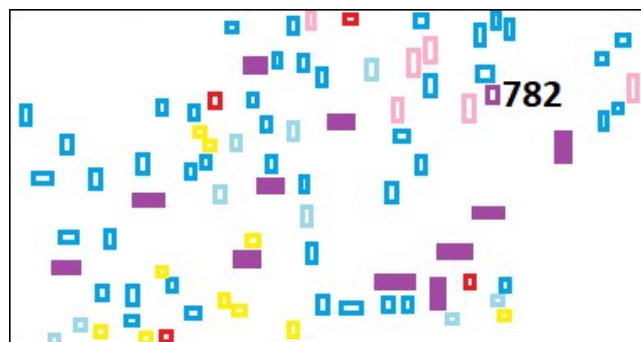
Purple= Bovines. Human graves: Light blue = subadult Naqada IIIA2, Blue = Naqada IIIA2, Red = Naqada IIIB, Yellow = Naqada III, Pink = Eleventh Dynasty. Bovine grave 782 marked.

Figure 8.18: Subadult burials (Group 1) near bovine graves.

It is difficult to explain the apparent concentration of subadult burials in these two areas. An increased subadult mortality rate for the kinship groups using this part of the cemetery is perhaps one explanation. It is also possible that the initial placement of one or two graves may have started an informal association of these spaces with children and adolescents. This may be confirmed by the presence of several Naqada IIIB subadult burials in **Group 2**. Over time the memory of previous burials may have played a role in the continued placement of subadults within this particular space.
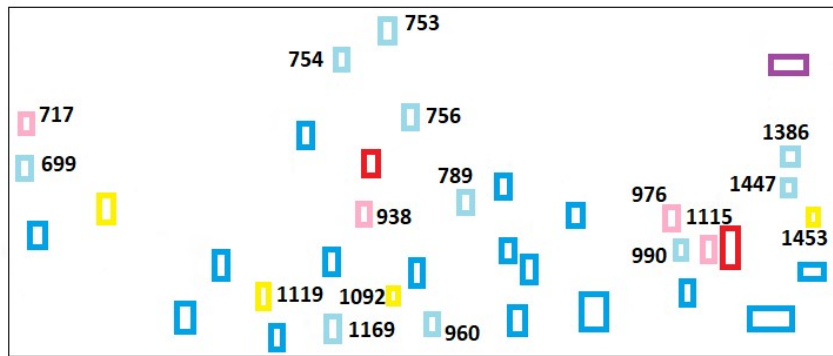
Key: Light blue = subadult Naqada IIIA2, Blue = Naqada IIIA2, Pink = Subadult Naqada IIIB,
Red = Naqada IIIB, Yellow = Naqada III, Purple= Bovine. Subadult burials numbered.

Figure 8.19: Subadult burials (Group 2).

A third cluster of four graves in the extreme north-east of the valley can also be seen and includes 1552, 1607, 1626 and 1636 (**Group 3** on **Figures 8.17** and **8.20).** The original age designations for remains from these burials included infant (graves 1552, 1607 and 1636); and child (grave 1626). These four burials sit within a cluster of small-scale graves, which included five adult burials containing between nine to sixteen goods.

8.10.1 Space, wealth and inherited status

The wealthy burials of children have been associated with ascribed or inherited status and such ideas figure prominently in discussions of age in mortuary studies (McHugh 1999, 19-29). Enhanced grave wealth for subadults at Tarkhan has also been linked to ascribed status within society (Ellis 1992, 254; Castillos 2016). In a recent study, Castillos (2016, 91-102) proposed that a strong spatial association existed between wealthy subadult and adult burials at a number of cemeteries including that of Tarkhan. Such spatial arrangements would suggest that these children were members of local elite families. Central to Castillos' (2016) argument is the notion that subadults were allowed proximity burial to elite graves but did not define space. Three of the graves in the above **Group 3** were included in this analysis (Castillos 2016, 92, 96) (**Figures 8.17** and **8.20**).

Within **Group 3** is the grave of a female adult (1584a), which contained a total of 16 goods including a wooden coffin, stone vessels, a palette and ivory items. It is unfortunate that there are two graves numbered 1584 in this group (**Figure 8.20**). As grave 1584a was 3.07 m^3 in volume it was probably the larger pit depicted on the map. Both graves are situated on either side of the wealthy subadult burial 1552 with 17 goods. This extraordinary grave contained a

rare copper baboon, carnelian amulets, beads, gold-leaf on serpentine beetle amulets, a stone vessel and a palette (**Figures 8.13** and **8.15a**).
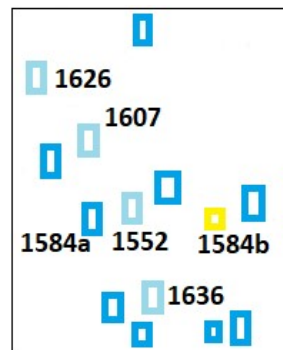
Key: Light blue = subadult Naqada IIIA2, Blue = Naqada IIIA2, Yellow = Naqada III

Figure 8.20: Cluster of Naqada IIIA2 subadult burials (Group 3).

In **Chapter Six,** it was argued that the centralising power of small-scale graves should also be considered in discussions of spatial practice. This argument could be extended to subadult burials. On this basis and contrary to Castillos (2016), I would suggest that grave 1552 provided the focus of spatial practice for this group rather than grave 1584a. Given the central position of grave 1552, it is possible that it represented one of the first graves to be cut in this area by the respective kin-group. It is interesting to note that 1584a was the only grave in this group to contain a cylindrical jar of type 47h. The presence of this vessel could suggest that 1584a was a late Naqada IIIA2 context and probably cut after the four subadult burials in this group. As discussed in **Chapter Three**, assessing contemporaneity between graves based on pottery is difficult and the potential sequence of cutting graves in this area cannot be determined from the information recorded on the tomb cards.

Identifying possible elite groups within the cemetery remains problematic and modern definitions of status may not be consistent with ancient lived experience (**Chapter Five**). Nonetheless, a case of enhanced group status could be made for the **Group 3** graves (Castillos 2016). This north-eastern area of the valley cemetery appears to have been used by a kin-group who made a substantial investment in the provision of wealthy subadult burials. This is also exemplified by the presence of significant objects, such as the falcon palette found in grave 1636 and the rock crystal falcon amulet from grave 1626 (**Figures 8.12a** and **8.15b**).

Other well-provisioned subadult burials are scattered throughout the cemetery, although it is difficult to associate most of these with their wealthy adult counterparts. A case in point is Naqada IIIA2 grave 753 (**Group 2**) with 17 goods including six pots, four stone vessels, three palettes and a bone sheath containing three ivory pins (**Figure 8.19**). No other comparable adult burials can be identified in the immediate vicinity of this grave. As grave 753 was amongst a high concentration of subadult burials it is possible that this location was preferred over familial mortuary space irrespective of kin-group wealth or status considerations.

In **Chapter Six**, it was further proposed that direct spatial associations with large-scale graves or the mastabas did not necessarily confer a commensurate provisioning of high-value materials. This would appear to be confirmed for two subadult burials (1811 and 1909) near the small mastabas, 1889 and 1890. All four graves can be dated to Naqada IIIB. Graves 1811 and 1909 contained three and four items respectively. Pottery comprised the principal grave good, although tiny blue glaze or faience beads were identified on the skull of the subadult in grave 1811 (**Section 8.9.4**). Such evidence may suggest that the social groups associated with the small mastabas did not give priority to the provisioning of subadult burials. In these cases, spatial location and familial connections may have assumed greater social importance than the presentation of overt grave wealth.

The presence of well-provisioned subadult burials during the Naqada IIIA2-IIIB periods would indicate that the placement of disposable wealth was considered an essential component of the funerary ritual for some social groups. Ultimately, individual grave wealth was dependent on what families and social groups were willing to gift to subadults. The question remains whether such investments equate with kin-group status and hereditary positions of power and leadership within these early Tarkhan communities. If this was the case, the spatial arrangements of wealthy subadult burials could suggest the presence of several co-existing elite groups during the Naqada IIIA2-IIIB periods.

8.11 Grave goods, wealth and grief

As objects embody complex social connections between people they can therefore be used to symbolise relationships and communicate feelings of loss and grief (Helms 1988; Gosden 2004, 34; Harris and Sørensen 2010, 147). Considering this association, the impact of grief could have manifested in the over-provision of grave goods by some social groups. As argued by MacDonald (2001, 704-714) an enhanced number of grave goods placed with older

children or adolescents may be suggestive of extreme kin-group grief. Such responses reflected not only the loss of the individual but also feelings of economic loss for the wider kin-group. This idea has been applied by Rowland (2003, 267) to explain the increased provision of goods in some richer subadult burials at Minshat Abu Omar. A similar situation could be suggested for Tarkhan. The death of a future adult may have been a tragic event for the entire community as this form of loss impacted the potential longevity and aspirations of the entire social group. In such contexts, enhanced funerary gifts to recently deceased children and adolescents could have provided a sense of community solidarity at times of extreme grief. This moves the discussion of wealthy subadult burials away from questions of inherited status to those of community-based grief and mourning.

An enhanced level of investment in the graves of adolescents has also been linked to concepts of developing personhood, coming of age practices and the unfilled potential of social roles (Meskell 2000, 429; MacDonald 2001, 704-714; Rowland 2003, 182; Janulíková 2017, 286-287). This is an interesting proposition as it would be expected that these individuals participated in a range of adult activities and may have engaged with the world outside of their immediate settlement. Interactions with other peoples and places would have formed part of the life-skills and socialisation processes for adolescents, even if participation was only on the periphery as observers.

Some of the materials deposited in subadult burials would have had complicated life-histories, which reflected both procurement from distant places and the ownership and use by different people. As a result, the biography of objects as heirlooms can call to mind the memory of shared habitual activities, group-related agency and ancestors (Gosden and Marshall 1999; Harris and Sørensen 2010, 147-148). Some of the palettes, stone vessels, pottery and other objects show signs of pre-mortuary use. Such use may have occurred for several generations prior to the item being given as a gift to the deceased child or adolescent. Therefore, the presentation of heirlooms together with other important or mundane gifts may have been intended to situate the deceased child into an already complex and enduring network of emotional and material relationships (Power and Tristant 2006, 1484).

8.12   Concluding comments

One key conclusion drawn from this analysis is that subadults were afforded similar burials to those of adults at Tarkhan. This similarity extended to the quantity and quality of goods and materials; orientation practices and modes of burial in wooden and basket coffins. Other less common practices, including the presentation of offering jars were also associated with both subadult and adult burials. The position of artefacts in relation to the body was another feature of shared practice identified from the tomb cards. Importantly, the interment of rare materials such as copper, gold-leaf, lapis lazuli and quartz did not appear to be restricted by age. Such similarities do not obviously suggest that subadults were marginalised or treated with less care than adults. This view is consistent with the findings of other studies on Egyptian subadult mortuary practices of varying periods (Wheeler et al. 2011, 117; Power 2012; Petkov 2014).

It is possible that the similarities in practice reflected ideological concepts of inclusion, whereby all members of the community were given a socially acceptable burial regardless of age (Wheeler et al. 2011, 117). Ideas of inclusion may have been important to the early Naqada IIIA2 community. Given that this group represented the 'foundational community' providing all members with a cemetery burial may have contributed to broader concepts of placemaking (Rubertone 2009). The clusters of subadult graves in the eastern valley indicate that connections between age and location were maintained by some family groups, perhaps to ensure that the young could continue associating with their peers in death.

The diversity and number of funerary goods would suggest that family-oriented practices and traditions determined the presentation and principle content of each grave. Some of what is seen may have been standardised by social practice or religious requirements, although this argument could apply equally to the burial of adults. The question of inherited status for subadults remains problematic. This issue is exemplified by the relative 'poverty' of subadult burials near the small mastabas in the valley cemetery. On the other hand, the enhanced wealth seen in the subadult burials of **Cluster 3** may be indicative of the economic or social status of their respective families. At the very least this evidence would suggest that wealth investment was not restricted to adult burials. Regardless of quantity or quality, the material traces of these graves provide poignant reminders of the intimate relationships that once connected the child to the family and to the broader community.

Chapter Nine: The hill cemeteries and elite-style practices and interactions

9.1 Introduction

While much has been said about the valley cemetery in previous chapters, choosing to bury the dead in areas of the hills also contributed to the narrative of life and death for the communities of Tarkhan. The hill cemeteries present an interesting case study on the changing nature of social relationships during the late Naqada IIIA2-IIIB periods. These changes were given expression through large-scale mortuary constructions and objects that suggest a connection to an elite perception of the natural and human worlds. This mode of thought and behaviour defined the ways in which death was presented and life was enacted for some people. There are, however, several problems relating to the hill cemeteries that are explored in this discussion. These relate to the social construction of the landscape and elite-style graves; the mortuary use of prestige objects; and issues associated with the named *serekhs* of Ka, Crocodile and Hat-Hor.

This chapter provides a brief discussion of what may constitute elitism at the cemetery and builds upon initial comments made in **Chapter Five**. An overview of spatial practices across the hill cemeteries is then presented in order to better understand how people used this vast mortuary landscape. It is unfortunate that the majority of graves were poorly recorded so a more accurate picture of early organisational activities cannot be discerned. Nonetheless, the recursive interactions of landscape, memories and material practices would have shaped the ways in which people were buried here (Li 2010, 58). As a result, many of the ideas developed in **Chapter Six** can be applied to theorising the social relations of spatial practice in the hills. As well as commemoration, enhanced mortuary displays appeared to have structured the practices of various social groups using the hill cemeteries.

Key objects from selected hill graves are also discussed in order to demonstrate the nature of engagements with external social and material networks. This approach will provide new perspectives on how such objects were used to promote an elite world view and sense of solidarity, which entangled some members of the Tarkhan community. The various contexts of the Tarkhan *serekhs* are then examined, and their contribution to understanding the political construction of community during the Naqada IIIB period is challenged.

9.2 Contemplating elitism at Tarkhan

In this chapter concepts of elitism and elite behaviours are framed within an agency-focussed network perspective. Following the definition of Schortman and Urban (2012, 501) networks are "groups of people who cooperate in manipulating resources, and the rules by which they are obtained, in support of shared political objectives." This description could be applied to certain groups more broadly described as elite at the cemetery. There are, however, other more holistic attributes of elitism that may have been valued by ancient communities, such as knowledge of distant places and peoples, or different ways of thinking about the world (Helms 1986; Kienlin 2012). By virtue of enhanced social standing, elite individuals and groups had the potential to move through various localised and global networks in order to achieve different goals (Knappett 2011; Schortman and Urban 2012).

It is difficult to determine individual status from the physical attributes of grave size or grave goods as discussed in **Chapter Five**. Furthermore, there are significant problems in assuming that mortuary wealth is a direct reflection of an ability to command resources in life (Stevenson 2009a, 183; Janulíková 2017, 16). Differences in mortuary expenditure may also occur between people who were of similar social standing or importance within the community (Braun 1981, 411; Richards 2005, 57). The uncertainties of such associations are exemplified at Tarkhan by those small-scale graves in the vicinity of the valley mastabas; and by other small well-provisioned burials situated throughout both the valley and the hills (**Chapters Five** and **Six**). The diversity of materials recorded in female burials provides yet another viewpoint and demonstrates that issues of gender practice and agency permeate through questions of resource control and status differentials (**Chapter Seven**).

It has been suggested that ostentatious mortuary displays "may be more appropriately considered as commentaries on the relationship between the deceased and the surviving community" (Stevenson 2009a, 183). This may be the case for some burials throughout both the valley and hill cemeteries. In spite of the many methodological and theoretical problems attached to theorising elitism in early Egyptian societies, elaborate mortuary practices cannot be divorced from the repertoire of interactions and relationships expressed in the burials at Tarkhan.

9.3   An overview of grave volume in the hill cemeteries

There were 87 Naqada IIIA2 and 74 Naqada IIIB hill graves (n = 161) identified by this study. The majority of these graves (n = 91) were small-scale pits < 3 m^3 in volume and these represent 56.5% of the data. As discussed in **Chapter Five**, at 3 m^3 in volume there was a break in the data, and this provided the arbitrary cut-off point used to consider distributive patterns by volume. In Naqada IIIA2, nine hill graves (10.3%) had substructure measurements ranging from 4.27 m^3 to 14.95 m^3 in volume. This figure increased in Naqada IIIB with 20 graves (37%) ranging from 3.5 m^3 to 13.12 m^3 in volume. Absolute volume ranged from the very small Naqada IIIA2 hill grave 400 at 0.11 m^3 to the largest Naqada IIIA2 hill grave 1006 at 14.95 m^3.
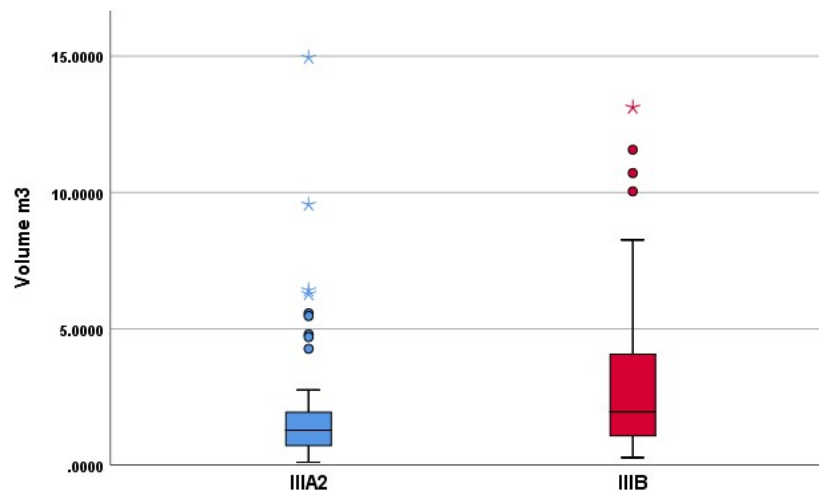
Figure 9.1: Grave volume (m^3) for the hills by period.

Graves in the Naqada IIIB period had a greater median and range of volume than did graves of the earlier phase (**Figure 9.1; Chapter Five).** This evidence is suggestive of an increased investment in the construction of larger graves by some social or kinship groups. A corresponding increase in the number of small mastabas can also be seen in the valley cemetery at this time. It is interesting to note that an increase in the size and elaboration of graves has been observed during the Naqada IIIB period at Tell el-Farkha (Dębowska-Ludwin 2012, 58). This could signal that a more universal change in mortuary presentation occurred at northern cemeteries prior to the formation of the early state.

9.4 An overview of spatial practice

The decision to place graves in the hills and away from the core area of the valley was an established practice early in the life-history of the cemetery. Naqada IIIA2-IIIB graves were distributed across thirteen hills from the north to the south of the site (**Figure 9.2; Appendix A).** It is unfortunate that only 61, or 38%, of the 161 graves assigned to these early phases were numbered on the published maps (Petrie et al. 1913, LXX-VI; Petrie 1914a, XLVII).[38] The majority of these numbered graves were situated in Hills B, E, F, G, M and N.

Hills B, E and N were used principally during Naqada IIIA2, while concentrations of Naqada IIIB graves can be found on Hills F and G. A smaller number of graves were scattered throughout Hills A, H, J, L, M, O and Q. Hills A (Naqada IIIB) and B (Naqada IIIA2) were the northern boundaries of the cemetery for each respective phase. Naqada IIIA2-IIIB burials were also placed on Hill Q and this represented the southern limit of the site as recorded by the excavators.
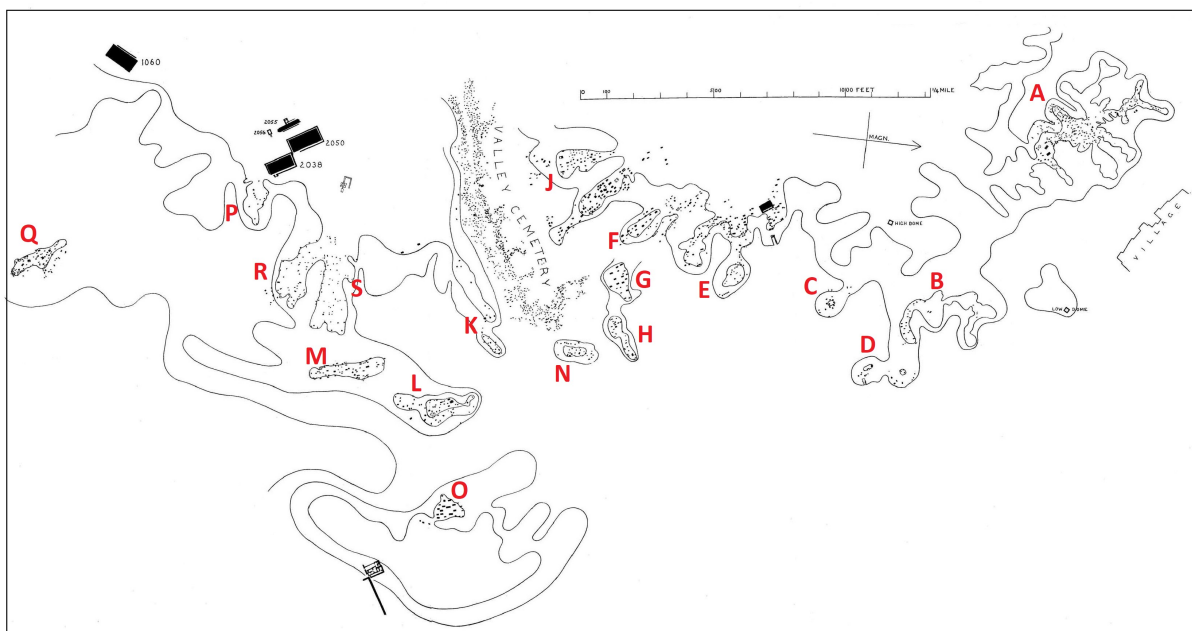
Figure 9.2: Location of individual hill cemeteries (after Petrie 1914, XLVIII; see enlarged **Map 2**).

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[38] The locations of two Naqada IIIB graves were duplicated on the maps with 39 on Hills F and G, and 1041 on Hills M and Q (Petrie et al. 1913, LXXIII, LXXV-VI; Petrie 1914a, XLVII). These graves have been omitted from the above tally of 61. See also **Appendix A.**

One intriguing aspect of spatial practice relates to the physical relationship between the hill burial grounds. Naqada IIIA2 graves are widely distributed and the use of Hills B, E and N would suggest that there was no attempt to gather together in nearby hills (**Figure 9.2**). Such arrangements may be linked to notions of placemaking and landscape ownership as discussed in **Chapter Six,** although this may have been an outcome rather than the original intention of such practices.

For the Naqada IIIA2 period, large-scale burials included graves 474 (4.7 m^3) and 483 (4.8 m^3) in Hill B; grave 40 (5.5 m^3) in Hill F; and grave 315 (6.4 m^3) to the south of the valley in Hill L. For the Naqada IIIB period, two of the largest mapped graves were situated in disparate locations to the north and south of the valley, with 36 (10.7 m^3) in Hill F, and 1054 (11.6 m^3) in Hill Q. This is an interesting observation and may hint at some form of competition between groups using the hill cemeteries during this phase.

