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The History of the Peoples of the Eastern Desert



Edited by
Hans Barnard
and
Kim Duistermaat

The History of the Peoples of the Eastern Desert

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The History of the Peoples of the Eastern Desert



edited by

Hans Barnard

and

Kim Duistermaat

Monograph 73

Cotsen Institute of Archaeology
University of California, Los Angeles

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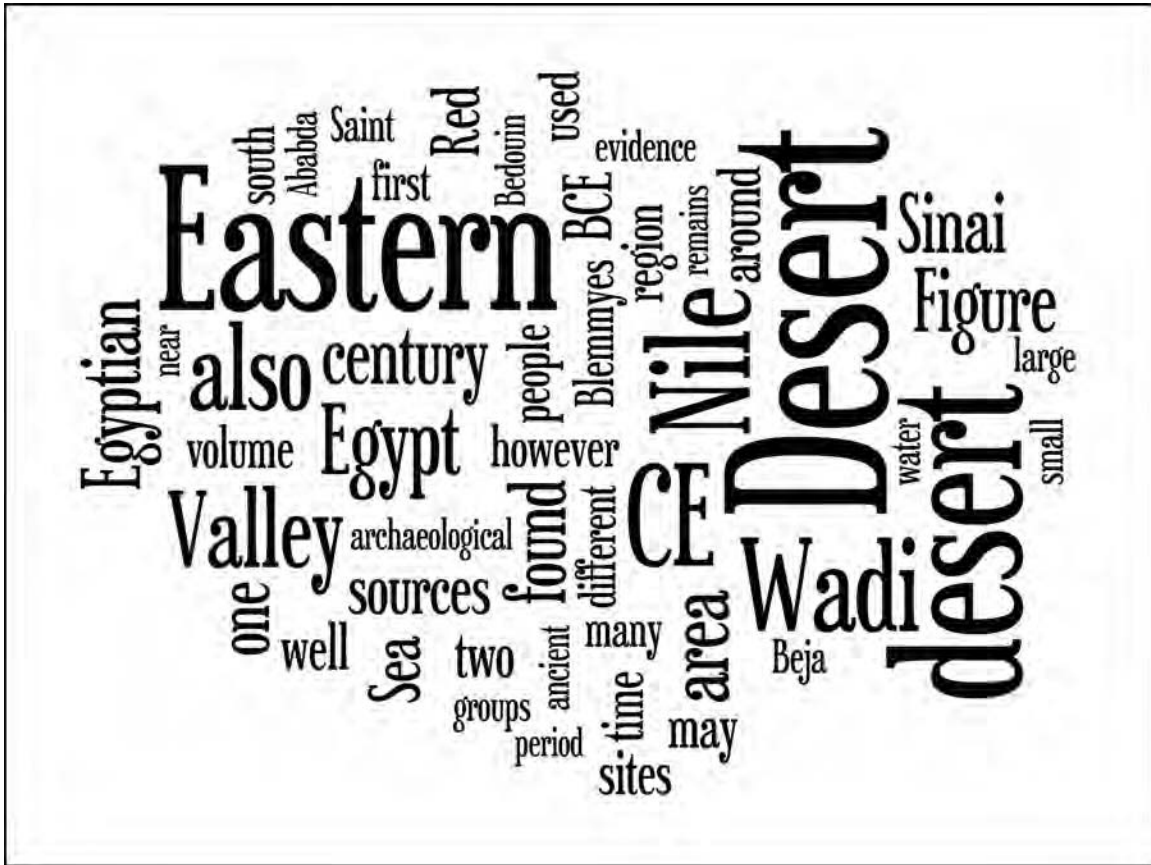
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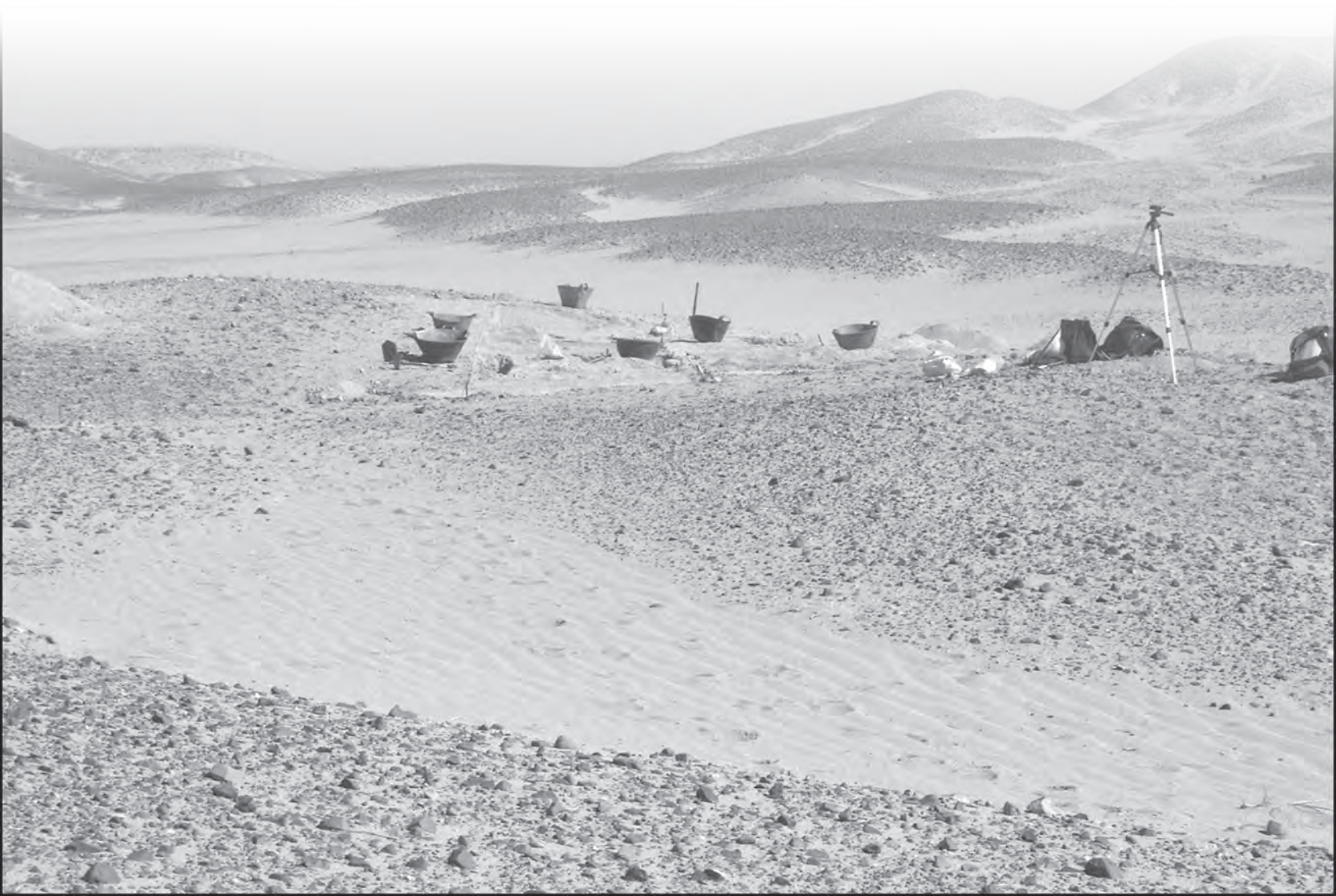
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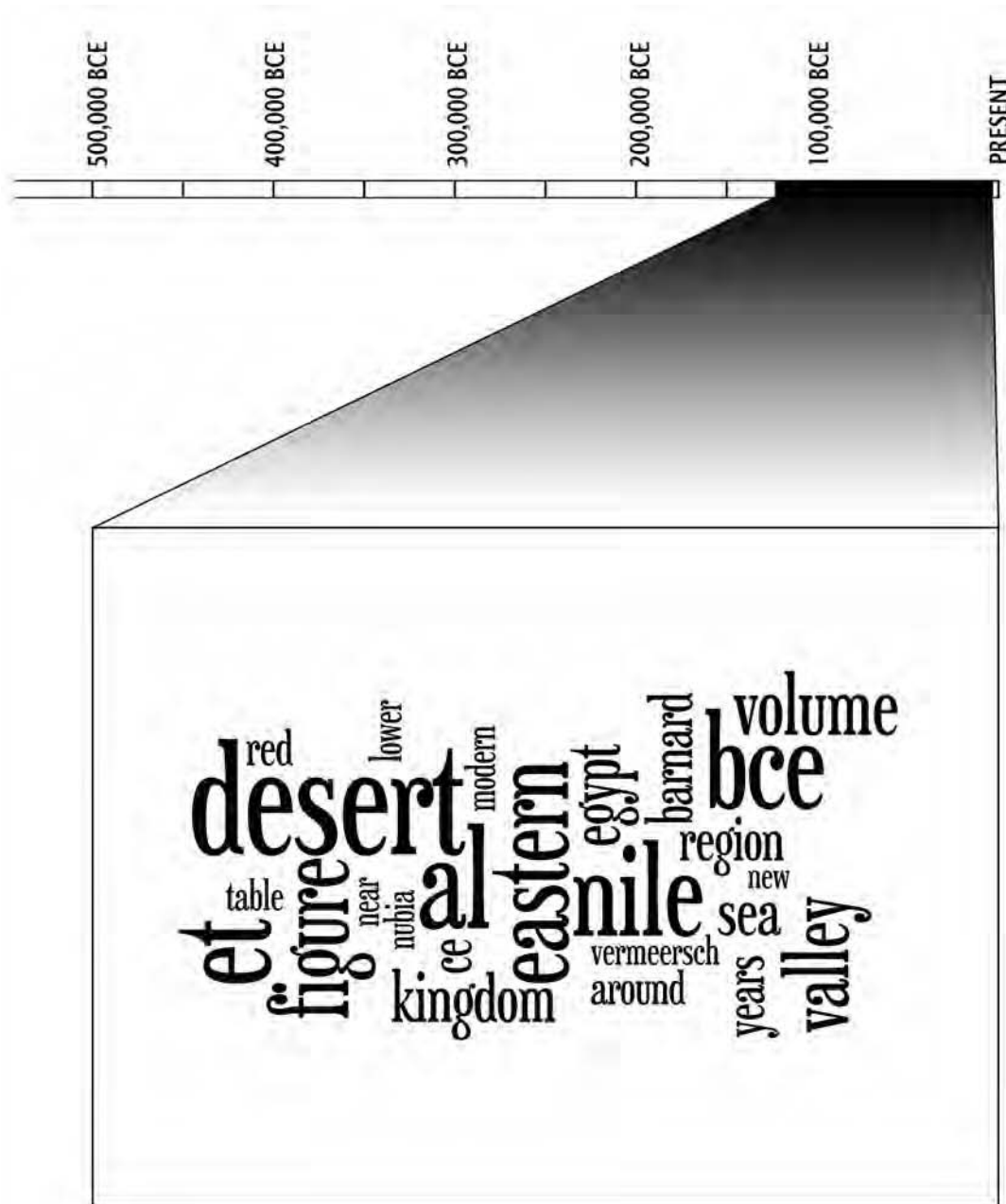
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PART 1





Time line and word cloud for Hans Barnard, *Introduction to Part 1: From Adam to Alexander (500,000–2500 Years Ago)*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (type font Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 1



Introduction to Part 1: From Adam to Alexander (500,000–2500 Years Ago)

HANS BARNARD

IN 1998, THE NETHERLANDS-FLEMISH INSTITUTE in Cairo (NVIC) published the proceedings of a meeting with the title “Life on the Fringe,” organized by Dr Olaf E. Kaper (now at Leiden University) and Dr Willeke Z. Wendrich (now at the University of California, Los Angeles). The subject of the meeting and the volume was life in the desert areas of Egypt in Graeco-Roman times (332 BCE–641 CE, Kaper 1998). In 2008, the Cotsen Institute of Archaeology (University of California, Los Angeles) published the combined proceedings of two meetings (in Montreal and Los Angeles) with the title “Nomads in Archaeology,” organized by Dr Willeke Z. Wendrich and Dr Hans Barnard (at the time Research Associate with the Cotsen Institute of Archaeology). The subject of these meetings and the volume was the archaeology of mobile peoples, with a geographical emphasis on Central Asia and the desert zone between the Red Sea and the Nile Valley in Egypt and Sudan (Barnard and Wendrich 2008). In the anonymous peer reviews of the latter volume it was stated that,

[a]t some point, the Eastern Desert [between the Nile Valley and the Red Sea] as a whole should be subjected to a complete revision of Pharaonic, Classical and Arabic sources clarifying the whole mess. . . . We need a chart summing up Pharaonic, Classical and Arabic sources, not only for the Beja Cushitic region, but also the northern Eastern Desert. Rock art studies should be included as well, start[ing] with the outdated, but still useful Winkler, etc.

A conference subsequently took place at the NVIC, on November 25–27, 2008, aiming to address the possibilities and problems of the study of the mostly highly mobile dwellers of the Eastern Desert, as well as to provide an overview of the current state of our knowledge on the subject.¹ This meeting was organized with the assistance of staff members of the NVIC, especially Ellen Jacobs and Sarah Soenen, and financial support of the Royal Netherlands Embassy in Cairo and the Cotsen Institute of Archaeology. Because it would not have been appropriate to discuss the history of a people so close to their homeland without any of them present, a significant part of the conference was reserved for a discussion with representatives of several Bedouin tribes from the Sinai and the Egyptian Red Sea coast. This part of the program was made possible by the logistical and linguistic assistance of Karin van Opstal, Rudolf de Jong and Amir Gohar. The Bedouin appeared well aware of the recent changes in their environment and lifestyle. All mentioned the push of the deteriorating desert, with its lack of possibilities for improvement, and the pull of the cities in the Nile Valley, with their schools, hospitals, jobs, televisions and cellular telephones. At the same time, all were worried about losing their customs and traditions, which appeared to feature prominently in both their oral history and their personal identity.

This volume presents the proceedings of this conference, supplemented with chapters by invited authors, clearly demonstrating that despite a harsh

¹ See <http://www.archbase.org/ED/> (accessed 15 August 2010).

environment and scholarly neglect, the Eastern Desert has native inhabitants and a history of its own. The following introduction and in Chapter 12 serve to provide a background for the chapters in which the insights and controversies concerning specific aspects of the history of the peoples of the Eastern Desert are discussed in greater detail. Apart from references to ancient authors, the bibliography is collected in the back of the volume (Chapter 32), not only to avoid a large amount of duplication, but also to serve as an independent resource for those interested in the region.

The Eastern Desert

The narrow, arid strip of land, roughly 300 × 1200 km (200 × 750 mi), between the Red Sea and the Nile Valley in Egypt and Sudan, on the northeastern edge of the African continent, is generally referred to as the Eastern Desert (Figure 1.1). The region is divided from north to south by the Red Sea Mountains, on either side of which is a sandy desert that stretches to the Nile Valley in the west and to the Red Sea in the east (Figure 1.2). It is this mountainous area that has been the focus of human activity in the region because of its relatively shallow aquifers, which permit sparse vegetation (Hobbs 1989; Vermeeren 1999, 2000; Krzywinski and Pierce 2001; Cappers 2006; Andersen, this volume), and its mineral wealth, such as gold and ornamental stone (Gundlach 1977; Klemm and Klemm 1993; Castiglioni *et al.* 1995; Meyer 1995; Peacock and Maxfield 1997; Harrell *et al.* 2000; Nicholson and Shaw 2000; Klemm *et al.* 2001; Peacock and Maxfield 2001a, 2001b; Sidebotham *et al.* 2001; Friedman 2002; Sidebotham *et al.* 2004; Peacock and Maxfield 2007; Harrell and Brown 2008; Sidebotham *et al.* 2008; Luft 2010; Tratsaert, this volume). The region receives 20–200 mm rain per annum, in the north mostly in the winter, from the Mediterranean Sea, and in the south mostly in the summer as an extension of the tropical monsoon system. This rainfall is very localized and areas can be without any precipitation for years and even decades. Substantial showers on the other hand may cause a flash flood (*sayl*, سيل) carving out a streambed (*khora*, غور) in the sandy surface of a desert valley (*wadi*, وادي). The water will quickly disappear into subterranean aquifers and slowly make its way to the Red Sea or the River Nile. These aquifers provide water to the sparse vegetation that is characterized by *Acacia* trees (*samr*, سمر or *sunt*, سنط), such as *Acacia tortilis* and *A. raddiana*, *Balanites aegyptiaca* (*hagleeg*, هجليج

or *zaqum*, زقوم), *Leptadenia pyrotechnia* (*markh*, مرخ), *Salsola imbricata* (*khareet*, خريط), *Salvadora persica* (*maswak*, مسواك or *araak*, اراك), and *Zilla spinosa* (*zilla*, زيلة) (Figure 1.2). Towards the Nile Valley, the landscape gets barren until irrigation from the Nile replenishes the water supply. Close to the Red Sea, the vegetation changes into one better adapted to the saline environment, characterized by *Tamarix* trees (*tarfa*, طرفاء), *Nitraria retusa* (*ghardaq*, غردق), and patches of mangrove (*Avicennia* and *Rhizophora* sp.).

The arrival in the Nile Valley of the hunter-herder-gatherers from the regions that are now hyperarid is one among the many factors that gave rise to Pharaonic civilization. Sometimes a hint of those who have inhabited the desert since seems to occur in the historical sources, such as the Medjay (around 2250–1800 BCE, Näser, this volume) and the Blemmyes (around 600 BCE–600 CE, Dijkstra, this volume; Pierce, this volume). At other times, their traces seem to appear in the archaeological record, such as Pan-Graves (dating 1650–1500 BCE, Krzywinski, this volume; Näser, this volume) and Eastern Desert Ware (dating 300–600 CE, Barnard, this volume; Lassányi, this volume), but information on the indigenous history and culture remains scarce and incomplete. The modern pastoral nomadic way of life, as practiced in the Eastern Desert today, depends on farmers in the Nile Valley, while these farmers until very recently needed the products and assistance of the desert dwellers in almost equal measure. This symbiosis depended on domesticated plants and animals, and the settled lifestyle associated with agriculture, which led to major shifts in population that were further accelerated by the changing climate. Before the Neolithization of Northeast Africa, the nomadic patterns were determined by the procurement of resources for humans (hunting and gathering), rather than their production through livestock (pastoral nomadism). Mobile groups are not archaeologically or historically invisible, but leave traces that are discernable and often specific for a nomadic way of life (Barth 1961; Irons and Dyson-Hudson 1972; Salzman 1980; Bar-Yosef and Khazanov 1991; Cribb 1991; Barfield 1993; Chang and Koster 1994; Khazanov 1994; Kaper 1998; Veth *et al.* 2005; Barnard and Wendrich 2008; Szuchman 2009). The ongoing interpretation of existing data will lead to new insights, while new archaeological tools and (digital) techniques will continue to increase the

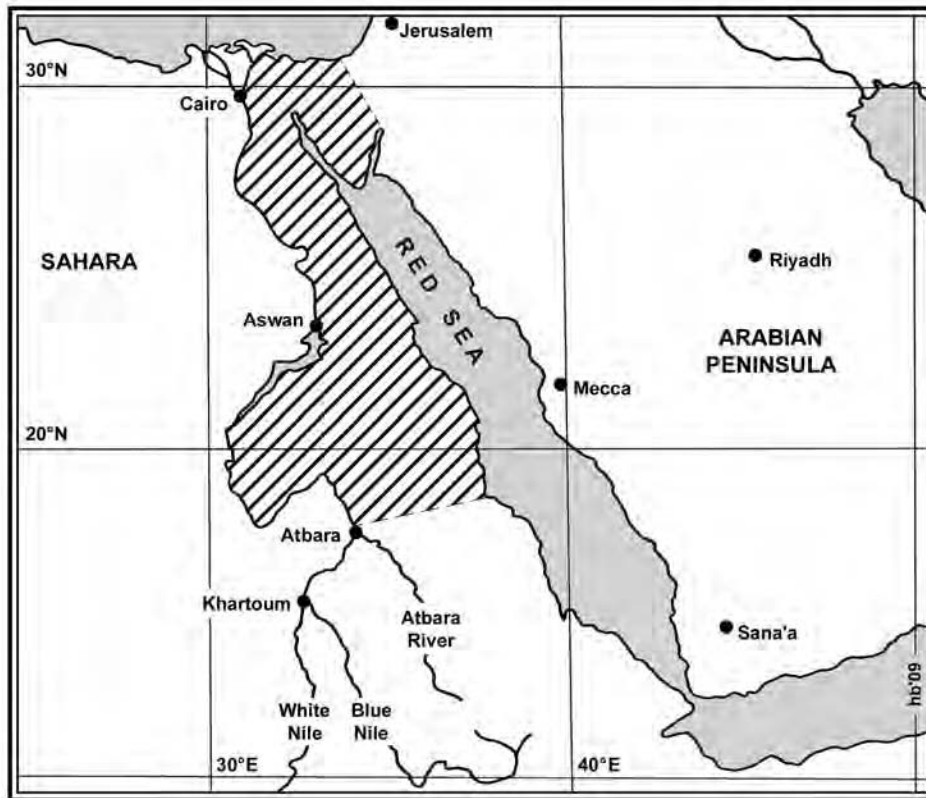


Figure 1.1. Location of the Eastern Desert and the Sinai Peninsula on the northeastern edge of the African continent, between the Red Sea and the Nile Valley in Egypt and Sudan.



Figure 1.2. View of the Eastern Desert showing a sand and gravel-filled valley with scattered trees and shrubs, bordered by the Red Sea Mountains. Adapted from Barnard 2008.

number of sites and artifacts, as well as the information gleaned from them.

Many economic, environmental and political factors determine whether groups will move or settle and a terminology with fixed categories for mobile and sedentary groups is no more applicable to the ancient situation than to the present. Much like the ancient names (such as Medjay or Blemmyes) do not correspond with our modern use of such ethnic terms, so does our understanding of words such as ‘tribe,’ ‘nomad’ or ‘Bedouin’ not correspond to reality. Apart from logistical problems, the study of the Eastern Desert is hampered by biases in the textual sources, by ambiguous ethnographic parallels, and by the low archaeological visibility of the remains of desert dwellers. The vast majority of the historical sources were written by outsiders who never visited the area. These were prejudiced toward a settled way of life and express negative attitudes, which exist until today, toward mobile groups. Ethnographic and ethnoarchaeological information on the Eastern Desert is limited and provides incomplete parallels between modern and ancient mobile groups. The emphasis of the archaeological research has been on the more visible and easier to interpret remains of the mines, quarries and trade routes of outsiders temporarily settling in the area. Furthermore, most studies concentrate on Pharaonic and Graeco-Roman Egypt, disregarding Nubian, Napatan and Meroitic sources of information.

Outline of the Geology

Like the rest of Egypt and northern Sudan, the Eastern Desert is positioned on a Precambrian basement complex of hard igneous (such as diorite and granite) and metamorphic (such as gneiss and schist) rocks that are over 545 million years old (Table 1.1). In the east this basement complex dips into a rift that is part of a series of rifts stretching from the Beqaa Valley (in Lebanon) in the north, under the Gulf of Aqaba and the Red Sea, to the Great Rift Valley and Lake Nyasa (at the border between Malawi and Mozambique) in the south. This basement complex is rich in precious metals, such as gold and ornamental stone (Hume 1937, 1965; Gundlach 1977; Klemm and Klemm 1993; Castiglioni *et al.* 1995; Meyer 1995; Peacock and Maxfield 1997; Harrell *et al.* 2000; Nicholson and Shaw 2000; Klemm *et al.* 2001; Sidebotham *et al.* 2001; Friedman 2002; Sidebotham *et al.* 2004; Harrell and Brown 2008). From the Upper Cretaceous to the Miocene, 100–35 million

years ago (Ma), the region was covered by the warm and shallow Tethys Sea (Said 1990; Tawadros 2001). This sea deposited the top (marine) layer of the Nubia formation during the Upper Cretaceous (100–65 Ma), followed by layers of limestone and shale during the Paleocene (65–56 Ma), limestone during the Eocene (56–37 Ma), sandstone during the Oligocene (37–24 Ma), and limestone and gypsum during the Miocene (24–5 Ma).