While the location of nearly 59% of graves > 3m^3 in volume were identified on the maps, it is unfortunate that the information is incomplete. Petrie (Petrie et al. 1913, 30) noted that graves in the 1000 number sequence were excavated principally by Gerald Wainwright and located throughout Hills P to S. Some of the largest recorded graves including 1023 (9.6 m^3) and 1006 (14.95 m3) (Naqada IIIA2); and 1053 (8.3 m^3), 1045 (10 m^3) and 1061 (13 m^3) (Naqada IIIB) were probably located in these southern hills away from the valley. The accurate identification of these graves on the respective hill maps would have facilitated a better understanding of the role such burials may have played in framing spatial practices throughout the hills. However, when locations can be identified there is a lack of any clear clustering practices associated with such graves.

It is possible that the orientation of the first grave to be cut determined the subsequent pattern of spatial organisation. This may be the case for Hills B, F and G, where graves appear to follow a similar alignment (**Figure 9.3**). Orientation varies depending on the location of the hill and may have been determined by the topography of individual hills. Graves on Hills F and G, for example, appear to be oriented towards the valley cemetery. The period of use may have also determined practice and certain graves on Hills P to S are oriented on an east-west axis towards the Naqada IIIC2 mastabas. It is possible that these unnumbered graves were also Naqada IIIC2 contexts.

Hills F and G contained a number of large and well-provisioned graves and these are worth discussing in more detail (**Figures 9.2**). These hills are better documented in terms of the identification of numbered graves, and both contained several Naqada IIIB burials that can be used for comparative purposes. Hills F and G are also situated in close proximity to each other, which may or may not have influenced mortuary behaviours for groups using these locations to bury their dead.

9.4.1 Hill F

This hill is situated to the north of the valley and included two Naqada IIIA2 (23 and 40); and seven Naqada IIIB graves (7, 9, 10, 21, 27, 36 and 42) (**Figure 9.3**).[39] Grave 40 at 5.5 m[3] in volume was the sixth largest Naqada IIIA2 burial recorded at the cemetery. The central placement combined with the later arrangement of Naqada IIIB burials could suggest that ancestral significance was attached to this grave. Although as most of the graves seem to follow a similar alignment in this area, notions of ancestral practice may not be correct in this case. Unfortunately, both Naqada IIIA2 graves 23 and 40 were highly disturbed and pottery was the principal surviving material found in each burial.

Two of the Naqada IIIB graves were small pits, while another four were between 3.5 m[3] and 10.7 m[3] in volume.[40] Increased investments in high-value materials were recorded for most of these graves. Collective grave goods included five coffins, eight stone vessels of travertine, 14 gaming pieces, a copper axe, ivory objects and beads (Petrie et al. 1913, IV.13; VI.6, XIII.8, XIV.33, XXIII).[41] Several pre- and post-firing marks on ceramics were also identified in graves 7, 36 and 42 (Mawdsley 2006a; 2008; 2009; 2011b).

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[39] Grave 39 is not included in this discussion due to the duplication of this number on Hill G.

[40] Grave 9 was 1.46 m[3] in volume while grave 27 was 2.09 m[3] in volume. Calculations of volume (m[3]) were not possible for grave 10.

[41] An unusual scarab-shaped case carved from "alabaster" was also discovered in disturbed grave 27. As scarab amulets are first attested during the Old Kingdom (Cooney 2008, 4), it seems likely that the object was intrusive.
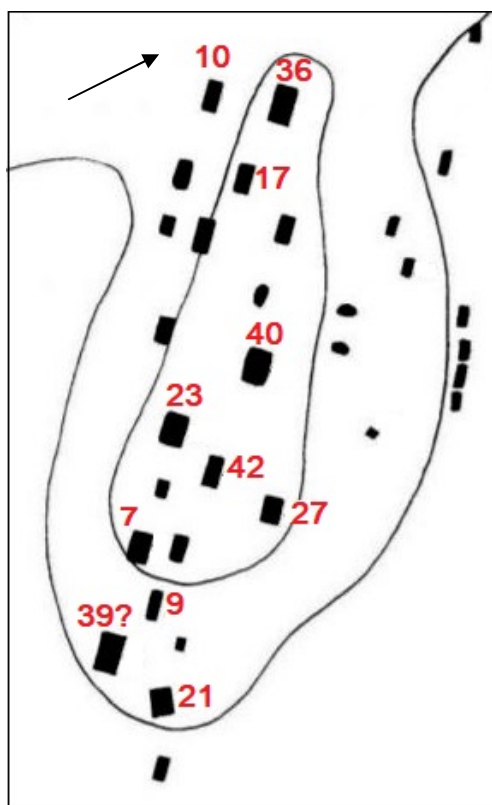
This map depicts the southern area of the hill. The number 39 is duplicated on Hill G. Number 17 is a Naqada IIIC1 grave. Another Naqada IIIC1 grave (22) was identified further north on the hill.

Figure 9.3: Hill F (after Petrie et al. 1913, LXXIII).
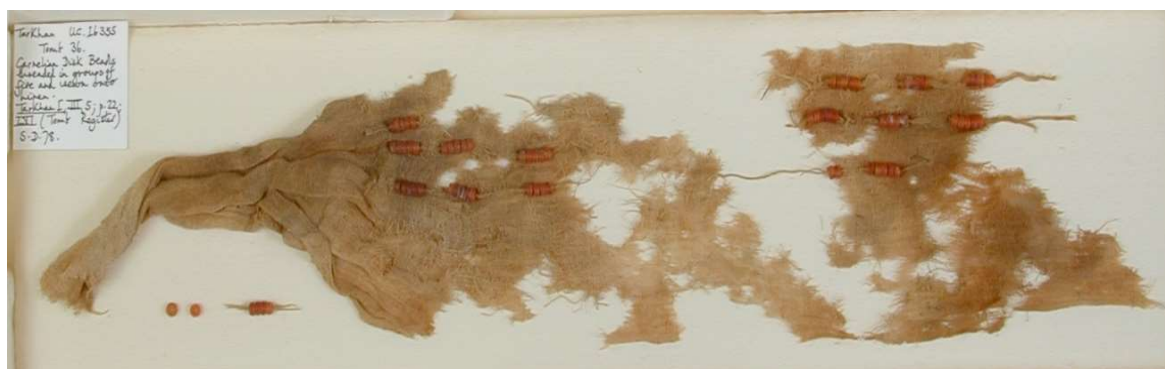
Figure 9.4: Linen with carnelian beads from grave 36 (Naqada IIIB).
(Petrie Museum of Egyptian Archaeology UC16355; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Length: approx. 50 cm; Width: approx. 10cm. Scale unknown.

In addition, a rare piece of linen threaded with carnelian beads in different shades of orange was preserved in grave 36 (Petrie et al. 1913, 22, III; Xia 2014, 88; **Figure 9.4**). While linen was used to wrap and cloth bodies in graves at Tarkhan (**Chapter Five**), this is the only beaded textile from the Naqada IIIB period known from cemetery contexts in Egypt. It is an extraordinary example of textile design and was likely worn in life as either a belt or headband (Mawdsley 2020). Ownership of this beautiful textile may have marked the individual as special or different from other members of the community and its social value cannot be under-estimated. The enhanced social standing of this individual may have also been expressed through the size of the grave itself. At nearly 11 m^3 in volume it was the third largest recorded hill burial for the Naqada IIIB period (**Section 9.4**).

9.4.2 Hill G
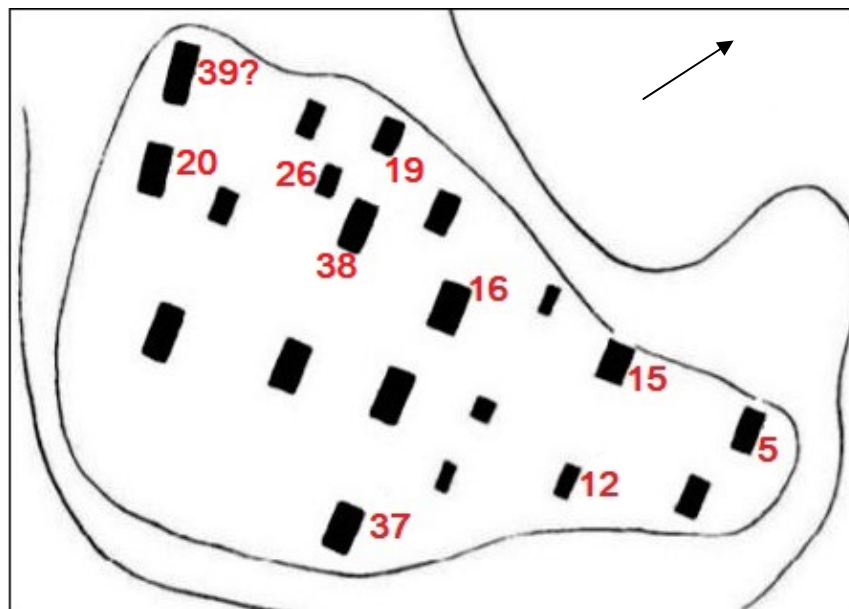
The number 39 is duplicated on Hill F. All numbered graves are Naqada IIIB.

Figure 9.5: Hill G (after Petrie et al. 1913, LXXIII).

This hill is situated above the north-eastern area of the valley and would appear to have been used principally during the Naqada IIIB period (**Figure 9.5**). [42] Of the nine numbered graves, six (15, 16, 19, 20, 37 and 38) have grave volumes that ranged from 3.7 m^3 to nearly 8 m^3.[43] Burials displayed a high level of collective wealth with objects including four coffins; a

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[42] Grave 39 is not included in this discussion due to the duplication of this number on Hill F.

[43] Grave 26 was 1.34 m^3 in volume while grave 5 was 1.8 m^3 in volume. Calculations of volume (m^3) were not possible for grave 12.

copper adze, bowl and wire, eight stone vessels of travertine, pink limestone and basalt; one palette; a model wooden dagger and beads (Petrie et al. 1913, I.1, IV.12, VII, XI.20, XXIX.4). Several pre-and post-firing potmarks were also identified on ceramics from graves 5 and 20 (Mawdsley 2006a; 2008; 2009; 2011b).

Prestige material in the form of beads of lapis lazuli and gold were found in grave 19 (3.7 m^3) (Petrie et al. 1913, LXIII). Tarkhan is one of the few northern cemeteries where lapis lazuli has been associated with Naqada IIIB graves. The only other example of lapis was recorded for the subadult valley burial 1557 (Bavay 1997, Fig 2-7; Hendrickx and Bavay 2002, Table 3.3; **Chapter Eight)**. Hence, some importance should be attached to its presence and survival at the cemetery. Further examples of lapis beads have been recorded at Gerzeh, Abusir el-Meleq and Minshat Abu Omar (Bavay 1997, Fig 2; Hendrickx and Bavay 2002, Table 3.3; Stevenson 2009a, 118-119).

Gold beads from grave 19 and gold-coated beetle amulets from subadult valley burial 1552 represent the only examples of this high-value material at Tarkhan (**Chapter Eight**). Gold objects would have been one of the prime targets for grave looters, so its survival rate is low at many cemeteries. Examples of gold beads have also been identified at Gerzeh and Tell el-Farkha (Stevenson 2009a, 117; Dębowska-Ludwin 2012, 63; Dębowska-Ludwin et al. 2015, 45-56). Importantly, the presence of gold and lapis lazuli in grave 19 connects the owner and family group to an elite network of distant places and rare resources.

9.5 Landscapes of agency and commemoration

From the available data, it would appear that the larger Naqada IIIA2-IIIB graves did not exert any obvious organisational influence over the construction of space throughout the hills. This is demonstrated by the lack of obvious clustering around these graves. The similarity in alignment for graves on some hills would also suggest that closeness to a large structure was not a leading concern. Furthermore, the selection of often disparate locations in the north and south of the site highlights the agency of differing kinship or social groups in the creation of spatially significant relationships throughout the mortuary landscape. This spatial diversity could suggest a more egalitarian mortuary landscape for the Naqada IIIA2 period in particular, and similar thoughts were offered to explain the use of space in the valley cemetery. These ideas draw upon Parker Pearson's (1993, 226) concept of "an egalitarian dead within an inegalitarian society". Like the valley cemetery, the placement of small-scale graves in the hills would have contributed to shaping the organisational structure of the

mortuary landscape. These should be the real patterns of interest; however, unlike the valley, these patterns are obscured by the absence of key spatial information relating to these graves.

The reasons for shifting from the valley to the hills were probably multi-causal. The issue of viable space may not have been an immediate issue for the early community, although the availability of desirable space, such as along the valley pathway would have decreased over time. No doubt, issues of practicality probably determined some of the shifting of mortuary use to higher ground. In particular, flash flooding in the wadi and other low-lying areas constituted a real and unpredictable concern for people, and this factor cannot be under-estimated. As a result, the constancy of environmental issues would have affected the ways in which people utilised both the mortuary and living landscapes.

The growth of families and branches of kinship groups was probably instrumental in decisions regarding where the dead were buried. This may be the case for Hill G, where the Naqada IIIB graves could represent an extension of an earlier kinship group situated at the northern tip of the valley cemetery **(Figure 9.2)**. The use of hills surrounding the valley may have served to remind kinship groups of ancestral connections to members of the original community. Shifting spaces away from the valley core would also have forged new narratives of death for some people.

The presence of both small and large-scale graves throughout the early hills would further suggest that the spatial practices of family groups are represented by these patterns in the first instance. Unfortunately, the preservation of human remains across the hill cemeteries was extremely poor and the bones were noted to be fragile (Petrie et al. 1913, 8). As a result, only 21 Naqada IIIA2 and 12 Naqada IIIB graves contained identifiable remains and these constitute 20% of the hill dataset (n = 161). Skeletal remains derived from 19 Naqada IIIA2-IIIB hill graves are housed in the Duckworth Laboratory, University of Cambridge (**Chapter Seven**).

9.6 Competitive landscapes

In further contemplating why people decided to bury their dead outside the boundaries of the valley, Thäte's (2009, 115) idea of competitive topographies is an interesting one. In a study of Late Iron Age burial grounds in Scandinavia, it was demonstrated that high-ground locations represented important natural features utilised for mortuary purposes (Thäte 2009, 108). The choice of high-ground locations was linked to issues such as status and social

visibility (Thäte 2009, 121-122). It is possible that elevated hill locations at Tarkhan were selected to enhance or reinforce increasing status differentials between groups. The placement of graves in various hills overlooking the valley may have also served to establish rights to elevated space. Ideas related to prime real estate may have been linked initially to those hills overlooking the valley. Like the valley pathway, issues of visibility were probably important and could have represented a source of tension between groups. This shifts the narrative away from competing valley-hill landscapes to one that focuses on how social groups may have used available mortuary space throughout the hills as a competitive statement.

Such explanations do not account for those burials situated away from the valley in the northern and southern hills. In these cases, separation from other groups may have been one way of establishing rights to space. As some of the large Naqada IIIA2 graves were situated in the southern hills, this may signal that competition between groups occurred early in the life-history of the cemetery. It is unfortunate that due to poor recording it is not possible to compare practices between those graves presumed to be located in these southern hills.

Changing social dynamics during the Naqada IIIB period seems to have manifested in an increased level of wealth display, and such statements can be seen amongst those burials situated on Hills F and G. It is interesting to observe a similarity of material practice between the graves on these two hills, which included coffins, copper objects, stone vessels and ceramics with potmarks. However, no significant differences in the presence of any of these artefacts could be determined by location. As both Hills F and G contained unnumbered graves it is not possible to determine which hill may have ceased in use before the other. Hill F is larger and several Naqada IIIC1 graves are numbered on the map (graves 17 and 22), although this does not preclude use of Hill G into the Naqada IIIC1 period (**Figures 9.3** and **9.5**). Unfortunately, the information is insufficient and cannot be used to determine the respective socio-economic longevity of social groups using either hill.

Ideas of competition between groups are not restricted to the nearby hills of F and G. Two of the largest Naqada IIIB graves, 36 (10.7 m^3) on Hill F and 1054 (11.6 m^3) on Hill Q, were located to the north and south of the valley. Comparatively, both graves contained stone vessels and pottery, although grave 36 contained a rare beaded textile (**Figure 9.4**). It is possible that competition between certain social groups was expressed through a combination of spatial practice, enhanced grave size and wealth display. Whatever pressures may have

been on the community during the Naqada IIIB period, it is clear that there were still enough resources and opportunities to sustain several prominent groups (whether families or otherwise) within the wider community.

9.7 Wealth display and small graves

Like the valley cemetery there are examples of small well-provisioned graves in the hill dataset. For example, Naqada IIIA2 grave 1917 (1.9 m^3) was found to contain a wooden coffin, 14 pottery vessels and a copper knife (Petrie 1914a, 9, I, III.6; Manchester 5713). A visually important ivory spoon was also discovered in Naqada IIIB grave 1925 (2.13 m^3) (**Section 9.8.1).** Both of these graves were situated on Hill M, which could suggest that wealth display was an important aspect of mortuary practice for the families of these individuals. In Hill E, a very small grave (0.45 m^3) numbered 86 was found to contain six pots, two stone vessels, one palette, an ivory spoon and a game piece. While the location of grave 81 is unknown, this small burial (0.95 m^3) was also recorded with a range of objects including pottery, two stone vessels, one palette and beads. Graves 81 and 86 were identified as belonging to females by the excavators, so the diversity of goods in these burials could be linked to gender practice (**Chapter Seven)**.

Table 9.1: Artefact distribution by grave volume (Naqada IIIA2-IIIB).

Artefact categories	< 3m^3 (n = 93)	> 3 m^3 (n = 29)	X^2
Copper objects	4 (4.3%)	10 (34.5%)	*p* < .05
Stone vessels	20 (21.5%)	17 (58.6%)	*p* < .05
Palettes	19 (20.4%)	1 (3.4%)	*p* < .05
Beads	14 (15.1%)	7 (24.1%)	*p* > .05
Wooden coffins	19 (20.4%)	6 (20.7%)	*p* > .05
Ivory objects	9 (9.7%)	4 (13.8%)	*p* > .05
Flint objects	4 (4.3%)	3 (10.3%)	*p* > .05
Jars with potmarks	5 (5.4%)	3 (10.3%)	*p* > .05

A number of Chi-Square tests were run on SPSS version 26 ($p < 0.05$) to compare the presence of various artefacts by grave volume (**Table 9.1**). The presence of palettes favoured smaller graves while Naqada IIIB grave 16 (7.9 m^3) was the only large burial with this artefact type (**Figure 9.5**). Five female and two male burials were amongst the 19 small graves containing these objects. Due to poor preservation the sex of the occupant of grave 16 is unknown.

The presence of copper objects and stone vessels were more strongly associated with larger hill graves. Even so, stone vessels still remained an important mortuary gift deposited in some smaller graves. For the remaining artefacts no significant associations could be determined. These trends suggest that the distribution of disposable wealth did not always privilege large-scale hill burials. This conclusion is consistent with general patterns seen across the cemetery more generally (**Chapter Five**).

9.8   Artefacts of global elite practice

In **Chapter Four** a brief outline of the various socio-political changes that occurred during the late Naqada IIIA2-IIIB periods was provided. The discussion of the following artefacts is also placed within this broad context. Through exchanges and interactions with well-established Upper Egyptian resource networks, new materials and knowledge of distant places would have changed the ways in which death was enacted for some people at Tarkhan (Helms 1998). Gift giving and the display of prestige artefacts played a significant role in how elites conceived of their world and their place within it (Helms 1998; Costin and Earle 1989, 699; Komter 2005).

Hoffman (1979, 294) once suggested that prestige materials don't "travel in a vacuum. They are passed on for a reason", and that goods used to enhance status may be more appropriately termed "powerfacts". Therefore, objects can become essential instruments of agency and the means by which status, knowledge and social power was exercised by individuals and kinship groups (Baines 1989, 471-482; Baines and Yoffee 1998, 236-240; Walker and Schiffer 2006, 67-71; Wengrow 2006, 177-217; Schortman and Urban 2012, 511). The following examples illustrate how objects were used to foster relationships between disparate elite groups; and to engender a sense of elite solidarity and conformity of practice prior to the formation of the early state.

9.8.1   The Tarkhan spoon

The ivory Tarkhan spoon discovered in grave 1023 (Naqada IIIA2) is an extraordinary object that connects the occupant of this burial to an elite decorative genre with its origins in Upper Egypt (Hendrickx 2006b; Hendrickx and Förster 2010; Hendrickx and Eyckerman 2012). This incredible yet disturbed burial was 9.6 m^3 in volume. Grave goods included type 46 cylindrical and type 60 storage jars, at least ten stone vessels of travertine, faience beads,

copper ore and ten model copper implements[44] (Petrie et al. 1913, 23, 25, V.16-24, XII.6, XIII). The nature of this material makes an unambiguous statement of status for its owner, and for the respective kinship group.
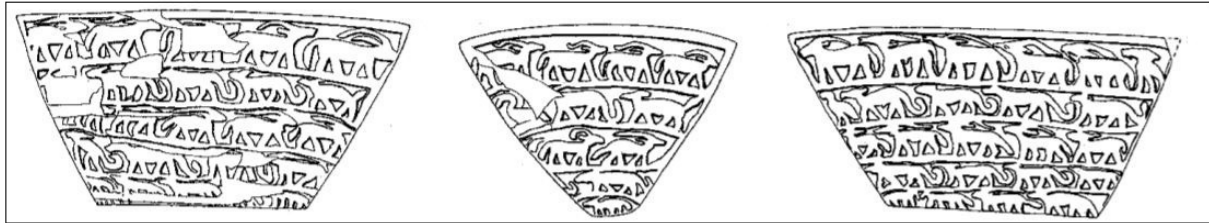
A: Exterior sides of ivory spoon (Dimensions unknown)
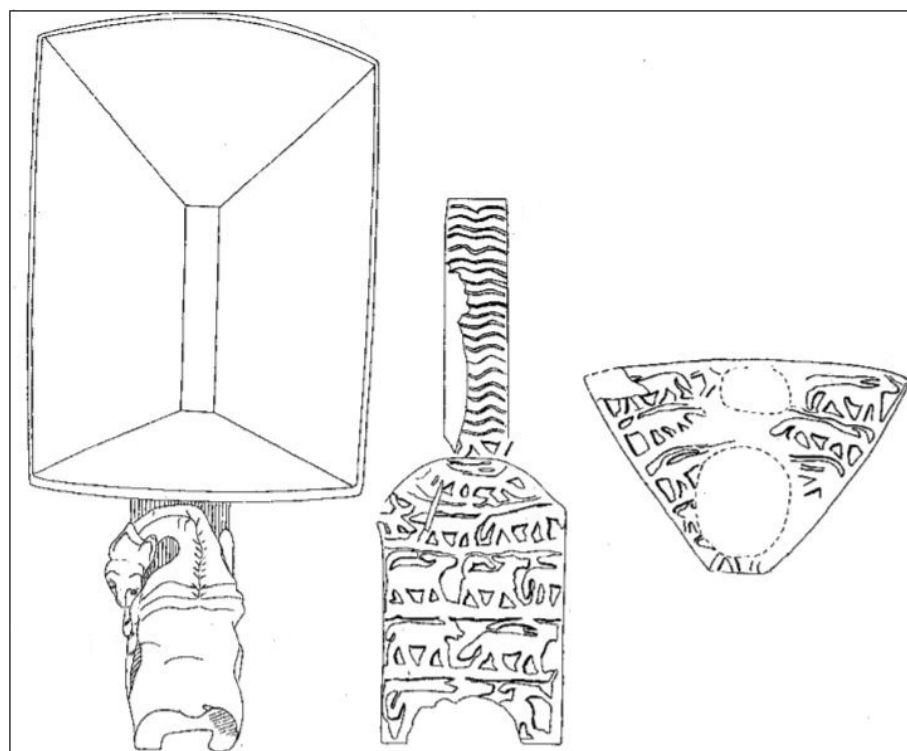
B: Handle showing couchant calf and views of base and end joining handle (Dimensions unknown)

Figure 9.6: The Tarkhan spoon from grave 1023 (Naqada IIIA2) (Petrie et al. 1913, XIII.1-6).

The exterior of the spoon is carved with five structured rows of animals including ibexes or oryxes, several dogs and perhaps panthers (**Figure 9.6;** Egyptian Museum, Cairo). Birds can be seen at the start of at least two rows and appear to be leading the animals forward. The base of the handle is covered by wavy signs perhaps reminiscent of water whilst the alternating animal pattern continues on the back of the handle. A couchant calf with a long

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[44] It is unfortunate that the copper implements were not recorded in Petrie's distribution lists so the whereabouts of these objects are unknown.

neck was positioned on the handle of the spoon. Similar iconography and the structure of these images can also be seen on a number of significant artefacts from the Naqada III period including the Abu Zeidan knife handle, the Davis comb and a fragmentary knife handle from Abydos (Hendrickx 2006b, 730-731; 2010, Tab. 1; Raffaele 2010). The respective rarity and quality of these artefacts attest to the importance of the Tarkhan spoon.

Ibexes, oryxes, dogs, and other wild animals were linked to concepts of order and chaos as well as power and control (Hendrickx 2011c, 245, 255). Dogs and wild animals have a long and embedded history in Predynastic art, and in the expressions of elite activities and behaviours associated with hunting (Baines 1993, 57-74; Hendrickx 2006b 735, Tab. 2; 2011c, 238). Whether or not the occupant of 1023 participated in such activities is secondary to the elite symbolism attached to this artefact. Ownership of this spoon would have conferred both status and power and demonstrated connections to an external world. The structured meanings in the iconography were linked to a manner of living that was unique to all but a few privileged elites (Hendrickx 2006b; 2010; 2011c; Hendrickx and Eyckerman 2012).

Elite imagery can also be seen on an ivory spoon from Naqada IIIB grave 1925 (Hill M; **Section 9.7**). The exterior bowl contained engravings of a four-leaved rosette surrounded by three birds and a crocodile (**Figure 9.7**; Egyptian Museum, Cairo). Hendrickx (2006b, Tab.4) has indicated that the identification of the rosette on this spoon is uncertain. However, a similar four-leaved rosette is depicted on the Gebel el-Tarif knife handle (Hendrickx and Eyckerman 2012, Fig. 22c), so I would disagree with this assessment. Rosettes can be seen on decorated ivories including the Abu Zeidan knife handle, and on the Narmer and Gerzeh palettes (Hendrickx 2006b, Tab.4; Hendrickx and Eyckerman 2012, 49-51). The imagery has been associated with power, kingship and concepts of establishing order over chaos (Hendrickx 2006b, 737-739; Hendrickx and Eyckerman 2012, 49-51). Birds are commonly associated with ivories and knife handles, and several can be seen on the spoons from both Tarkhan graves (**Figures 9.6** and **9.7**).

Crocodiles have a strong association with Nilotic iconography on White-Cross lined pottery from Naqada I-II contexts. These scenes are associated with hunting as nets are often present (Payne 2000, 58, 112, Figs 27.388, 49.917/918; Hendrickx 2010, Figs 3-4; 2011c, Fig.1). Images of crocodiles have been found on rock art in the Theban Western Desert (Darnell 2009, 93, Figs 16, 21, 22). Some of these have been linked to solar concepts and may also

have served as zoomorphic icons of royal or divine power (Darnell 2009, 100).

(Dimensions unknown)

Figure 9.7: Decorated spoon from grave 1925 (Naqada IIIB) (Petrie 1914a, II.5)

The placement of this spoon in grave 1927 (2.13m^3) provides an interesting juxtaposition of high elite imagery within a small-scale grave. In this case, what appears to be emulation of an elite style was probably a statement of belonging. Both spoons demonstrate an engagement with imagery associated with Upper Egyptian concepts of power over the natural world. While the pathways to acquisition are unknown, it is possible that both of these objects were given as strategic gifts from comparable elite in Upper Egypt.

9.8.2 Giraffe vessels

Three unusual giraffe marks were identified on three cylindrical jars found in Naqada IIIB grave 20 (5.6 m^3) on Hill G (**Figures 9.5** and **9.8).** The marks were originally described as "the fore-part or hind-part of a zebra, exquisitely drawn in ink" (Petrie et al. 1913, 9). Two vessels depict the hind-quarters (UC16087 and UC16088), while the third depicts the fore-part of the body with the neck (Manchester 5450/1) (Petrie et al. 1913, III.6).

The bodies appeared to be cut in two and headless, which suggested that the zebra or quagga had been hunted for food (Petrie et al. 1913, 22-23). Due to the long neck and shape of the legs, the animal has since been identified as a giraffe rather than a zebra (Petrie Museum register entries, UC16087 and UC16088). Mark UC16087 was drawn on a type 49d cylindrical jar, while marks UC16088 and Manchester 5450/1 were drawn on type 46 cylindrical jars. The similarity in style would suggest the same hand was responsible for all three sketches. Whether the artist had the opportunity to observe a living giraffe, or copied these from other drawings or engravings will remain unknown. While sitting within the broad

genre of potmarks, these drawings should be considered works of Predynastic art (Mawdsley 2006a, 40).
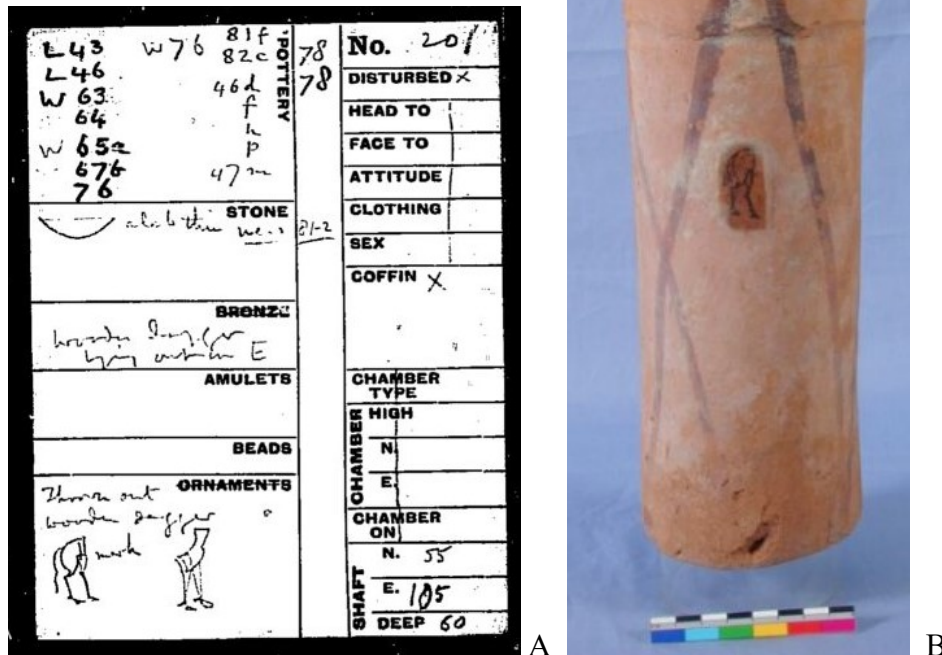
A: Tomb card for grave 20 illustrating marks of the hind-quarters (UC16087) and fore-part and neck of a giraffe (Manchester 5450/1) (Petrie et al. 1913, III.6) (Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). The type 49d cylindrical jar (UC16087) is not recorded on the card.

B: Drawing of the hind-quarters on a type 46 net-patterned cylindrical jar (Petrie Museum of Egyptian Archaeology UC16088; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 26.5 cm.

Figure 9.8: Giraffe drawings.

Giraffe imagery is attested on Predynastic rock art and pottery from the Naqada I-II periods (Friedman 1998, 5-6; Huyge 1998, 9-10; Darnell 2009, 89-92). Revitalised interest in giraffe imagery is attested during the Naqada III period when these animals are associated with elite palettes, ivory knife handles and mace heads (Huyge 1998, 9-10). Notably, giraffes were carved on the Davis comb and the Carnarvon knife handle in structured rows with storks or other birds (Hendrickx 2006b, 730-731; Dreyer 2010, 15-22). The image of a giraffe and plant can be seen on the Battlefield Palette, and this image with the addition of a stylised crocodile is replicated on a cylinder seal from Helwan (Köhler 1999, 49-56; Hendrickx and

Eyckerman 2012, 47). The giraffe assumed a solar significance in rock art and was used to represent chaos and the wild and untamed aspects of nature on other mediums (Köhler 1999; Darnell 2009, 89-91; Hendrickx and Eyckerman 2012, 47-48). As the three drawings on the Tarkhan vessels are unique within the repertoire of giraffe imagery, they are difficult to interpret. Nonetheless, the partial drawing of the legs, body and neck of the giraffe may have been intended to imply control over an untamed animal rather than hunting as assumed by Petrie (Petrie et al. 1913, 22-23). These drawings are imbued with layers of meanings that once symbolised an elite view of the world.

9.9   The *Serekh* problem

The *serekhs* from Tarkhan are well-published and various interpretations of the names have been offered (Kaplony 1963; Dreyer 1992; Kaiser and Dreyer 1982; van den Brink 1996; 2001; Wilkinson 1999; Jiménez-Serrano 2003; MacArthur 2010; Mawdsley 2012c). These inscriptions sit within a large body of plain, anonymous and named *serekhs* identified on pottery from sites in the Delta, Memphite-Fayum and Upper Egypt (Möller and Scharff 1926; Kaiser and Dreyer 1982; van den Brink 1996; 2001; Köhler 1999; Köhler and van den Brink 2002; Jiménez-Serrano 2003).

At least six cylindrical jars with post-firing ink *serekhs* were discovered at Tarkhan (MacArthur 2010; Mawdsley 2012c). These include two jars inscribed with a name interpreted as Crocodile (UC16071 and UC16947); the name of the late Naqada IIIB Abydene ruler Ka (UC16072); and early Egyptian kings, Narmer (UC17291) and Aha (UC16085).[45] A further pre-firing *serekh* with the name of Hat-Hor was identified on a wine jar from valley grave 1702 (Naqada IIIB) (see **Table 3.2** in **Chapter Three**). The names of Hat-Hor and Crocodile are used here, although some refinement of these readings is still required.[46]

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[45] UC17291 has not been published but a reading of Narmer is suggested (Mawdsley, Heagy and MacArthur forthcoming). The sixth jar was inscribed with a *serekh* attributed to Narmer and found in Naqada IIIC1 hill grave 415 (Petrie et al. 1913, XXXI.69; Mawdsley 2012c, 115). The inscription was identified on a type 49l cylindrical jar as noted on the tomb card and this casts doubt on the original reading of the name as Narmer. The location of this vessel is unknown and it is not recorded on any distribution list for the site.

[46] I would like to thank Tom Heagy for discussions on this subject (see also http://www.narmer.org/). The paleography of the Ka and Crocodile vessels has been examined by MacArthur (2010) and will not be discussed here.

The *serekhs* of Hat-Hor and Crocodile and the respective vessels represent the major sources of information used to theorise the existence of an independent polity covering the Fayum, with Tarkhan as its core (Dreyer 1992; Wilkinson 1999; 2000; Köhler 2010). There are, however, significant problems with these vessels and the relevance of each to understanding the political construction of community at Tarkhan may be misleading. A closer examination of the context of each vessel is therefore required. Before doing so, the *serekh*-marked vessel of Ka (UC16072) requires brief comment due to problems associated with the vessel type.

9.9.1 Ka

A: UC16072 (Petrie Museum of Egyptian Archaeology; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 26.4 cm.

B: Serekh of Ka (Petrie et al. 1913, XXXI.67).

Figure 9.9: *Serekh* of Ka on a cylindrical jar from grave 261 (Naqada IIIC1).

The *serekh* of Ka was inscribed in ink on an undecorated type 50 cylindrical jar (UC16072) found in grave 261 (**Figure 9.9; Chapter Three**). This grave was situated on Hill A to the north of the site (**Figure 9.2**). Despite the inscription, the vessel type is characteristic of the Naqada IIIC1 period (Hendrickx 2006a). The presence of cylindrical types 47h, 48g and six

examples of 49l suggests that this burial was probably an early Naqada IIIC1 context. The grave was a simple rectangular pit of 1.37 m^3 in volume and contained one stone jar, beads and 11 pottery vessels. For reasons already stated in **Chapter Three**, vessel UC16072 with the *serekh* of Ka represents an interpretative challenge. Due to the unresolved conflict between relative time and vessel type, this jar cannot be considered as evidence of nascent Upper Egyptian control over the Fayum during the late Naqada IIIB period. Given the mortuary context of this vessel in a Naqada IIIC1 grave, it is best viewed as a gifted heirloom.

9.9.2 Crocodile

Two cylindrical jars (UC16071 and UC16947) from Tarkhan are marked with a similar named *serekh* (**Figure 9.10a-c).** Petrie originally identified UC16071 as Ka and UC16947 as NR with a reading of Narmer (Petrie et al. 1913, 9, XXXI.66; Petrie 1914a, 11, IX.3). On the basis of infra-red photographs, Dreyer (1992) has argued that both *serekhs* should be read as Crocodile. An earlier reading of Scorpion had been proposed by Kaplony (1963, 1090; Kaiser and Dreyer 1982, 266; Hendrickx 2001, 92). Crocodile has been identified as a hypothetical Fayum-based ruler during the late Naqada IIIB period; and a possible rival of Abydene rulers Iry-Hor or Ka (Dreyer 1992, 260). One jar was found in Naqada IIIC1 valley grave 1549 (UC16947), while the other was associated with hill grave 315 (UC16071) (Petrie et al. 1913, 8, XXXI.66; Petrie 1914a, IX.3; Hendrickx 1996, 69). Both jars are characteristic of the Naqada IIIB period (**Figure 9.10a-b**).

Grave 315 included type 46 cylindrical jars and can be assigned to the Naqada IIIA2 period on this basis (Hendrickx 1996, 69). Therefore, there is a lack of correspondence between the relative dates of grave 315 and the vessel UC16071. Of importance is the fact that UC16071 was not recorded on the tomb card and it is unclear why Petrie connected the jar to the grave. The association between the vessel and grave 315 is now considered to be an error in the original report (Hendrickx 1996, 69; 2001, 93), and I would agree with this assessment. Interestingly, grave 315 was cut on Hill L to the south of the valley and close to an area marked as "upset graves" on the relevant map (Petrie et al. 1913, LXXV; **Figure 9.2**). The grave was depicted as the largest burial in this area and it is possible that a connection was made on this basis. While the vessel may have originated from a grave on this hill, it lacks a firm provenance and this limits the interpretative value of the *serekh*.
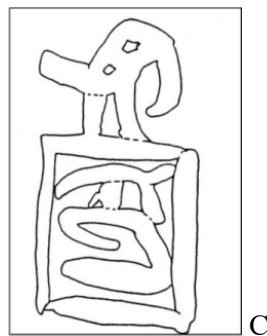
A: UC16947 (Petrie Museum of Egyptian Archaeology; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 24.2 cm (poorly incised line under rim).

B: UC16071 (Petrie Museum of Egyptian Archaeology; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 25.5 cm.

C: *Serekh* on UC16947 (after Dreyer 1992, Abb.2b).

Figure 9.10: S*erekhs* of Crocodile.

With regard to UC16947, the type 49l jar was marked on the tomb card for grave 1549 with the word "kings". Petrie (1914a, 11) had read the name as NR and associated it with known inscriptions of Narmer. The contemporary nature of the pottery, which included cylindrical types 50d and 50e, appeared to confirm Petrie's identification of Narmer. However, the cylindrical jar type (49l) is now considered characteristic of the Naqada IIIB period (Hendrickx 1996; 2011a).

Grave 1549 was a small pit of 0.8 m^3 in volume, and contained a bed, one stone vessel, a palette and beads. The grave was situated in the western valley and away from the small clusters of Naqada IIIC1 burials in the central and eastern valley (see **Figure 3.3** in **Chapter Three**). Given that valley grave 1549 is a Naqada IIIC1 context, UC16947 should be viewed as a gifted heirloom. Based on the above assessment and contrary to the view expressed by Dreyer (1992), neither vessel can be used to substantiate the existence of an independent ruler named Crocodile at Tarkhan during the late Naqada IIIB period.

9.9.3 Hat-Hor

The name of another potential ruler of Tarkhan was identified on pottery excavated from valley grave 1702 (Naqada IIIB). The pre-firing mark was incised on a type 74b wine jar (Petrie 1914a, 10, VI.2, XX.1, XXX; **Figure 9.11**). The inscription is composed of a palace façade next to a mace or *hd*-like sign.[47] Contained within the upper compartment of the façade is a sign that was interpreted as "the forepart of a lion, probably meaning chief or leader" (Petrie 1914a, 10). The overall reading of the name was given as Hati by Petrie (1914a, 10). This was subsequently read as Hat-Hor by Kaiser (Kaiser and Dreyer 1982, 264; *contra* Hendrickx 2001, 91).

The absence of the falcon (Hor) is problematic and may instead read Hat (Jimenez-Serrano 2003, 118). It has been suggested that a reading of "foremost of the palace" with a generic meaning of kingship more accurately reflects the palaeography of the signs (Tom Heagy personal communication). Based on this assessment, the inscription probably sits within a body of marks intended to represent the ideology of rulership rather than an individual ruler. That being said, the origin and distributive pathways for this vessel remain unclear.

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[47] On the use of mace or *hd*-like signs as potmarks see Helck (1990) and Mawdsley (2006a; 2009; 2011b).

When the context of this vessel is examined it can be seen that valley grave 1702 was a small-scale burial of 1.8 m³ in volume (Petrie 1914a, XL). It was situated to the east of mastaba 1845 and near another large Naqada IIIB grave numbered 1578 (4.8 m³) (see **Figure 6.1** in **Chapter Six)**. Grave 1702 was also positioned amongst a cluster of eight Naqada IIIB graves that may or may not represent a contemporary family group. The body was identified as female by the excavator and the burial contained a wooden coffin, nine pottery vessels, two palettes and a carnelian bull's head amulet. While 1702 was well-provisioned, I would suggest that the jar was probably not intended to symbolise rulership by this individual. Instead the gifting of this vessel may have been intended to acknowledge the social uniqueness of this individual in life (Stevenson 2009a, 183).

A: Wine jar (type 74b). (Petrie Museum of Egyptian Archaeology, UC16084; Courtesy of the Petrie Museum of Egyptian Archaeology, UCL). Height: 60cm.

B: *Serekh* depicting the Hat sign within the palace façade and the mace to the side.
 (Petrie 1914a, VI).

Figure 9.11: *Serekh* on wine jar from valley grave 1702 (Naqada IIIB).

Either by inscription, ceramic type or provenance, all of the above vessels are problematic in one way or another. Rather than evidence of independent rulers or nascent state control, these artefacts speak to the nature of relationships between people (MacArthur 2010, 93). Whether the inscriptions could be read by the people of Tarkhan is unknown, although this material would have been interpreted within a context of local meanings. The perception of owning a vessel of enhanced social significance, which may have symbolised rulership and was sourced from distant places was probably the most important attribute attached to these objects. The act of giving such a vessel could have served to materialise social and personal connections and express achievements (Komter 2005; Schortman 2014, 173). Given the ambiguity of this material there is the potential to create misleading connections between the agency of people, places and materials (Schortman 2014). Therefore, I would suggest that the *serekh*-marked vessels should not be used to theorise the political construction of the Tarkhan community during the Naqada IIIB period. Instead, these jars are perhaps best viewed within notions of real or imagined kin-group status, social relationships and memories of the past. These ideas sit outside standard thought on the Tarkhan *serekhs* and invite further investigation.

9.10 The social and political implications of shared elite views

A study by Costin and Earle (1989) on how the Inka empire consolidated power and control over regional ethnic groups has particular relevance to the situation observed at Tarkhan. In Central Peru, Inka control over regional elites was achieved through gift giving and wealth exchange. This played upon the aspirations of local elites, whose status was reinforced through the ownership of these objects. At the same time, the wide-spread distribution of the Inka material culture served to undercut the power of these groups by developing an ideological basis of rulership (Costin and Earle 1989, 692).

Local elites became increasingly involved in internal competition as differing groups within communities were able to acquire materials normally reserved for elite use (Arnold 2001, 217-218). Locally-defined prestige systems were gradually downgraded and this was also expressed through shifts in architectural styles (Costin and Earle 1989, 701-702). Over time, localised forms of ideological expression were removed and elites lost their power to control the distribution of prestige materials (Costin and Earle 1989, 710). Relationships that once appeared to be reciprocal or horizontal in nature were now subject to vertical control as local elites became subordinate to the state (Costin and Earle 1989, 701).

While the socio-political processes in Egypt were different, a common thread of ideological control through the strategic manipulation of symbols is apparent. In the case of the Tarkhan spoons, and the giraffe and *serekh*-marked jars, the imagery associated with these objects was designed to convey the ideological basis of rulership (Baines 1989; 1995). While speculative, it is possible that some of this material was given or acquired through the process of gift-giving between elites at Tarkhan and those from Upper Egyptian centres, such as Abydos or Hierakonpolis.

These objects could be viewed within the context of materialised ideology, where the manipulation of symbols was used as part of a strategic process linked to the consolidation and centralisation of political and social power (DeMarrais et al. 1996, 16). The distribution of these and similar "powerfacts" made it possible for Upper Egyptian elites "to control, manipulate, and extend ideology beyond the local group" (Hoffman 1979, 294; DeMarrais et al. 1996, 15).

As highlighted by Tilley (1984, 116), the "immediate ideological effect of material culture may be to dissolve oppositional elements present in society forming instead an inseparable unity as a form of signifying practice". This has some resonance when considering the demise of the small mastabas in the valley cemetery (**Chapter Six**). As structures of significance, they represented a localised ideology that ran counter to the more universal narratives of power and solidarity materialised by the construction practices of other elite groups at Tarkhan. By the late Naqada IIIB period, most elite behaviours were likely expressed through reference to Upper Egyptian ideologies that privileged those who were willing to conform (Costin and Earle 1989, 703). Ultimately, it was the families affiliated with the large-scale graves in the hill cemeteries that probably benefitted from the structural changes implemented by people from distant places (Helms 1986).

9.11   Concluding comments

The exchange of goods and gift giving was embedded within broader systems of ancient communication and crucial to the development of elite social networks and power structures (Schortman 1989, 60-61; Komter 2005, 200). As a result, such materials entwined people in a complex web of social relationships. Long-term Upper Egyptian strategies of winning the hearts and minds of local elites through prestige gift-giving encouraged a sense of elite solidarity. Increased resource and status competition between groups may have been a negative side-effect of such strategies. In responding to change, greater emphasis could have

been given to the construction of larger graves and increasing investments in wealth display throughout the hill cemeteries.