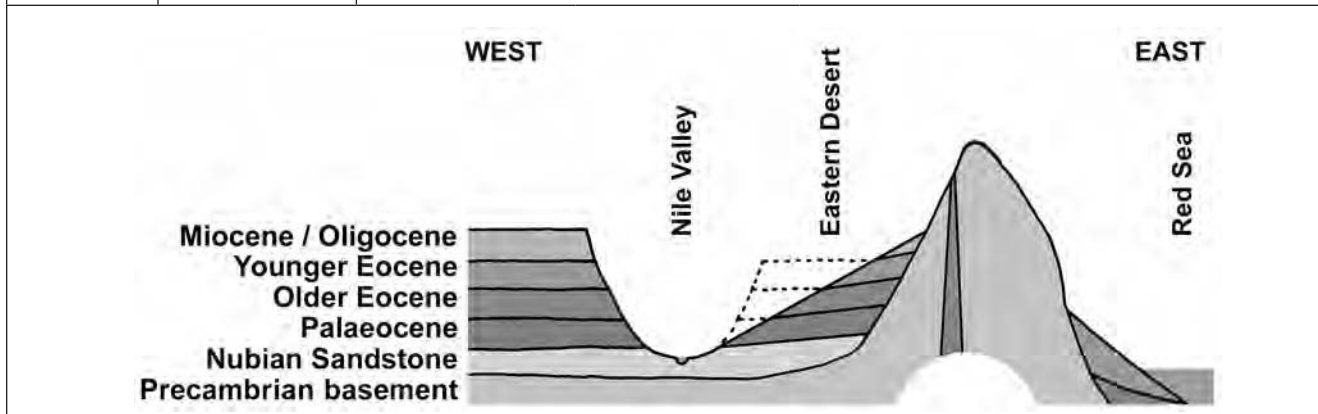
From the Oligocene onward, the area started to tilt, slowly driving the coastline of the Tethys Sea to the north and the west. New rivers coming into the sea from the east, of which Wadi Qena is a modern remnant, started to erode the relatively soft sedimentary layers off the Precambrian basement. During the Pliocene (5–1.8 Ma), the Tethys Sea again advanced into the area, filling the narrow but very deep canyon that was cut by a predecessor of the Nile and which is now the lower Nile Valley. At the same time to the east, the basement complex was uplifted to heights of up to 2000 m (6500 ft), forming the Red Sea Mountains. Below the surface the movements enabled molten rock to intrude into the basement complex, forming numerous dolerite dikes. The uplift also intensified the erosion, which ultimately exposed large parts of the basement complex (Table 1.1), and changed the drainage system. At the end of the Pleistocene (around 12,500 years ago), the modern Nile was formed when rivers from Ethiopia and East Africa joined the Egyptian drainage system, until that time a seasonal river at most, and the present floodplain and delta could start to develop (Adamson *et al.* 1980; Butzer 1997; Kuper and Kröpelin 2006; Vermeersch, this volume). At first the river was flowing fast with great fluctuations in volume, a stage referred to as the ‘Wild Nile’ (around 13,000 years ago). Later the flow became more steady with an annual inundation in August and September caused by the monsoon rainfall in the Ethiopian highlands and carried north by the Atbara River and the Blue Nile (Figure 1.1).

Early Human History

Anatomically modern humans probably first came to area north of the current confluence of the Blue Nile and the White Nile in the Middle Paleolithic (Table 1.2), around 120,000 years ago, during one of several humid periods of the last interglacial period (130,000–110,000 years ago), also referred to as the Eemian Interglacial Period (Figure 1.3), oxygen or marine isotope stage

Table 1.1. Schematic overview of the main geological features in the Eastern Desert. More details on the Quaternary are presented in Figure 1.3. Ma: million years ago. Adapted from Nordström and Bourriau 1993; Osman and Sidebotham 2000; Barnard 2008.

Date	Eon	Period	Epoch	Prominent Layers
Present	Cenozoic	Quaternary	Holocene	Upper alluvium (Nile and wadi sediments)
			Pleistocene	Lower alluvium (Nile sediments)
2.8 Ma		Tertiary	Pliocene	Dolerite
			Miocene	Gypsum
			Oligocene	Sandstone
			Eocene	Limestone
	Paleocene		Shale	
65 Ma	Mesozoic	Cretaceous	Nubian sandstone and "Aswan clay" (paleosol)	
		Jurassic		
		Triassic		
248 Ma	Paleozoic	Permian		
		Carboniferous		
		Devonian		
		Silurian		
		Ordovician		
		Cambrian		
545 Ma	Precambrian	Basement complex (diorite, gneiss, granite, schist)		



5 (OIS 5 or MIS 5). Eventually, they spread as far north as the Levant where their migration was halted by Neanderthals (Wendorf *et al.* 1993; Van Peer *et al.* 1998; Moeyersons *et al.* 2002; Field and Lahr 2005; Oppenheimer 2009). With the cooling of the northern hemisphere, resulting in the last glacial period (MIS 2-4) between 110,000 and 12,500 years ago and the last glacial maximum (LGM) around 21,000 years ago, the rainfall in the Sahara and Eastern Desert decreased dramatically, rendering most of the region uninhabitable for humans (Vermeersch 2008). Anatomically modern humans retreated south and into areas of the modern Nile Valley where pools of water persisted (Mercier *et al.* 1999; Olszewski *et al.* 2005; Kuper and Kröpelin 2006). Around 90,000–70,000 years ago, a relatively small group of anatomically modern humans seems to

have crossed the Red Sea again (Figure 1.4), probably looking for unexploited marine resources, either at the Bab al-Mandeb or through the Sinai Peninsula (Vermeersch 2001; Field and Lahr 2005; Vermeersch *et al.* 2005a; Oppenheimer 2009). Given the direction of the local tectonic movements and the low ocean levels at the time, the crossing from Africa onto the Arabian Peninsula must have been much shorter than the 30–40 km (20–25 mi) that it is today; the Sinai Peninsula was obviously always accessible, but at the same time possibly inhospitable. The variation of (maternal) mitochondrial DNA as well as the (paternal) Y chromosome is much larger among native Africans than elsewhere, indicating that those migrating out of Africa were closely related and probably comprised only a small group.

Table 1.2. Schematic overview of the history of the lower and middle Nile region. Adapted from Adams 1977; Baines and Malek 2000; Barnard 2007. More details on the Paleolithic are presented in Figure 1.3.

General chronology of the lower and middle Nile region				
Southeast Egypt		Northeast Sudan		
Modern Egypt	Popular revolution Jan. 25–Feb.11, 2011		Republic of South Sudan June 9, 2011	
	Full independence June 18, 1956		Republic of Sudan January 1, 1956	
	Republic of Egypt 18 June 1953		Anglo-Egyptian Sudan 1899–1956	
	Unilateral independence February 22, 1922			
	Increasingly controlled by the British Empire			Mahdi Revolt 1883–1898
<i>Walis, khedives, sultans and kings of the Dynasty of Mohamed Ali Mohamed Ali (1805–1848)–Fu'ad II (1952–1953)</i>				
Ottoman Egypt	Invasion of Napoleon 1798–1802		Sultanate of Sinnar (<i>Funj</i>) 1504–1821	
	Ottoman Empire 1517–1798			
Islamic Egypt ^a	Mamluk sultans 1250–1517 CE		<i>Banu Kanz (Awlad Kenz)</i> 1323–1517 CE	
	Ayyubid Sultanate 1171–1250 CE		Kingdom of Makuria (protected by the <i>baqt</i>) 500–1323 CE	
	Fatimid caliphs 969–1171 CE			
	Abbasid Caliphate 750–969 CE		Kingdom of Nobatia (Ballana Culture) 300–700 CE	
	Umayyad Caliphate 658–750 CE			
Rashidun caliphs 641–658 CE				
Byzantine Egypt	Byzantine Empire 629–641 CE			
	Persian Invasion 616–628 CE			
	Byzantine Empire 330–616 CE			
Graeco-Roman Egypt	Roman Empire 30–330 CE		Kingdom of Meroe (Kushite Kingdom) 300 BCE–350 CE	
	Ptolemaic Empire 332 BCE–30 CE			
Pharaonic Egypt ^b	Late Period (Persian invasions) 664–332 BCE		Kingdom of Napata (Kushite Kingdom) 1075–300 BCE	
	25th Dynasty (Kushite) 715–657 BCE			
	Third Intermediate Period 1075–715 BCE			
	New Kingdom 1540–1075 BCE			Kingdom of Kerma (Kushite Kingdom) 2500–1520 BCE
	Second Intermediate Period (Hyksos) 1630–1520 BCE		C-Horizon (C-Group) 2300–1520 BCE	
	Middle Kingdom 1975–1640 BCE			
First Intermediate Period 2125–1975 BCE				
Old Kingdom 2725–2125 BCE				
Prehistoric Egypt	Predynastic Egypt 3100–2575 BCE	<i>Lower Nubia depopulated?</i>	Pre-Kerma Culture 3000–2500 BCE	
	Merimde–Naqada 4200–3100 BCE	"A-Group" 3800–3000 BCE		
	Fayum–Badarian 5000–4200 BCE		Khartoum Neolithic 5000–3000 BCE	
Early Neolithic 6000–5000 BCE				
Epipaleolithic (Mesolithic) 9000–6000 BCE				
Late Paleolithic 22,000–9000 BCE				
Upper Paleolithic 45,000–22,000 BCE				
Middle Paleolithic 200,000–45,000 BCE				
Lower Paleolithic 500,000–200,000 BCE				

^a Islamic dates (AH) can be estimated from the given Western dates (CE) with the help of Table 12.1 (Chapter 12, Introduction to Part 2: The Last 2500 Years, this volume).

^b The dates in the Pharaonic periods are from Baines and Malek 2000: 36–37.

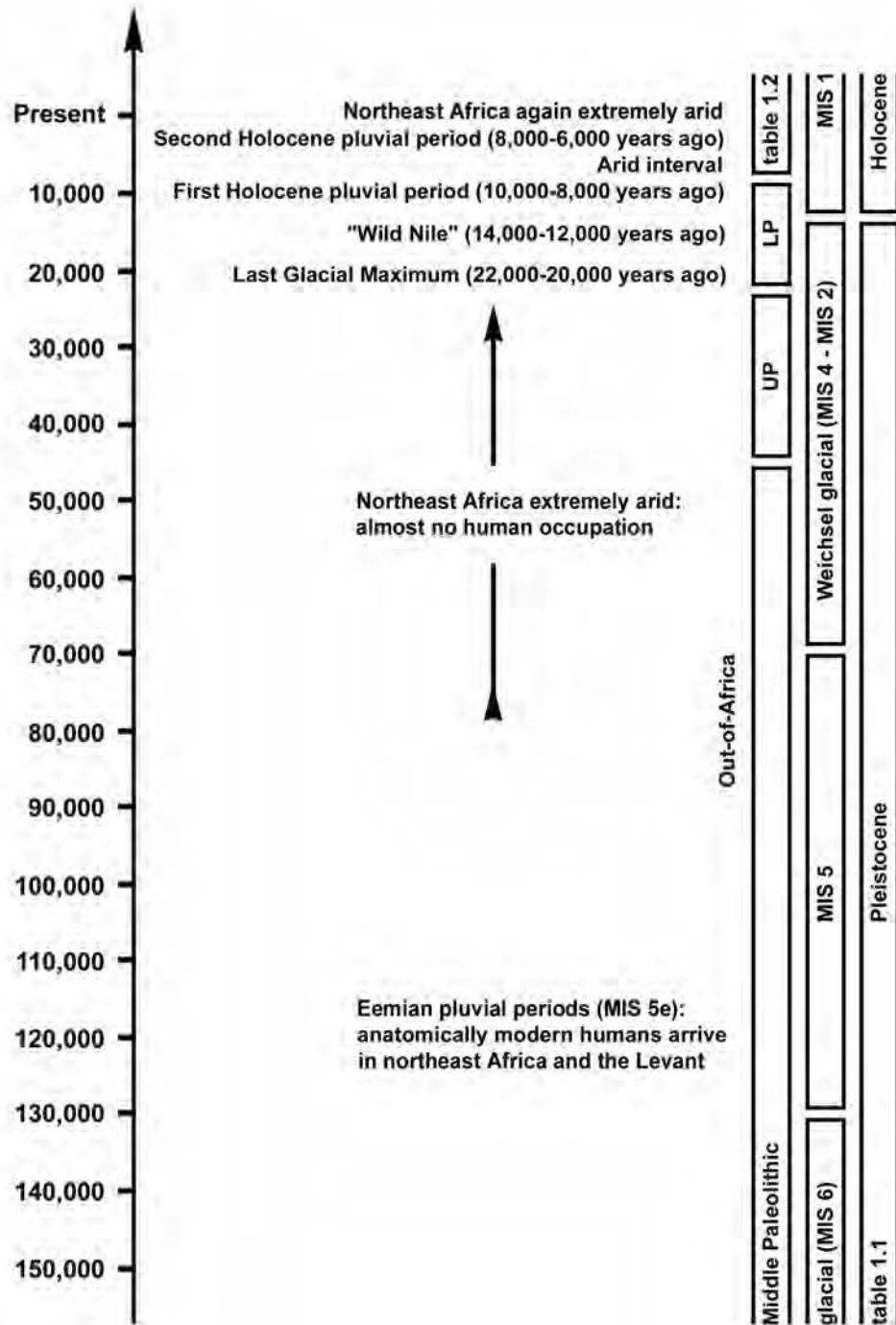


Figure 1.3. This figure connects Tables 1.1 and 1.2. Schematic overview of the Paleolithic history of the lower and middle Nile region. MIS: marine isotope stage (also marine oxygen-isotopic isotope stage or OIS); MIS 5: Interglacial Period (Eemian Period = MIS 5e); MIS 1: current interglacial period; LGM: Last Glacial Maximum; UP: Upper Paleolithic; LP: Late Paleolithic. Adapted from Vermeersch 2001; Nicoll 2004; Kuper and Kröpelin 2006; Oppenheimer 2009.

Figure 1.4. Possible 'Out-of-Africa' routes for anatomically modern humans (native to eastern Africa). 1: Red Sea route across the Bab al-Mandeb to the Arabian Peninsula, India and Australia; 2: Eastern Desert route across the Sinai Peninsula to the Levant and Eurasia; 3: Saharan route across the Strait of Gibraltar into Europe (apparently never used). AH: Wadi Abu Had; WB: Wadi Bili; SC: Sodmein Cave and Tree Shelter; NQ: New Qurta. Adapted from Van Peer *et al.* 1998; Vermeersch 2001; Field and Lahr 2005; Liu *et al.* 2006; Oppenheimer 2009.

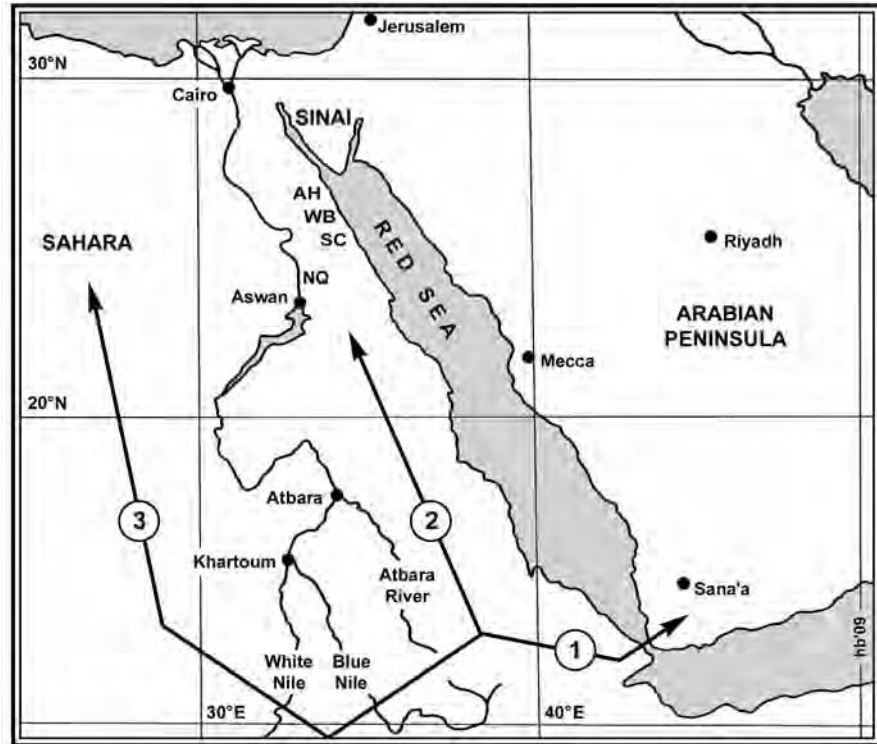
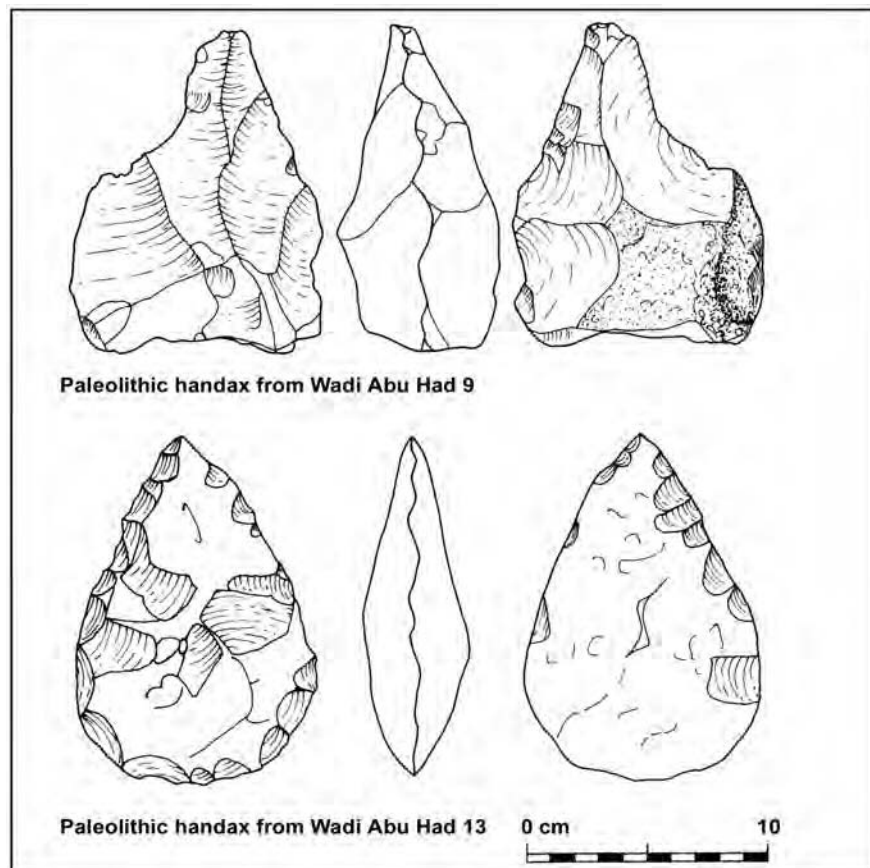


Figure 1.5. Acheulian (Lower Paleolithic) stone tools from Wadi Abu Had (27°N 42'30"/33°E 15'30"). Adapted from Bomann and Young 1994.



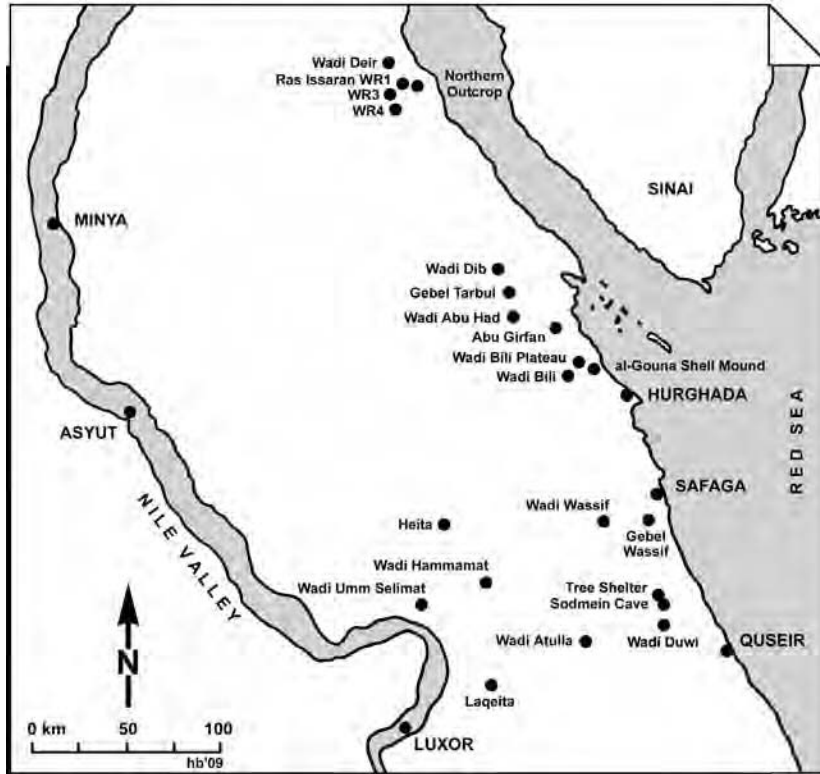


Figure 1.6. Major prehistoric sites in the central Eastern Desert. Adapted from Vermeersch, this volume.

Paleolithic artifacts have been found in the Eastern Desert in Wadi Abu Had (Figure 1.5, Bomann and Young 1994), northwest of Hurghada (Figure 1.6), in Wadi Bili (27°N 20'/33°E 30'), west of Hurghada (Alfano 1994; Vermeersch *et al.* 2005a), and in Sodmein Cave northwest of Quseir (Vermeersch *et al.* 1994; Mercier *et al.* 1999; Moeyersons *et al.* 2002). The fact that the artifacts from Wadi Bili and Sodmein Cave date to the Middle Paleolithic indicates that the Eastern Desert and the northern Red Sea coast may have been attractive to early humans longer than often assumed (Field and Lahr 2005; Oppenheimer 2009), and could have been the route of the Out-of-Africa migration (Van Peer *et al.* 1998; Vermeersch 2001; Vermeersch, this volume). The evidence for human presence in the Eastern Desert during the Upper Paleolithic is limited to Sodmein Cave (Figure 1.7). After that, the desert appears to have been abandoned until the combination of a 'Wild Nile' and the onset of the Holocene pluvial periods pushed humans out of the Nile Valley and pulled them into the current desert areas once again (Nicoll 2004; Kuper and Kröpelin 2006). At first, they appear to have stayed close to the Nile Valley, as evident from the site and petroglyphs at New Qurta (24°N 37'30"/32°E 57'30"), near Kom Ombo (Smith 1976; Huyge and Claes 2008), and elsewhere (Pluskota, this volume); later they ventured further into

the Eastern Desert to occupy again the sites that were abandoned thousands of years earlier (Vermeersch *et al.* 1994; Vermeersch 2002; Vermeersch *et al.* 2002; Gatto, this volume; Vermeersch, this volume).