While external forces may have driven certain changes in the nature and construction of the Tarkhan communities over time, other internal factors cannot be under-estimated. For example, the increasing tendency towards large-scale display for some hill burials may have been a strategy to balance or counter-act the ideological power-base established by those groups associated with the valley mastabas. Greater engagement with external communities may have also been designed to negate the influence of these particular families. In connecting to new networks of knowledge and materials, a shared visual imagery and ideology of an elite world was incorporated into the social narrative of life and death at Tarkhan.

Conclusions

Ancient Egyptian cemeteries were human constructed landscapes where life and death were intertwined in a complex network of interactions and relationships. Material culture played a significant role in the changing social dimensions of early Egyptian cemeteries by defining practice and consumptive behaviours. Social relationships and kinship practices would have determined how death was presented and remembered by people. Despite the familiarity of space, it cannot be assumed that everyone within these communities thought about their world in the same way. Localised ideologies of place and community would have co-existed with knowledge of the outside world. Some of these differing points of view may have been articulated through mortuary construction, grave goods or even location within the landscape.

The diversity of mortuary practices provided an opportunity to focus on the nature of relationships between the living and the dead at Tarkhan. Social relationships shaped these communities, and in a mortuary context, grave goods and other paraphernalia communicated the character of those connections and interactions (Brück 2004; Stevenson 2006; 2009b). A number of over-arching themes run through this study, each contributing to understanding the complexities of mortuary practices and social relationships at Tarkhan. These themes include: excavation and recording biases; issues surrounding chronology; the broader socio-political context of early Naqada III Egypt; landscape and spatial relationships; material practices and social relations.

Excavation and recording biases

As this study was based upon an excavation conducted over 100 years ago, there are many problems associated with the methodologies and recording practices employed by Flinders Petrie. Context is important and understanding these problems forms an essential aspect of any research using old data. Reconstructing practices based on what Petrie thought was important to record and publish has highlighted the perspective of the excavator across a number of issues.

Of the 1201 hill graves excavated during the first season, 45% were not documented on the site tomb cards (Petrie et al. 1913, 30). This represented the most significant constraining factor faced by this study. A simple count of graves on the hill maps suggest that perhaps 600 graves or more were omitted from the recording process. The deliberate exclusion of so many

graves permeates many aspects of research, foremost of which are the limitations placed upon critical assessments of landscape use throughout the cemetery (Ellis 1992; 1996).

Of the 656 tomb cards written during the first season, only 390 document Naqada III period burials. These graves represent 59% of the cards but only 32% of the 1201 excavated pits. There is a mixture of Naqada III period, Dynastic to Graeco-Roman burials across these 656 cards. This suggests that work was focussed on the targeted recording of graves of particular periods. It is apparent from a letter written by T. E. Lawrence that the large local workforce employed by Petrie had increased the rate of excavation at the site (Drower 1985, 320; **Chapter One**). To avoid slowing the pace of excavation a process of selective recording was adopted that favoured large-scale graves and those graves deemed suitable for dating purposes. This skewed the hill data in favour of those large and well-provided graves, and the range of potential practice is therefore unknown.

As outlined in **Chapter One**, it is also apparent that the system used to map and identify graves from the different phases of cemetery use was problematic. As a result, it is possible that the number of Dynastic to Graeco-Roman Period burials was actually higher than recorded (Petrie and Mackay 1915). This is further complicated by the fact that over 40% of the Naqada III hill graves excavated during the second season lacked details regarding a specific hill location (Petrie 1914a). As a result, some doubt remains regarding the potential number of Naqada III period graves throughout this broad area of the cemetery. More intensive investigation of the Kafr Ammar material may clarify some of these issues (Petrie and Mackay 1915; Grajetzki 2008a; Tian 2020).

It is clear that Petrie's excavation methods created discrepancies in the recorded data, but many of these issues can be identified through a careful examination of the reports and tomb cards. Petrie's interest in eugenics, which sits as an over-arching model used to theorise the biological, cultural and social development of Egyptian populations (Sheppard 2006; 2010; Challis 2013), is less easy to disentangle from his results. Human remains from a selection of valley graves suggested to Petrie (1914a) that infiltrating Dynastic groups replaced the prehistoric indigenous culture. Petrie's arguments were further supported by an analysis of the artefacts contained within the hill and valley graves. It is possible that this interest in eugenics contributed to the selective recording strategy adopted during the first excavation season. Those graves labelled as "useless records" may have been considered representative of the poor indigenous culture and thereby not worth recording (Petrie et al. 1913, 3).

Petrie's use of comparative terms such as prehistoric and dynastic; inferior and superior; poor and rich also reflected early 20th century views on the cultural development of non-western civilisations (Sheppard 2010). Such terminology was used by the excavator to construct a socio-economic profile of the cemetery; and this view permeated modern literature as discussed in **Chapter Two**. Artefacts such as palettes were deemed to be part of the poor indigenous culture, whereas the new "dynastic stock" introduced traits associated with "high culture" including the use of copper, writing and artistic ability (Petrie et al. 1913, 1, 20). The dynastic peoples or "higher races" were considered agents of both cultural and biological change at Tarkhan. The influence of eugenics on Petrie's views of the racial and cultural composition of the people buried at the cemetery had a pervasive effect on the recording and analysis of remains at Tarkhan that can be difficult to completely account for in current research based on his data.

Chronology

Establishing the chronological parameters of the site was an important part of the initial research project (**Chapter Three**). Assessing the patterns associated with deposited ceramics was the focus of this research. It was considered vital to revisit issues of ceramic distribution as this determines how modern researchers categorise relative time. The setting of time subsequently defines how people, materials and places relate to form contemporaneous communities of practice. However, pottery was placed in graves for reasons other than the telling of time, including expressing intimate relationships between people. From an archaeological perspective ceramics are essential diagnostic tools that frame our understanding of relative time and cemetery construction.

As Tarkhan is the type-site for the Naqada IIIA2-IIIB period, it is important to our understanding of the relative chronology of early Egypt. Redating the graves according to the Naqadan Chronology confirmed the temporal boundaries of cemetery use, which currently sits between the Naqada IIIA2-IIIC2 phases (Hendrickx 1996). This work was important as it provided the framework that allowed me to explore the nature of social relationships through time.

An examination of the horizontal stratigraphy of the valley cemetery confirmed much of the initial work undertaken by Hendrickx (1989; 1996). The wide-spread distribution of Naqada IIIA2 graves makes it difficult to determine where the first graves were cut in the valley. I would suggest that the primary zone of development was probably situated in the eastern valley, and perhaps in the vicinity of larger graves 666 and 751. The Naqada IIIB development of the cemetery displayed a distinct spatial shift of graves towards the centre and west of the valley. The complicated arrangement of cylindrical jars within these graves, together with a lack of clustering confirmed the combining of Kaiser's Stufen IIIb1 and IIIb2 into Naqada IIIB by Hendrickx (1996; 2011a).

Micro-clustering practices in the valley and spatial practices associated with both small and large graves indicated that cemetery use had developed in ways that were not easily predicted at the start of this study. Many of the observations relating to these practices were obtained from work associated with the horizontal stratigraphy of the valley cemetery. For example, key insights relating to group-related spatial practices could be inferred from the clustering of graves in the valley. These arrangements suggested that other social dynamics, such as kinship or memory probably assumed an important role in determining the placement of graves. It was also concluded that large-scale graves did not play a significant centralising role in spatial practice. Furthermore, it was apparent that the location of smaller graves < 3 m^3 in volume also contributed to the organisational structure of the valley cemetery. This can be seen from the placement of the valley mastabas in space already occupied by these earlier small-scale graves.

The chronological work was a key factor in the identification of spatial changes in the eastern valley. A reduction in the number of human burials in this area was considered to correspond with the appearance of at least 12 bovine burials. This change in the use of space appears to have occurred from the early Naqada IIIB period. Human use of the central and western areas of the valley also increased during this time, which suggested that the presence of the bovine burials were associated in some way with these spatial changes. Ideas relating to differing ideologies were developed from establishing the temporal relationships between these human and animal burials.

Importantly, the revised chronology contributed to identifying the development and persistence of the pathway as a key feature of mortuary real estate over time. Use along this constructed feature can be associated with the Naqada IIIA2 period, so the initial placement of graves on either side of the pathway was unrelated to later spatial activities associated with either the bovine burials or the valley mastabas.

Determining the extent of use throughout the hill cemeteries could not have been achieved without re-examining the temporal patterning of recorded hill graves. Identifying that mortuary use shifted further north from Hill B to Hill A during the Naqada IIIB period was one key observation from this work. While the data from the hill cemeteries was incomplete, nonetheless, the chronological work established the broad temporal arrangement of graves on certain hills. This assisted with theorising how economic competition between differing social groups may have structured the material practices documented for these graves during the Naqada IIIB period. Overall, the many insights obtained from the revised chronology contributed to understanding how the organisational structure of the valley cemetery developed during the early Naqada III period. This was achieved for the hill cemeteries, although to a lesser extent.

The broader socio-political context of early Naqada III Egypt

The importance of placing Tarkhan within an appropriate local Fayum and northern Egyptian regional context has been advocated throughout this study. An autochthonous development of the settlement is favoured based upon ideas of small-scale movements of existing social groups within known landscapes (Anthony 1990; 1997; Köhler 2010). The obvious candidates for such moves would be those groups with ancestral connections to Gerzeh and Abusir el-Meleq. The cessation of Gerzeh and the decreasing numbers of graves at Abusir el-Meleq suggest that existing groups started to move away from the respective settlements from the late Naqada II-early Naqada III period. On this point, the conformity of the south-west orientation practice at Abusir el-Meleq may be problematic. The fact that these practices were not expressed in such a profound way at Tarkhan could indicate that I have over-stated the possible founding role of Abusir el-Meleq. However, this assumes that all practices would have been enacted in the same way at a new location. It is also possible that differing landscapes were influencing factors in determining both orientation and construction practices for the two cemeteries.

Previously unconsidered is the possibility of a small-scale movement of people from an early Naqada IIIA Memphite settlement southwards to Tarkhan. The establishment of a satellite centre in the north of the Fayum may have been a strategic counter-measure designed to prevent or regulate a northward movement of peoples from more established urban centres such as Hierakonpolis, Naqada or Abydos. The economic data drawn from excavations in the north-east Delta, however, would suggest that other "closer to home" concerns existed for people in the Memphite-Fayum region. It was argued that the establishment of Tarkhan and centralisation of Memphis was linked to broader socio-economic processes occurring within the Delta during the early Naqada III period. The establishment of trade monopolies in the north-east Delta and the use of the Wadi Tumilat as a transport conduit have been well-theorised as prompts for the development of sites in the north-east Delta (Rowland 2003; 2014; Hassan et al. 2015). It is possible that such activities posed an economic threat to existing groups within the broader region. It is perhaps no coincidence that Tarkhan was situated in the northern Fayum, and to the immediate south of three wadi systems, while Memphis was positioned at the apex of the Nile. The desire to establish control over transport routes to the south may have resulted in the strategic placement of settlements in these key areas. Some degree of co-operation between Memphite-Fayum social groups is offered as one interpretation of such actions.

I would argue that it is unproductive to continue to view processes occurring within southern Egypt as the sole determining force of change in northern Egypt during the early Naqada IIIA period. This study advocates for the agency of the people of both Tarkhan and Memphis in meeting the various economic and social challenges presented by existing centres in the Delta. This is not to suggest that interaction with Upper Egyptian peoples did not open new networks of materials and interactions, but rather that the dynamics of change may have been initiated by more local concerns in the first instance. This view also advocates for the agency of Delta people in the establishment of significant economic networks with other social groups situated in the Levant (Rowland 2003; Mączyńska 2013; 2014).

In order to situate Tarkhan within a local context, a brief examination of Helwan and the Fayum cemeteries was undertaken (**Chapter Four**). This emphasised a broad commonality of practice but with local frames of reference. Similarities in objects such as palettes, beads and stone vessels can be seen, although differences in shape preferences are apparent. There are also differences in ceramic preferences between individual sites, and this warns against assuming cultural homogeneity and coevality within or between regions (Köhler 2014).

Similarities in elite-style presentation were also observed between several Naqada IIIA2 graves at Helwan and Tarkhan. The presence of early wine jars in these burials is perhaps significant and may indicate that a shared elite view of the world was expressed through the mortuary display of new ceramic styles. The discovery of plain *serekh*-marked jars at both Helwan and Abusir el-Meleq provides further evidence of such elite connections between centres. In contrast, there is an absence of pre-firing plain *serekh*-marked vessels from the Naqada IIIA2-IIIB graves at Tarkhan. The development of early administrative and economic systems in the Memphite-Fayum region therefore invites further investigation (Mawdsley 2012a).

Regardless of any initial strategic co-operation between Memphis and Tarkhan, the development of each centre was driven by separate practices. By the Naqada IIIB period the socio-economic opportunities available to the Memphite community far exceeded those of Tarkhan. This period of time was crucial in the life-histories of the Fayum cemeteries. The diversification in the Memphite region unambiguously coincided with a reduced mortuary profile at Tarkhan and the ultimate demise of Abusir el-Meleq. It is worth re-stating that I cannot offer another viable social explanation to account for these drastic demographic shifts in the Fayum. The fact that both Fayum cemeteries were affected would strongly suggest that more profound demographic and structural changes were occurring throughout northern Egypt at this time.

It is not unreasonable to suggest that any socio-economic advantages offered by Memphis attracted people towards that centre. Despite these advantages, large-scale graves continued to be constructed at both Tarkhan and Abusir el-Meleq during Naqada IIIB. Establishing comparable status positions within Memphite society could have proved difficult for other elite groups as power-bases were linked to their respective places of origin. Loss of power may have ultimately swayed decisions in favour of remaining to live and be buried at Tarkhan or Abusir el-Meleq. On the other hand, attracting non-producing elites from other regions may not have been encouraged and perhaps greater incentives were offered to those people willing to become part of the developing Memphite workforce.

As an alternative, it is always possible that some form of environmental change in the Fayum could have contributed to these changes. The changing course of the Nile and shifting branches of the river within the Delta affected the viability of sites such as Minshat Abu Omar over time (Rowland 2003, 392). It is unclear how such changes would have impacted

Tarkhan. It is more likely that problems with groundwater and flooding would have forced localised movements within the landscape (Hassan and Tassie 2006; Lutley and Bunbury 2008; Bunbury et al. 2017). This may be one explanation to account for the decreased presence of Naqada IIIC1-IIIC2 graves in the valley cemetery. Even if the settlement was forced to shift to a different location sometime during the Naqada IIIB period, this does not explain the decreased mortuary profile seen throughout the cemetery. The movement of people towards Memphis remains the most plausible explanation.

By the early Naqada IIIB period Memphis was probably the pre-eminent centre in northern Egypt. This presumes that site hierarchies within both the Delta and Memphite-Fayum regions had become more absolute at this stage. The presence of named *serekhs* at a number of cemeteries, including Tarkhan, Minshat Abu Omar and Helwan does not preclude the idea of regional hierarchies even amongst those sites with individual rulers. However, by analysing the context of the *serekh*-marked jars at Tarkhan, it was concluded that misleading associations between these vessels and the political status of the site had been made in the literature (**Chapter Nine**). Whether or not Tarkhan operated as an independent centre is perhaps a moot point. The demographic evidence would suggest that any presumed autonomy could not be sustained given the social, economic and political growth of Memphis prior to the formation of the state. This is further exemplified by the dramatic decrease in the number of burials at the cemetery into the Naqada IIIC1 period as discussed in **Chapter Three**. Further examination of the transition periods from Naqada IIIA2 to IIIB; and from Naqada IIIB to IIIC1 would be useful. Such work would assist in theorising how broader centralising processes associated with the development of Memphis and the early state affected regional centres such as Tarkhan.

Landscape and spatial relationships

Understanding the nature of social relationships at Tarkhan is inextricably linked to the ways in which people used the physical landscape. The spreading of graves across the hills and throughout the valley would suggest that the founding social group sought to shape the future use of the cemetery. Similar processes of wide-spread landscape use can also be seen at Helwan, although with greater time-depth (Köhler 2004; 2008a; 2015). The actions of these founding people could be viewed from the perspective of place-making (Rubertone 2009). This interpretive model advocates for the agency of founding groups in establishing the boundaries and subsequent use of landscapes (Rubertone 2009).

Decisions regarding boundaries and initial use were probably established early in the life-history of Tarkhan. The presence of Naqada IIIA2 burials in the southern and northern hills, together with the widespread distribution of early burials in the valley would support this idea. Such activities were probably part of a broader strategy of community construction, which incorporated both habitation and mortuary space. It is interesting to speculate on how the initial village may have developed over time. The placement of graves in both the southern and northern extremes of the cemetery could signal the presence of minor habitation sites in these areas. The presumption of one single village may not be correct and some diversification of habitation space may have been a strategy used to establish ownership over the broader Tarkhan landscape. In this context, perhaps the wide-spread distribution of graves served as boundary markers to alert others that they were moving through an already claimed landscape. By the Naqada IIIB period, greater use of the hills can be identified from the documentation together with an extension of the northern limits of the cemetery into Hill A. This view of landscape use is limited by selective recording and the spread northwards may have occurred earlier than Naqada IIIB.

In terms of the social construction of space within the valley cemetery, it would appear that the so-called pathway identified by Petrie (1914a) represented a key feature of mortuary real-estate for the early community. Multiple areas of possible concurrent spatial development in the valley can be identified and may reflect the activities of multiple kinship groups. These micro-clustering practices demonstrate the agency of various social groups in forging their own spatial identities within the landscape. Interestingly, large-scale graves did not provide the focal point for most clustering practices. This may reflect a more egalitarian approach to spatial practice, which was not defined or controlled by any obvious overarching spatial rules or restraints. Notions of an egalitarian dead may be more applicable to the Naqada IIIA2 period than the Naqada IIIB period, where there is greater clarity regarding the use of space by separate groups. Another key observation is that small-scale graves should be considered as centralising forces within the landscape in their own right. This is exemplified by micro-clustering practices, and by the fact that some of the valley mastabas were placed within space already occupied by these graves. Similar practices can be inferred for the hill cemeteries where the location of large-scale burials did not appear to determine the placement of smaller graves.

It is unfortunate that the seven unique and innovative valley mastabas were minimally recorded in the second excavation report (Petrie 1914a). Despite this limitation, it was suggested that these structures symbolised an ideological shift in thought and practice at the cemetery. In contrast to Ellis (1996, 160-161), I would argue that this ideological shift applies only to the valley mastabas; different social processes were responsible for the Naqada IIIC2 mastabas. Nonetheless, ideology and ritual practice framed the mortuary visions for all of these structures.

A realignment of the side chambers from the west to the east was a key shift and can be considered to be a temporal indicator associated with the Naqada IIIB period. The elaboration of the side chambers with slits would suggest that maintaining direct and continued contact with the dead was important to family members and other mourners. The presentation of numerous offering jars also evokes the performative aspects of the funerary ritual. As these structures were focal points within the landscape such rituals probably involved the entire community thereby re-affirming relationships between different social groups.

Another key conclusion drawn from examining the mastabas relates to the lack of replicated practice in surrounding graves. This would support the idea that energy was invested in one individual rather than the entire kinship group (**Chapter Five**). Regardless of any family relationships, direct spatial associations with the mastabas did not necessarily confer commensurate rights to enhanced grave construction or high-value materials. The exception to this may be mastaba 1845, where interment with stone vessels figured more strongly in graves in the vicinity of this structure. If this was the first mastaba in the valley, social memory may have played a greater role in defining depositional practices for subsequent graves.

Other than an absence of wooden coffins, the objects placed in the mastabas were consistent with materials recorded in many other graves throughout the valley. It would appear, nonetheless, that the individuals interred in these mastabas were considered to be special in some way. It is possible that these individuals performed a ritual role in society, although whether this was acquired through knowledge, status or other personal attributes is unclear. The limited number of valley mastabas would indicate that this role was vested in only one living person and upon their death this power was inherited or transferred to another chosen individual. Importantly, these mastabas convey the idea that a distinct ideological pathway

may have existed in the valley from the late Naqada IIIA2 period; one that was not replicated in the hill cemeteries.

The construction of the mastabas also coincided with a marked shift of human graves from the east to the west of the valley. This shift was linked to the presence of bovine burials in the eastern valley from the early Naqada IIIB period. It is possible that a symbiotic relationship may have existed between the mastabas and bovine burials, and that both sets of graves could represent the practices and ideological visions of a core group of people. The absence of bovine burials in the hill cemeteries may further substantiate the idea that an ideological separation of thought and practice existed between the two areas of mortuary space at Tarkhan.

Material practices

Objects placed in graves provide an insight into how relationships between people were given material expression in the mortuary realm. The diversity of artefacts would suggest that the communities of Tarkhan had access to extensive production and raw material networks (Mawdsley 2012a). As the dead do not bury themselves the objects placed within these burials reflect, to a considerable degree, the decisions of the living (Parker Pearson 1999). This does not deny the probability that some of these artefacts were personal items once owned by the deceased; or that the dead may have requested interment with particular goods before death. Other materials may have been used or owned by family members and placement in the grave was designed to memorialise those connections.

Despite the many problems associated with the dataset, interesting trends can still be observed. Ceramics were the most prevalent category of grave good regardless of the sex or age of the occupant, location in the cemetery or relative phase (**Chapter Five)**. While the percentage of pottery within total goods increased over time across the assemblage as a whole, this was most evident in the graves of males (**Chapter Seven**). Greater conformity in mortuary presentation for males during the Naqada IIIB period was offered as one explanation for this trend. Male burials were also larger in terms of grave volume, although it is possible that body size may have dictated some of this difference. In contrast, female burials were associated with a greater number of different artefact types. These results also confirm the broad observations made by Ellis (1992; 1996), and follow the general trends seen at other published northern cemeteries (Rowland 2003).

The application of Chi-Square tests confirmed a number of differences and similarities in the presence of objects by sex. Palettes and beads were strongly associated with the graves of females, and this was consistent over time. The presence of ivory objects favoured female burials in Naqada IIIB but not in Naqada IIIA2. Importantly, no significant differences by sex could be established for the presence of copper or flint objects, stone vessels or wooden coffins. These results reflect statistical differences by sex and do not contradict the fact that female burials contained a greater range of object types than male burials.

Many of the conclusions offered in the literature to explain the wider array of object types for females have been framed within concepts of adornment and fertility (Ellis 1992; 1996; Hassan and Smith 2002). A broader consideration of not just object types and diversity but of material practice leads into possible economic lines of thought. We still have little idea about how economic networks functioned, and while we can speculate on how regional centres may have controlled access by virtue of location, there is still an implicit assumption in archaeology that control was male-dominated (Nelson 2004). The number of different object types in female burials would, at the very least, indicate that women had some involvement with craft specialists and primary raw material suppliers. Unfortunately, problematising patronage for pre-state Egypt has barely been considered in the literature (Campagno 2014; 2017).

In a study of wealthy female burials in Iron Age Attica, Langdon (2005, 14) has argued that considering materials in terms of commission may explain some of the recurring features seen in these burials. This is an interesting proposition and one that may have application to the interpretation of female mortuary practices in both Predynastic and Early Dynastic Egyptian contexts. For example, considering the enhanced presence of greywacke palettes in female burials within a framework of commission is one area where such an approach would be useful. Shifting the narrative to consider active rather than passive female agency in the patronage and control of economic networks, and in the construction of community-based social relations would broaden our understanding of gender practice more generally. Overall, it is apparent that the practice of burying females and males was far more complicated than current models tend to suggest. As a result, understanding the nature of gender relationships as manifested through material practices remains a problematic area of research.

Informative trends in the general dataset relating to location were also observed (**Chapter Five**). By the Naqada IIIB period, the presence of stone vessels, wooden coffins and copper objects favoured graves in the hill cemeteries. Such trends could be used to confirm an economic division between burials in the hills and the valley as originally proposed by Petrie (1914a). This interpretation is considered limiting and does not take into account the possible social dynamics between kinship groups at this time. Using Hills F and G as examples, it was suggested that these trends may have been an outcome of competition between the respective family groups. It was further theorised that such displays could have been linked to the establishment of control over material resources during a period of social distress for the community. On the other hand, whatever pressures may have been on the community during the Naqada IIIB period, there were still enough resources to sustain several prominent groups (whether families or otherwise) within the community. This view also includes those groups associated with the valley mastabas.

One of the major conclusions drawn from **Chapter Eight** related to the fact that subadult burials were modelled largely on practices seen in adult burials. This is consistent with observations made in relation to child burials at Gerzeh (Stevenson 2009a). Pottery and stone vessel types; and the general placement of grave goods were consistent in adult and subadult graves. Activities, such as the breaking of stone vessels were also evident in both adult and subadult burials. These practices reflected the actions of mourners at the time of burial, and may have symbolised the completion of life and the acknowledgement of death.

The quantity and quality of grave goods would suggest that children who received a proper burial and are now visible in the dataset were not marginalised by death and were treated as recognised members of their respective communities. The small greywacke bracelet found in valley grave 1386 (Naqada IIIA2) is an important object as it demonstrates that materials derived from the Eastern Desert were made specifically for infants and young children. Gold-coated beetles, falcon amulets of carnelian and rock crystal, falcon palettes, and copper adzes indicate that symbols associated with power and wealth were gifted to some children in death.

Family-orientated practices and traditions would have determined the presentation and principle content for each grave. The inclusion of precious materials was dependent upon many factors including availability and what the living were prepared to remove from circulation as gifts to the recently dead. As a result, it is difficult to assess whether enhanced

investments in mortuary wealthy for subadults were statements of family status or an emotional response to the loss of a child and the potential of that life. Further engagement with theories of emotion and emotional behaviour may assist in theorising how dying young would have affected ancient families and communities. The material traces of these graves provide poignant reminders of the intimate relationships that once connected children and families at Tarkhan.

Social relations

Kinship, age, gender and community membership probably directed the central dimensions of an individual's life. Other attributes such as skill, esoteric knowledge or an ability to interact with distant peoples and places would have also been valued by the community. Enhanced status for the individual or kinship group may or may not have been attached to these social or personal attributes. The power and agency to act upon any advantages arising from such connections or interactions would have determined the course of life for some people. As a result, the nature and dynamics of social relationships for ancient peoples would have been defined by both habitual daily activities and profound interactions.

Throughout **Chapter Six**, a strong connection between landscape, kinship and memory was advocated for the valley cemetery. Short-term memory could have determined grave placement or recalled previous gifts and the arrangement of mortuary space, while long-term memory connected the past to the present. Therefore, burial in the valley also signalled how kinship groups commemorated their own pasts and articulated their own futures. We still do not understand the role that ancestors may have played as imagined providers for the living during the Naqada III period. Nor do we fully understand how engagements with a real or imagined past may have shaped social strategies or kinship agency. These are areas that require further theorising. I would suggest that social memory and forms of ancestor veneration probably played an important role in reaffirming relationships between the living and the dead at Tarkhan.

Spatial and clustering practices within cemeteries remain the major source of information for the identification of possible kinship or descent groups for early Egyptian societies (Savage 1995; 1997; Campagno 2000; 2003; Rowland 2003; Stevenson 2009b). It seems likely that people would bury their dead within space already occupied by other deceased family members, although the connection between kinship and group-related spatial practices at Tarkhan remains difficult to prove. Micro-clustering practices in the valley cemetery would

appear to support a kinship connection, although this may not be the case for all burials. Examples of such disconnection may be seen in the concentration of subadult burials in the eastern valley cemetery (**Chapter Eight**). In these cases, connections between age and death appear important, perhaps to ensure that the young could continue associating with their peers in death.

Deliberate strategies of social disconnection may also have been expressed through burial in the hills. In **Chapter Nine**, it was theorised that the construction of larger hill graves was considered an important aspect of mortuary practice for some social groups. The increasing tendency towards large-scale display may have been a strategy employed to balance or counter-act the ideological power-base established by those groups associated with the small mastabas. This interpretation may add context to what is seen in the hill cemeteries at this time. This is not to suggest that relationships between social or kinship groups were adversarial, or determined by where the dead were buried in the cemetery. Rather, the evidence would seem to indicate that there were numerous strands to this story, which reflected the practices and actions of many people over time.

In looking beyond Tarkhan, the presence of objects such as decorated spoons and marked cylindrical jars connect the owners of these artefacts to an elite view of the world. It was suggested that some of these objects may have represented gifts from comparable elites in Upper Egypt (**Chapter Nine**). Cultivating a shared elite sense of the world may have been one outcome of forging new relationships between regional communities. Over time, these shared views may have facilitated the incorporation of disparate elite groups into the developing state as clients (Costin and Earle 1989). This speaks to the more global nature of social relationships, and highlights the fact that expanding horizons of interaction had both positive and negative outcomes for the people of Tarkhan. One negative outcome may have been the eventual decline of influence within the Fayum region.

Broad visions of community

While much of this study has focussed upon the material and spatial practices associated with death, all of these data contribute to building a picture of lived experience and community construction. In terms of how this information may fit or contradict our understanding of the pre-state period, the evidence from Tarkhan would suggest that the early community was more dynamic and less hierarchical than previously thought (Ellis 1992: 1996). While this may be the case for Tarkhan, it cannot be assumed that social practices of inclusion were

enacted in the same ways at other sites. As settlement data is missing from the Memphite-Fayum region; and despite the presence of both mortuary and settlement activities at some Delta sites, our understanding of the complexities of life throughout northern Egypt remains incomplete.

Based on the diverse practices recorded at the cemetery, it is possible that life at Tarkhan operated as a form of dynamic heterarchy, where people participated in various habitual, ritual or other activities unencumbered by overt structural constraints (Crumley 1995; Schortman and Urban 2012). This may be the case for the Naqada IIIA2 period, where the size of the mortuary population is suggestive of a large and thriving community. The nature and diversity of grave goods also demonstrate a connection to materials and products sourced from distant places. These objects and materials were found in both valley and hill graves. This would suggest that economic interactions between the people of Tarkhan and other groups were fluid and unrestricted during the Naqada IIIA2 period. While Tarkhan is the type site for the Naqada IIIA2 period, evidence cannot be extrapolated from the recorded data to provide an account of how all northern communities may have developed at this time. Similar problems have been identified for the earlier cemetery of Gerzeh in the Fayum in relation to issues of social change, migration and cultural integration (Stevenson 2009a, 209). Each community was founded for different reasons and progressed in different ways. This is clear when comparing the data from Tarkhan with Abusir el-Meleq.

By the Naqada IIIB period, the changes seen in male burials at Tarkhan may be significant when assessing broader patterns of social transformation at this time. Structural changes in Tarkhan society perhaps impacted male groups in the first instance. Slight changes in the percentages of goods are apparent for female burials, although any trends relating to conformity of practice are not as easily discernable. Importantly, this evidence challenges ideas that female status decreased over time. It is possible that status enhancement for women may have been one outcome of any localised structural changes at Tarkhan. This conclusion provides a different perspective on gender practice for the pre-state period.

Reduced population numbers during Naqada IIIB may have also changed the ways in which remaining social groups viewed themselves and others within the dwindling community. Ideas of one community may have transformed into more structured and distinctive elite and non-elite world views (**Chapters Four** and **Nine**). This does not discount connections between people but suggests rather that certain relationships may have been expressed in

differing ways. While speculative, it is possible that several differing world views were now expressed through mortuary practices at Tarkhan: one representing a localised ideology centered upon the small mastabas, and the other upon more universal concepts of elitism. The diversity of mortuary practices would suggest that the communities of Tarkhan moved through a lattice of social, economic and political networks (Schortman 2014, 175). These interactions also contributed to the nature of interpersonal relationships.

Future directions

While many insights were obtained from this study key areas of research still require attention. For example, a more systematic examination of gender and possible kinship practices would provide additional detail. To assist with this, a scientific analysis of the skeletal remains in the Duckworth Laboratory, University of Cambridge may prove useful in determining possible familial relationships. In addition, there is great scope to employ other quantitative methods such as Bayesian statistical modelling, which might provide analytical clarity to the complex Tarkhan sex-related dataset. Such an approach may provide alternate hypotheses from which to investigate the nuances of gender practice as displayed in early Egyptian mortuary contexts.

There are many other issues that require theorising, and some of these have been highlighted in the respective chapters. In particular, a more detailed analysis of specific classes of grave goods would contribute to knowledge on networks of procurement and exchange during the early Naqada III period. Greater analysis of how mortuary space was orchestrated within graves may enhance our understanding of the ritual and performative aspects of burial at Tarkhan (Stevenson 2009a). This work would also provide an insight into the role played by social memory in determining the selection of grave goods and the arrangement of mortuary space within and between individual graves.

A small excavation conducted prior to 2014 suggested the presence of Second Dynasty activity at the site (Shahin et al. 2014). This can only be confirmed through an examination of the material in question or renewed investigation of the landscape. Areas of the cemetery remain under threat from modern agricultural practices and have suffered from more recent looting activities. Therefore, it is recommended that a new survey of the cemetery be undertaken. Engagement with modern archaeological and conservation technologies and practices is desperately required in order to document and preserve what remains of this important cemetery. A gap in knowledge exists relating to how people lived and worked

within the broader landscape. More intensive survey work has the potential to identify settlement activity and make a significant contribution to understanding lived experience for these ancient peoples. Such a project would also provide a modern perspective on landscape use. The current challenge now relates to moving these ideas into the field.

In rising to the challenge to present a more textured account of Tarkhan, it is acknowledged that the cemetery formed part of a network of sites with deeper time connections to the Fayum. Apart from Gerzeh (Stevenson 2006; 2009a), further work on the cemeteries of the Fayum is required. As well as more intensive investigations of site-specific practices, theorising questions relating to the continued use and decline of these cemeteries would fill a gap in knowledge on this subject. Current excavation projects in the Delta are now challenging our understanding of the nature and development of Egyptian communities during the Naqada III period. This is exciting and any future work on Tarkhan will only benefit from the wealth of new data derived from modern excavations at these northern sites. It is acknowledged that comparative emphasis was placed in this study on practices derived from northern cemeteries. Therefore, further comparison between Tarkhan and cemeteries in Upper Egypt may be useful when considering global interactions between northern and southern communities during the Naqada III period.

It is clear that much work still remains to be done. Nonetheless, this current study has contributed to knowledge of the site and the nature of the original data as recorded by Finders Petrie. Like the earlier Fayum cemetery of Gerzeh, and in spite of the problems with recording methods, Tarkhan stands as one of the better documented mortuary landscapes excavated during the early 20th century (Stevenson 2009a). Despite the many limitations, it is still possible to engage with these data in a critical yet meaningful way.

The diversity of mortuary practices at Tarkhan called for a more holistic framework from which to analyse the complexity of these data. Engagement with social practice theory and with concepts of agency, communities of practice, memory and ideology has contributed to the interpretive strength of this research. The many observations gleaned throughout this study demonstrate that Naqada III cemetery data can be analysed from a perspective that seeks to move beyond issues of inequality and state formation.

Concluding comments

Social relationships formed the core of life and death for the people of Tarkhan. The dynamic interactions of landscape, material practices and social relations shaped the ways in which the dead were buried at the cemetery. Burial was influenced by many other factors including kinship, family traditions and identity; grief, commemoration and memory; and status display, ideology and the agency of mourners. Personal attributes, gender and age would have also played a role in considerations of burial. As each grave was unique, such differences speak to the nature of relationships between the living and the dead.

Throughout life many people would have participated in a diverse range of social, cultural and economic interactions. All of these activities contributed to lived experience and may have determined the presentation and content of individual burials. Layers of meanings would have been attached to the selection of grave goods and the act of burying the deceased. These meanings are now lost to time. The surviving spatial and material remnants of burial provide the only insight into the dynamics of community-based mortuary practices at Tarkhan. It is clear from the recorded data that these practices were more textured than previous models of pre-state Egyptian society tend to suggest. The people and communities of Tarkhan were intertwined in complex networks of social relationships. These connections defined the ways in which the dead were buried at the cemetery and remembered over time.

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Abbreviations

GM   *Göttinger Miszellen*

JARCE   *Journal of the American Research Center in Egypt*

JEA   *Journal of Egyptian Archaeology*

MDAIK   *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo*

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APPENDICES

APPENDIX A

Hill Cemeteries

Notes:

Table A1: List of graves in the hill cemeteries

Table A2: Number of Kafr Ammar hill graves in Petrie and Mackay (1915)

Table A1: List of graves in the hill cemeteries.

Hill Cemeteries	Total number of graves	Naqada III period graves with numbers	Numbered Naqada III period graves on map	Potential number of Naqada III graves identified with solid black marks	Number of Kafr Ammar graves or structures	Publication
A	221	22	267, 275, 408 (Naqada IIIB); 261, 401, 410, 411, 412, 414, 415, 419, 420, 421, 422, 423 (Naqada IIIC1); 189, 278, 287, 297, 404 (Naqada IIIC2); 265, 285 (Naqada III). From notebook-graves 260 and 277 (Naqada IIIA2) are possibly on Hill A (not mapped)	221	0	Petrie et al. 1913, LXX
B	30	7	474, 483, 802, 803, 804 (Naqada IIIA2); 484 (Naqada IIIB); 801 (Naqada III). From tomb cards- grave 319 (Naqada IIIB) is also on Hill B (not mapped)	30	0	Petrie et al. 1913, LXXI
C	22	1	511 (Naqada III)	5	17[48]	Petrie et al. 1913, LXXI
D	21	0	0	5	16	Petrie et al. 1913, LXXI
E	165	11	84, 86, 68, 70, 475, 527 (Naqada IIIA2); 466 (Naqada IIIB); 252, 523 (Naqada IIIC1); 24 (Naqada IIIC2); 525 (Naqada III). Grave 24 has diagonal marks but is assigned to SD 82 in the right-hand column of the map and in grave register	67[49]	98	Petrie et al. 1913, XVII, LXXII.
F	86	14	23, 40 (Naqada IIIA2); 7, 9, 10, 21, 27, 36, 39, 42 (Naqada IIIB); 17, 22 (Naqada IIIC1); 512, 513 (Naqada IIIC2). The number 39 is also duplicated on Hill G	77	9[50]	Petrie et al. 1913, LXXIII

[48] Five graves were identified with solid black marks on Hill C but were attributed to the Third to Fifth Dynasties on the right-hand column of plate LXXI. These graves include 469, 470, 506, 507 and 516. All of these graves were counted as Naqada III contexts by Hendrickx and van den Brink (2002, 351).

[49] Hendrickx and van den Brink (2002, 351) counted 70 graves; however, this tally included graves 95 (Eleventh Dynasty), 216 and 34 (Third to Fifth Dynasties). These three graves are represented by solid black marks but are identified as Kafr Ammar burials in the right-hand column of the plate LXXII (see Petrie and Mackay 1915, 8-19, XII, XVI-XVII).

[50] Nine graves are attributed to the Eleventh Dynasty on plate LXXIII. These include two unnumbered contexts marked with the designation XI together with numbers 489, 490, 491, 492, 494, 497 and 509. These numbered graves are designated on the right-hand column with XI (see Petrie and Mackay 1915, 30-33, XII.14, XXVIII). These numbered graves were counted as Naqada III burials by Hendrickx and van den Brink (2002, 351).

Table A1: List of graves in the hill cemeteries.

G	20	10	5, 12, 15, 16, 19, 20, 26, 37, 38, 39 (Naqada IIIB). The number 39 is also duplicated on Hill G (see above)	20	0	Petrie et al. 1913, LXXIII
H	27	11	3 (Naqada IIIA2); 901 and 903 (Naqada IIIB); 900 (Naqada IIIC1); 1, 2, 90, 91, 902 (Naqada IIIC2); 13, 330 (Naqada III)	25	2	Petrie et al. 1913, LXXIII
J	153	38[51]	121 (Naqada IIIB); 120 (Naqada IIIC1); remaining 36 graves (Naqada IIIC2). Grave 105 (Naqada IIIC2) is also mapped on Hill O.	145	8	Petrie et al. 1913, LXXIV
K	32	3[52]	328, 333, 351a (Naqada IIIA2)	16	16	Petrie et al. 1913, LXXV
L[53]	59	5	185, 315 (Naqada IIIA2); 304, 331 and 336a (Naqada IIIB). From tomb cards-grave 1946 (Naqada III) is also on Hill L (not mapped).	22	37	Petrie et al. 1913, LXXV
M[54]	68	8	1917, 1927 (Naqada IIIA2); 1041, 1042, 1925, 1933 (Naqada IIIB); 1026 (Naqada IIIC1). The number 1041 is also duplicated on Hill Q.	62	6[55]	Petrie 1914a, XLVII
N	31	8	72, 74, 75, 77, 860 (Naqada IIIA2); 861c and 862c (Naqada IIIA2);[56] 247 (Naqada III); From notebook-graves 73 and 76 are also on Hill N (not mapped).	30	1	Petrie et al. 1913, LXXV
O	25	2	186 (Naqada IIIA2); 105 (Naqada IIIC2). Grave 105 is also mapped on Hill J (see above).	24	1[57]	Petrie et al. 1913, LXXV
P	16	0	0	16	0	Petrie et al. 1913, LXXV

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[51] Number 170 has been allocated to two graves on plate LXXIV. Grave 105 (Naqada IIIC2) is also mapped on Hill O.

[52] Number 351 is attached to a Naqada IIIA2 grave with a Dynastic burial next to it.

[53] The position of Hill L on the site map (Petrie et al. 1913, LXIX) places it to the immediate south of Hill M. On the updated map accompanying the second report the position of these hills was reversed (Petrie 1914a, XLVIII). This has not been identified in previous literature.

[54] Information for Hill M is based on the updated map (Petrie 1914, XLVII) and not the earlier map (Petrie et al. 1913, LXXV).

[55] Six graves identified with solid black marks are Dynastic burials and include 1926, 1928, 1934, 1939, 1944 and 1963.

[56] Numbers 861 and 862 are also used for graves in the valley cemetery (861a, 861b, 862a, 862b). Hill graves are numbered 861c and 862c.

[57] Grave 106 is identified with a solid black mark but is assigned to the III-IVth Dynasty in column on far right side of plate LXXV.

Table A1: List of graves in the hill cemeteries.

Q[58]	110	20	1898 (Naqada IIIA2); 1041, 1054 (Naqada IIIB); 1002, 1024, 1032, 1887, 1888, 1904, 1907, 1908, 1911, 1916, 1923, 1930, 1950, 1951 (Naqada IIIC2); 1912, 1915, 1955 (Naqada III). Grave 1041 is also mapped on Hill M (see above). From the tomb cards- graves 1910, 1919, 1938, 1942, 1961, 2008 (Naqada IIIC2); and 1913 (Naqada III) are also on Hill Q (not mapped).	100	10[59]	Petrie 1914a, XLVII
R	62	0	0	62	0	Petrie et al. 1913, LXXV
S	76	0	0	76	0[60]	Petrie et al. 1913, LXXV
Plateau	10	10	Mastabas 1060, 2038, 2050, 2055 and 2056 Human subsidiary graves 2039 and 2040 are associated with mastaba 2038, while graves 2051 and 2053 are associated with mastaba 2050.[61] Grave 1973 (Naqada IIIC2) is situated between 1060 and other mastabas.	10	0	Petrie et al. 1913, 8, LXIX
Between Hills K and S	2?			2[62]		Petrie 1914a, XLVIII
T?[63]	9?		1921 (Naqada III)	1	8	

[58] Information for Hill Q is based on the updated map (Petrie 1914, XLVII) and not the earlier map in Petrie et al. (1913, LXXVI).

[59] Three graves identified with solid black marks are Dynastic (1895 and 1920) and Roman Period (1924). A further seven Dynastic and Roman Period graves have been identified from the tomb cards and include: 1937 (Roman Period), 1945, 1948, 1978, 1999, 2006 and 2007. These graves are not numbered on Hill Q but it is presumed that they are represented by solid black marks on the map.

[60] The site map indicated that this hill contained burials attributed to the Twenty-Fifth Dynasty (Petrie et al. 1913, LXIX), although all are identified by solid black marks.

[61] Two animal graves found in mastaba 2050 containing three donkeys (2052) and one duck (2054) (Petrie 1914a, 6) are not included in the tally of burials.

[62] Unnumbered solid black marks on site map (Petrie 1914a, XLVIII).

[63] Hill T is mentioned on 10 tomb cards. It is interesting to note that Kafr Ammar grave 1920 was annotated with Hill T but was mapped on Hill Q. Hills G and H were originally labelled as Hills A and B in the notebook so it is possible that Hill Q was designated T and then reassigned.

Table A1: List of graves in the hill cemeteries.

W?	1?				1[64]	
Sheehads/ Shehaads Hill[65]	6?		2011 (Naqada IIIC2)[66]	1	5[67]	
Arab Cemetery/ Muslim Hill[68]	7?		1974 (Naqada IIIC2)[69]	1	6	
Locations unknown	43		At least another 43 Naqada III graves excavated in the second season. The locations of these were not recorded on the respective tomb cards.	43		
Total	1302			1061	241	

[64] Letter found on the tomb card of Kafr Ammar grave 2003. It is possible that this was meant to be M. Details on the tomb card noted that the grave was "XVIII on top of XII well".

[65] There are references to a 'Sheehads or Shehaads' hill on the tomb cards and this location is described as situated to the 'SW of First Dynasty one' and also to the 'NE of W's mastaba. The W refers to Gerald Wainwright who excavated mastaba 1060.

[66] Location on tomb card.

[67] Graves 1958, 1959, 1960, 1962 and 1968 all contained 'rush' coffins and were probably Third to Sixth Dynasty burials (Petrie and Mackay 1915, XVII).

[68] Petrie (1914a, 13, XLVII) mapped two large Islamic domed tombs, marked the Low Dome and the High Dome on the site map in *Tarkhan II*. Both of these structures were situated between Hills A and B to the north of the site. In the report, it was noted that the modern Islamic graves had been ignored to avoid confusion (Petrie 1914a, 13). There are references on the tomb cards to a number of Kafr Ammar graves in the 'vicinity of the Arab cemetery' or on the 'Arab cemetery hill' and these include 1965, 1969 (Twelfth Dynasty), 1970, 1971, 1977 and 1990.

[69] Location on tomb card described as at the "south end of Muslim hill".

Table A2: Number of Kafr Ammar hill graves in Petrie and Mackay (1915).

Date range	Number of graves	Publication
Third to Sixth Dynasties	108 in register, tally of 107 in report	Petrie and Mackay (1915; 8-19, XVI-VII)
(Seventh or Tenth) to Eleventh Dynasties	44 in register and report	Petrie and Mackay (1915; 30-33, XVI-VII)
Twenty-Third to Twenty-Fifth Dynasties	No register for these graves, only 38 in report	Petrie and Mackay (1915; 33-37)
Ptolemaic and Roman	No register for these graves, only 29 in report	Petrie and Mackay (1915; 37-38)

This table provides the number of Kafr Ammar hill graves published in Petrie and Mackay (1915) (n = 219).[70] The locations of many of these graves are unknown.