About 6000 years ago (4000 BCE) two mostly independent developments changed the character of the human occupation of the Eastern Desert once again. First is the end of the Holocene pluvial periods (Figure 1.3), leaving North Africa again extremely arid and driving most humans into the Nile Valley (Figure 1.8), which was more amenable to human habitation after the end of the 'Wild Nile' period. This movement and the subsequent mixing of many different groups in the relatively limited space offered by the Nile Valley was likely one of the factors giving rise to Pharaonic civilization (Hassan 2002; Kuper and Kröpelin 2006). Around the same time the introduction of domesticated plants from the fertile crescent, most importantly barley (*Hordeum vulgare*), chickpea (*Cicer arietinum*), flax (*Linum usitatissimum*), and wheat (*Triticum* sp.), combined with the spread of domesticated animals (Figure 1.8), fundamentally changed the way of life in the region. There is little doubt that goats (*Capra hircus*) and sheep (*Ovis aries*) were domesticated in Asia around 11,000–10,000 years ago (9000–8000 BCE, Zeder and Hesse 2000; Pedrosa *et al.* 2005), and came to North Africa by way of the Levant (Wengrow 2006). Domesticated cows (*Bos taurus*) likely

Figure 1.7. Upper Paleolithic blades from layers deposited 25,200 (±500) years ago in Sodmein Cave (26°N 25'/33°E 49'). Adapted from Van Peer *et al.* 1996; Vermeersch 2009.

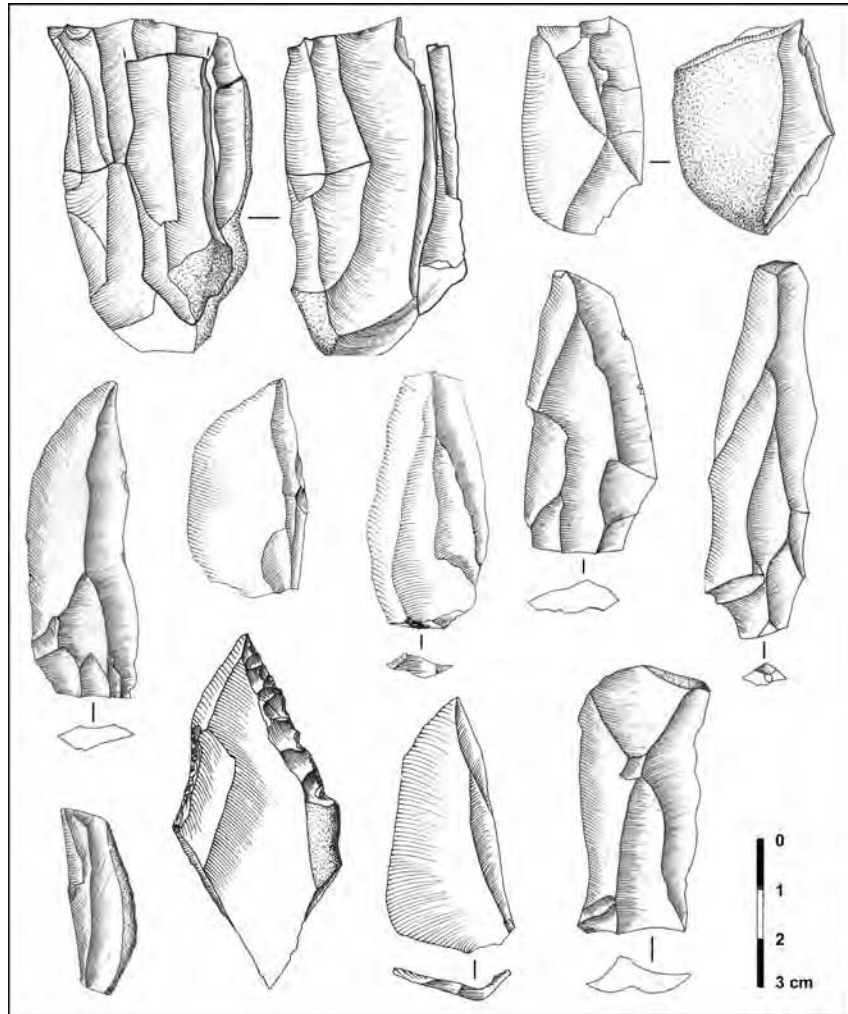
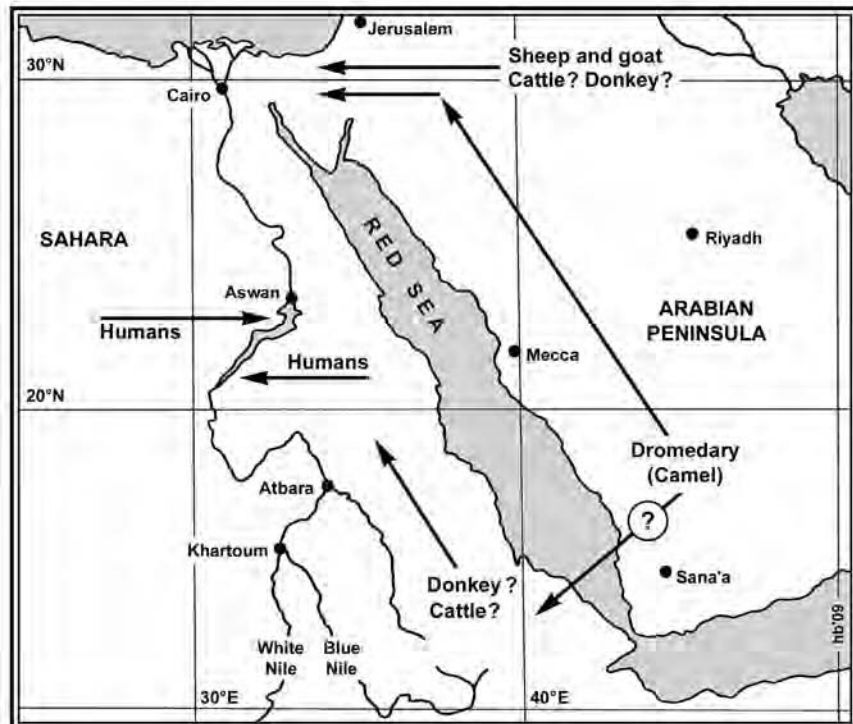


Figure 1.8. Major movements of humans and large domesticated animals between 8000 and 2500 years ago (6000–500 BCE). Adapted from Hoch 1979; Ripinsky 1985; Rowley-Conwy 1988; Gilbert *et al.* 1990; Köhler-Rollefson 1993; Wendorf and Schild 1994; Zeder and Hesse 2000; Gautier 2001; Uerpmann and Uerpmann 2002; Beja-Pereira *et al.* 2004; Pedrosa *et al.* 2005; Beja-Pereira *et al.* 2006; Kuper and Kröpelin 2006; Rossel *et al.* 2008.



followed the same route (Beja-Pereira *et al.* 2006), although it has been suggested that they may have been domesticated independently in Africa (Wendorf and Schild 1994; Gautier 2001).

Up until this time, the environment and human behavior were mostly determined by the climate; now humans were starting to have an ever increasing impact on the landscape. The spread of domesticated plants and animals, and the associated Neolithic lifestyle, was a major factor in the birth of Pharaonic civilization. It also enabled the pastoral nomadism that evolved into the way of life of the inhabitants of the Eastern Desert today. This is different from the earlier hunter-gatherer lifestyle in many respects (Wobst 1978; Khazanov 1984; Bar-Yosef and Khazanov 1991; Cribb 1991; Eddy and Wendorf 1999; Smith 2004; Brass 2007; Wendrich and Barnard 2008). The life of hunter-gatherers usually revolves around the procurement of resources for humans, while the life of pastoral nomads is dictated by the needs of the flocks that produce the resources directly or yield materials to barter. This has important implications for the migration patterns of hunter-gatherers versus pastoral nomads. Hunter-gatherers will move between the source areas of different materials, often in a complex but fixed way, while pastoral nomads will move between different source areas of the same material, usually pasture for their flocks, in a simpler but at the same time erratic fashion as predominantly dictated by the weather (Cribb 1991; Wendrich and Barnard 2008). Hunter-gatherers are mostly self-sufficient, pastoral nomads supplement their resources by bartering their surplus or products especially procured for this purpose, such

as herbs or trade items (Krzywinski and Pierce 2001; Belal *et al.* 2009; Roe, this volume; Weschenfelder, this volume). Settled farmers can also be dependent on pastoral nomads for some of their resources, such as animal products and traded objects, or occasionally labor or specific skills of the nomads (Haiman 1995; Avni 1996; Kuznar and Sedlmeyer 2008; Rosen 2009).

The division into hunter-gatherers, settled farmers and pastoral nomads is far from fixed, as pastoral nomads will settle down as farmers, and farmers will take up a pastoral nomadic lifestyle in an opportunistic response to changing circumstances. Similarly, there are many transitional stages, ranging from settled hunter-gatherers to mobile agriculturalists and, most importantly, herder-gatherers. These can be either mobile or sedentary and replace most of their hunting by the husbandry of domesticated or otherwise controlled animals, but do not systematically practice agriculture. All mobile groups, sometimes collectively referred to as “multi-resource nomads” (Salzman 1971, 1972), leave discernable and specific remains, a fact long recognized by those studying early humans (before the Neolithic), but often disputed by archaeologists working on later material (Finkelstein 1992; Rosen 1992). There is now sufficient literature to show that there is indeed an “archaeology of mobility” (Barnard and Wendrich 2008), which combines methods and technologies from different disciplines to study the remains of ancient mobile groups (Barth 1961; Irons and Dyson-Hudson 1972; Khazanov 1984; Bar-Yosef and Khazanov 1991; Cribb 1991; Barfield 1993; Chang and Koster 1994; Kaper 1998; Veth *et al.* 2005; Sidebotham *et al.* 2008; Szuchman 2009). This

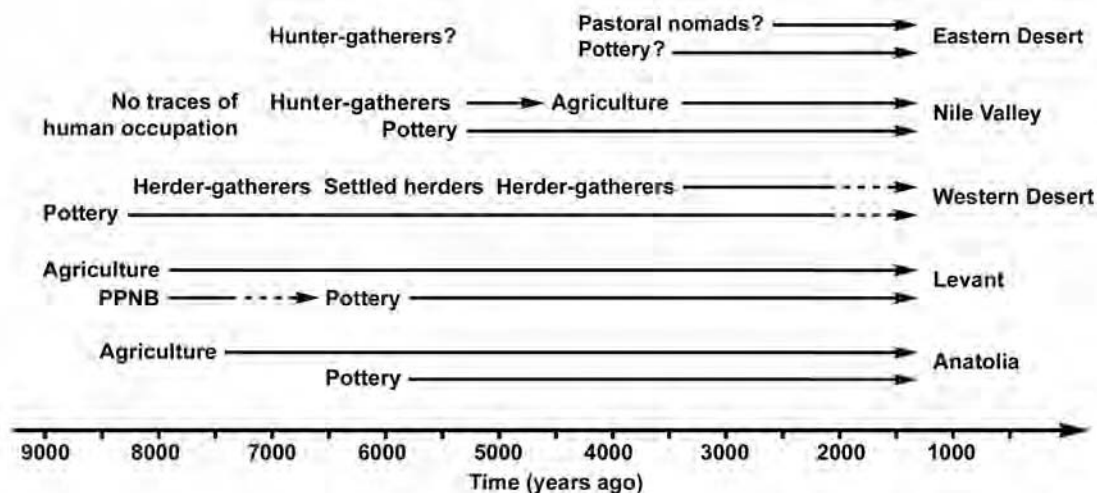


Figure 1.9. Schematic overview of the introduction of settled agriculture and ceramic technology into Egypt (Western Desert, Nile Valley and Eastern Desert), the Levant and Anatolia. PPNB: pre-pottery Neolithic phase B (ca. 8500–6000 BCE).

is facilitated by the fact that there are many similarities between the remains of very different groups due to their mobile way of life. There are larger differences between the different regions (Figure 1.9); in the Nile Valley hunter-gatherers prevailed until the arrival of agriculture, in the Western Desert ceramic technology and domesticated animals were adopted relatively early, and in the Eastern Desert there is a complete absence of early ceramics that remains rather enigmatic.

The early pastoral nomadic lifestyle was later facilitated and empowered by the introduction of domesticated donkeys and dromedaries (*Camelus dromedarius*, one-humped camels). Donkeys (*Equus asinus*) were domesticated around 6000 years ago (4000 BCE), later than goats, sheep and cattle, but still in time to have entered Egypt with the rest of the Neolithic package (Gilbert *et al.* 1990; Wengrow 2006). As domesticated donkeys are genetically closer to wild African asses (*Equus africanus*) than to wild Asian onagers (*Equus hemionus*), however, domestication is likely to have taken place in Africa (Figure 1.8) in or near the region that is now the Eastern Desert (Beja-Pereira *et al.* 2004; Rossel *et al.* 2008). On the other hand, *Equus africanus* may have been more widely distributed in the past and it cannot be ruled out that domestication occurred elsewhere in Africa or Asia (Gilbert *et al.* 1990). Despite its relatively late domestication and iconic status, the domestication and subsequent introduction throughout North Africa of the dromedary remains enigmatic. There is little evidence for domesticated dromedaries on the Arabian Peninsula before about 4000 years ago (2000 BCE, Bulliet 1975; Hoch 1979; Wilson 1984; Köhler-Rollefson 1993; Uerpmann and Uerpmann 2002). From there they spread north (Figure 1.8), until they were brought into the Nile Valley by Asian invaders in the 6th–4th century BCE (Table 1.2). The spread of dromedaries back south, west of the Red Sea, was slow and dromedaries were not a common sight in the Nile Valley and the surrounding deserts until the first century BCE. Too much evidence to the contrary (Midant-Reyes and Braunstein-Silvestre 1977; Ripinsky 1985; Rowley-Conwy 1988; Smith 2000), however, allows the conclusion to be drawn that dromedaries were completely unknown in Pharaonic Egypt and that references in the Old Testament are entirely anachronistic (Köhler-Rollefson 1993; Arnold

1995).² What is certain is that around 300 CE (Table 1.2), the use of dromedaries had empowered the pastoral nomads and caravaneers of the Eastern Desert enough to allow them to contribute to the collapse of the Meroitic Kingdom and to threaten the peace in Byzantine and Islamic Egypt (Adams 1977; Updegraff 1988; Eide *et al.* 1998; Barnard 2005; Lassányi 2005; Dijkstra 2008).

The Eastern Desert in Pharaonic Times

The late prehistory and history of the Eastern Desert is entwined and overshadowed by the history of the lower and middle Nile region, modern Egypt and Sudan. During most periods important political, military or cultural borders divided this region, respectively, among the Pharaonic, Graeco-Roman, Islamic and Ottoman Empires, part of the larger Eastern Mediterranean sphere of influence, and the northeast African Kerma, Napatan, Meroitic, Nubian and Funj states (Table 1.2). The First Cataract in the Nile near modern Aswan (اسون , Roman *Syene*, Egyptian *Swenet*), which is actually the last (sixth) cataract as the river flows, has been the natural southern border of the Egyptian heartland throughout history. The Nile Valley between the First and Second Cataracts, now under the waters of Lake Nasser, is referred to as Lower Nubia, the region between the Second and the Fourth or Sixth Cataract being Upper Nubia. The entire region of the lower and middle Nile was united for only brief intervals—the Egyptian New Kingdom (1540–1075 BCE), briefly again during the 25th Dynasty (770–657 BCE), and under Mohamed Ali and his successors until the Mahdi revolt and the foundation of Anglo-Egyptian Sudan (1805–1899 CE). At present, the Eastern Desert is partly in Egypt and partly in Sudan, separated by a difficult-to-reach

² For instance: **Genesis 12(15)** The princes also of Pharaoh saw her, and commended her before Pharaoh: and the woman was taken into Pharaoh's house. **(16)** And he entreated Abram well for her sake: and he had sheep, and oxen, and he-asses, and menservants, and maidservants, and she-asses, *and camels*. **(17)** And the Lord plagued Pharaoh and his house with great plagues because of Sarai Abram's wife (from the Authorized King James Version; emphasis added). **Exodus 9(2)** For if thou refuse to let them go, and wilt hold them still. **(3)** Behold, the hand of the Lord is upon thy cattle which is in the field, upon the horses, upon the asses, upon *the camels*, upon the oxen, and upon the sheep: there shall be a very grievous murrain. **(4)** And the Lord shall sever between the cattle of Israel and the cattle of Egypt: and there shall nothing die of all that is the children's of Israel (from the Authorized King James Version; emphasis added).

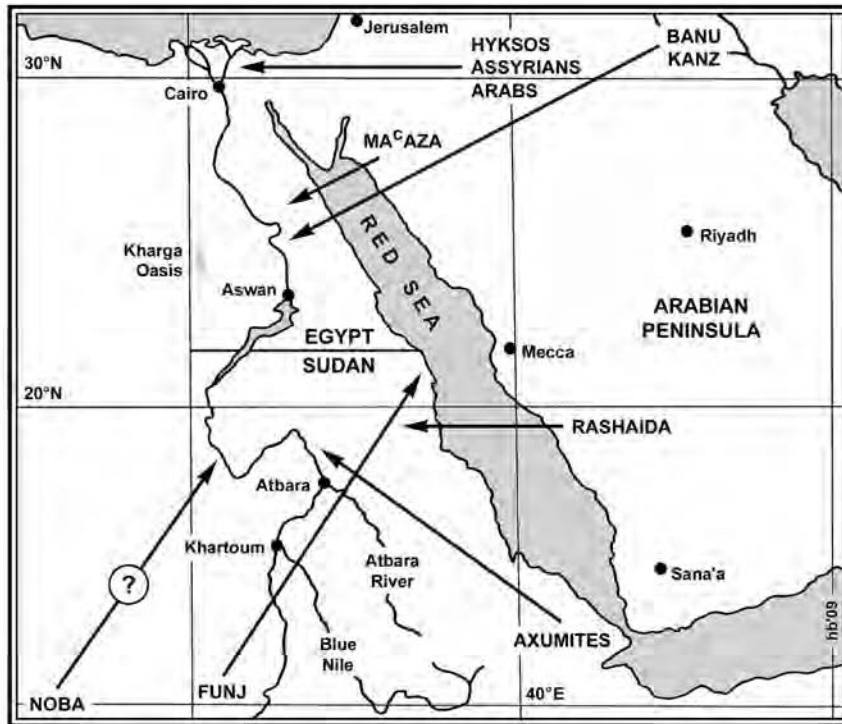


Figure 1.10. Major movements of people into the middle Nile region during the last 2500 years. The Ptolemaic, Roman, Ottoman and colonial invaders (not indicated) came for the north, across the Mediterranean Sea. Adapted from Murray 1935; Newbold 1935; Paul 1954; Bietak 1966; Adams 1977; Hobbs 1989; Krzywinski and Pierce 2001; Friedman 2002; Smith 2003; Edwards 2004; Dahl and Hjort-af-Ornas 2006.

and difficult-to-cross international border along 22°N latitude (Figure 1.10). This long-term division obviously hampers our understanding of the area as a whole, especially because, as Adams writes at the beginning of his monumental work on the middle Nile region,

Egypt at the lower end of the Nile has the longest recorded history in the world. Inner Africa, at the headwaters of the same river has almost the shortest. Nubia, the land between, alternates for 5,000 years between history and dark ages (Adams 1977).

The latter region appears to have experienced large migrations and fluctuations in population (Figure 1.10). At times Lower Nubia seems to have been all but deserted (Table 1.2), while at other times the region between the First and Fifth Cataracts was invaded by, among others, Noba (from the southwest), Funj (from the south), Banu Kanz (from the northeast), Axumites (from the southeast), and Egyptians (Bietak 1966; Adams 1977; Friedman 2002; Smith 2003; Edwards 2004; Dahl and Hjort-af-Ornas 2006). In addition, the Eastern Desert saw the arrival of Ma'aza and Rashaida Bedouin from the Arabian Peninsula in the 19th and 20th centuries CE (Murray 1935; Newbold 1935; Paul 1954; Hobbs 1989; Krzywinski and Pierce 2001).

As Pharaonic Egypt developed after the end of the Holocene pluvial periods, any communal memory that may have existed of the past disappeared and was

replaced with respectful apprehension for the vast arid areas referred to as *desheret* (the red land) and a deep affection for *kemet* (the black land), the fertile Nile Valley that was previously mostly avoided because of its marshes, dangerous wildlife and insects (Butzer 1997; Nicoll 2004; Kuper and Kröpelin 2006). This fear for the desert and the related marginalization of its inhabitants carried on into modern times in Egypt and beyond. On the other hand, there were frequent contacts between the population of the Nile Valley and the desert dwellers, at times hostile but more often friendly (Smither 1945; Adams 1977; Sadr 1988; Eide *et al.* 1996, 1998; Kaper 1998; Krzywinski and Pierce 2001; Barnard 2005; Lassányi 2005; Cappers 2006; Dahl and Hjort-af-Ornas 2006; Hafsaas 2006; Dijkstra 2008; Barnard 2009); these contacts are the subject of most chapters in this volume. Cooperation included the employment of the desert dwellers as mercenaries, guards or guides and their aid with the harvest, in exchange for part of the yield and the right to have their flocks graze on the stubbles afterwards, leaving their droppings as fertilizer for the next crop (Salzman 1971, 1972). The desert dwellers are also known to have brought medicinal herbs, charcoal of *Acacia* sp. and of course their animals to markets in the Nile Valley, as they still do today (Krall 1900; Murray 1935; Newbold 1935; Keimer 1951, 1952a, 1952b, 1953a, 1953b, 1954a, 1954b; Paul 1954; Updegraff

1988; Hobbs 1989; Giuliani 1998; Sidebotham *et al.* 2002; Hafsaas 2006; Zibelius-Chen 2007; Belal *et al.* 2009; Weschenfelder, this volume; Roe, this volume). It is difficult to gauge exactly why, when or how many desert dwellers permanently settled in the Nile Valley over time or how many farmers took up a nomadic lifestyle, but this was probably not at all a rare occasion (Salzman 1980; Bar-Yosef 1984; Avni 1996).

The influence of Pharaonic Egypt in the region south of the First Cataract (Nubia), and presumably also in the desert to the east, was sometimes limited to trade contacts (the name 'Swenet-Syene-Aswan' is derived from the Ancient Egyptian word for trade). At times it also included Egyptian settlements associated with mines, quarries and military installations, such as Buhen and Askut (near the Second Cataract) and Tombos (near the Third Cataract). The Egyptian control of the area during the New Kingdom (Table 1.2) is reflected by the sanctuaries and settlement (Napata) near Gebel Barkal (Figure 1.11), founded in 1479–1425 BCE and a World Heritage Site since 2003, and the temples at Abu Simbel, built in 1279–1213 BCE near the Second Cataract and famously moved during the UNESCO International Campaign to Save the Monuments of Nubia in the 1960s. At other times the Nubian influence extended north past the First Cataract, in particular during the 25th Dynasty (715–657 BCE) when Pharaohs of C-Horizon (Kushite) extraction, most famously Taharqa (690–664 BCE), controlled most of Egypt (Adams 1977; Baines and Malek 2000; Friedman 2002; Smith 2003; Edwards 2004; Barnard 2008). The name Nubia is in itself problematic as this seems to refer to the Noba people that invaded parts of the area only around 300 CE (Figure 1.10), leading to the collapse of the Meroitic Kingdom (Table 1.2). The name may have been derived from the Egyptian word for gold, although gold was actually mined in the Eastern Desert and the Egyptians seem to have used Wawat for Lower Nubia, which they usually considered part of Egypt, and Kush for those parts of Nubia that were outside Egyptian control.

The Kingdom of Kerma (a Kushite kingdom from an Egyptian perspective) mirrored the early Pharaonic civilization of the Old and Middle Kingdoms. Its capital at Kerma (near the Third Cataract) was one of the first urbanized centers in Sub-Saharan Africa as evident from its ruins, including two large mud-brick temples or palaces (*deffufa*), and a necropolis preserving more than 30,000 burials. Around 1630 BCE the Kingdom of

Kerma allied itself with the Hyksos, an Asian people that had invaded Lower Egypt introducing new technology such as the composite bow, the horse (*Equus caballus*), and the chariot. Around 1540 BCE, the Egyptian Pharaohs Kamose (17th Dynasty) and Amose (18th Dynasty), ruling from Thebes (Luxor), reunited Egypt and brought Nubia as well as the Eastern Desert under its control (Table 1.2). After the economic and political collapse of the New Kingdom state, around 1075 BCE, the center of the Kushite Kingdom moved to Napata (Figure 1.11), the settlement near the sanctuaries of Gebel Barkal. From there, King Piye started conquering Egypt, a feat completed by his successor King Shabaka around 715 BCE. His 25th Dynasty ruled the territory of the New Kingdom until they were driven back into Nubia by Assyrian (Persian) invaders and the Pharaohs of the 26th (Saite) Dynasty. Around 590 BCE Pharaoh Psammetichus II (Neferibre) invaded the Kingdom of Napata and destroyed its capital after which the Kushite court moved to Meroe, south of the Atbara-Nile confluence. More than 600 years later, 250–350 CE, the Kingdom of Meroe was apparently invaded from the south by different groups, most notably the Noba and the Axumites (Figure 1.10). This led to the collapse of the Kingdom of Meroe and the birth of the 'post-Meroitic' Ballana Culture or X-Group (Adams 1977; Baines and Malek 2000; Friedman 2002; Smith 2003; Edwards 2004; Barnard 2008).

Since predynastic times (Table 1.2) people from the Nile Valley have explored the Eastern Desert for gold and ornamental stone for vessels, statues and buildings, and traversed the area on their way to and from the Red Sea. In their wake they have left textual and pictorial evidence, including petroglyphs and graffiti (Winkler 1938; Bernand 1977; Hoffman 1979; Redford and Redford 1989; Huyge 1998; Rothe and Miller 1999; Luft 2010; Espinel, this volume; Lankester, this volume), as well as settlement sites with associated structures, archaeological finds, graves and connecting routes (Meredith 1958; Murray 1967; Gundlach 1977; Sayed 1980; Bell *et al.* 1984; Zitterkopf and Sidebotham 1989; Klemm and Klemm 1993; Castiglioni *et al.* 1995; Meyer 1995; Sidebotham and Wendrich 1996; Peacock and Maxfield 1997; Sidebotham and Wendrich 1998, 1999; Harrell *et al.* 2000; Nicholson and Shaw 2000; Sidebotham and Wendrich 2000; Klemm *et al.* 2001; Sidebotham *et al.* 2001; Friedman 2002; Bard and Fattovich 2003; Sidebotham *et al.* 2004; Fattovich



Figure 1.11. Map of the central and southern Eastern Desert showing the location of some of the places discussed in this chapter. M.: Mons (mountain); W.: Wadi (valley). Adapted from Meredith 1958; Gundlach 1977; Baines and Malek 2000; Barnard 2008.

2005; Peacock and Blue 2006; Peacock and Maxfield 2007; Sidebotham and Wendrich 2007; Sidebotham *et al.* 2008). Among the more notable Pharaonic records on the Eastern Desert, apart from many scattered mines, quarries and inscriptions, are the remains of an ancient port at Marsa Gawasis (sometimes referred to as Wadi Gasus), near modern Safaga (Figure 1.11). Excavations at this site revealed stone anchors, ship timbers, ropes and shrines, all firmly associated with the Nile Valley at the end of the Middle Kingdom (Table 1.1). A few handmade ceramic sherds were also found; these were interpreted as Nubian or associated with the inhabitants of the Eastern Desert (Sayed 1980; Bard and Fattovich 2003; Fattovich 2005). From the New Kingdom dates the ‘Turin map’ of the Eastern Desert (Figure 1.12), drawn on a length of papyrus by Amennakte, son of Ipyu, for Pharaoh Ramesses IV (1156–1150 BCE). This

map shows the route between the Nile Valley and the Red Sea coast, including the mines and quarries along the way (Harrell and Brown 1992). This route passed through Wadi Hammamat, between modern Luxor and Quseir, on its way to and from an unidentified harbor on the Red Sea coast. Also from the New Kingdom is the report of the expedition mounted by the female Pharaoh Hatshepsut (1473–1458 BCE), inscribed and depicted on the western wall of the middle court of her mortuary temple at Dayr al-Bahri, near Luxor. This report shows the entire operation, including the traded goods, the crossing of the desert, the assembling of the boats once the coast was reached, and the destination of the expedition, the enigmatic Land of Punt (Phillips 1997).

The history of the native inhabitants of the Eastern Desert during Pharaonic times is more difficult to

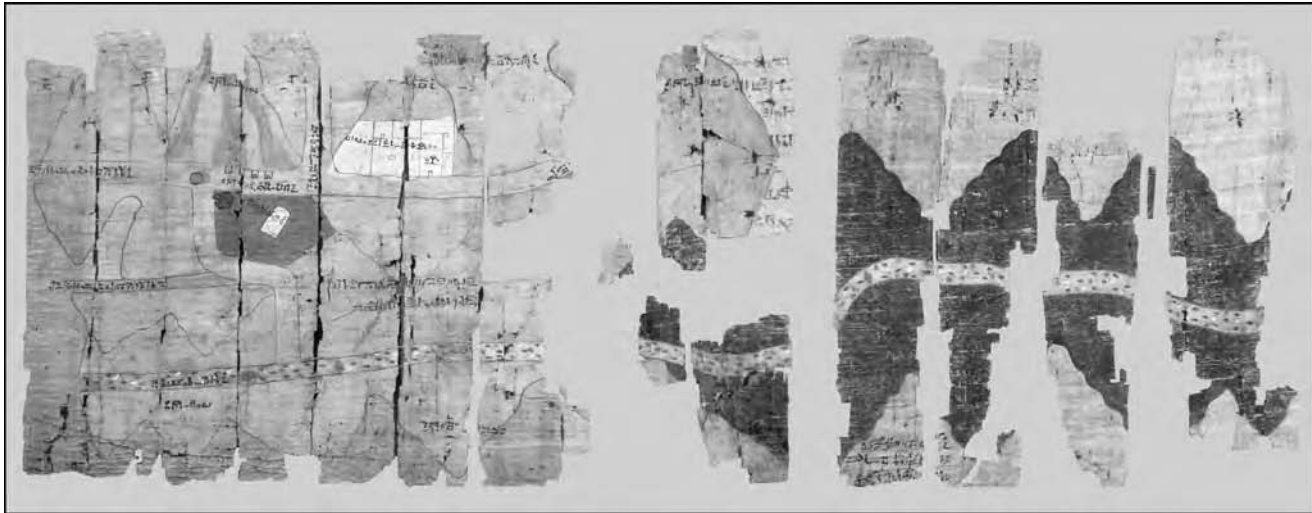


Figure 1.12. Part of a New Kingdom map of the Eastern Desert, drawn by Amennakte around 1156–1150 BCE, showing the mines and quarries in Wadi Hammamat, between modern Luxor and Quseir (kept in the Museo Egizio in Turin, photograph by J.A. Harrell). Adapted from Harrell and Brown 1992; Barnard 2008.

explore. The region is usually seen as the homeland of the Medjay of the historical sources as well as the Pan-Grave People of the archaeological record (Säve-Söderbergh 1941; Bietak 1966; Sadr 1987, 1990; Friedman *et al.* 2004; Hafsaas 2006; Näser, this volume). The latter are the builders of the so-called pan-graves, mostly dated to the Second Intermediate or Hyksos Period (1630–1520 BCE). Pan-graves are round to oval pits in which the body of the deceased is buried, in a crouched position, on its right side with the head either to the north or to the west (Figure 1.13). Some graves are lined with stones or have a simple superstructure (Krzywinski, this volume), others preserve evidence that the burial was preceded by the application of resins or ashes to the floor of the grave. Grave goods usually include pan-grave pottery (Figure 1.13), that is, handmade bowls characterized by thin walls, thick rims and cross-hatched incisions (Kemp 1977; Williams 1983). Other gifts include weapons, bracelets and necklaces of sea shell beads (Figure 1.13), sometimes with characteristic spacers (Bietak 1966; Hafsaas 2006); and one or more painted skulls of goats, gazelles or cattle (Friedman *et al.* 2004; Hafsaas 2006; Barnard 2009), often in a secondary pit. Pan-graves were first described at Hu (south of Abydos) and later found in relative abundance in Lower Nubia (Petrie 1901; Bietak 1966). Most are some distance from the Nile and many are on the fringes of cemeteries of the C-Horizon, also referred to as the C-Group (Table 1.2). Large pan-grave cemeteries, with more than a hundred graves, are rare but have been described at Debeira and Ashkeit,

near the Second Cataract, and at Mostagedda, north of Abydos (Brunton and Morant 1937; Bietak 1966; Sadr 1987; Säve-Söderbergh 1989; Sadr 1990; Hafsaas 2006). The abundance of weapons in pan-graves, the robust appearance of the bones of the deceased, the interment of animal crania, and the shell beads—mostly of Red Sea *Nerita* and *Conus* sp.—have led to the association of pan-graves with the Medjay mercenaries of the historical sources (Säve-Söderbergh 1941; Bietak 1966; Adams 1977; Bietak 1979; Sadr 1987; Hafsaas 2006, but see Sadr 1990; Friedman *et al.* 2004; Barnard 2009, Liszka 2012, Näser, this volume).

Two of the more authoritative ancient sources on the Medjay are the Biography of Weni (Uni) and the Semna Dispatches, dated around 2250 BCE and 1800 BCE, respectively. The biography of Weni was carved into a slab of limestone in the cenotaph of the high official Weni, who served under Pharaohs Teti, Pepi I and Merenre (6th Dynasty). Near the beginning, Medjay are listed among the people recruited from the south for the army of Pepi I; near the end of the text, the rulers of the Medjay are said to have provided some of the wood for the seven boats that Pharaoh Merenre requested of Weni (Lichtheim 1975; Giuliani 1998; Zibelius-Chen 2007; Barnard 2009). The Semna dispatches are a collection of official missives from occupied Nubia, written during the reign of Pharaoh Amenemhet III (12th Dynasty) and shortly afterwards copied onto a length of papyrus that was found in a Middle Kingdom tomb on the grounds of the Ramesseum (near Luxor). Medjay occur in several

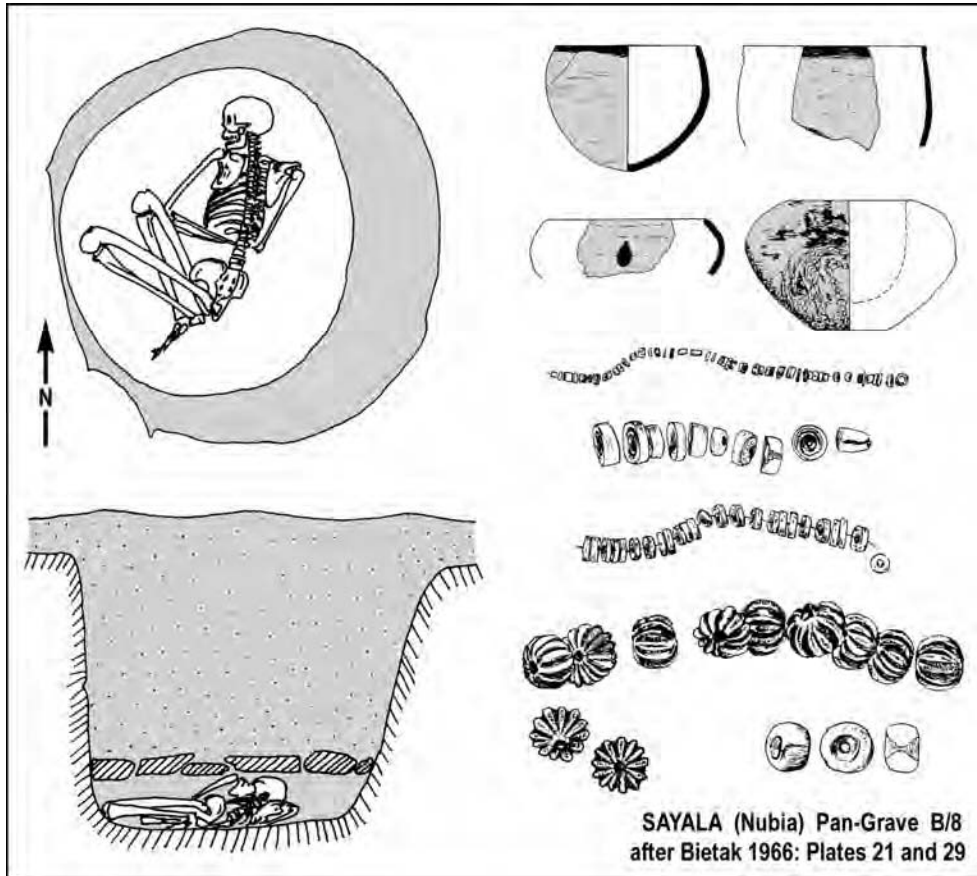


Figure 1.13 Typical pan-grave excavated in Sayala (Lower Nubia) during the UNESCO International Campaign to Save the Monuments of Nubia. Adapted from Bietak 1966; Barnard 2009.

of the dispatches, when they arrive from the desert or are encountered on its edge (Smither 1945; Sadr 1990; Zibelius-Chen 2007; Barnard 2009). The latter source apparently refers to pastoral nomads, but seems hardly consistent with the former, while neither provides firm evidence for a link between the Medjay and the Pan-Graves (Bietak 1966; Sadr 1990; Barnard 2009; Liszka 2012). In later texts, Medjay seems to refer to mercenaries (bowmen) or guards, often without an obvious geographical or ethnic connotation, while other ancient Egyptian names of apparently nomadic groups include Aamu (Weinstein 1975), *jwntj•w* (Lansing 1947; Meredith 1957), Tjehenu or Tjemehu (Breasted 1962; Murray 1965), *hrjw•šc*, *nmjw•šc* and *htjw•t3* (Behrens 1982; Barnard 2009). Other problems with the association of the Medjay with the pan-graves include the fact that Medjay feature in sources from the Old through the New Kingdom, while most pan-graves were relatively securely dated to the Second Intermediate Period (Table 1.2), and the distribution of the graves, which were mostly found in or near the Nile Valley, on

both the east and the west bank, and not in the Eastern Desert proper (Bietak 1966; Barnard 2009).

The issue of connecting historical sources with the archaeological record is the subject of many chapters in this volume and for this period most notably Chapters 6 and 8 (Chapters 16, 17 and 21 discuss similar problems during the Late Roman Period). Part 1 is concluded by a chapter on the combination of satellite-image remote sensing with geographical, pedological and archaeological surveys and analysis, as well as more traditional archaeological field work, to study the Marmarica region in the northern Western Desert west of Alexandria and the Nile Delta. Because this enabled the reconstruction of economic strategies that allowed the scarce resources in the region to be utilized most efficiently, by combining sedentary and nomadic lifestyles, and provided a detailed view of ancient life in the northern part of the Libyan Desert it could serve as parallel or model for similar research projects in (parts of) the Eastern Desert (Bintliff and Barnard, this volume).

Some Editorial Remarks

In order to make this volume immediately accessible to the entire scholarly community and interested members of the general public, abbreviations, including journal titles and common abbreviations, are written out or explained where they first occur. For the same reason, jargon is mostly avoided and, where unavoidable, explained in the text or a footnote. In order to avoid confusion, ‘dromedary’ rather than ‘camel’ is used to indicate *Camelus dromedarius*, which is exclusively used in the region.³ Except in place names, ‘valley’ rather than ‘*wadi*’ is used to indicate the valleys in the desert.⁴ The fundamental differences between the English and the Arabic language and script make it impossible to implement a perfect transliteration system.⁵ This is also evident from the different systems that have been developed and are now used concurrently.⁶ In

³ There are two species of camels, *Camelus bactrianus* (the Bactrian, Asian or two-humped camel, from the Arabic *جمال*, plural *جمال* or *اجمال*, used in Arabic for all Old World and New World camelids) and *Camelus dromedarius* (the one-humped Arabian camel or dromedary, from the Greek *δρομάδος*, running). Arabic words in this volume have been checked in Wehr and Cowan 1980; Greek terms in this volume have been checked in Liddell *et al.* 1995.

⁴ *Wadi* (وادي, from واد, plural وادية or وديان) is used in Arabic for valley, river valley, river bed, ravine, gorge and (newspaper) column. As in English, it is used for geological valleys, which are the result of water or glacier erosion, but also in geographical names such as the Nile Valley (وادي النيل; *wadi al-nil*) and the New Valley Governorate (الوادي الجديد; *al-wadi al-gadid*), as well as in literary contexts such as Ps. 23:4 “. . . *the valley of the shadow of death*. . .” (وادي ظل الموت...; *wadi zill al-mawti*). An ephemeral river (wash or gulch in English, *arroyo* or *rambla* in Spanish) is usually called *khôr* (غور) in Arabic, while *sayl* (سيل) is used for the event of flooding.

⁵ The most important being that Arabic is not vocalized, rendering a true transliteration useless for those not intimately familiar with the language, and that several letters (ع ظ) do not have an obvious equivalent in English, while others (ث ن) are better transliterated by digraphs (th, sh). Other issues include the assimilation of the definite article (ال, *al-*) with the so-called sun-letters (النور is pronounced *an-nur*), the use of nunation for the indefinite article (شكراً), the use of the *shadda* to indicate duplicate consonants (حمام = pigeon, versus حمام = bath), and the fact that the pronunciation of specific letters (*ta-marbutah*, *alif maqsura*) depends on their place in the word or sentence. The transliteration of the Egyptian dialect is furthermore complicated by an idiosyncratic pronunciation of some letters (ق ج) compared to Classical or Modern Standard Arabic.

⁶ The systems most widely used are American Library Association-Library of Congress Romanization, Bikdash Transliteration,

this volume Arabic words are transcribed rather than transliterated, partly based on previous occurrences of the words in print, leading to an ambiguous and inconsistent rendering. For instance, the definite article is generally transcribed ‘al-’ and not capitalized, but Elkab and El-Gouna are written thus (Derchain 1971; Vermeersch *et al.* 2005b). Where relevant, the spelling in Arabic is provided in parenthesis or in a footnote.

Despite the obvious importance in archaeology, anthropology, paleontology and history, acquiring and representing the age of an object or the date of an event is a somewhat ambiguous affair. This is partly caused by the wide variety of dating techniques used, ranging from historical accounts, numismatics and radiometric methods (including radio-carbon analysis), to dendrochronology and the determination of the ratio of stable oxygen isotopes or the degree of racemization of amino acids. Each of these methods has its particular application and limitations, and each will produce a specific data set, with its own precision, accuracy, error and resolution. Many research projects have used two or more different dating techniques in order to verify and refine the age of their material.⁷ Insights into the processes at the basis of the various techniques have furthermore changed over time, sometimes leading to the reinterpretation of existing data sets or new calibration methods,⁸ more often resulting in disparity between subsequent data sets. The ensuing uncertainty is reflected

Buckwalter Transliteration, Deutsches Institut für Normung 31635 (DIN-31635), Qalam Transliteration, Standard Arabic Technical Transliteration System (SATS), and United Nations Conference on the Standardization of Geographical Names (UN-CSGN).

⁷ Series of different dates for the same event or period are now sometimes combined by Bayesian statistical analysis (Bayes and Price 1763; Laplace 1891; Buck and Sahu 2000; Bronk Ramsey 2009).

⁸ Uncalibrated radiocarbon dates, for instance, assume a constant production of the unstable ¹⁴C isotope, by cosmic radiation, as well as a rapid and complete mixing of the newly formed isotopes throughout the environment. Uncalibrated dates are calculated using the Libby half-life of 5568±30 years and are expressed in years BP (before 1950). Variations in the intensity of cosmic radiation and the reservoir effect as well as to a lesser extent anthropogenic factors, such as nuclear explosions and the Suess effect, make it necessary to calibrate the results of radiocarbon analysis by comparing them with those of known age. Calibrated dates are calculated using the Cambridge half-life of 5730±40 years (3% longer than that of Libby) and are expressed in %Modern, cal. BP or cal. BC(E). Calibration curves that have been established and are regularly updated include BCal, CalPal, Fairbanks’ Calibration, IntCal, OxCal and WinCal.

in some publications, while in others the exact details of the used dating techniques remain underreported. All these factors combined make meta-analysis a difficult to near impossible task. Similar to many other publications, most chapters in this volume, with a few notable exceptions but including this one, use the dates provided by the various research projects to compile a narrative, while purposefully or out of necessity leaving individual dates relatively ill-defined. Depending on the context, dates are given as Ma, ka, BP, BCE or CE.⁹ Any large comprehensive research project into the history of the Eastern Desert, as briefly discussed at the very end of this volume, should include a component aimed at addressing the above issues for the region and bringing together the different chronological sequences.

Located between Africa and Asia in the politically and religiously volatile Near East, any volume on the Eastern Desert will in places be controversial, especially when discussing the modern border zones between Egypt and Israel—the Sinai Peninsula—and between Egypt and Sudan—the Halaib Triangle.¹⁰ Debates indeed flared up during the editorial process and peer review and have been addressed where possible, but their fuel has remained. Because of the above or other reasons, not all contributors to this volume were willing or able to respect all editorial requirements. Their opinions have obviously been respected. This has resulted in additional inconsistencies (most notable in Chapters 8, 9 and 10); in places these have been acknowledged with a footnote referring back to these editorial remarks. A

⁹ Ma (mega-annum) stands for ‘1,000,000 years ago’ (previously mya), ka (kilo-annum) for ‘1000 years ago’ (formerly kya), BP for ‘before present’ (arbitrarily defined as 1950 CE), BCE for ‘before the common era’ (which numerically equals BC), and CE for ‘common era’ (which numerically equals AD).

¹⁰ The Halaib Triangle (مثلث حلايب) consists of two areas on the border between Egypt and Sudan. The largest is roughly triangular, with one side formed by about 200 km of the 22°N parallel and a second by a stretch of about 150 km along the Red Sea coast towards the north. After the independence of Sudan in 1956, both Egypt and Sudan claimed the area. Egypt has effectively ruled the area since the 1990s as part of the Red Sea Governorate, although sometimes it is referred to as the Sudan Government Administration Area. A smaller, roughly rectangular area to the east, Bir Tawil, is located south of the 22°N parallel, while touching the triangular area at a point on the 22°N parallel. Neither Sudan nor Egypt claims Bir Tawil. These areas are the result of the difference between the ‘political’ boundary, set in 1899 by the Anglo-Egyptian Condominium, and the ‘administrative’ boundary, set by the British government in 1902.

cursory survey of scientific publications reveals that the majority of scientific articles are now more often than not credited to more than one author. This phenomenon is also reflected in archaeological and anthropological research where peer-reviewed, edited publications are increasingly the norm. Apart from the consequences that this may have for the allocation of academic credit, it also requires a change in attitude from individual authors. In the following paragraphs three guidelines to facilitate this transition are briefly presented.