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[70] As noted in **Chapter One**, approximately 266 tomb cards should record Kafr Ammar graves, although it is difficult to confirm this number given the level of detail on many cards. In **Table A1** a total of 241 Kafr Ammar graves was provided based on information obtained from the maps, tomb cards, notebooks and the excavation reports. The disparity in numbers between **Tables A1** and **A2** can only be flagged as problematic at this stage. On the site maps a large structure is also depicted to the west of Hill S (Petrie et al. 1913, LXIX, LXXVI; Petrie 1914a, XLVIII). It was originally drawn as a partial walled enclosure with a pit. After excavation/clearance of the pit during the second season, this area was subsequently re-drawn as a multi-chambered shaft grave. The relationship between the chambered shaft and the enclosure is unclear. Unfortunately, there is no mention of this structure in either *Tarkhan II* or the Kafr Ammar report. In addition, a large building with multiple rooms was excavated by Wainwright and illustrated on the site map of *Tarkhan II* (Petrie 1914a, XLVIII). This building was discussed in Petrie and Mackay (1915, 37, XXXV-VI). A house of unspecified location 'in the middle of the cemetery" was also illustrated in Petrie and Mackay (1915, 36-37, XXXIV). In addition, a silo was recorded as 1976 on the tomb card, although a location was not specified. For further details on the Kafr Ammar graves see Petrie and Mackay (1915), Grajetzki (2008a, 214-219) and Tian (2020).

APPENDIX B

The relative distribution of pottery types (Naqada IIIA2-IIIC2)

Notes:

- Tarkhan type numbers have been maintained and follow the typology developed by Petrie (Petrie et al. 1913; Petrie 1914a).

Included in this Appendix are:

- Cylindrical jar types (Table B1)

- High-use types of 3, 36, 59, 60, 63, 65, 66, 73, 74, 75 and 76 (Table B2)

- Other types from 1 to 99 (Table B3)

Table B1: Cylindrical jar types.

Type 46 cylindrical jars

Period	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
46b	43	28	10	7					W62
46d	189	120	25	17	1	1	2	1	W63
46e	1	1							
46f	189	127	30	18	2	1	2	1	W64
46g	1	1							
46h	216	147	71	51	1	1			W65/65a
46j	6	4							
46k	83	71	21	19			1	1	W65b
46l			2	2					
46m	149	113	37	31	2	2	1	1	W67a
46p	51	37	11	11					W67b
46r	22	22	8	7					W68?
46s	1	1							
46t	19	17	3	3					W69
46u	1	1							
46v	1	1							
46 w	1	1							W68?
46	26	9							No subtypes given
Total jars	999		218		6		6		

Table B1: Cylindrical jar types.

Type 46 net-patterned cylindrical jars (described as lattice on tomb cards)

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
46b net	7	4							W62 (lattice)
46d net	42	29	7	7					W63 (lattice)
46f net	34	24	2	2	1	1			W64 (lattice)
46h net	75	56	29	20	1	1			W65/65a (lattice)
46k net	14	12	1	1					W67a (lattice)
46l net	2	1							
46m net	20	13	2	2					W67a (lattice)
46p net	6	4			1	1			W67b (lattice)
46r net	7	6							W68? (lattice)
46t net	2	2							W69 (lattice)
46 net	4	1							No subtypes given
Total jars	213		41		3		0		

Table B1: Cylindrical jar types.

Type 47 cylindrical jars

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
47b	6	6	21	16					W71/71a
47d	13	11	24	18					W72
47e	1	1							
47f	10	10	14	13	1	1			W73
47g			1	1					Single example recorded from valley grave 1247
47h	27	25	38	32	1	1			W74
47k	2	2	12	5					W75
47m			28	24	1	1			W76
47p			65	46					W77a/c
47r			1	1					Single example from valley grave 1756 (UC17309)
47s			7	6					W77b
47t									No identifiable examples on tomb cards
47	1	1	10	2					No subtypes given
Total jars	60		221		3		0		

Table B1: Cylindrical jar types.

Type 48 cylindrical jars

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
48d			19	15					W80
48g			9	9	2	2			W81a
48l			23	20	1	1			W81c
48s			63	51	7	6	1	1	W82a
48t			12	10	1	1			W81b
48			1	1					No subtypes given
Total jars	0		127		11		1		

Type 49 cylindrical jars

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
49d			201	137	6	4			W83
49f			1	1					
49g			49	43	6	6			W84
49l			132	87	29	16			W85
49			5	4	1	1			No subtypes given
Total jars	0		388		42		0		

Table B1: Cylindrical jar types.

Type 50 cylindrical jars

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
50b							3	3	
50d					50	18			W89/90
50e					10	7			
50f					27	14	1	1	
50h							1	1	
50j							4	3	W91
50n							4	4	W94
50p							2	2	
50s							8	6	W92
50t							6	5	W93
50					43	22	1	1	No subtypes given. Also written on tomb cards as W Plain
Total jars	0		0		130		30		

Table B1: Cylindrical jar types.

Type 43, 51 and 52

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
43r									W51a Single example from unknown valley grave (UC17207)
43s			1	1					W51a Jar with white slip from valley grave 1683 (UC17208)
51d/g									(Petrie et al. 1913, XLIX) but no examples on tomb cards
51f					1	1			Small jar (Petrie 1914a, XXIX)
51k			1	1					Wide, straight-walled flat-based jar (Petrie et al. 1913, XLIX)
51m							1	1	L57? (Petrie 1921, L; Hendrickx 1994, 56-57, VIII)
52									(Petrie et al. 1913, XLIX) but no examples on tomb cards.
Total jars			2		1		1		

Other cylindrical jars without type

Date	IIIA2		IIIB		IIIC1		IIIC2		W-class annotated on the tomb cards of hill graves/ or notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
Other	13		51		3		?		These vessels are cylindrical jars

Table B2: High-use types.

Type 3

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
3b	26	19	13	12	4	4	1	1	
3d	20	16	11	10	2	2	2	2	
3f	9	9	1	1	4	1			
3g	25	23	12	10	1	1	1	1	
3k	5	4	8	5			3	3	
3l	9	4	4	4	2	2	1	1	
3m			2	2					
3p							1	1	
3q							1	1	
3r	1	1	1	1					
3			1	1					No subtypes given
Total jars	95		51		15		10		

Table B2: High-use types.

Type 36

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
36c			3	2	5	5			
36e/E (36s)			1	1	2	2	1	1	36s (Petrie 1914a, XXVIII). Reassigned to 36E (Petrie 1953, VI)
36f	7	3	3	2					
36g	28	10	8	8	6	1			
36j			6	5					
36H (36t)	1	1			1	1			36t (Petrie 1914a, XXVIII). Reassigned to 36H in Petrie (1953, VI)
36k	3	2	3	3					
36L? (36u)	1	1							Broken 36u (Petrie 1914a, XXVIII) is perhaps 36L in Petrie (1953, VI)
36n			1	1					
36s	1	1							Vessel with double-bowls. Example from hill grave 313 (Petrie et al. 1913, XLVIII)
36t	1	1							Vessel with three bowls. Example from hill grave 62 (Petrie et al. 1913, XLVIII)
36u	1	1							Vessel with four bowls. Example from hill grave 313 (Petrie et al. 1913, XLVIII)
36	4	4	9	6	1	1	1	1	No subtypes given
Total jars	47		34		15		2		

Table B2: High-use types.

Type 59

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
59b			4	2	6	4	64	32	
59d					13	6			
59f			2	2	2	2	13	7	
59g			2	2			12	11	
59h			2	2			65	15	
59k							46	15	
59m					4	3	29	15	
59p	1?	1?	4	4	4	3	104	40	Naqada IIIA2 incorrect?
59t							28	10	
59u							2	1	
59			4	2			4	2	No subtypes given
Total jars	1?		18		29		367		

Table B2: High-use types.

Type 60

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
60b	31	16	9	9	25	9			
60c	3	3							
60d	93	74	109	102	12	8	11	8	
60e					2	2			
60g	94	79	21	18	3	3			
60h	47	41	9	9	1	1			
60j	51	51	23	22	2	2	1	1	
60k	9	7	1	1					
60l			1	1					
60m	86	79	23	22	1	1			
60n	4	3	23	21	3	3			
60p	1	1	6	6	2	2			
60r	2	2	15	15	2	2	1	1	
60s	2	1			1	1			
60t	2	1							
60v	1	1							
60	54	50	31	28	5	5	2	2	No subtypes given
Total jars	480		271		59		15		

Table B2: High-use types.

Type 63

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
63b			1	1	1	1	10	8	
63d	1	1	1	1	1	1	10	5	
63e	4	4	7	3	5	4	38	23	
63g	2	2	2	2	2	2	79	35	
63j	4	4							
63l			1	1			35	12	
63n							12	2	One example decorated (Petrie et al. 1913, LII). From either hill grave 195b or 200
63p	1	1	1	1			41	14	
63q							3	2	
63r							2	2	
63s							3	3	
63t							7	3	
63u							1	1	
63v							1	1	
63w	1	1	1	1					Decorated jar from Naqada IIIB valley grave 1810
63	5	2	4	2	2	2	13	3	No subtypes given
Total jars	23		18		9		255		

Table B2: High-use types.

Type 65

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
65b	3?	2?			2	2	6	5	See comment under 65
65d							2	2	
65f					9	7	17	13	
65h	1?	1?			3	3	4	4	See comment under 65
65k					4	3	35	23	
65l							3	3	
65m					2	2	12	11	
65n/o							2	2	One of each type
65p							6	5	
65r	1?	1?					5	4	See comment under 65
65t							12	8	
65u					2	2			Types 65u and 65w are flat-based jars. The remaining types in the 1953 corpus are all round-based.
65w							5	5	Flat-based jars
65	8?	3?			2	1	8	3	No subtypes given. This type is strongly associated with Naqada IIIC1/IIIC2. IIIA2 examples mistakes?
Total jars	13?		0		24		117		

Table B2: High-use types.

Type 66 (See also types 56 and 73)

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
66b			1?	1?			2	2	66b (Petrie 1953, XVI)
66f							21	3	66f (Petrie 1953, XVI)
66g	5	5			1	1			73r (Petrie 1953, XVI)
66gg	1	1							73s (Petrie 1953, XVI)
66h	33	26	4	4			1	1	56F (larger form) (Petrie (1953, X).
66j	72	57	11	8	2	2	2	2	56e2 (Petrie 1953, X)
66l	35	34							56e5 (Petrie 1953, X)
66m	11	9	1	1					56e8 (Petrie 1953, X)
66s	2	2							56g (Petrie 1953, X)
66	9	9	3	3					No subtypes given
Total jars	168		20		3		26		

Table B2: High-use types.

Type 73 (see also type 66)

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
73b			1	1					
73c	9	1	4	4					
73f	2	2	21	15	3	3	1	1	
73g	1	1	1	1					
73h	17	16	37	21		2	1		
73k	1	1	11	10					
73n	1	1					1	1	
73	1	1			1	1	1	1	No subtypes given
73r	5	5			1	1			66g (Petrie 1914a XXIX)
73s	1	1							66gg (Petrie 1914a, XXIX)
Total jars	38		75		5		4		

Table B2: High-use types.

Type 74

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
74a	1	1							Small flat-based jar (Petrie 1914a, XXX)
74b2					1	1			From valley grave 1100. Jar with *serekh* of Narmer (Manchester 5689)
74b5			1	1					From valley grave 1702. Jar with *serekh* of Hat-Hor (UC16084)
74b9			1	1	1	1			
74f			1	1					Decorated jar from valley grave 1698 (UC17212)
Total jars	1		3		2			0	

Table B2: High-use types.

Type 75

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
75b			19	10	1	1			
75c	2	2	6	6	1	1	1	1	
75e	1	1			4	4	1	1	
75j							3	3	
75k			2	2	1	1	1	1	
75m							2	2	
75n			1	1			8	8	
75o							7	7	
75p							1	1	
75u							2	2	
75v							3	3	
Total jars	3		28		7		29		

Table B2: High-use types.

Type 76

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
76b					2	2			
76c					3	3	3	2	
76d							2	2	
76e							1	1	
76g							7	5	
76j			3	3					
76l							15	7	
76m							20	12	
76	5?	1	2	1			2	2	No subtypes given. Naqada IIIA2 example from hill grave 1015. Grave also contained type 46 cylindrical jars.
Total jars	5?		5		5		50		

Type 75/76

Period	IIIA2		IIIB		IIIC1		IIIC2		Notes
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
75-76	1	1	3	3	2	1	16	7	No subtypes given. Naqada IIIA2 example could be 75c or 75e.

Other types

This section includes: Table B3: Other types

- Types 1-99. Some type numbers are not represented in the Tarkhan corpus. A number of types are represented by heterogeneous forms with flat, pointed, and round-bases; as well as different shapes including jars and bottles. These types include 54, 87, 88, 89, 95 and 99. For some graves no subtype letters are provided and the vessel has been recorded on the tomb card as type 8 for example.

- References to the 1953 corpus are from Petrie (1953).

Table B3: Other types.

Period	IIIA2		IIIB		IIIC1		IIIC2		Types represented at Tarkhan
Types	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	No. of jars	No. of graves	
1	2	2	2	2	5	2	15	13	11 subtypes in this group. 1u/y in IIIA2/ IIIB 1u/w in IIIC1 1d/f/h/j/k/s/t/u/x in IIIC2
2			4	4	2	2	1	1	3 subtypes in this group. 2k in IIIB 2b/d in IIIC1 2 (no subtype) in IIIC2
4	2	2	1	1			4	4	1 subtype in this group. 4d only
5	6	4			1	1			1 subtype in this group. 5g only 5 (no subtype) in IIIA2/IIIC2
6									No type 6 in 1953 corpus
7	2	2					6	5	2 subtypes in this group. 7d in IIIA2 7b/7d in IIIC2
8	13	12	10	10	1	1			2 subtypes in this group. 8f/g in IIIA2/IIIB 8f in IIIC1 8 (no subtype) in IIIB
9					1	1			9 (no subtype) in IIIC1
10									No type 10 in 1953 corpus
11	2	2	3	3			17	14	2 subtypes in this group. 11b in IIIA2/IIIB 11b/11d in IIIC2
12	5	4	3	3	1	1	69	65	13 subtypes in this group. 12c/t/w/y in IIIA2 12t in IIIB 12h in IIIC1 12 subtypes in IIIC2 Most in 12l/n/p r/t. No 12c in IIIC2
13			3	3			19	18	7 subtypes in this group. 13c/d/t in IIIB 6 subtypes in IIIC2. Majority in 13f/g. No13t in IIIC2
14	7	7	8	8	1	1	8	8	9 subtypes in this group. 14d/g/q/u in IIIA2 14d/e/g/m/y in IIIB 14t in IIIC1 14d/j/m in IIIC2

Table B3: Other types.

15									No type 15 at Tarkhan. 15d/s from Abydos in 1953 corpus
16	13	9	10	8	1	1	10	10	12 subtypes in this group. 16d/j/ h/ l/ n/ r in IIIA2 16b/f/j/h/r in IIIB 16n in IIIC1 16b/d/f/j/h/y/z in IIIC2
17	5	5	1	1	5	5	22	16	7 subtypes in this group. 17j/l/n in IIIA2 17m in IIIB 17h/l/n in IIIC1 17c/g/h/j/l/m/n in IIIC2 17b drawn but no examples on tomb cards
18	4	4	5	5			9	8	7 subtypes in this group. 18f/w in IIIA2 18b/k in IIIB 18b/f/g/m/v in IIIC2
19	7	7	4	3	4	4	14	14	9 subtypes in this group. 19b/f/k/m/s/w in IIIA2 19k/u in IIIB 19u/w in IIIC1 19b/d/g/s/u/w in IIIC2
20	5	5	1	1	1	1	24	17	8 subtypes in this group. 20b/f/j in IIIA2 20d in IIIB 20m in IIIC1 20b/d/e/f/h/j/k in IIIC2
21-23									No types 21-23 at Tarkhan. No type 21 in 1953 corpus. Type 22 examples are from Abydos and Mahasna. Type 23 are Dynastic examples
24			1	1	1	1	10	10	3 subtypes in this group. 24f in IIIC1 24m/ s in IIIC2 24 (no subtype) in IIIB- possible error?
25	2	2	3	3	1	1	4	4	6 subtypes in this group. 25f/m in IIIB 25f in IIIC1 25d/h in IIIC2 24 (no subtype) in IIIA2
26									No type 26 at Tarkhan. Only 1 in 1953 corpus
27	5	5	7	7	3	3	26	21	8 subtypes in this group. 27h/p/r in IIIA2 27g/h/p/r in IIIB 27p/s in IIIC1 All 8 subtypes in IIIC2

Table B3: Other types.

28							1	1	28 only. No subtype given. Single example from Tarkhan drawn in 1953 corpus
29	1	1			3	3	17	14	3 subtypes in this group. 29g in IIIA2/ IIIC1 29d/m in IIIC2
30									No type 30 in 1953 corpus
31					2	2	2	2	2 subtypes in this group. 31m IIIC1 31d/m in IIIC2 31 (no subtype) in IIIC1
32							1	1	Single example from Tarkhan. No drawing
33					1	1	9	7	5 subtypes in this group. 33 r in IIIC1 33b/g/l/r in IIIC2
34			1	1					1 subtype in this group. 34d only in IIIB
35									No type 35 in 1953 corpus
37	1	1			1	1	2	2	3 subtypes in this group. 37b in IIIA2/IIIC1 37e/l in IIIC2. 37e early example of Maidum bowl
38							2	2	1 subtype in this group. 38/38r in IIIC2
39-41									No types 39-41 at Tarkhan but are seen in 1953 corpus at Abydos in types 40-41
44	1	1	1	1					44c in IIIA2 grave 315. 44f in IIIB grave 38
53	3	3							2 subtypes in this group. 53f/m in IIIA2 One example of 53f is decorated
54	12	10	9	9			8	7	Heterogeneous group with round, pointed and flat-based jars and bowls. Should not be considered a type group.
55	1	1	1	1			1	1	55d (Petrie 1914a, XXIX) but no examples on tomb cards. 55 (no subtype) for all jars

Table B3: Other types.

56	28	17	5	5	4	4	11	10	See also type 66. 8 subtypes in this group. 56b/d/f in IIIA2 56 b/f /h in IIIB 56 b/d/m in IIIC1 56d/h/m/n/o in IIIC2 56f is smaller than 56F (66H) in 1953 corpus.
57	3	3	1	1	5	5	12	12	11 subtypes in this group. 57m in IIIA2 57n in IIIB 57g/j/m in IIIC1 57b/d/g/m/p/r/t/v/y in IIIC2 57 (no subtype) in IIIA2
58									No type 58 in 1953 corpus
61	1	1							1 subtype in this group. 61d in IIIA2
62					1	1			62 (no subtype) in IIIC1
64	3	3			1	1	22	15	3 subtypes in this group. 64b/d in IIIA2 64d in IIIC1 64b/d/h in IIIC2 64 (no subtype) in IIIA2
67	1?	1?					12	3	9 subtypes in this group. 67h in IIIA2. Mistaken identification? 67b/j/l in IIIC2
68	1?	1?					15	11	7 subtypes in this group. 68g in IIIA2. Mistaken identification? 68c/e/h/k/l/p in IIIC2
69									No type 69 in 1953 corpus
70	20	8	21	17	1	1			8 subtypes in this group. 70a/b/c/g in IIIA2 70b/d/g/h/m/n/o in IIIB 70n in IIIC1 70 (no subtype) in IIIB
71									71 (no subtype) (Petrie et al. 1913, LIII) but no example on tomb cards
72	2	2	1	1	6	2	1	1	1 subtype in this group. 72g in IIIA2/ IIIB/ IIIC1 72 (no subtype) in IIIC2
77							1	1	77 (no subtype) in IIIC2
78									No type 78 in 1953 corpus
79							2	2	No type 79 in 1953 corpus or drawn in (Petrie et al. 1913)

Table B3: Other types.

80			1	1					1 subtype in this group. 80w found in valley grave 1362
81	5	4	21	14	4	4	7	1	4 subtypes in this group 81f/g in IIIA2 81f/g in IIIB 81f/9 in IIIC1 81c in IIIC2 81(no subtype)in IIIB
82			3	3			4	2	3 subtypes in this group 82c/f in IIIB 82c/g in IIIC2
83-84									No types 83-84 at Tarkhan. Type 83 only in 1953 corpus
85	2	2	1	1			26	23	6 subtypes in this group. 85c/d in IIIA2 All 6 subtypes in IIIC2 85(no subtype) in IIIB
86	11	11	3	3	1	1	3	3	3 subtypes in this group. 86d/f/g/n in IIIA2 86d/f/g in IIIB 86d in IIIC1 86d/f/k in IIIC2 86 (no subtype) in IIIA2
87	24	13	9	8	1	1	4	4	11 subtypes in this group. 87d/e/h/j/k/s in IIIA2 87d/e/f/j/r in IIIB 87b in IIIC1 87d/n/v in IIIC2 Heterogeneous group with flat and round bases
88	18	17	9	9	1	1	5	5	8 subtypes in this group. 88e/f/g/h/u in IIIA2 88e/g/h/m in IIIB 88g in IIIC1 88d/f/s in IIIC2 Heterogeneous group with flat and round bases
89	3	3	3	3	1	1	7	7	6 subtypes in this group. 89d in IIIA2 89d/p/s in IIIB 89m in IIIC1 89d/m/n in IIIC2 Heterogeneous group with flat and round bases
90			3	2			3	3	1 subtype in this group. 90s in IIIB 90 (no subtype) in IIIB/IIIC2

Table B3: Other types.

91	5	5	5	5	3	3	15	9	11 subtypes in this group. 91a/t/v in IIIA2 91b/e/g in IIIB 91c/d/m in IIIC1 91c/g/l/p in IIIC2 91s (Petrie et al. 1913, LVIII) but no examples on tomb cards
92	7	7	1	1			8	8	6 subtypes in this group. 92f/g in IIIA2 92b/f/g/j/k/s in IIIC2 92 (no subtype) in IIIA2/IIIB
93							2	1	2 subtypes in this group. 93d/k in IIIC2- both in mastaba 1060
94	8	8	5	5	1	1	8	8	9 subtypes in this group. 94d/e/k/n in IIIA2 94l/m/o/p in IIIB 94a in IIIC1 94l/m/n/o in IIIC2 94 (no subtype) in IIIA2
95	4	4	1	1	3	2	3	2	Heterogeneous group- including both flat and round-based jars and bottles. 4 subtypes in this group. 95s in IIIA2 95d in IIIA2/IIIB 95d/m/p in IIIC1 95b/d in IIIC2 95 (no subtype) in IIIA2
96	1	1							1 subtype in this group. 96p found in valley tomb 1867. 96d/h (Petrie 1914a, XXXI) but no examples on tomb cards
97									No type 97 in 1953 corpus
98							1	1	1 subtype in this group. 98t-possible pot-stand found in hill grave 170
99	3	3					4	4	Heterogeneous group- including spouted jars/bottles and unusual forms. 5 subtypes in this group. 99d in IIIA2 99k/m/p/s in IIIC2
100									No 100 types represented at Tarkhan but found in 1953 corpus from Abydos

Table B3: Other types.