Everybody Needs an Editor

Writing a text is a lonely, tedious and sometimes almost painful task. Despite all the hard work and the satisfaction that is felt once a manuscript is created, however, nobody can expect it to be perfect as such. Sitting down for so many lonely hours and weighing all the alternatives has narrowed the mind of the author to an extent that it becomes impossible to see room for improvement. Accomplished authors are not those who do not need editing, but rather those who can read their own work with the eyes of a reader and can thus be their own editor. All others will have to resort to an outsider to present frank comments in a way that cannot easily be ignored. A special case of this is the peer-review process, now standard operating procedure in the sciences and increasingly common within the scholarly community.

Peer review is based on anonymous colleagues critically assessing submitted texts to provide the author(s) and the publisher with suggestions for improvement before publication. The system hinges on the honesty of the participants and its success is limited by three issues: the discretion of the reviewers, the possibility of rejecting important contributions, and the possibility of accepting accounts reporting on poor or fraudulent research. The article in which James Watson and Francis Crick first described the double-helix structure of DNA (Watson and Crick 1953), for instance, was published without peer review because the editor of *Nature* at the time—John Maddox—feared that no referee would be able to keep information so self-evident confidential. More often, innovative publications got rejected after peer review, although most were eventually published because of the persistence of the author. Most famously this happened to Paul Lauterbur, who was later rewarded the Nobel Prize in Physiology or Medicine for the idea of using nuclear magnetic resonance to produce images (Lauterbur 1973); and to Stephen Hawking, whose idea

of black hole radiation was not only theoretically sound but recently experimentally proven (Hawking 1974). Both these articles were eventually published in *Nature* (Editorial 2003), but not without first being rejected for reasons that in retrospect seem shortsighted. On the other hand, almost thirty articles based on data fabricated by Jan Hendrik Schön were published between 1998 and 2001 in, among others, *Science* and *Nature*. These articles were later retracted (Bao *et al.* 2002; Schön *et al.* 2003), but the incident clearly illustrates the third and final of the weaknesses of the peer-review system listed above.

Despite these issues, experiments with ‘open peer review’ and ‘post-publication peer review’ and the rise of online publications, still rather a free-for-all, the system of anonymous peer review still seems the best of all the bad systems imaginable. The need for peer review is obvious upon considering the large number of misinformed and misleading entries on the Internet, where there is far more chaff than wheat to be found, while the more reliable pages resemble peer-reviewed journal pages in a digital format. This will quickly become evident after entering a query such as “pyramids aliens” into a search engine instead of visiting trusted websites like the UCLA Encyclopedia of Egyptology or JSTOR. Obviously the Internet is the quintessential embodiment of the freedom of expression and information, but it is telling that even Wikipedia had to abandon their system of crowd sourcing in favor of a system reminiscent of peer review. That the same applies to the printed media was demonstrated in 1996 through an experiment of Alan Sokal, professor of physics at New York University (Sokal 1996a). He managed to get an article “liberally salted with nonsense” published in the academic, but at the time not peer-reviewed journal *Social Text* because, according to Sokal, it “sounded good and flattered the editors’ ideological preconceptions” (Sokal 1996b). Around the same time Sokal revealed in the journal *Lingua Franca* that the article was “a pastiche of left-wing cant, fawning references, grandiose quotations, and outright nonsense.”

Nobody enjoys receiving critique on an article or chapter that has been months or even years in the making. Granted that some reviewers, editors or collaborators can be more brusque than others, it remains crucial for authors not to respond to first instincts, but rather to think before taking action. After the first rage subsides, the awareness will emerge that if this particular colleague, editor or reviewer had problems with certain paragraphs

or statements, the same is likely true for other readers, possibly even most readers. This is the right starting point to take the opinion of the first independent but knowledgeable reader seriously and to use it as an opportunity for improvement before the text is printed and can no longer be amended. The bravest way to do so is to accept all changes and try to read the text as if for the first time.

Less Is More

The minimalist dictum “less is more” was taken from the poem ‘Andrea del Sarto (“The Faultless Painter”),’ written by Robert Browning (1812–1889), and brought into public awareness by architect Ludwig Mies van der Rohe (1886–1969). Originally intended to apply to the visual arts, including the design of buildings, furniture and clothing, the adage was also adopted by authors such as Samuel Beckett, Charles Bukowski and Ernest Hemingway. It is most certainly relevant for scientific and scholarly writing where describing observations and expressing ideas must be both comprehensive and succinct. At a more basic level, the directive applies to commas, italics, quotation marks, footnotes, endnotes, abbreviations, jargon and words from another language. These should all be used as sparingly as possible, only where necessary for understanding the text, and never to introduce ambiguity or serve to demonstrate the erudition of the author. When an editor or reviewer remarks on their excessive use this should certainly be reconsidered and probably amended.

Kill Your Darlings

Whether first proposed by William Faulkner, F. Scott Fitzgerald, Sir Arthur Quiller-Couch, Mark Twain or another famous author, the recommendation to “kill your darlings” remains as valuable as it is difficult to observe. When an author has spend long hours finding a pun to use in the title or the most creative sentence ever to appear in print, it is grueling to learn that others do not understand or like the way things are phrased and advise revision or even removal. In other words, they advise the author to kill her or his darling. This is obviously infuriating, but it again has to be realized that if the first reader had problems with this particular section, the same is probably true for most other readers. It is for this reason that this advice is repeated in all textbooks on journalism, creative writing, and film making. Two issues

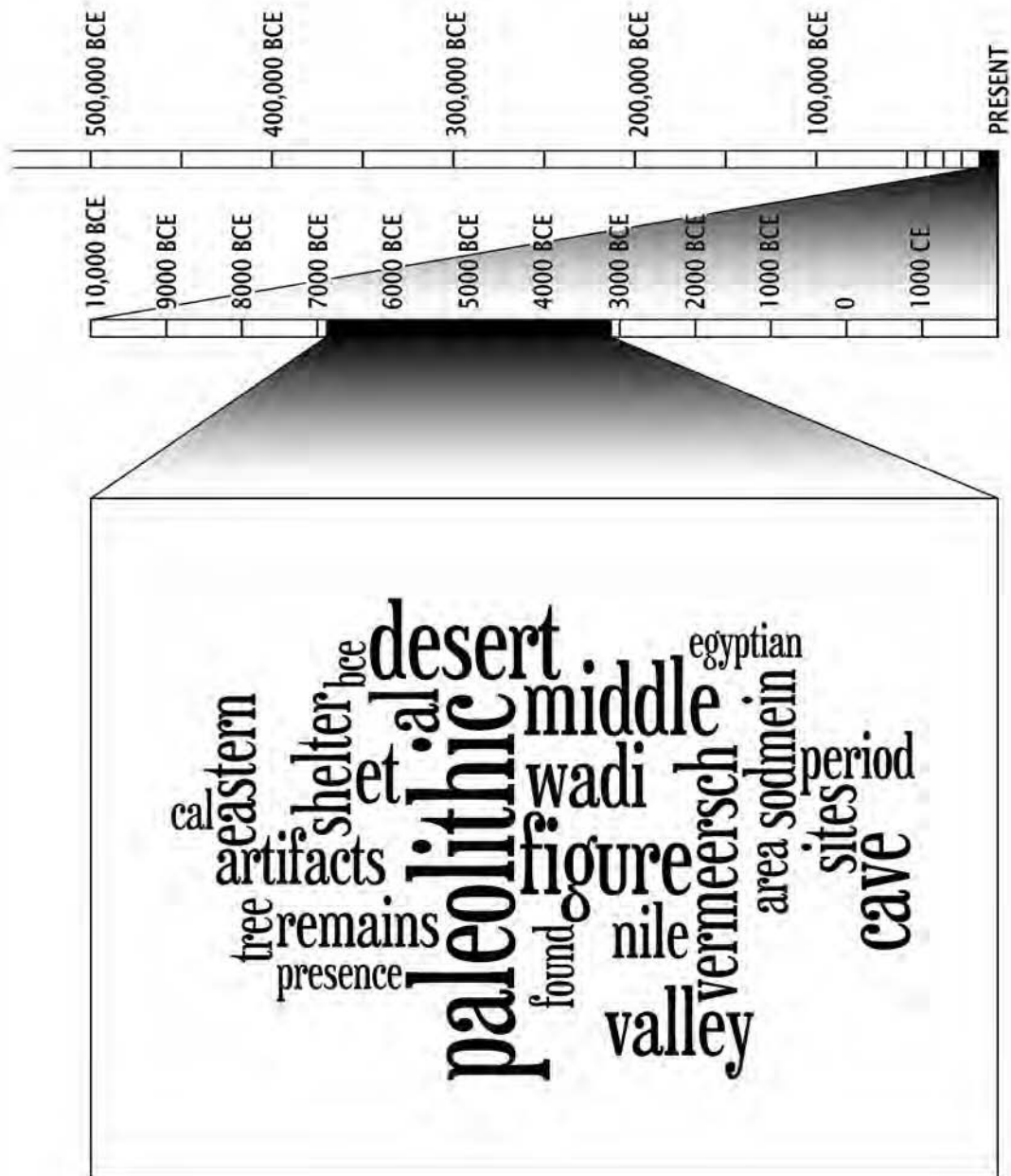
that are at the root of many disputes between authors and editors need to be mentioned specifically.

First is the obligation of the author to conform to the house style of the journal or publisher, especially concerning the format of the bibliographical references. Second is the phrasing of the title, which should be the shortest summary of the text (for instance Martindale and Supernant 2009). It should thus not be a question (for instance Diez-Martín *et al.* 2009); and if a colon is to be used, both the title and the subtitle should make immediate sense to all readers (for instance Hart and Brumbach 2009). Having a question, a pun or a quote in the title only makes it more difficult to gauge the contents and relevance of the text, and thus does not benefit anyone (for instance Spielmann *et al.* 2009). In general the whole text should be comprehensible for any informed and interested reader, even if she or he has no detailed knowledge of its background or significance. The best way to check for this is to hand the text to such a reader, for instance, a graduate student, and take any resulting remarks, corrections and additions profoundly seriously. If anything, this will prepare the author for the more authoritative and possibly more severe feedback in the form of the remarks by peer reviewers or the

editor. It must be kept in mind that the assignment of the reviewers and the editor is to improve the product and protect author(s) and publisher from settling on a mediocre publication.

Acknowledgments

This volume and the conference that is its basis would not have been possible without the financial support of the Royal Netherlands Embassy in Cairo and the Cotsen Institute of Archaeology. Logistical support was provided by the staff of the Netherlands Flemish Institute in Cairo. Thanks are also due to Amir Gohar, Rudolf de Jong, Julie Nemer, Karin van Opstal, Chip Stanish, Willeke Wendrich, three anonymous peer reviewers, and the staff of the Cotsen Institute of Archaeology. Special thanks are due to the individual presenters and authors for their efforts to share their knowledge and experience, and to Lloyd Cotsen for making it all possible. The image on the cover is showing a dromedary race between riders of the Beja Khatmayah tribe in northern Sudan as part of a religious festival (photograph by Lucy Skinner, Suakin Project, 2004).



Time line and word cloud for Pierre M. Vermeersch, *Contributions to the Prehistory of the Eastern Desert, Egypt*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 2



Contributions to the Prehistory of the Eastern Desert in Egypt

PIERRE M. VERMEERSCH

OVER THE LAST DECADE, THE BELGIAN MIDDLE Egypt Prehistoric Project of the Katholieke Universiteit Leuven has organized a restricted survey in a limited area of the Egyptian Eastern Desert. This resulted in the discovery and excavation of prehistoric sites dating to very different time periods. Excavations in the Sodmein area, near Safaga, provided some data on the Middle Paleolithic (Middle Stone Age).¹ In addition to some surface sites, the most important data were recovered from Sodmein Cave. This preserved a stratigraphic sequence of occupation by Middle Paleolithic hunter-gatherers, mainly during the Last Interglacial Period (marine oxygen isotope stage 5: 130–70 ka). Faunal and botanical remains provided elements for the reconstruction of the environment during that period. The lithics can be compared with what has been recorded in the Nile Valley. A rather well-preserved surface site on the right bank of Wadi Bili (looking in the direction of the flow of the prehistoric river), near El Gouna, with a typical Levallois assemblage, seems to integrate into the Middle Paleolithic in which a laminar flaking technology is already observed. Its chronological position remains unclear. During the MIS 4–2 (70–12

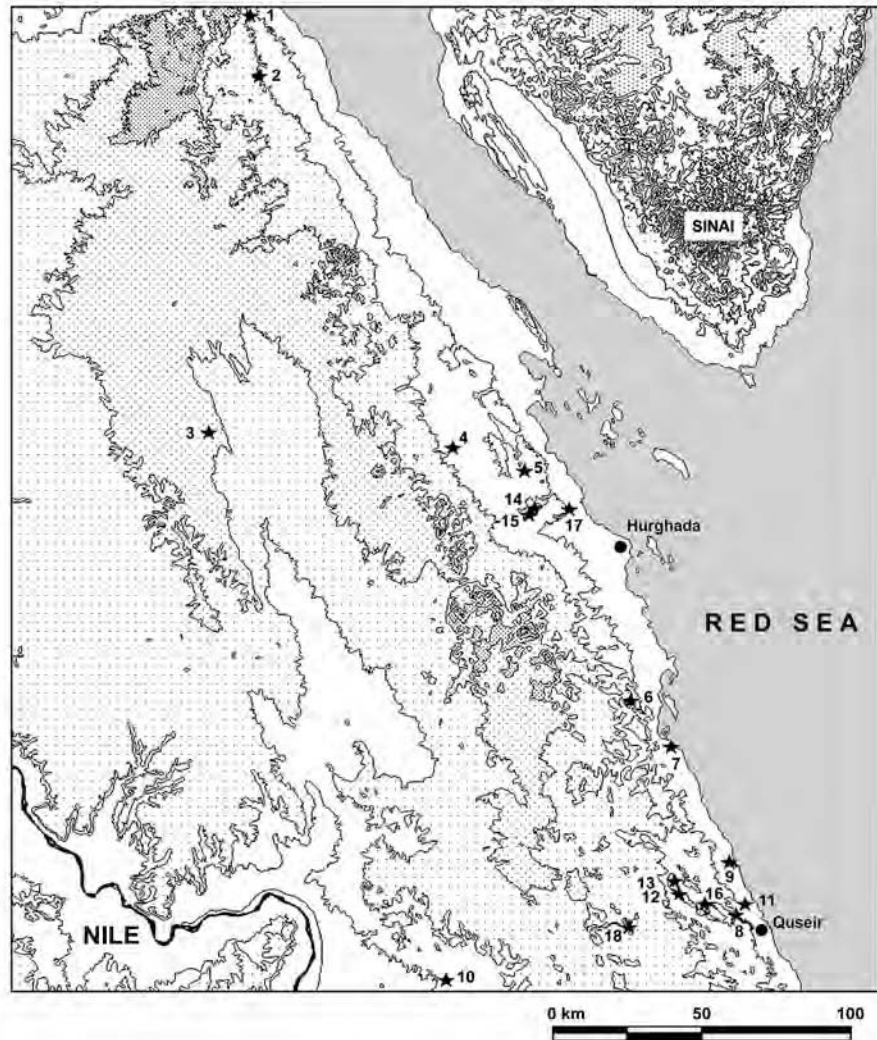
¹ We prefer the term “Middle Stone Age,” which conforms more to the African position of Egypt (Van Peer and Vermeersch 2007). Because, however, most of the literature on Egypt is using the term “Middle Paleolithic,” we will use that in this general contribution.

ka) the area was deserted by humans.² Indeed, no occupation remains have been localized at all, with the possible exception of Middle Paleolithic level 2 from the Sodmein sequence. If this finding is correct, it implies that the ‘Out of Africa’ hypothesis for modern humans, which is sometimes interpreted as associated with a route along the Red Sea, remains difficult to maintain.

Reoccupation of the area started around 8000 BP with the Epipaleolithic occupation of the Tree Shelter, near Safaga. In this small shelter the stratigraphic sequence starts with a microlithic assemblage, attributed to the Elkabian. The assemblage, associated with a subsistence still entirely based on hunting and gathering, points to contacts with the Nile Valley and the Western Desert. However, no ceramics are associated with this occupation. The remains of ovicaprid herders appear around 7000 BP in the Sodmein cave as well as in the Tree Shelter. Here, ceramics are present but rare. The most recent occupation is probably related to the Tasian or the Badarian. At both sites, the prehistoric visits came

² Marine oxygen isotope stages (MIS or OIS) are alternating warm and cold periods in the paleoclimate (glacial, interglacial, stadial or interstadial). They are deduced from the ratio of oxygen isotopes (¹⁸O/¹⁶O) in core samples of polar ice or ocean calcite. This ratio changes with the temperature of the ocean water and thus reflects the ancient climate. In this context, ka (kilo-annum) stands for “1000 years ago,” Ma (mega-annum) for “1,000,000 years ago,” and BP for “before present” (which is defined as 1950 CE).

Figure 2.1. Map of the Eastern Desert showing the location of the sites mentioned in this chapter. 1: Wadi Deir Bolos; 2: Ras Issaran; 3: Gebel Tarbul; 4: Abu Had; 5: Abu Girfan; 6: Gebel Wassif; 7: Wadi Gassus; 8: Wadi Ambagi; 9: Wadi Hamrawain; 10: Laqeita; 11: QRS-9; 12: Sodmein Cave; 13: Tree Shelter; 14: Wadi Bili; 15: ME03/10/24; 16: QRS-17; 17: El Gouna Shell Mound. Gebel (جبل) = mountain; wadi (وادي) = valley.



to and end around 5000 BP. Along the coast, near El Gouna, the presence of shell mounds from around 5000 BP is attested. In Wadi Bili, *Steinplätze* from the same time period have been recognized.³ At the Rens Shelter, near the Sodmein Cave, a large assemblage of flaked flint was found in association with a hearth. From this site a small sculpture, apparently representing a human foot in white translucent calcite-alabaster, was found. A radiocarbon date suggests that the area was occasionally used by people who, around 1250 CE, still used flint as a major raw material.

The Eastern Desert of Egypt has not yet been intensively surveyed for prehistoric remains. Only occasional visits and some restricted surveys have been initiated, which were generally not complemented by significant excavations. The Eastern Desert is subject

³ *Steinplätze* are concentrations of stone fragments in the Sahara that are commonly interpreted as ancient fireplaces.

to substantial eolian and fluvial erosion, reducing the prospect of locating intact sites. It therefore remains impossible to document in great detail the prehistoric occupational history. Nevertheless, some surveys have been oriented towards the registration of the prehistoric, mainly Predynastic and Early Dynastic, rock art, which is not discussed in this chapter. This chapter aims to provide an overview of the prehistory of the Egyptian Eastern Desert, mainly based on the results of Leuven University's Belgian Middle Egypt Prehistoric project. The Sinai is not included in this overview. The locations of the most important sites are shown in Figure 2.1.

Lower and Middle Paleolithic Sites in the Eastern Desert

In the Egyptian Eastern Desert very few Lower and Middle Paleolithic sites have yet been documented while the information provided for most of the sites is

of poor quality. Much of the publications refer to the recovery of isolated artifacts. Only occasionally, artifact concentrations have been observed, but in most cases the recovered material is culturally uncharacteristic. Wadi Deir Bolos, a chert extraction area (Dittmann 1990: 33), where the Nubian Levallois method was used for the production of stone points, is most characteristic. Some thick blades and even a single unilateral crested blade were present here. From the Ras Issaran area, the presence of a wide variety of artifacts has been reported (Gawarecki and Perry 1992), which include typical Lower Paleolithic choppers and Acheulean hand-axes, Middle Paleolithic Levallois flakes and points, denticulated scrapers, but also Late Paleolithic blade-end scrapers and blades. Few characteristic elements are provided in the report, but the presence of Late Paleolithic artifacts here seems very doubtful because the technology and typology of the artifacts is not at all characteristic and no other Late Paleolithic sites have been described in the Eastern Desert. In the Gebel Tarbul area (Montenat 1986), several flaking areas have been located where mainly the Nubian Levallois method was applied for the production of pointed flakes (Figure 2.2, 1). Archaic and some more refined hand-axes were also present. A small assemblage of bladelets seems, based on the patina, to be of much younger age. Several mainly Levallois sites have been found in the Abu Had area (Montenat 1986; Bomann and Young 1994), but it remains difficult to attribute the recovered artifacts to a specific cultural entity because tools are rare. Of special interest is the fact that the flint-producing limestone of Gebel Safr Abu Had was certainly often visited by humans. Similar considerations apply to the area at the entrance of the Wadi Abu Girfan gorge, where hand-axes and Nubian

Levallois cores type 2 (Figure 2.2, 2) were found among large quantities of flakes (Bomann and Young 1994). This is an area with outcrops of Eocene flint nodules (Vermeersch *et al.* 2005a).

Several ateliers, also mainly with Levallois technology but sometimes also with some cordiform hand-axes (Figure 2.2, 3), were recorded south of Hurghada, at Wadi Gassus and Gebel Wassif (Montenat 1986). Some Middle Paleolithic artifacts were found in the gravel deposits of two 3–4 m terraces near Quseir, in Wadi Ambagi and Wadi Hamrawain (Butzer and Hansen 1968: 397). At Laqeita, the presence of Early Acheulean sites on the surroundings hills and late Acheulean on a terrace have been mentioned (Debono 1951). Middle Paleolithic artifacts comparable to those of the Interglacial Middle Paleolithic of the Nile Valley seem to be absent here. There are, however, several sites with Epilevalloisian type artifacts. According to the report there are typical Sebilian artifacts, but it is difficult to evaluate what exactly is meant by Sebilian. Apparently there are some truncated flakes, but these may not be typical. An extensive survey was done in the Quseir area by Prickett, who published a map of the lithic sites in the region (Prickett 1979: plate 79). This survey identified 24 localities with Paleolithic materials. A Middle Paleolithic coastal site near Quseir al-Qadim, QRS-9, was recorded as a general scatter on the surface of gravels. This site may have been described earlier (Sandford and Arkell 1939). A test trench was unable to locate artifacts within the excavated gravels. Because of the salt cementation of the gravels, the excavation was forced to stop at 45 cm depth without finding artifacts. For the whole of the Quseir area, the Middle Paleolithic was the best represented in the survey collections (Prickett 1979). South of Quseir, prehistoric remains are less well

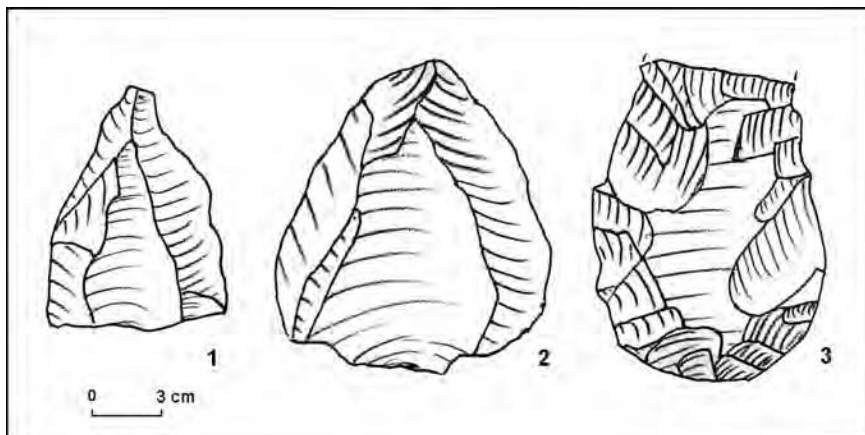


Figure 2.2. 1: Nubian core from Gebel Tarbul; 2: Nubian core from Abu Girfan; 3: cordiform hand-axe from Wadi Gassum. Adapted from Montenat 1986.

represented, possibly because flint is becoming rare and artifacts of other materials are more difficult to identify. Still, near Ras Honkorab and Abu Ghusun (two sites near Marsa Alam) several hand-axes have been found (Montenat 1986). All together the information recorded previously is of relatively poor quality. No sites were excavated, no stratigraphy was observed, and no dating was performed. Based only on some rough technological and typological concepts, one can try to integrate the sites into a more general cultural environment. It then appears that most sites, and certainly most observed artifacts, integrate into the Middle Paleolithic. According to the Nile Valley sequence this coincides with the Nubian Middle Paleolithic (Vermeersch and Van Peer 2002), dated to the Last Interglacial Period (MIS 5e: 130-110 ka).

Sodmein Cave

Sodmein Cave (QRS-44, Figure 2.3) in Gebel Umm Hammad was noted during the survey of the Quseir area (Prickett 1979). The cave is in the limestone of the Thebes Formation, through which a gorge was incised, that is now known as Wadi Sodmein (Figure 2.4). On the boulder scree outside the cave entrance a collection of 46 flint flakes, including some Levallois flakes and a single quartz flake, was found. “[T]his appears to be the first cave reported with definite Paleolithic remains. The deposit is most likely to be stratified. . .” (Prickett 1979). Later research indeed resulted in exposing a stratigraphic sequence of Middle Paleolithic occupations (Van Peer *et al.* 1996; Vermeersch *et al.* 1996a, 1996b; Moeyersons *et al.* 1999; Moeyersons *et al.* 2002; Vermeersch and Van Peer 2002). The fill of the cave is complex and several

Figure 2.3. View into the Wadi Sodmein gorge looking southeast.



Figure 2.4. View of the trenches inside Sodmein Cave.



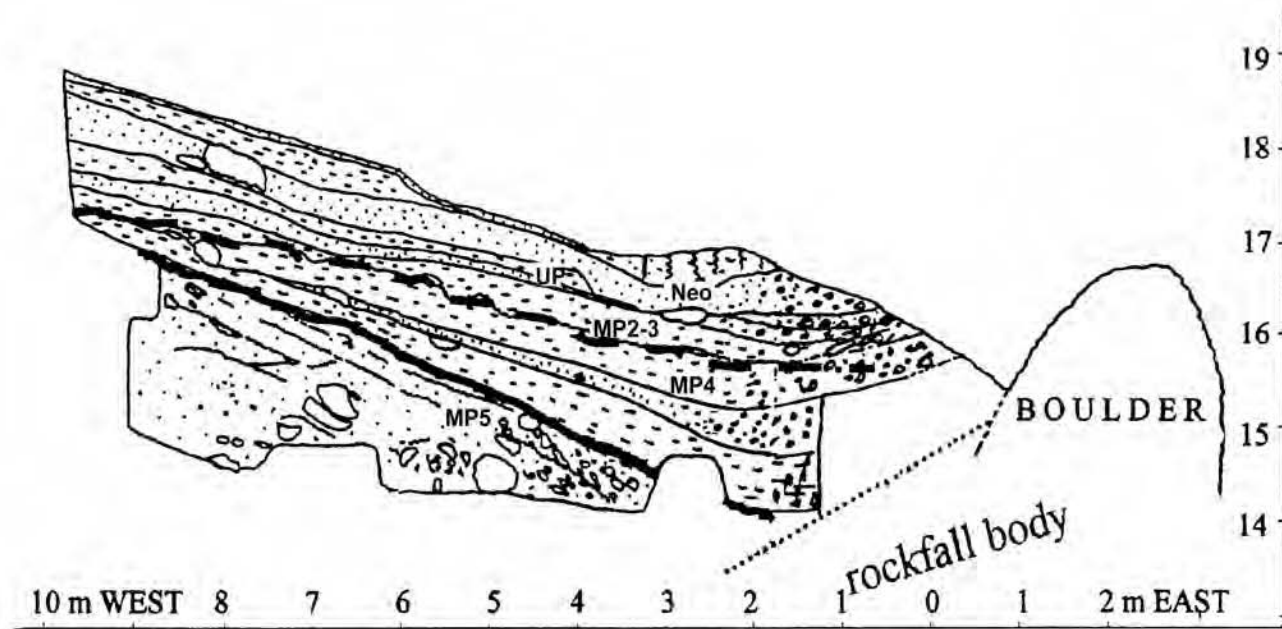


Figure 2.5. Profile of Sodmein Cave. Adapted from Moeyersons *et al.* 2002.

remains of human visits to the cave have been documented (Figure 2.5). The stratigraphic sequence of occupations by hunter-gatherers falls in the Last Interglacial Period.

Middle Paleolithic level 5 is the oldest level that has so far been recorded. It is associated with a large structured hearth containing quantities of burned bones of large mammals, such as African elephant, buffalo, kudu (*Tragelaphus* sp.), honey badger (*Mellivora capensis*), Dorcas gazelle and dassie (*Procavia capensis*), but also crocodile and catfish. The lithic assemblage shows a bifacial technology with a fragment of a foliated hand-axe of the type found in Nubian Middle Stone Age industries in the Nile Valley (Wendorf and Schild 2005). Furthermore, a typical example of a Nubian type 2 core is present. The assemblage in level 5 seems similar to that associated with Grey Phase I at Bir Tarfawi (Close 1993; Van Peer *et al.* 1996), also characterized by the presence of large mammals (Gautier 1993). A thermo-luminescence date of a burnt flint produced an age of 112 ka, suggesting a time period within the MIS 5e (Mercier *et al.* 1999). Immediately below Middle Paleolithic level 5, a major collapse of the cave roof is hampering archaeological exploration of the cave. Middle Paleolithic levels 4 and 3 contain Nubian-group assemblages with the typical presence of Nubian points and cores. In the northern part of this level, a classical Levallois flake was found with a band of red ochre extending all over the central flake area, suggesting the

use of red color. Middle Paleolithic level 2 contained what probably is a tanged Levallois pointed flake (Figure 2.6, 5), which has parallels in the Western Desert at Bulaq Pass in Kharga.

Wadi Bili

Another Middle Paleolithic was discovered along the right bank of Wadi Bili, near El Gouna (Vermeersch *et al.* 2007). Wadi Bili is a deeply incised gorge in Gebel Abu Sha'ar al-Qibli, west of El Gouna. The entrance of the gorge is now partially blocked by eolian sand accumulating from the north. During the very dry periods of the last Ice Age, an even larger dune could have dammed the run-off waters completely. If such was indeed the case, a lake would have formed. The lake shore will have created an optimal environment for human occupation. The open air site is situated on the potential shore of such a lake on a small alluvial fan along the valley slope (Figure 2.7). At the time of occupation the alluvial fan was active. Bones in the size and length of buffalo, aurochs, kudu, Dorcas gazelle, ibex or Barbary sheep were present. A light brown flint of good quality, probably derived from the Wadi Abu Girfan, was apparently used for the production of blanks, using the Levallois method. End products are thin and have mostly a prepared butt. Many Levallois end products are laminar and some show the presence of a *chapeau de gendarme* platform, reminiscent of

Figure 2.6. Artifacts from Sodmein Cave. 1–3: Upper Paleolithic blades; 4: Emireh point from Middle Paleolithic level 1; 5: tanged Levallois flake from Middle Paleolithic level 2.

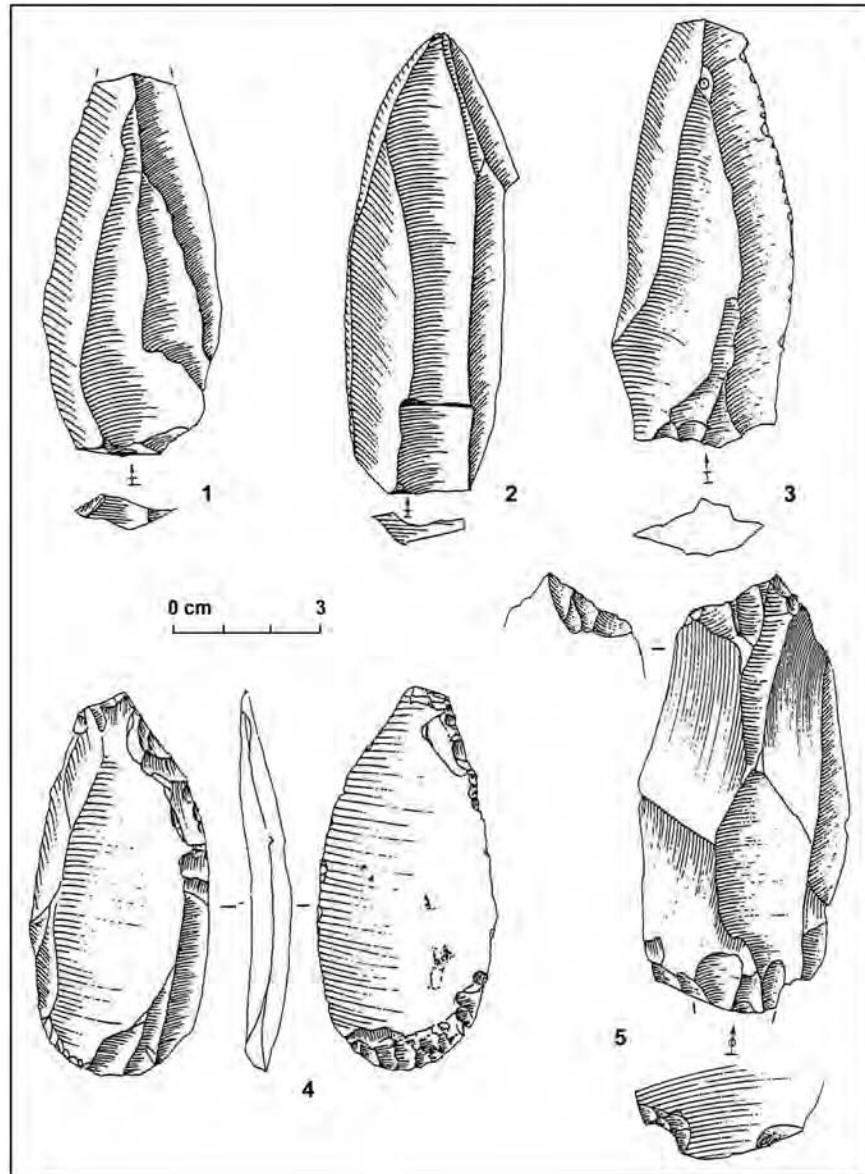


Figure 2.7. The Middle Paleolithic site of Wadi Bili looking east.





Figure 2.8. View of the Bili Cave interior.

features present in late Levallois assemblages, such as the Halfan (Marks 1968). Taking into account the geomorphologic position of the site, it seems to be correlated with a wet climatic phase, possibly MIS 5a (76–70 ka), but a somewhat wetter spell during MIS 3 (60–25 ka) must also be considered. Indeed, as is so often the case with Paleolithic industries of northeastern Africa, a straightforward culture–stratigraphic affiliation and, consequently, a chronological position cannot easily be advanced on techno-typological features alone.

Bili Cave Area

Wadi Bili is cut into the calcareous sandstone plateau west of El Gouna (Vermeersch *et al.* 2005a). Along its meanders, numerous abris are formed due to the succession of more and less resistant calcareous sandstone layers. A cave, now identified as Bili Cave, is situated on the left bank of the Wadi Bili gorge (looking in the direction of the flow of the prehistoric river). The frequently collapsed roof created a scree of large boulders below the cave entrance. At its mouth the cave is about 3 m high. The cave was investigated by several test excavations (Figure 2.8). Paleolithic remains were very rare. Only a single, possibly Middle Paleolithic, notched flake was found in one of the trenches near the cave entrance at a depth of 80 cm. Below the cave on the left slope of the valley some artifacts were found. One of these is a large Levallois flake. As no other

archaeological remains were found, the excavation was halted. On the plateau above the gorge, several larger and smaller artifact concentrations, mainly of Middle Paleolithic technology, were found (Vermeersch *et al.* 2005a).

The ‘Out-of-Africa’ Migration of Modern Humans

There is now some agreement that the ‘Out-of-Africa’ migration of modern humans took place during the Middle Paleolithic. Most authors mentioned dates between 70–50 ka. Different routes have been suggested. Most researchers using the genetic approach (mitochondrial and Y-chromosome DNA) are convinced that the way out was mainly or exclusively across the Bab al-Mandab, between the Horn of Africa and the Arabian Peninsula. Most of these authors, however, do not take into account that at the time both the Sahara and the Arabian Peninsula were extremely arid. Others prefer an Egyptian route. The Egyptian Middle Paleolithic of the Last Interglacial Period is characterized by very extensive flint extraction activity in the desert along the Nile Valley in Upper Egypt (Vermeersch 2002), indicating the need for huge quantities of lithic blanks and thus suggesting a relatively large human population in the Nile Valley. With the onset of the Last Glacial Period, about 70 ka, there is a reduction in the extent of the extracted area, suggesting a severely reduced

population in the Nile Valley, probably because of difficult living conditions in the Lower Nile Valley (Vermeersch 2006). If we accept the time period of the 'Out-of-Africa' movement as put forward by most of the DNA specialists, major problems arise due to the lack of living sites in the Nile Valley during that period. The area connecting the Upper Egyptian Nile Valley with the Levant is still not sufficiently documented. Moreover, the Middle Paleolithic of the Levant and of the Egyptian Valley have been studied in different ways, preventing a good understanding of the cultural connections between the two regions (Vermeersch 2001). There appears to be a clear connection between the Middle Paleolithic of East Africa, where anatomical modern man has its origin, and the Egyptian Middle Paleolithic (Van Peer *et al.* 1998). However, according to Rose (2004), Site One in the Eastern Desert of Sudan is the most northerly site that witnesses contact with the East African Paleolithic, excluding the existence of a northern route out of Africa. Still, anatomically modern man was already present in the Egyptian Nile Valley around 60 ka (Vermeersch *et al.* 1998).

When considering an approach of the Out of Africa migration on the basis of environmental conditions, it seems that with the climatic changes during the Last Interglacial Period the human population of East Africa began to expand, pulled by the expansion of savannah and woodland habitats and increasing water resources. Populations became increasingly mobile, which is reflected archaeologically in the lithic raw materials and the increasing variability of site locations (Basell 2008). The presence of refugia in Africa has been suggested because of the occurrence of one or more "bottlenecks," which are commonly explained by rapid climatic fluctuation or aridity associated with glacial periods (Ambrose 1998). According to some authors, the Red Sea coast was an important route 'Out of Africa' (Field and Lahr 2005; Liu *et al.* 2006). With the exception of Sodmein Cave, however, no stratified sites have been located along the Red Sea in Sudan or in Egypt and I believe that the Eastern Desert cannot be considered such a refugium. It is important to note that most of the remains found in the Eastern Desert can be attributed to the Middle Paleolithic, which at Sodmein Cave is clearly related to the Last Interglacial Period, suggesting that this period could have furnished enough subsistence possibilities for humans. However, the absence of a correlation between the archaeological

data of Sodmein Cave and bones of modern humans does not allow an assessment of the Red Sea corridor during the Interglacial Period, a problem that applies to the whole of the Arabian Peninsula as well as in northeastern Africa.

The Upper Paleolithic

The Upper Paleolithic occupation of the Egyptian Nile Valley was very restricted (Wendorf *et al.* 1976; Vermeersch *et al.* 2000; Vermeersch *et al.* 2002; Vermeersch 2006). It appears limited to 40–35 ka (Khaterian) and 24–25 ka (Shuwikhatian). At Sodmein Cave the presence of humans is attested by several radiocarbon dates around 45,000 and 30,000 BP (Van Peer *et al.* 1996). The Middle Paleolithic level 1 exhibits some Near Eastern traits, such as the presence of an Emireh point. At Bokher Tachtit in the Sinai (Marks 1983), the presence of the Emireh points is correlated with the Late Middle Paleolithic around 45 ka. The Upper Paleolithic at Sodmein Cave is characterized by numerous blades with almost exclusive unidirectional dorsal scar patterns (Figure 2.6, 1–3).

The Late Paleolithic

In the Nile Valley, there is an increase of the population density during the Late Paleolithic (22 to 12 ka), attested at numerous sites (Wendorf and Schild 1976), apparently along large lakes in the Nile Valley (Vermeersch *et al.* 2006). During the Bølling oscillation (around 12.5 ka),⁴ catastrophic events resulted from the overflow of Lake Victoria into the White Nile and Lake Tana into the Blue Nile. The increasing of Nile discharge resulted in the destruction of the dams created in the Nile Valley by eolian accumulation during the Late Glacial Maximum (LGM) This probably reduced or even completely annihilated the population of the Egyptian Nile Valley. QRS-17 (Wadi Nakheil), containing retouched and unretouched small flakes as well as small blades, bladelets, blade cores and even a few burins, has been attributed to the Late Paleolithic (Prickett 1979). The technology and typology of the artifacts illustrated by Prickett (1979: Figure 38), however, are not characteristic for the Late Paleolithic of the Nile Valley. Furthermore, other Late Paleolithic remains have not yet been recorded in the Eastern Desert. It therefore remains doubtful to attribute QRS-17 to the Late Paleolithic. This

⁴ The Bølling oscillation was a warmer period during the final stages of the Last Glacial Period.



Figure 2.9. Position of the Tree Shelter in a tributary of Wadi Sodmein (near Quseir).

is not surprising as this period corresponds with the most arid phase of the Last Glacial Period.

The Epipaleolithic

The Holocene “wet phase” is now quite well studied in the Western Desert, where numerous Neolithic sites have been located (Wendorf *et al.* 2001; Kuper and Kröpelin 2006), starting at about 9000 cal. BCE.⁵ In the Egyptian Nile Valley, with the exception of the Elkabian sites dating to around 7000 cal. BCE (Vermeersch 1978), no other remains of a human occupation during that period have been identified. Approximately 7500–6100 cal. BCE, the northern Red Sea Mountains registered a substantially higher rainfall and freshwater run-off, which thereafter decreased to modern values (Arz *et al.* 2003). Three periods of different degrees of aridity can be inferred for the Egyptian Eastern Desert and two recent humid pulses can be distinguished (Moeyersons *et al.* 1999; Moeyersons *et al.* 2002). The first of these occurs around 6900 cal. BCE, the second around 5700–5500 cal. BCE. Before 7100 cal. BCE, heavy rains occasionally occurred; later a more moderate but maybe wetter precipitation regime was established. After the last wet culmination, there was a gradual shift to drier conditions. Shortly after 3800 cal. BCE, modern climatic conditions are believed to have set in. In the Eastern Desert, few indications of human presence have been registered for the Early and Middle Holocene. Only a few artifacts appear to belong to this period (Montenat 1986).

⁵ For the Holocene Period, all radiocarbon dates have been calibrated with OxCal 4.0 calibration software.

Excavations at the Tree Shelter and at Sodmein Cave provide some information on this period (Vermeersch *et al.* 1996b; Vermeersch 2008). The Tree Shelter is located in a tributary of the Wadi Sodmein (Figure 2.9). The latter cuts through Gebel Umm Hammad, about 25 km inland from Quseir, to join a valley that is running parallel to the Egyptian Red Sea coast for a distance of about 30 km. Both valleys have been repeatedly occupied, probably always for a short period, from about 7200 cal. BCE until about 3700 cal. BCE. In the Tree Shelter, the stratigraphic sequence (Figure 2.10) starts with a microlithic assemblage (Figure 2.11), attributed to the Elkabian, characterized by a blade technology and backed bladelets.

The presence of Aterian points, presenting an evolved style, has been described at the Laqeita oasis, on the way from Qena to the Red Sea through Wadi Hammamat (Debono 1951). My evaluation of the pictures of these artifacts (Debono 1951: plate III, b), however, revealed that they are almost certainly Epipaleolithic pedunculated Ounan points (Figure 2.2, 4–5). Other elements, typical for the Elkabian, were also collected at Laqeita: finely denticulated bladelets, “*scies d’un type nouveau dans la Vallée du Nil*” (Debono 1951), backed bladelets, geometrics and microburins (Figure 2.12). In addition to this lithic assemblage, perforated ostrich eggshell beads and ostrich eggshell fragments with a burned exterior were collected. Several hearths were discovered but not excavated. Apparently some of them were associated with microburins, but no specific information is provided about the sites, their stratigraphy or their exact location

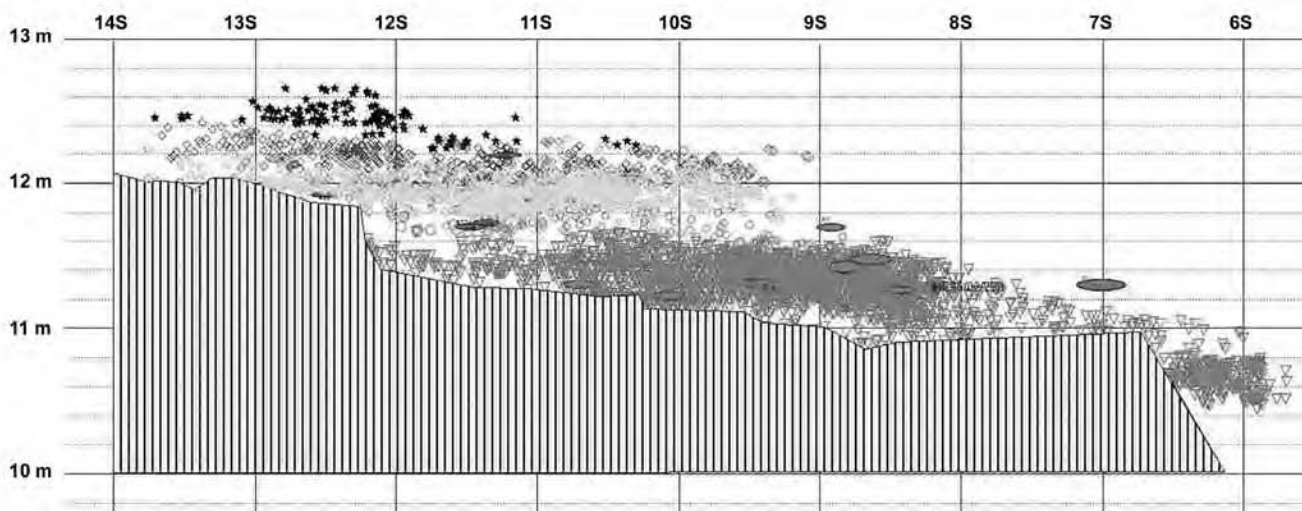
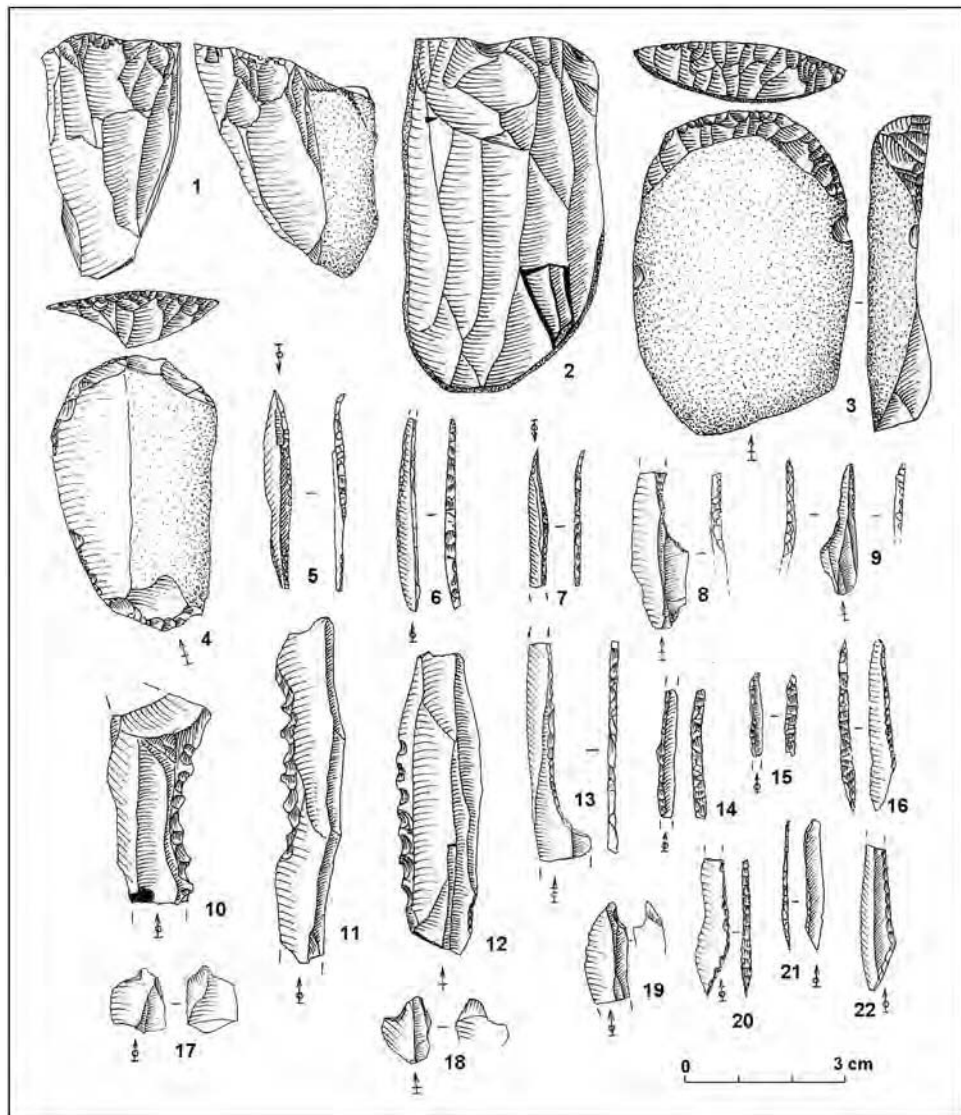


Figure 2.10. The artifacts recovered from the deposits in the Tree Shelter, plotted on a single profile and marked with different symbols for each of the successive archaeological horizons, the lowest being the Elkabian. Ellipses indicate the positions of the hearths. Adapted from Vermeersch 2008.