No type	392		161		17		201		Unidentified types recorded in Naqada IIIA2-IIIB graves.
Non-Egypt. vessels							9	6	Found in IIIC2 hill graves 1060, 1904, 1907, 1923, 1942 and 1957.

APPENDIX C

Non-ceramic artefact types

Raw materials

Notes:

- Artefact types are followed by identified raw materials for each period.

- Tables C1 and C2 refer to Naqada IIIA2. Tables C3 and C4 to Naqada IIIB

- Artefact types are recorded by number of objects and number of graves. These data are arranged by location (hills and valley); by sex (female and male); and by age (subadult).

- The location category provides the overall number of objects and number of graves. These figures include the tallies from the sex-determined and subadult categories; and also material from those graves without information on the sex or age of the occupant.

- Graves may contain multiple examples of objects in copper, ivory or flint etc. As a result, the tallies given for the number of graves are not cumulative. For example, there are 58 ivory objects in 39 Naqada IIIA2 graves. If a grave contained one ivory spoon and an ivory pin each object is listed separately. Tables in **Chapters Five-Nine** provide the exact number of graves containing the various object categories. These tables provide the raw data only.

- The number of bead-sets and individual beads is unknown. All bead information is recorded on a grave only basis.

- The number of objects is considered a minimum. Only those objects that can be identified are included in this Appendix. Broken objects are problematic and it can be difficult to identify whether fragments represent one or several artefacts. This is an issue for objects such as stone vessels or ivory/bone pins. Objects of flint are often referred to as flakes or blades without stating the number. This is also the case for minerals, mats and baskets.

- Raw materials are recorded by the number of graves only. This should be considered a minimum.

- The identification of raw materials has been hampered by issues associated with confirming the location and provenance of objects. While Petrie's initial distribution lists are available some objects have been donated to other museums, or are now missing from respective collections. A number of objects were never recorded on the lists and cannot be located.

Table C1: Naqada IIIA2-artefact types.

Artefact types	Hills (n = 87)		Valley (n = 528)		Female (n = 191)		Male (n = 179)		Subadult (n = 67)	
	No. of objects	No. of graves	No. of objects	No. of graves	No. of objects	No. of graves	No. of objects	No. of graves	No. of objects	No. of graves
Palettes	17	16	162	155	90	87	26	26	13	11
Stone vessels	35	20	106	79	53	42	35	27	14	7
Beads	N/A	12	N/A	112	N/A	63	N/A	22	N/A	14
Ivory pins	4	4	31	18	22	11	3	3	3	1
Ivory spoons	8	8	9	9	6	6	2	2	1	1
Ivory bracelets	-	-	3	3	-	-	1	1	2	2
Ivory jar	-	-	1	1	-	-	-	-	-	-
Ivory square	-	-	1	1	-	-	-	-	-	-
Ivory rod	-	-	1	1	-	-	-	-	-	-
Copper bracelets	-	-	5	5	3	3	-	-	-	-
Copper pins	-	-	1	1	1	1	-	-	-	-
Copper model tools	10	1	-	-	-	-	-	-	-	-
Copper adzes	3	1	-	-	-	-	-	-	3	1
Copper knife	-	-	1	1	-	-	1	1	-	-
Copper spearhead	1	1	-	-	-	-	-	-	-	-
Copper beads?	-	-	2	2	1	1	-	-	1	1
Copper baboon	-	-	1	1	-	-	-	-	1	1
Copper cap/lid	-	-	1	1	-	-	-	-	1	1
Copper ore	1	1	-	-	-	-	-	-	-	-
Copper (wire?)	1	2	2	2	-	-	1	1	-	-
Flint flakes	4	2	29	9	27	6	-	-	1	1
Flint blades	-	-	6	5	4	3	1	1	1	1
Flint knives	3	3	4	4	1	1	2	2	-	-
Malachite	4	4	34	34	21	21	15	8	4	4
Galena	2	2	21	21	11	11	5	4	3	3
Specular iron (hematite)	5	5	9	9	5	5	1	1	1	1
Pebbles	5	5	31	31	21	21	10	8	2	2
Shell bracelets	14	2	19	10	24	7	-	-	7	2
Stone bracelet	-	-	1	1	-	-	-	-	1	1
Amulets	-	-	12	6	2	2	-	-	8	3
Pendants	-	-	3	2	1	1	-	-	2	1
Bird bone sheath	-	-	1	1	-	-	-	-	1	1
Bone bracelets	-	-	14	1	-	-	-	-	14	1

Table C1: Naqada IIIA2-artefact types.

Bone pins or rods	4	2	2	1	-	-	-	-	-	-
Game pieces	1	1	-	-	-	-	-	-	-	-
Stone macehead	-	-	1	1	-	-	1	1	-	-
Glazed/faience vessels	1	1	6	5	6	5	-	-	-	-
Shells (marine)	1	1	2	2	1	1	1	1	1	1
Wooden board/top	1	1	-	-	-	-	-	-	-	-
Wooden arrows	5	1	-	-	-	-	-	-	-	-
Cushion	-	-	1	1	1	1	-	-	-	-
Mats (other)	1	1	7	7	2	2	-	-	-	-
Baskets (storage)	3	2	1	1	1	1	2	1	-	-
Coffins (wood)	20	20	44	44	16	16	21	21	2	2
Coffins (baskets)	5	5	33	33	14	14	12	12	4	4
Coffins (ceramic)	-	-	5	5	4	4	1	1	-	-
Coffin (trays)	-	-	4	4	4	4	-	-	-	-
Beds	-	-	2	2	1	1	1	1	-	-

Table C2: Naqada IIIA2-raw materials.

Raw materials	Hills (n = 87)	Valley (n = 528)	Female (n = 191)	Male (n = 179)	Subadult (n = 67)
	No. of graves	No. of graves	No. of graves	No. of graves	No. of graves
Palettes					
Greywacke	16	155	87	26	11
Stone vessels					
Travertine	8	22	11	10	2
'Alabaster' probably travertine	7	28	16	7	6
Basalt	-	1	-	1	-
Limestone	1	1	-	1	-
Orange/pink limestone	1	-	1	-	-
Grey limestone	1	-	-	-	-
Yellow limestone	-	1	-	-	1
Serpentinite	1	-	-	-	-
'Slate' probably greywacke	-	1	1	-	-
Probably travertine	5	29	17	11	5
Beads					
Carnelian	7	69	43	15	8
Glazed steatite	9	57	23	11	5
Steatite	-	1	1	-	-
Garnet	3	10	7	1	1
Shell	-	9	5	1	-
Faience	-	13	5	-	3
Hematite	-	1	-	1	-
Malachite	-	1	-	1	-
Travertine	-	3	-	-	1
Agate	-	1	1	-	-
Quartz	-	1	1	-	-
Rose Quartz	-	1	-	-	-
Rock crystal	-	1	-	-	-
Ivory	-	1	-	-	-
Amethyst	-	3	2	-	-
Olivine	-	1	-	-	-
Minerals/ores					
Malachite	4	34	21	8	4
Galena	2	21	11	4	3
Specular iron (hematite)	5	9	5	1	1

Table C2: Naqada IIIA2-raw materials.

Other					
Ivory	12	28	14	6	4
Shell	3	12	8	1	3
Bone	2	3	1	-	2
Serpentinite with gold leaf (amulet)	-	1	-	-	1
Flint	5	18	10	3	1
Limestone (macehead)	-	1	-	1	-
Copper (as finished product)	5	12	5	2	3
Carnelian (amulets/pendants)	-	2	2	-	3
Glaze/faience (amulets)	-	2	-	-	-
Faience (vessels)	1	5	5	-	-
Rock crystal (amulets)	-	1	-	-	1
Reed or rush (matting/baskets/trays)	8	41	22	14	4
Wood (coffins/beds/other)	22	46	16	22	2

Table C3: Naqada IIIB-artefact types.

Artefact types	Hills (n = 74)		Valley (n = 279)		Female (n = 115)		Male (n = 87)		Subadult (n = 33)	
	No. of objects	No. of graves	No. of objects	No. of graves	No. of objects	No. of graves	No. of objects	No. of graves	No. of objects	No. of graves
Palettes	10	10	91	83	51	48	16	15	8	6
Stone vessels	54	27	70	46	34	23	22	14	10	6
Beads-general	N/A	12	N/A	60	N/A	39	N/A	10	N/A	7
Beaded textile	1	1	-	-	-	-	-	-	-	-
Ivory pins	-	-	17	14	12	10	2	1	1	1
Ivory spoons	4	4	7	6	4	4	-	-	2	2
Ivory bracelets	-	-	8	3	-	-	1	1	7	2
Copper bracelets	-	-	2	2	2	2	-	-	-	-
Copper cap/lids	-	-	2	2	2	2	-	-	-	-
Copper pan	-	-	1	1	1	1	-	-	-	
Copper pins	1	1	1	1	1	1	-	-	-	
Copper ring	-	-	1	1	-	-	1	1	-	-
Copper adzes	2	2	1	1	-	-	1	1	-	-
Copper axe	1	1	-	-	-	-	-	-	-	-
Copper chisel	1	1	-	-	-	-	-	-	-	-
Copper knife	1	1	-	-	-	-	-	-	-	-
Copper bowl	1	1	-	-	-	-	-	-	-	-
Copper wire	2	2	-	-	-	-	-	-	-	-
Copper rod	1	1	-	-	-	-	-	-	-	-
Flint flakes	2	2	7	7	2	2	-	-	1	1
Flint blades	-	-	4	3	-	-	1	1	-	-
Flint knives	1	1	1	1	-	-	2	2	-	-
Malachite	1	1	17	17	12	12	1	1	3	2
Galena	2	2	17	17	11	11	-	-	4	2
Specular iron (hematite)	1	1	4	4	4	4	-	-	-	-
Pebbles	3	2	16	15	10	9	1	1	3	3
Stone bracelets	-	-	2	2	1	1	-	-	-	-
Shell bracelets	-	-	9	3	-	-	-	-	9	3
Limestone macehead	-	-	1	1	-	-	-	-	-	-
Glazed/faience vessels	-	-	4	4	2	2	1	1	-	-
Amulets (bulls head)	-	-	1	1	1	1	-	-	-	-
Pendants	-	-	2	2	-	-	-	-	1	1
Bone imitation palette	1	1	-	-	-	-	-	-	1	1

Table C3: Naqada IIIB-artefact types.

Game pieces	22	4	1	1	1	1	-	-	-	-
Stone cones/weights	-	-	4	3	-	-	-	-	2	1
Wooden model dagger	1	1	-	-	-	-	-	-	-	-
Wooden tools	1	1	-	-	-	-	-	-	-	-
Mats (other)	4	4	10	10	4	4	-	-	-	-
Baskets (storage)	3	3	-	-	-	-	-	-	-	-
Wooden coffins	17	17	35	35	11	11	10	10	4	4
Basket coffins	10	10	15	15	9	9	4	4	2	2
Pottery coffins	-	-	1	1	-	-	-	-	-	-
Beds	2	2	1	1	-	-	1	1	-	-

Table C4: Naqada IIIB-raw materials.

Raw materials	Hills (n = 74)	Valley (n = 279)	Female (n = 115)	Male (n = 87)	Subadult (n = 33)
	No. of graves	No. of graves	No. of graves	No. of graves	No. of graves
Palettes					
Greywacke	10	83	48	15	6
Stone vessels					
Travertine	13	14	8	5	-
'Alabaster' probably travertine	11	16	9	5	7
Limestone	2	3	1	2	-
Yellow limestone	1	-	-	-	-
Pink limestone	1	-	-	-	-
Red breccia limestone	-	1	-	-	-
Porphyry?	1	-	-	-	-
Travertine or limestone	7	13	11	4	3
Beads					
Carnelian	4	39	28	7	2
Glazed steatite	9	26	18	3	5
Garnet	2	6	4	-	2
Shell	-	2	1	-	-
Serpentinite	-	1	1	-	-
Quartz	-	2	1	1	-
Amethyst	-	2	1	-	1
Lapis lazuli	1	1	-	-	1
Haematite	-	2	-	-	1
Travertine	-	1	-	-	-
Agate	-	1	-	-	-
Gold	1	-	-	-	-
Minerals/ores					
Malachite	2	17	12	1	3
Galena	1	17	11	-	3
Specular iron (hematite)	1	4	4	-	-
Other materials					
Ivory	4	21	14	1	2
Bone	-	2	1	-	2
Copper (as finished product)	10	7	4	2	-
Flint	3	11	2	3	1
Shell (bracelets)	-	3	-	-	3

Table C4: Naqada IIIB-raw materials.

Carnelian (amulets/pendants)	-	3	2	-	-
Stone bracelets (flint or greywacke)	-	2	-	-	1 (greywacke)
Limestone (macehead)	-	1	-	-	-
Faience (vessels)	-	4	2	1	-
Reed or rush (matting/baskets/trays)	17	15	13	4	2
Wood (coffins/beds/tools)	21	36	11	11	4

APPENDIX D

The valley mastabas

Notes:

Mastabas are arranged by period

Naqada IIIA2:

1845

852

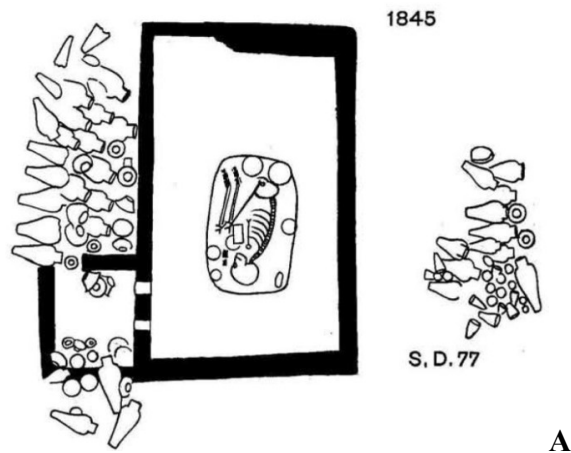Naqada IIIB:

1889

1890

740

Naqada IIIB-Naqada IIIC1?:

1231

Naqada IIIC1:

1674

Mastaba 1845

A

B

A: Illustration of mastaba (Petrie 1914a, XIV) depicting orientation of body with head to the south facing west.
B: Photograph of structure looking southwards (Petrie 1914a, XII).

Period: Naqada IIIA2 (late)

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125, Tab. 1; Clark 2016, 471)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed on the south-west end of the mastaba retaining wall. Entrance to the forecourt is from the north. Two slits cut into the western retaining wall connecting the forecourt to the mastaba. The slits were cut to face the tomb owner's head.

Measurements from tomb card:

Pit: 1.27 m (length) x 0.76 m (width) x 2.28 m (depth). This falls within the measurements estimated by Clark (2016, 471) (1.2 m long x 0.75 m wide)

Pit volume (m^3): 1.27 m x 0.76 m x 2.28 m = 2.2 m^3

Mastaba: 3.10-3.20 m long x 1.90-2.00 m wide. This falls within the measurements estimated by Clark (2016, 471) (3.00-3.10 m long x 1.85-2.00 m wide). The tomb card recorded that the structure was 142 inches in length (3.6 m), although this is inconsistent with the drawing and calculations based upon the length of the burial pit.

Forecourt: No measurements provided

Retaining wall thickness: Irregular

Roofing/security: Pit backfilled with sand and gravel to the top of the retaining wall. This formed a flat-topped mound over the burial chamber (Petrie 1914a, 2-3; Clark 2016, 471).

Disturbance status: Undisturbed

Location: Western area of valley cemetery in section O-P, south of pathway (Petrie 1914a, XLVI)

Sex recorded on tomb card: Male

Orientation of body: SW

Pottery: Five vessels recorded on tomb card including types 46p, 46s, 47h, 60d x 2

Placement of pottery: 46p in front of head, 46s behind lower body, 47h in front of face, 60d x 2 behind feet to north-east of pit

Other grave goods: Two travertine stone vessels types 19p and 18g. Type 14b noted on tomb card but 18g drawn on plate XXV; photographs of vessels on plate VI (Petrie 1914a). One rectangular lined palette (98k) (Petrie 1914a, XXIV). The stone vessels are in the collection of the Glasgow Museums Resource Centre (EGNN 716 and 717). Location of palette cannot be confirmed.

Placement of grave goods: One travertine bowl (19p?) placed between the head and knees. Palette placed on top on the bowl. Location of second travertine bowl not recorded on the tomb card. Possible gazelle skull placed on south-east side of pit.

Total ceramic and non-ceramic goods in pit: 8 (animal skull not included in tally).

Offering jars: 50 (approximate figure only). These include 31 on western retaining wall and entrance to forecourt; 11 within forecourt; and eight placed outside and on top of southern end of forecourt. Another group of approximately 34 vessels to east of structure have not been included in the tally of offering jars as the connection to 1845 is uncertain.

Published: Petrie 1914a, 2-3, VI, XII, XIV, XXIV-V, XXXVI; Ellis 1992, 254-255, Fig. 12; 1996, 158, 160-162; Hendrickx 2001, 100; Grajetzki 2008b, 104-105; Bárta 2011, 29-30; Snape 2011, 8-13; Mawdsley 2012a, 229; Clark 2016, 26, 471.

Archive negatives and photographs in the Petrie Museum: PMAN 3674-3679 (Pridden 2008a, 248; Pridden 2008b, 270).

Mastaba 852
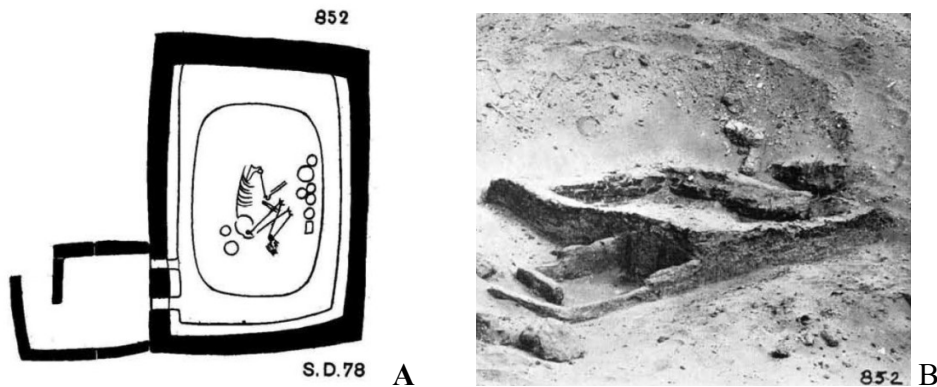
A. Illustration of mastaba (Petrie 1914a, XIV). Orientation of the body is incorrect.
B. Photograph taken from the east depicting the forecourt (Petrie 1914a, XIII).

Period: Naqada IIIA2 (late)

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125, Tab. 1; Clark 2016, 470)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed on the south-west end of the mastaba retaining wall. Entrance to the forecourt is from the north. Two slits cut into the western retaining wall. The tomb card mentioned that there was a "brick line around top of grave". It is possible that this was the first mastaba excavated as none of the remaining cards are annotated in this fashion.

Internal Ledge: From the drawing on plate XIV(**A**) it is possible that a ledge between the retaining wall and the main burial pit formed part of the internal structure of the mastaba. This ledge was drawn on the south, east and west sides of the grave. Two slits appear to connect this ledge to the openings in the main retaining wall.

Measurements from tomb card:

Pit: 2.15 m (length) x 1.52 m (width) x 1.65 m (depth). The measurements provided by Clark (2016, 471) (1.85 m long x 1.3 m wide) do not correspond with the original data provided on the tomb card and register (Petrie 1914a, XXXVII). Contrary to Ellis (1996, 158), the pit was not lined with mudbrick.

Pit volume (m³): 2.15 m (length) x 1.52 m (width) x 1.65 m (depth) = 5.4 m³

Mastaba: Clark (2016, 471) has estimated that the mastaba was 2.8-3.0 m in length x 2.1 m wide. The measurements are problematic given the length of the pit (2.15 m). The length of 852 is similar to that of mastabas 740 and 1231 as depicted on the valley map (Petrie 1914a, XLVI). An estimated range of 3.00 m to 3.20 m in length is suggested.

Forecourt: 0.76 m long x 1.19 m wide. The forecourt was described as a "delicately built little court of offerings, only one brick on edge for the height in front, and two bricks behind" (Petrie 1914a, 3).

Retaining wall thickness: Irregular

Roofing/security: Uncertain but similar to 1845 (Petrie 1914a, 2-3; Clark 2016, 471).

Disturbance status: Disturbed

Location: Western area of valley cemetery in section R, north of pathway (Petrie 1914a, XLVI).

Sex recorded on tomb card: Male

Orientation of body: SW, although the drawing on plate XIV (**A**) has placed the body with head to the north and facing east. This is a mistake. Even though the skull is missing the tomb card indicates that the orientation of the body was SW and this is confirmed by the register entry for the mastaba (Petrie 1914a, XXXVII).

Pottery: Nine vessels recorded on the tomb card including types 3b x 3, 5k, 36k, 46h, 60g-j, 73h and 86h. The drawing on plate XIV depicts six vessels.

Placement of pottery: Along west wall between upper body and top of knees. One pot placed between lower body and legs (this is marked as A on the tomb card).

Other grave goods: Two stone vessels types 26d and 71w (travertine?). One damaged rectangular-lined palette (97e) (Petrie 1914a, XXVII). Two beads described as "green pottery" (faience?) and fragments of ivory.

Placement of grave goods: 26d behind the legs and 71w behind the pelvis; palette along west wall adjacent to knees. One bead and ivory fragments were found in a pottery vessel marked as A on the tomb card. One bead was also found in another pottery vessel along west wall marked as B.

Total ceramic and non-ceramic goods in pit: 15. Beads counted as separate goods due to placement in different pots. Ellis (1992, 255) has 14 artefacts based upon generic entry for beads in register.

Offering jars: 141 listed on separate tomb card. Multiple examples of types 3, 73, type 46 cylindrical jars and other unidentified vessels.

Other information: Stone vessels, ivory fragments and possibly beads sent to the University of Aberdeen. Insufficient information is provided in the museum catalogue to confirm details provided in Petrie's distribution list. The register indicated that the palette was taken to the Cairo salesroom (Petrie 1914a, XXXVII).

Published: Petrie 1914a, 3, 13, XIII-IV, XXVII, XXXVII; Ellis 1992, 254-255, Fig. 12; 1996, 158, 160-162; Hendrickx 2001, 100; Grajetzki 2008b, 104-105; Mawdsley 2012a, 229; Clark 2016, 26, 470.

Archive negatives and photographs in the Petrie Museum: PMAN 3685 (Pridden 2008a, 248; Pridden 2008b, 270).

Mastaba 1889
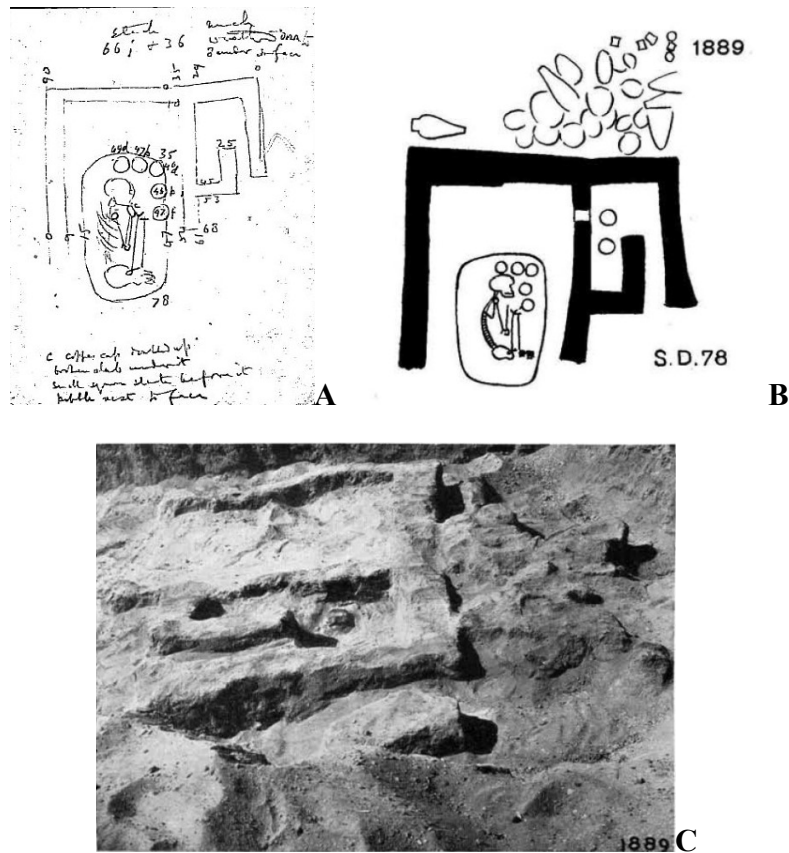
A. Verso of tomb card (Courtesy of the Petrie Museum of Archaeology, UCL).
B. Illustration of mastaba (Petrie 1914a, XIV).
C. Photograph taken from the east depicting the forecourt (Petrie 1914a, XIII).

Period: Naqada IIIB

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125, Tab. 1; Clark 2016, 470)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed on the north-east end of the mastaba retaining wall. Entrance to the forecourt is from the south. There is only one slit in the eastern retaining wall illustrated on plate XIX (**B**). This is not drawn on the tomb card (**A**). Petrie (1914a, 3) recorded that the superstructure was denuded.

Measurements from tomb card:

Pit: 1.09 m (length) x 0.81 m (width) x 1.57 m (depth)

Pit volume (m^3): 1.09 m (length) x 0.81 m (width) x 1.57 m (depth) = 1.38 m^3

Mastaba: From the northern wall to end of pit is 1.98 m. Length of mastaba estimated to be over 2 m. Width is approx. 1.80 m

Forecourt: 1.34 m long x 0.73 m wide

Retaining wall thickness: Irregular. The width of the mastaba mudbrick walls range from 0.17 m to 0.25 m

Roofing/security: Uncertain but similar to 1845 (Petrie 1914a, 2-3; Clark 2016, 471).

Disturbance status: Undisturbed

Location: Western area of valley cemetery in section M, north of pathway (Petrie 1914a, XLVI).

Sex recorded on tomb card: Female

Orientation of body: NE

Pottery: Five vessels recorded on the tomb card including 46d (net-patterned), 46p, 47f, 47p and 49d.

Placement of pottery: 46p and 47f along east wall of pit in front of head and neck; 46d, 47p and 49d along northern edge of pit above head.

Other grave goods: Copper cap, one stone bowl (travertine?) (19u), one rectangular palette (94g), two pebbles and carnelian beads (bracelet and necklace).

Placement of grave goods: Copper cap "rolled up" with broken stone bowl under it. These items were under the chin. The palette was placed in front of the copper cap. One pebble next to the face; location of other pebble unknown. Carnelian beads on right wrist and larger carnelian beads near the neck.

Total ceramic and non-ceramic goods in pit: 12

Offering jars: 27? Two vessels were placed in the forecourt as drawn on plate XIV (**B**); vessels not drawn on tomb card (**A**). Jars in stack identified as types 66j and 36.

Other information: The palette, pebbles and possibly the stone vessel were acquired by the Museum of Applied Arts in Opav, Czech Republic (now called the Silesian Museum). Most of the material from Tarkhan was lost during the Second World War (see Duliková 2015, 28, Tab. 1). Location of beads not recorded.

Published: Petrie 1914a, 3, XIII-IV, XXIV-V, XLI; Ellis 1992, 254-255, Fig. 12; 1996, 158, 160-162; Grajetzki 2008a, 197-198; Grajetzki 2008b, 104-105.

Archive negatives and photographs in the Petrie Museum: PMAN 3688, 3692-3693 (Pridden 2008a, 248; Pridden 2008b, 270-271).

Mastaba 1890
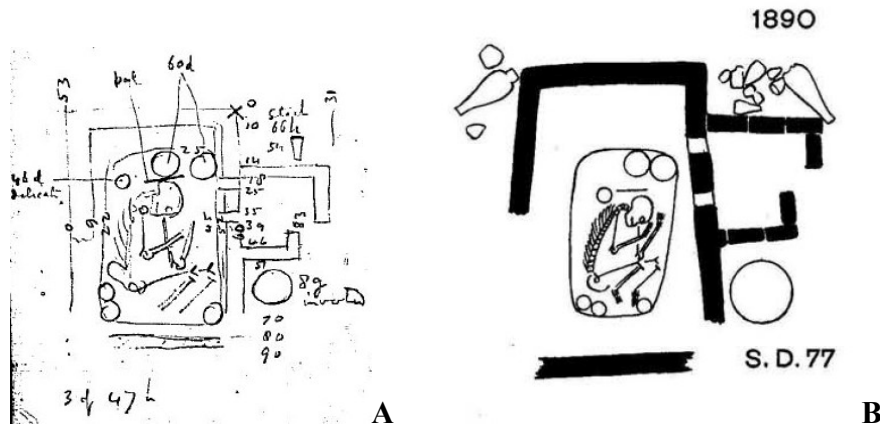
A. Verso of tomb card (Courtesy of the Petrie Museum of Archaeology, UCL).
B. Illustration of mastaba (Petrie 1914a, XIV).

Period: Naqada IIIB (early)

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125-126, Tab. 1; Clark 2016, 470)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed approx. 0.35 m from the north-eastern corner of the mastaba. Entrance to the forecourt is from the east. Two slits in eastern retaining wall. Petrie (1914a, 3) recorded that the superstructure was denuded. Parts of the western and eastern retaining walls of the mastaba were no longer visible. Part of the southern retaining wall survived.

Measurements from tomb card:

Pit: Excavator measurements: 1.16 m (length) x 0.53 m (width) x 1.65 m (depth).

Pit volume (m³): 1.16 m (length) x 0.53 m (width) x 1.65 m (depth) = 1.00 m³

Mastaba: 2.28 m long x 1.34 m wide

Forecourt: 0.93 m long x 0.78 m wide

Retaining wall thickness: Irregular. The width of the mastaba walls range from 0.20 m to 0.22 m. The width of the forecourt walls are 0.10 m-0.12 m. The forecourt may have been constructed by single bricks as suggested by the drawing on plate XIV (**B**).

Roofing/security: Uncertain but similar to 1845 (Petrie 1914a, 2-3; Clark 2016, 471).

Disturbance status: Undisturbed

Location: Western area of valley cemetery in section M, north of pathway (Petrie 1914a, XLVI).

Sex recorded on tomb card: Female

Orientation of body: NE. Head bent forward towards slit in mastaba wall

Pottery: Six pots recorded on tomb card including 46d net patterned (described on tomb card as delicate), 47h x3 and 60d x 2

Placement of pottery: Both 60d jars along northern wall above head, 46d behind neck, two 47h jars below pelvis, one 47h below the legs

Other grave goods: Bracelet of garnet and carnelian beads. One rectangular lined palette (type 98u)

Placement of grave goods: Palette placed on edge directly above or resting upon head. Garnet and carnelian beads on left wrist (tomb card noted that the beads were threaded as found).

**Total ceramic and non-ceramic goods in pit:** 8

Offering jars: 13. One large inverted 8g bowl placed outside southern wall of forecourt. Another nine jars outside northern wall of forecourt Three jars placed to west of the retaining wall of mastaba. Vessels types include 66h and smaller unrecorded forms (Petrie 1914a, XXXVI).

Other information: Palette sent to Cairo salesroom (Petrie 1914a, XXXVI). Location of beads not recorded on the distribution lists.

Published: Petrie 1914a, 3, 12-13, XIV, XXXVI; Ellis 1992, 254-255, Fig. 12; 1996, 158, 160-162; Grajetzki 2008a, 196-197; Grajetzki 2008b, 104-105.

Archive negatives and photographs in the Petrie Museum: PMAN 3691 (Pridden 2008a, 248; Pridden 2008b, 271).

Mastaba 740
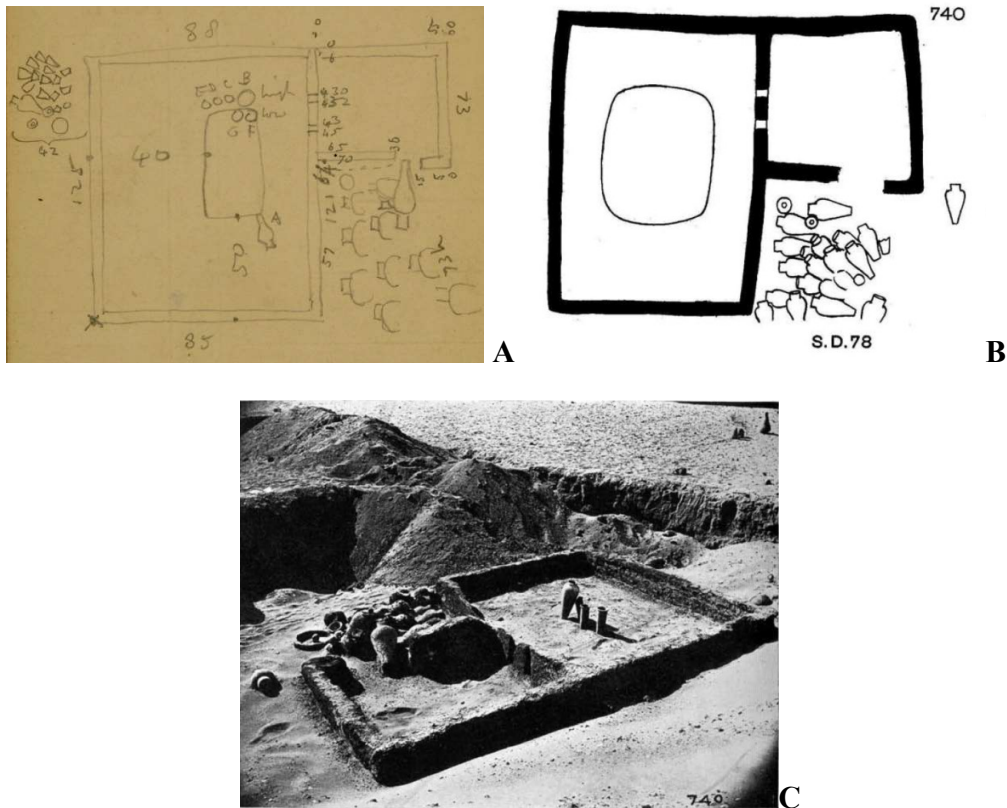
A. Verso of tomb card (Courtesy of the Petrie Museum of Archaeology, UCL).
B. Illustration of mastaba (Petrie 1914a, XIV).
C. Photograph taken from the west depicting the forecourt with the slits visible (Petrie 1914a, XIII).

Period: Naqada IIIB

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125, Tab. 1; Clark 2016, 470)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed on the north-east end of the mastaba retaining wall. Entrance to the forecourt is from the south. Two slits in eastern retaining wall. Walls were white-washed and still visible on brickwork (Petrie 1914a, 3). Contrary to Ellis (1996, 158), the pit was not lined with mudbrick.

Measurements from tomb card:

Pit: 1.21 m (length) x 0.66 m (width) x 1.9 m (depth).

Pit volume (m³): 1.21 m (length) x 0.66 m (width) x 1.9 m (depth) = 1.51m³

Mastaba: 3.00-3.2 m long x 2.15m-2.23 m wide

Forecourt: Width of forecourt approx. 1.52 m. The size of the forecourt is comparable to that of 1674. The slits were also measured at 0.05 m wide.

Retaining wall thickness: Irregular. Forecourt walls are 0.12 m-0.15 m wide

Roofing/security: Uncertain but similar to 1845 (Petrie 1914a, 2-3; Clark 2016, 471).

Disturbance status: Disturbed

Location: Western area of valley cemetery in section R, north of pathway (Petrie 1914a, XLVI).

Sex recorded on tomb card: Assigned female but no human remains were recorded. Petrie (1914a, 3) stated that no burial was left.

Orientation of body: South. The basis for this assignment is unclear. Given the orientation of the forecourt is to the north-east, the body should have been similarly aligned.

Pottery: Seven vessels recorded on tomb card including 46r and 47m (recorded as low-this may mean on the floor of the pit or in the fill). 46d net patterned, 46h, 47m and 60j in fill of pit (recorded as high). These four vessels can be seen on plate XIII (**C**). One type 73h possibly in fill of pit. It is unclear why Petrie (1914a, 3) stated that there was nothing left "beyond four jars".

Placement of pottery: see above

Other grave goods: One stone vessel (type 71h) and broken ivory spoon in fill. These are listed on the tomb card and register. The stone vessel may have been sent to the Nicholson Museum/Australian Museum (E22451/MU1622). Several other items including a copper needle (UC17120), resin (UC17121), and a double ended scraper and a curved flake of chert (UC17122) are listed in the register of the Petrie Museum.

Placement of grave goods: Unknown

Total ceramic and non-ceramic goods in pit: 13? Ellis (1992, 255) had 21 artefacts based upon number of pottery types listed in the register; however, some of these are external offering jars.

Offering jars: 40+. Vessels placed outside western retaining of mastaba include types 3b, 8f, 36g, 54t, 70g and 73h (not drawn on plate XIV). Vessels placed along eastern retaining wall and near entrance of forecourt include types 1y, 3b, 73h and 87d.

Published: Petrie 1914a, 3, XIII-XIV, XXXVII; Ellis 1992, 254-255, Fig. 12; 1996, 158, 160-162; Grajetzki 2008b, 104-105.

Archive negatives and photographs in the Petrie Museum: PMAN 3682-3684, 3286-3287 (Pridden 2008a, 248; Pridden 2008b, 270).

Mastaba 1231
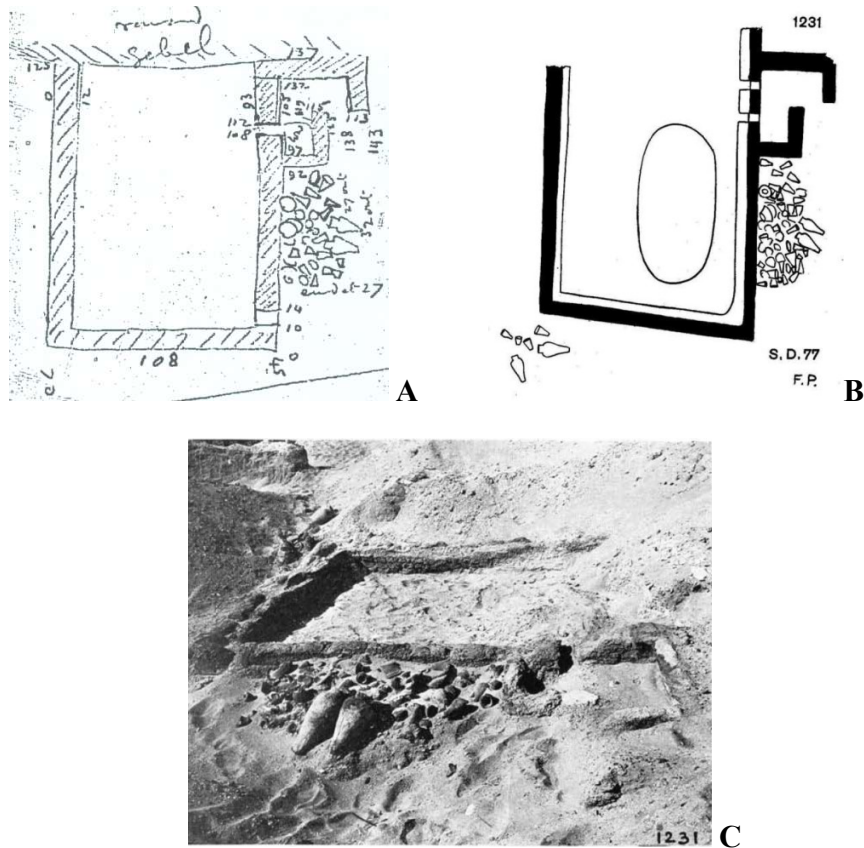
A. Verso of tomb card (Courtesy of the Petrie Museum of Archaeology, UCL).
B. Illustration of mastaba (Petrie 1914a, XIV).
C. Photograph taken from the west depicting the forecourt with the slits visible (Petrie 1914a, XIII).

Period: Naqada IIIB-early IIIC1?

Chronological issue: Placement of forecourt to the east follows pattern of other Naqada IIIB-IIIC1 mastabas

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125, Tab. 1; Clark 2016, 470)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed on the north-east end of the mastaba retaining wall. Entrance to the forecourt is from the east. Two slits in eastern retaining wall. The structure was "built up against a scarp of rock on the north" (Petrie (1914a, 3).

Internal Ledge: From the drawing on plate XIV (**B**) it is possible that a ledge between the retaining wall and the main burial pit formed part of the internal structure of the mastaba. This feature is also seen on mastaba 852. Two slits appear to connect this ledge to those cut into the main retaining wall.

Measurements from tomb card:

Pit: unknown

Pit volume (m³): unknown

Mastaba: 3.17 m long x 2.74 m wide. The measurements on the tomb card are not clear. The forecourt is drawn so that the wall is up against the scrap of the rock (**A**). Only one slit is depicted on the tomb card and this can be seen on the photograph (**C**). As noted by Petrie (1914a, 3), the second slit was cleared after initial photography. There is also another slit in the retaining wall at the south-eastern end of the mastaba. This is drawn on the tomb card (**A**), but not depicted on plate XIV (**B**).

Forecourt: 0.88 m wide (?)

Retaining wall thickness: Irregular. The retaining walls of the mastaba are recorded as 0.30 m. The width of the forecourt walls are 0.12 m. The width of one slit is 0.10 m.

Roofing/security: Mastaba was originally covered to the top of the wall of the mastaba (Petrie 1914a, 3).

Disturbance status: Disturbed

Secondary disturbance?: The tomb card for grave 715 (Naqada III) indicates that it was either cut into the southern retaining wall; or that a small part of this wall was constructed over the northern end of the burial. The grave was 1.52 m in depth so it is possible that the wall was constructed over the northern end of the grave. Grave 715 is drawn on the valley map to the immediate south of the southern retaining wall (Petrie 1914a, XLVI); however, on the tomb card for mastaba 1231 this grave is numbered 887.

Location: Situated in the western area of valley cemetery in section S, north of the pathway. Not numbered on map (Petrie 1914a, XLVI).

Sex recorded on tomb card: No remains recorded

Orientation of body: Given the orientation of the forecourt is to the north-east, the body should have been similarly aligned.

Total ceramic and non-ceramic goods in pit: No grave goods recorded

Offering jars: approximately 40+ placed outside eastern retaining wall below forecourt. Another six vessels were drawn outside south-west corner of mastaba (**B**), although the connection of these to 1231 is unclear.

Published: Petrie 1914a, 3, XIII-XIV; Ellis 1992, 254-255, Fig. 12; 1996, 153, 160-162; Grajetzki 2008b, 104-105.

Archive negatives and photographs in the Petrie Museum: PMAN 3680-3681 (Pridden 2008a, 248; Pridden 2008b, 270).

Mastaba 1674
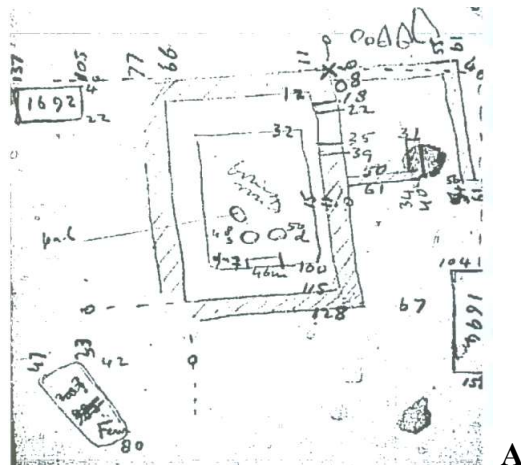
A. Verso of tomb card (Courtesy of the Petrie Museum of Archaeology, UCL).
B. Photograph showing the mastaba and forecourt with two slits visible in retaining wall (Petrie 1914a, XIII).

Period: Naqada IIIC1

Substructure type: IB (simple rectangular pit) (Köhler 2008a, 125, Tab. 1; Clark 2016, 470)

Superstructure: Mudbrick structure with mastaba over burial and separate forecourt. The forecourt was constructed on the north-east end of the mastaba retaining wall. Entrance to the forecourt is from the south. Petrie (1914a, 3) recorded that the superstructure was partly denuded.

Measurements from tomb card:

Pit: 1.77 m (length) x 1.01 m (width) x 1.77m (depth)

Pit volume (m^3): 1.77 m (length) x 1.01 m (width) x 1.77m (depth) = 3.16 m^3

Mudbrick superstructure: 3.25 m long x 1.95 m wide

Forecourt: Width of forecourt possibly 1.54 m. The size of the forecourt is comparable to that mastaba 740. The slits were also measured at 0.10 m wide.

Retaining wall thickness: Irregular. The width of the forecourt walls are 0.20 m-0.27 m.

Roofing/security: Uncertain but similar to 1845 (Petrie 1914a, 2-3; Clark 2016, 471).

Disturbance status: Disturbed

Location: Central area of valley cemetery in section B, south of pathway (Petrie 1914a, XLVI).

Sex recorded on tomb card: Assigned male but tomb card indicated that the bones were rotted. Sex is given as male in the register (Petrie 1914a, XL).

Orientation of body: Given the orientation of the forecourt is to the north-east, the body should have been similarly aligned.

Pottery: Three vessels recorded on tomb card including types 46m, 48s and 50d

Placement of pottery: 46m along the southern wall of the pit, 48s and 50d above the 46d perhaps placed where feet would have been.

Other grave goods: One palette, two stone vessels including one basalt bowl type 14h and one type 35 bowl. Both of the stone vessels were sent to the Cairo salesroom (Petrie 1914a, XL). Palette not recorded in the register (Petrie 1914a, XL). Carnelian and garnet beads; fragment of faience vessel (?) described as green glaze.

Placement of grave goods: Palette above pottery. Placement of other goods unknown.

Total ceramic and non-ceramic goods in pit: 8?

Offering jars: Five vessels are drawn outside the southern wall of the forecourt (**A**). Vessels are seen within the forecourt (**B**) so the original placement is unclear. Vessels types recorded on tomb card as 3b and 66j.

Published: Petrie 1914a, 3, XIII-XIV, XL; Ellis 1992, 254-255, Fig. 12; 1996, 160-162; Grajetzki 2008b, 104-105.

Archive negatives and photographs in the Petrie Museum: PMAN 3689-3690 (Pridden 2008a, 248; Pridden 2008b, 271).