Figure 2.11. Elkabian artifacts from the Tree Shelter. 1–2: single platform cores; 3–4: end scrapers on cortical flakes; 5–7 straight backed points; 8–9 and 13: shouldered bladelets; 10–12: denticulated bladelets; 14–15: backed bladelet fragments; 16, 20–22: elongated triangles; 17–19: microburins. Adapted from Vermeersch 2008.



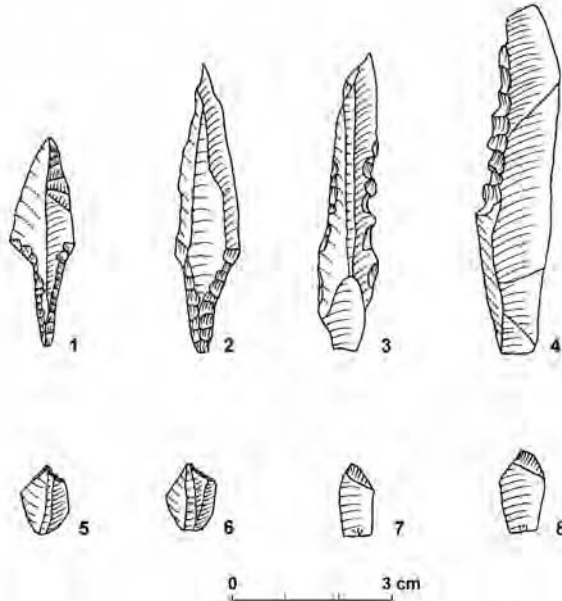


Figure 2.12. Elkabian artifacts from Laqeita. 1-2: Ounan points; 3-4: denticulated bladelets; 6-8: microburins. Adapted from Debono 1951.

(Debono 1951). Assemblages such as those identified at the Tree Shelter (Vermeersch 2008), Elkab (Vermeersch 1978), and at Laqeita belong to the Epipaleolithic Elkabian, around 7000 cal. BCE.

Humans during the Elkabian practiced a subsistence based entirely on hunting and gathering. Still, there is an important difference in the tool assemblage between the Elkabian of Elkab and that of the Tree Shelter. At Elkab, end-scrapers are rare, whereas they are the most important tool type at the Tree Shelter. The Elkabian people exploited the Nilotic environment where wood was certainly a more important resource than in the Eastern Desert, even during the wetter parts of the Holocene. It is possible that the presence or absence of end-scrapers is related to site specialization, which at Elkab implies more woodworking and at the Tree Shelter hunting and hide preparation (Kweakason 2008). It seems that hunting was among the main purposes for visiting the Eastern Desert. The animal remains of the Elkabian occupation at the Tree Shelter site, Red Sea fish, ostrich, rock hyrax and small bovid (Linseele and Van Neer 2008), are mainly connected with hunting. The cultural characteristics point to contacts with the Nile Valley and the Western Desert. This contact must have used the Wadi Hammamat route as is indicated by the site

in Laqeita. The Early Neolithic El Gorab variant from the Western Desert provides the best comparison in general style, technology and typology of the lithic artifacts. Although based on a small number, plotting of the dates of the three areas in Egypt, using CalPal software (Weninger and Jöris 2004), suggests a somewhat later start of the Holocene occupation of the Eastern Desert compared to the Western Desert (Figure 2.13). While in the Sahara, ‘wavy-line’ decorated pottery is a key African achievement of the 8th millennium BCE, such ceramics have never been recorded in the Egyptian Nile Valley or in the Egyptian Eastern Desert. Indeed, no ceramics are associated with the Elkabian occupation of the Tree Shelter. There is also no indication at all that the Elkabians from the Nile Valley or from the Tree Shelter were cattle herders as is presumed for the groups in the Western Desert (Gautier 2001). Therefore, I prefer to consider them Epipaleolithic rather than Neolithic. It is important to note that Elkabian sites are present between the Nile Valley and the Red Sea coast, indicating contacts between the two areas. The Epipaleolithic bladelet technology disappeared from the Red Sea area around 6600–6200 cal. BCE. A similar period is assumed for the end of the Early Neolithic in the Western Desert (Wendorf *et al.* 2001).

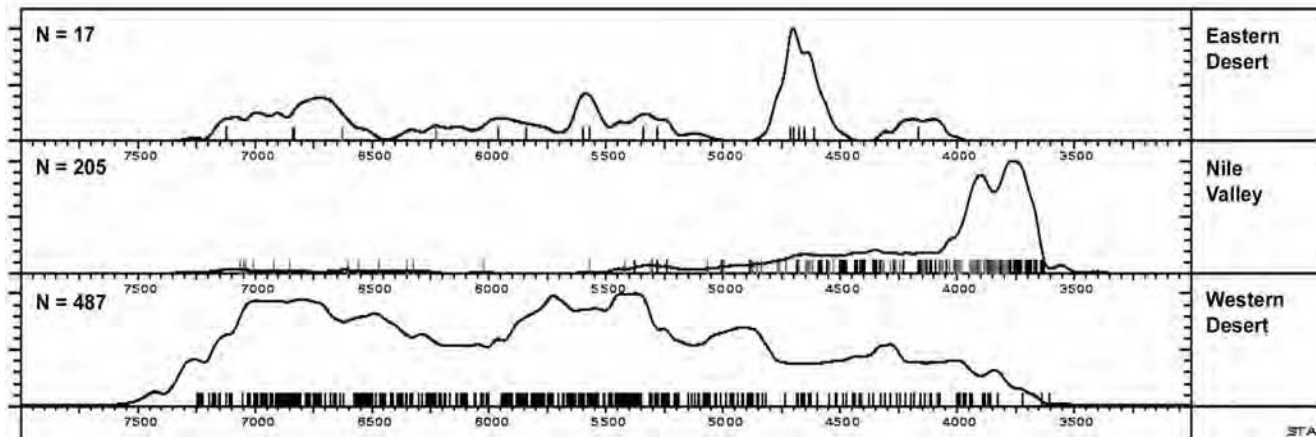


Figure 2.13. CalPal plot of the calibrated radiocarbon dates from the Eastern Desert (top), the Nile Valley (middle) and the Western Desert (bottom).

The Neolithic and the Predynastic

The reoccupation of Sodmein Cave, around 6200 cal. BCE, after a long hiatus started somewhat later than that of the Tree Shelter. The human visits to Sodmein Cave are contemporary with huge amounts of goat or sheep dung, suggesting multiple visits by large herds of these animals (Vermeersch *et al.* 1996a). At least fifteen hearths were discovered at different depths in the accumulation of debris. All this suggests repeated short visits by humans and their herds. The visits continued until 5300 cal. BCE. Ceramics are present only in the upper levels of the accumulation. Some red polished ware has been recognized. The fabric is rather sandy and well fired. Some sherds have an incised horizontal herringbone decoration. Incision took place after polishing with a pointed but blunt tool, often creating some upwelling along the incision (Figure 2.14). These sherds are comparable to the *Fischgratverzierte Keramik* from the *Urschicht* layer at Merimde-Benisalame I (Eiwanger 1984: 18-24). Thousands of lithic artifacts have been collected, all exclusively of local chert. Knapping techniques are very rudimentary. Tools are rare and are represented by retouched and notched flakes and some end-scrapers of poor quality. Of interest is the series of arrowheads, some of which display a somewhat asymmetric foliate form, sometimes with a fully retouched dorsal surface and an inverse surface which presents only marginal retouch. Some foliates and larger bifacial tools are present.

From the scree at the cave entrance, 139 sherds were previously collected:

It is an extremely uniform collection, with virtually no variation in forms or fabric (pl. 83). The majority of the ceramics were red-brown slipped with broad (1–1.5 cm) vertically scraped facets and slight burnishing in a well levigated, orange-brown fabric with little visible tempering. . . . The ceramics are probably of very late Predynastic or slightly later date. . . (Prickett 1979).

Horizon 3 of the Tree Shelter preserves the remains of several occupation periods (Vermeersch 2008). The most intensive is apparently the lowest of the Neolithic levels, dated 5700-5600 cal. BCE, with a large number of hearths and a dense horizontal scatter of lithic and faunal remains. Compared to the Elkabian of the Tree Shelter, a complete change in the lithic tool kit has occurred. Bladelet technology is entirely absent and has been replaced by a rather opportunistic knapping method for flake production. Tool types are less standardized, but side-blow flakes are present. Bifacial retouch is often used. No ceramics are associated with this horizon. When compared to the situation in the Elkabian horizon, where hearths were small and often restricted to the presence of some burned sediment, ash and fine pieces of charcoal, a change in the construction of hearths was observed. In horizon 3, the hearths are large, most often contain large pieces of charcoal and are covered with limestone slabs. Such hearths were found in the Nile Valley at the Badarian site of Mahgar Dendera 2 and at El Salamuni (Vermeersch *et al.* 1992; Hendrickx *et al.* 2001). The horizon 3 occupation in the Tree Shelter can clearly be attributed to a Neolithic way of life in which herding ovicaprines was important, but where cattle were apparently missing (Linseele and Van Neer 2008).

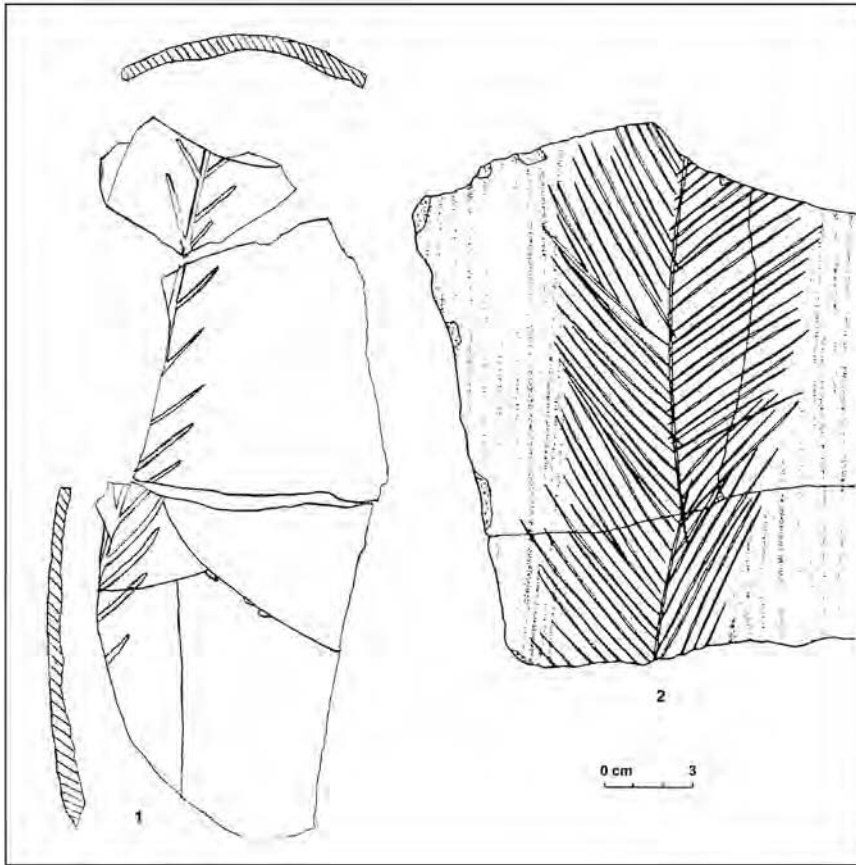


Figure 2.14. Comparison of a sherd from the Sodmein Neolithic (1) with *Fischgratverzierte Keramik* (2) from the *Urschicht* layer at Merimde-Benisalame I. Adapted from Eiwanger 1984.

Horizon 2 of the Tree Shelter is characterized by an opportunistic flaking method. The lithic material is mainly composed of medium flakes, some cortical flakes and smaller debitage remains. Most characteristic are the denticulated and notched flakes. Bifacial retouching is present. Pointed pieces, possibly opportunistic arrowhead preforms, display bifacial retouch. Some very small ceramic sherds are attributed to the Nagadan. The hearths are similar to those of horizon 3.

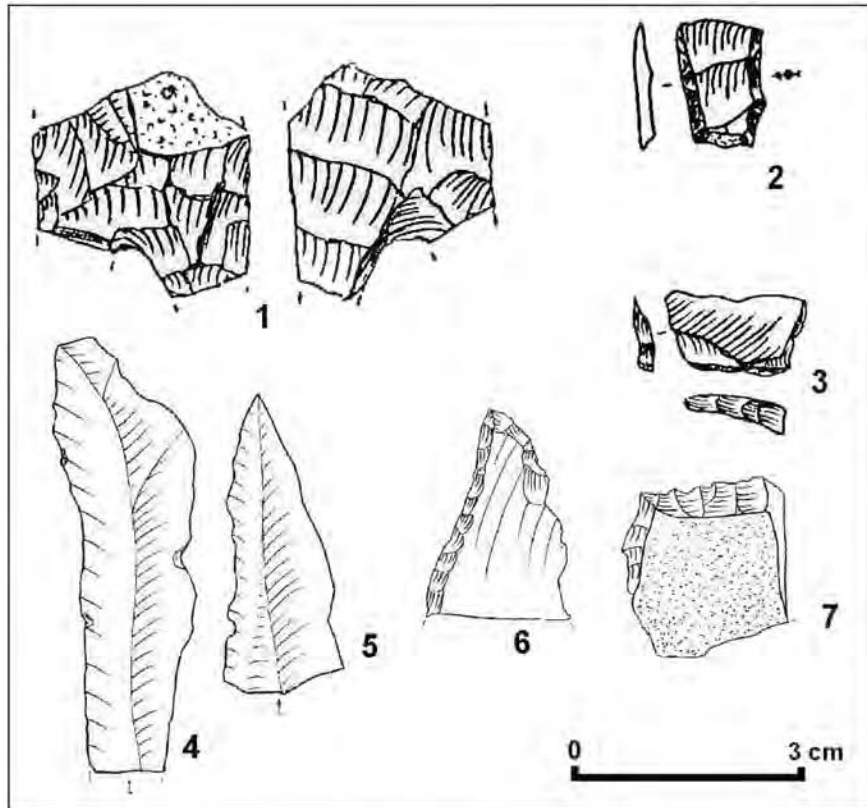
The domestic goats from the Tree Shelter, both in horizon 3 and horizon 2, and from Sodmein Cave are some of the oldest pieces of evidence for this animal on the African continent, together with examples from the Western Desert (Linseele and Van Neer 2008). These data confirm that domesticated animals were present in the Egyptian deserts at an earlier date than in the Nile Valley (Vermeersch *et al.* 1996b; Gautier 2001). Indeed, the oldest confirmed presence of sheep and goats in the Nile Valley at the same latitude is not older than 5300 cal. BCE (Hassan 1988). The fauna from Sodmein and the Tree Shelter suggests that Neolithic herds in the Eastern Desert consisted of small livestock, perhaps only goats. The absence of cattle in the Eastern Desert

during the Neolithic clearly differentiates it from the Western Desert and is probably due to less suitable ecological conditions.

El Gouna Shell Mound

Near El Gouna, at the foot of Gebel Abu Sha`ar al-Qibli (north of Hurghada), a prehistoric Shell Mound was discovered (Vermeersch *et al.* 2005b). Other such mounds were present but are now destroyed by a refuse dump of the nearby El Gouna Tourist Resort. Several thin, sometimes humic, horizons of archaeological remains are the result of short successive occupations, interrupted by periods of eolian accumulation. A thin charcoal horizon resting on rubified sand is an *in situ* unstructured hearth, dated to 4600 cal. BCE. The archaeological material consists of chert and quartz artifacts, marine shells, ostrich egg shell fragments and small pieces of ochre. No bone remains or ceramics were found. Raw material used for the lithic artifacts are local small, rolled chert cobbles of inferior knapping quality, available in the scree and the outwash plain at the base of the hill and in the gravel at the bottom of the valley. Occasionally, quartz cobbles were used. Most cores

Figure 2.15. Artifacts from Holocene sites in the Eastern Desert. 1: bifacial arrowhead from the El Gouna Shell Mound (adapted from Vermeersch *et al.* 2005b); 2–3: transversal arrowheads from the Rens Shelter (adapted from Vermeersch *et al.* 2008); 4–7: retouched pieces from the fireplace in Wadi Bili (adapted from Vermeersch *et al.* 2005a).



are irregular, suggesting a generally opportunistic core reduction. Retouched artifacts are well represented, but are not distinctive with the exception of a fragment of a bifacial concave based arrowhead (Figure 2.15, 1).

Mollusks in the El Gouna Shell Mound were harvested from a variety of Red Sea habitats, including hard surfaces (probably coral reefs) and sandy or muddy substrates in shallows. The shells belong to following species: *Nerita undata* (waved nerite) and *Nerita* sp., which occur on rocks on mangrove roots in an intertidal zone; *Terebralia palustris* (mud whelk), occurring in mangrove swamps on muddy to sandy substrate; *Strombus tricornis* (three-knobbed conch), characteristic for sandy or muddy substrate; *Chicoreus virgineus* (virgin murex) from shallow waters; *Saccostrea cucullata* (common rock oyster) from a rocky substrate and trunks or roots of mangrove; and *Tridacna maxima* (giant clam), occurring on hard surfaces (rocks, boulders, shallow reefs) in shallow waters. As shellfish are a relatively poor source of nutrition, it is probable that the diet was supplemented with other animal resources of which no remains were found. Usually, shell middens occur near the sea shore, but at El Gouna the mound is about 5 km from the present shoreline and more than 20

m above sea level. The level of the Red Sea, however, could have been up to 18 m above the present level at the time that the midden was formed (Siddall *et al.* 2003). The position of the mound at its present location can be explained by a nearby well, probably Fons Tadnos (Tregenza 2004: 91), which was a major source of water for Myos Hormos.⁶

This is the first time that a Neolithic shell midden has been documented along the Egyptian Red Sea coast. Its cultural attribution cannot yet be specified, but its age corresponds with the age of other traces of human presence along the coast. It should be noted that during the survey of the Quseir area, thirteen heaps and scatters of shells were recorded along the five km strip of coast north of Quseir, mainly atop the 5–6 m wide beach terrace (Prickett 1979). A few of these were related to the edges of small valleys, one of which showed additional down-cutting since the shell deposition. The shell scatters were restricted to two species, *Tridacna* sp. alone or in combination with *Lambis (Pteroceras)* sp. “(T)he

⁶ According to <http://avebury.arch.soton.ac.uk/Projects/projects.asp?Division=1&SubDivision=1&Page=2&ProjectID=20> (accessed 29 December 2008), however, “Bir Ambagi (near Quseir) is without doubt the greenest and most luxuriant place in the Eastern Desert. It is almost certainly the Fons Tadnos of Pliny.”

restriction in the species collected is in keeping with the modern (19th century) pattern of exploitation and choices of species reported by Klunzinger (1878b: 310-314), may imply not great age for the scatters. However, the weathering of the scatters varies considerably. This, and the evidence of stream rejuvenation . . . , probably since shell deposition, would indicate that some of the scatters may be of considerable antiquity” (Prickett 1979). The author makes no reference to the presence of flint artifacts in these shell heaps.

Steinplätze

Concentrations of stone fragments, which occur widely in the Sahara where they were interpreted as fireplaces (Gabriel 1987, 2002), were found in Wadi Bili at site ME03/10/24 (Vermeersch *et al.* 2005a). At the Saharan sites, pottery and ground stone tools are scarce, but grinding stones are quite common. At the confluence of a short valley (27°N 20' 44.2"/33°E 30' 01.5"), an affluent of Wadi Umm Dihays and Wadi Bili, an elongated terrace stands out some meters above the valley floor. It is covered by a black desert pavement, which denotes the presence of several accumulations of larger cobble fragments (Figure 2.16). The gravel accumulations contained some clearly burned cobbles. By making some small (40×40 cm) test excavations, tiny charcoal fragments were collected at a depth of 20 cm. The charcoal, dated 4700 cal. BCE, was covered with very loose sand, somewhat lighter in color than the sand below. Several tools, such as borers, retouched blades and retouched flakes (Figure 2.15, 4–7), were made with a Predynastic technique. Two lower grinding stones and an upper grinding stone, all of them heavily used, were found in associated contexts. No pottery was found. Big grooved stones often associated with the Steinplätze in the Sahara, interpreted as used for tethering cattle (Pachur 1991), were not found. Their absence seems to invalidate the hypothesis regarding the presence of Neolithic cattle herders in the Eastern Desert (Gabriel 2002). As is the case for both the Tree Shelter and Sodmein Cave, it seems more plausible that the humans were herders of sheep and goats. Occupants of the site cannot be associated with any known cultural group. Only the site of Wadi Atulla (north of Wadi Hammamat), where a large plundered tomb yielded ceramics similar to the Tasian (Friedman and Hobbs 2002), show some similarities. Among the lithic materials from Wadi Atulla, a Predynastic retouching technique was

identified, similar to that of site ME03/10/24. A nearby sealed accumulation of charcoal rich deposits was dated 4600 cal. BCE.

Rens Shelter

The Rens Shelter is situated approximately 500 m south of Sodmein Cave in the same valley (Vermeersch *et al.* 2008). Besides some recent remains, the upper scree layer yielded no cultural remains. Below this stratum, there are two archaeologically rich layers. A hearth with *Tamarix* charcoal was discovered and dates to 1250 cal. CE. Numerous stone chippings indicate that flint flaking was practiced at the site. The flaking process is expedient. Some of the artifacts, such as a high quality bladelet fragment, have been imported. Few formal tools have been found, the most distinctive of which are two transverse arrowheads (Figure 2.14, 2–3). Unexpected was the find of a small sculpture. It seems to represent a human foot in white translucent calcite-alabaster, 2.5 cm long, 1.3 cm wide and 1.5 cm high. The foot sole is flat and has a drawing etched into it. There was an

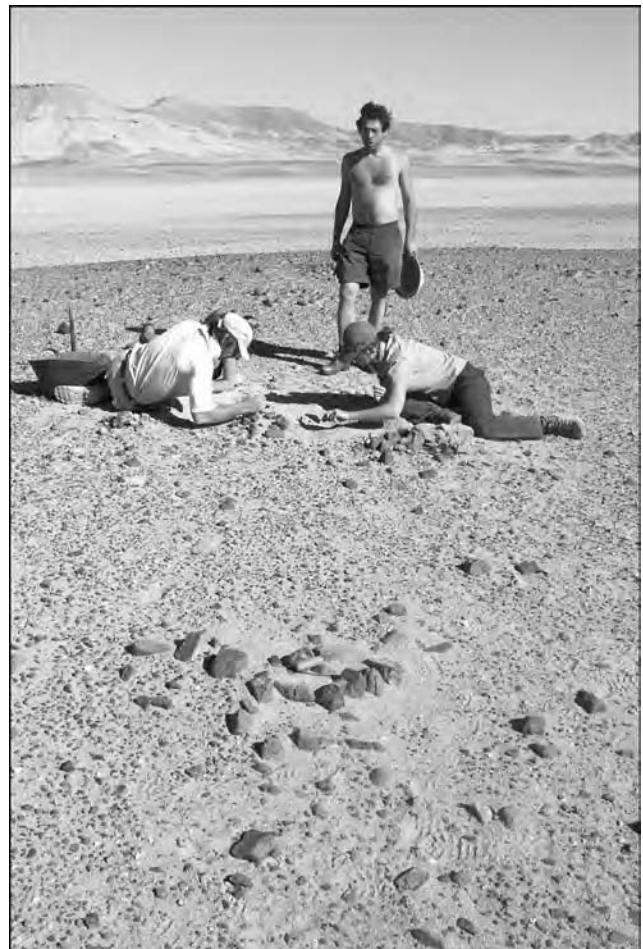


Figure 2.16. ‘Steinplätze’ in Wadi Bili.

attempt made to drill holes from the ventral and the dorsal side, on the ankle, perhaps to create a pendant, but the drilling was aborted probably because the foot broke off from the rest of the alabaster figurine. The ankle is grooved. It is difficult to attribute the flint assemblage to a specific human group of the Eastern Desert based on technological or typological criteria. The radiocarbon date suggests that the area was occasionally used by people who still used flint as a major raw material. It was widely assumed that by 1000 CE stone technologies were no longer in use in the Levant (Kuijt and Russell 1993). This premise should now be reconsidered.

Discussion

There is no doubt that during prehistoric times humans were present in the Eastern Desert. The occupational history of the Eastern Desert is parallel with that of the Western Desert and when the Western Desert was deserted, the Eastern Desert was as well. There is also no doubt that the most important periods of occupation coincided with the wetter climatic conditions of the Last Interglacial Period and the Early and Middle Holocene. During the Interglacial Period, there were certainly important connections with the Nubian Complex of Nile Valley. Most of the Eastern Desert sites have neither stratigraphy nor dating. Only at the end of the Middle Paleolithic there seems to have been some contact with the Southern Levant. During the dry periods of the Upper Pleistocene humans were absent from the area, possibly with the exception of a short period during the MIS 3. During the Late Paleolithic no humans visited the area. All the Late Pleistocene occupational remains seem to be the result of short, but probably repeated visits. During the Holocene, humans seem to have continuously visited the area. There are, indeed, no pronounced gaps in the list of the successive occupational remains (Figure 2.17).

There is, however, still an absence of data for the period between 5200 and 4800 cal. BCE. This hiatus is most probably the result of the limited availability

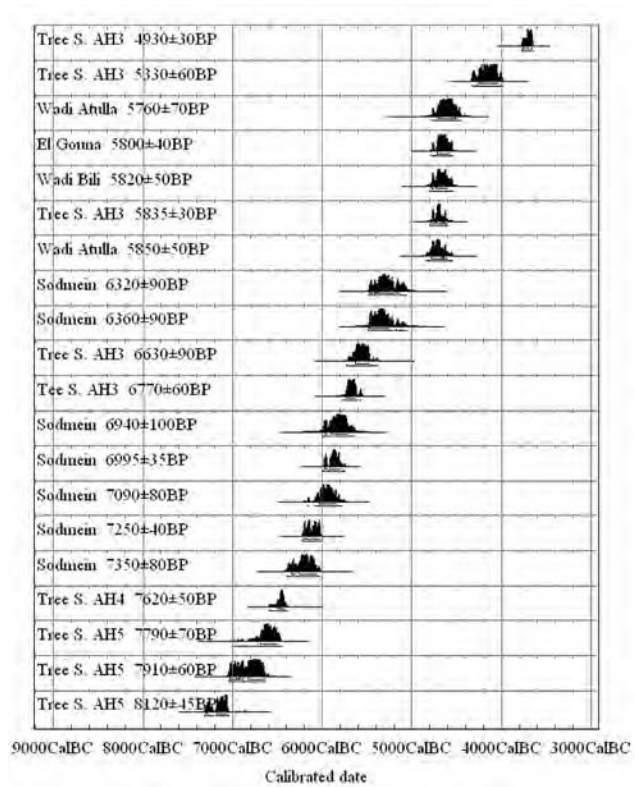
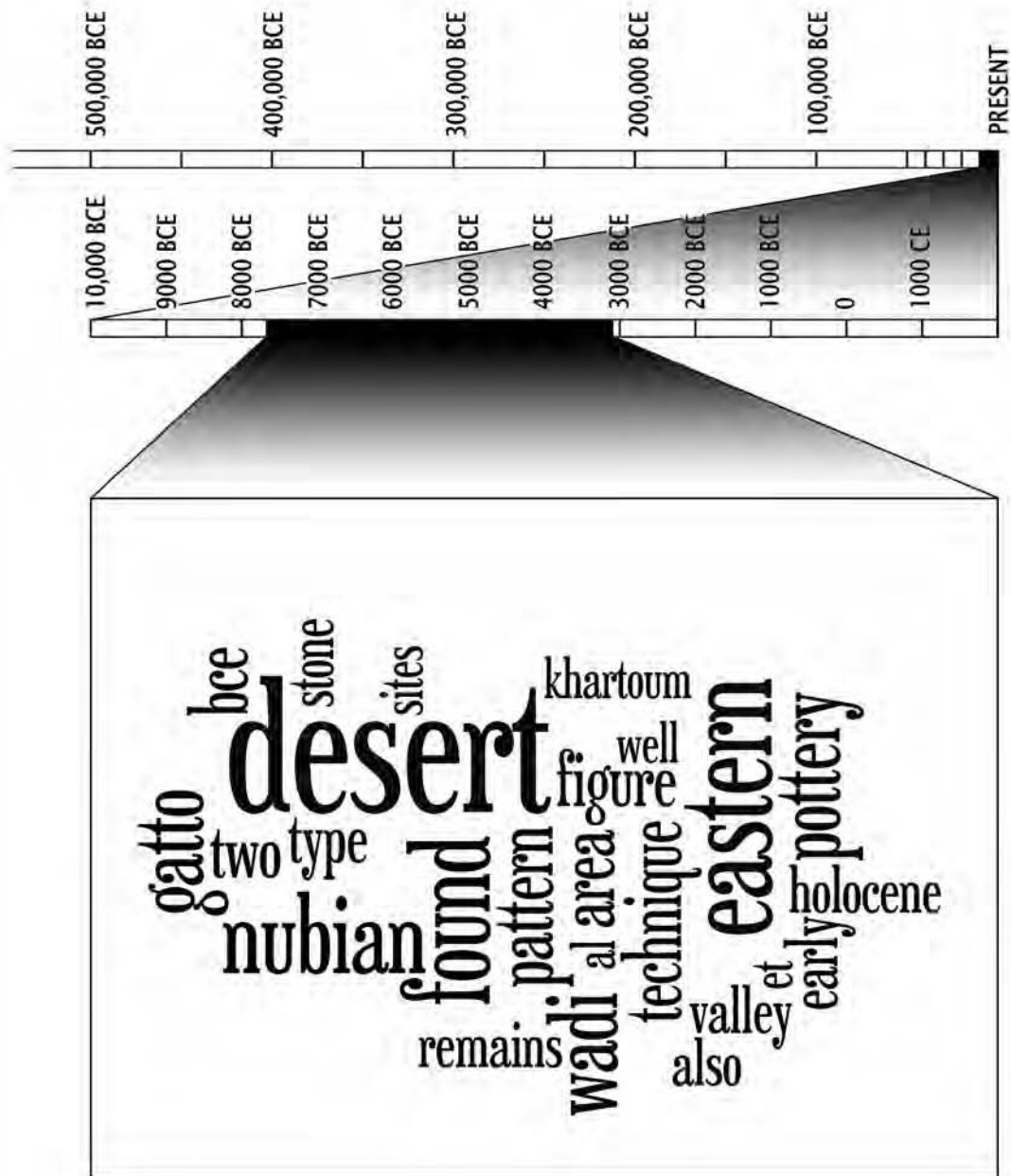


Figure 2.17. CalPal plot of the available radiocarbon dates of Holocene sites from the Egyptian Red Sea area. Adapted from Weninger and Jöris 2004.

of data, but it could also be the result of an increasing aridity. New research is needed before we can arrive at a conclusion. No dated sequences are available for the time period after 3800 cal. BCE, except the Rens Shelter data. The region is most certainly insufficiently surveyed. Future research should especially be directed at the surroundings of wells and at caves. Caves, such as the large cave along the new railway from Quseir to Qena (Figure 2.18), could provide new stratigraphic data and subsequently also new insight in the changing natural environment and its utilization by humans. Only then may one expect to unravel the Late Pleistocene and Holocene human occupation of the Eastern Desert.

Figure 2.18. Large cave along the railway between Quseir and Qena.





Time line and word cloud created from Maria C. Gatto, *The Holocene Prehistory of the Nubian Eastern Desert*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 3



The Holocene Prehistory of the Nubian Eastern Desert

MARIA C. GATTO¹

DESPITE THE ARID ENVIRONMENT, THE EASTERN Desert (or Arabic Desert according to Herodotus) has always had better conditions for human occupation when compared to the rest of the Eastern Sahara. Even at present the Red Sea Mountains receive occasionally rainfall (Butzer and Twidale 1966), which is enough to allow pastoral nomadism (Murray 1935; Paul 1954). The number of wells in the Eastern Desert is also greater than in the Western Desert (McBurney 1960). Given the numerous caves and rock shelters in the area, a continuous human occupation should be expected. From a geographical point of view the Eastern Desert can be divided into two parts. The northern, Egyptian part is characterized by a long chain of mountains parallel to the Red Sea. Numerous valleys (*wadis*) are cut into these, both towards the sea (east) and towards the River Nile (west). Contrary to the Western or Libyan Desert, dune fields are mostly absent and the landscape is rather rocky. The southern, Sudanese part, also known as the Nubian Desert or *Atbai*, has an area of plains between the mountains and the river, because of a large bend in the River Nile. Two large valleys, Wadi Allaqi and Wadi Gabgaba, cross the area towards the southeast and south, respectively, roughly from the former city Dakka in the Lower Nubian Nile Valley (covered by the water of

Lake Nasser since 1964). Remains of ancient lakes or *playas* have been reported (Sadr *et al.* 1995; Lanna and Gatto 2010), as well as the presence of caves and rock shelters. The latter, while absent in the Western Desert, are characteristic elements of the Egyptian Eastern Desert landscape. These natural features are of interest because they may preserve stratified ancient remains, as confirmed by the Belgian excavations at Sodmein Cave, Bili Cave and the Tree Shelter, near Quseir on the Red Sea coast (Vermeersch, this volume). Those explored in the south were so far devoid of artifacts, although surface scatters were often recorded in front of them and rock drawings were sometimes seen in their vicinity (Sadr *et al.* 1995; Lanna and Gatto 2010).

Archaeological research in the Atbai is problematic. Practical and economic difficulties in organizing an archaeological expedition in such an arid and rocky desert environment, as well as the impediment, for military reasons, in the past decade to visit the border area between Egypt and Sudan play a role in this situation. There is also a lack of interest in the prehistoric remains in the area, however, with most expeditions concentrating on Pharaonic (New Kingdom), Graeco-Roman (gold mines), or later sites. The combined prehistoric evidence from both the Egyptian and Nubian Eastern Desert is currently far too limited to allow a comprehensive reconstruction of the human occupation of the area in prehistoric times. During the past decade much significant information was added, most of which inferred from rather random surface collections of

¹ I would like to thank Alfredo and Angelo Castiglioni for their permission to study and publish the prehistoric pottery found by the Centro di Ricerche sul Deserto Orientale expedition in the Eastern Desert.

potsherds, gathered without much contextualization into the surrounding human, geological or climatic environment. Such is the case with many of the Early Holocene ceramics found in the Sudanese part of the Eastern Desert (Lanna and Gatto 2010). Better contextualized investigations, although preliminarily, were concentrated in the Wadi Allaqi area and in the Eastern Desert close to the Nile Valley between Aswan and Kom Ombo. These are mostly based on funerary evidence (Sadr *et al.* 1995; Sadr 1997; Gatto 2005; Paris *et al.* 2006; Gatto and Giuliani 2006–2007; Gatto in press). In the Egyptian part of the Eastern Desert new information has been obtained through more systematic, although still quite sparse, research. The Holocene occupational sequence was reconstructed from temporary occupations, settlement remains and funerary contexts (Murray and Derry 1923; Debono 1951; Friedman and Hobbs 2002; Vermeersch, this volume).

The aim of this chapter is to present the facts currently known, to suggest preliminary cultural and chronological affiliations, and to compare the evidence from the desert with that from surrounding regions (Table 3.1). This will provide a basis for the reconstruction of the prehistoric occupational sequence, its origin, development and trajectories. Because the area taken into consideration is very large, regional variation should be expected. Indeed, three zones of cultural affiliation can be identified that match those encountered in the Nile Valley. The northern part of the Egyptian Eastern Desert has seen Lower Egyptian, Delta and Levantine influences. The southern part of the Egyptian Eastern Desert, roughly between Wadi Hammamat and Wadi Barramiya, is strongly tied to Middle and Upper Egyptian cultures, such as the Tasian, Badarian and Naqada. The Atbai, instead, is clearly part of the Nubian cultural realm. A similar cultural affiliation is documented in the Western Desert. The boundaries between the aforementioned cultural areas were of course fluid, and interactions between one cultural sphere and the other are commonly attested. Contrary to what often thought, the deserts were part of the cultural sphere of the different groups living along the Nile. Ancient Egyptians and Nubians were exploiting the desert for many purposes, including hunting, gathering, herding and the procurement of raw materials. This is particularly true for the Eastern Desert where many minerals were quarried, such as gold, which made Nubia so important for Egypt in the Pharaonic Period. The Eastern Desert, in particular the Egyptian part, was possibly also used for

the cultivation of arid crops. The region was definitely an important thoroughfare to and from the Red Sea as well as for north-south traffic. Indeed, the cataracts in the Nile were often considered such an obstruction that desert routes were favored. Two main Holocene occupations are documented so far in the southern part of the Eastern Desert. For the older period, dated to the Early Holocene (7500-6000 BCE), a number of surface scatters of pottery were reported and the conclusions in this chapter are based mostly on this data. For the younger period, dated to the Late Holocene (5000-3000 BCE), a much more diversified array of data is available, mainly inferred from tumuli, stone structures, surface collection of pottery, and rock art (Figure 3.1). The latter will not be included in this chapter, as it is discussed elsewhere in this volume (Espinell, this volume; Lankester, this volume; Pluskota, this volume). Because the prehistoric sequence of the Egyptian part of the Eastern Desert is also discussed elsewhere in this volume (Vermeersch, this volume), I will concentrate here on the southern half of the Eastern Desert where evidence of connections to the Nubian tradition is found.

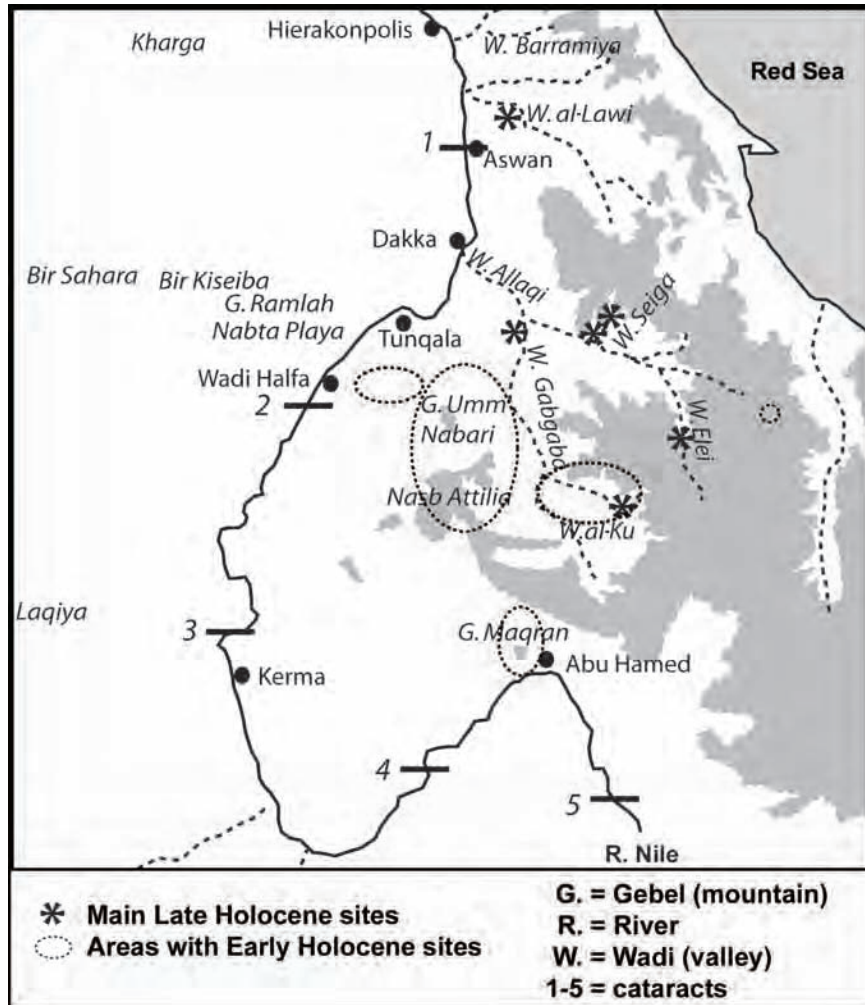
Early Holocene Evidence

Between 1989 and 2005, the Centro di Ricerche sul Deserto Orientale (CeRDO), under the direction of Angelo and Alfredo Castiglioni and with Karim Sadr and Simone Lanna as archaeologists, performed six archaeological survey expeditions in the Nubian Eastern Desert. Their main purpose was to discover evidence of ancient Egyptian gold-mining and expedition routes, primarily looking for miner camps and hieroglyphic inscriptions. They also identified more than 50 prehistoric sites, mainly composed of surface scatters of potsherds, sometimes in association with rock drawings; the easternmost being located in the mouth of Wadi Allaqi (Sadr *et al.* 1995; Lanna and Gatto 2010). These sites were discovered during a rather arbitrary survey; without doubt many more are still to be found. To detect remains of ancient mining activities and hieroglyphic inscriptions, only rocky areas were inspected, while none of the valleys were systematically surveyed. This is the reason why the prehistoric sites reported by the CeRDO are mostly located close to mountains. Archaeological investigations were rather limited, consisting of collecting pottery and stone tools from the surface and recording basic environmental and landscape

Table 3.1. Comparative chart of the Nubian Holocene chronological sequence (GNBK = al-Ghorab/al-Nabta, al-Barga I, KV1a). The chronological attribution of phases when no radiocarbon dates are available has been established by cross-reference.

Years BCE	Phases	Wadi Howar	Laqiya	Nabta Kisieba	Upper Egypt	Aswan	Lower Nubia	Kerma Seieim	Dongola Reach	Fourth Cataract	Khartoum	Atbai										
3000–2500	IMN I	Handessi Horizon				B-Group	B-Group	Late Pre-Kerma				Pre-Kerma?										
3500–3000	EN V	Multaga	A-Group	al-Ansam		Naqada A-Group	A-Group	Middle Pre-Kerma			Late Neolithic	A-Group?										
4000–3500											Middle Neolithic II											
4500–4000	EN IV		Abkan	al-Baqar	Badaria		Abkan	Kerma, RT2, Kadruka		Multaga Karat	Middle Neolithic I	Abkan?										
5000–4500					Tasian						Early Neolithic I, II											
5500–5000	EN III			al-Ghanam			KV2b,c	al-Barga II														
6000–5500													KV2a									
6500–6000	EN II			al-Jerar			KV1b,c			al-Jerar, KV1b,c		al-Jerar, KV1b,c										
7000–6500												al-Nabta al-Ghorab	al-Arab	al-Arab	al-Arab							
7500–7000	EN I			al-Adam			Arkinian	al-Barga I		GNBK		GNBK										
8000–7500																						
8500–8000																			Busharia			

Figure 3.1. Map of the Nubian Eastern Desert showing the location of areas with Early Holocene artifacts and the main Late Holocene sites.



information, photographs and global positioning system (GPS) coordinates.

Clusters of sites were found in seven areas within the surveyed region, the first a few kilometers north of Abu Hamed, 550 km north of Khartoum (Figure 3.1). The landscape here is characterized by granite outcrops, the most prominent named Gebel Maqran and surrounded by a sandy plain. The second area includes the eastern side of the plateau at Nasb Attilia and its surrounding plain where playas have been reported (Sadr *et al.* 1995). The third area is situated in the western fringes of Gebel Umm Nabari. This mountain is of sandstone in which the wind has eroded several deep caves. The fourth area is located east of the same mountain. Here, the landscape is rockier and only partially covered with sand. Most of the sites are distributed around satellite mountains east of Gebel Umm Nabari. The fifth area is located north of Gebel Umm Nabari and is delimited to the east by Wadi Gabgaba. Here again the landscape is characterized by a sandy plain and outcrops of sandstone. All the Early

Holocene sites are located either along the eastern slope of a large valley leading into Wadi Halfa or around the larger mountains, usually in front of small caves. Wadi Gabgaba is one of the most important natural features of this area. Even though this valley was not surveyed over a substantial distance, many occurrences were recorded. In the valley is a large playa, most likely created by an obstruction in the course of an ancient river as is evident from a diatomite layer with many shells. All along its shore many remains of human occupation were found, mostly fireplaces and poorly preserved thin, undecorated potsherds. Some of these sites may be Neolithic in date. A few unrelated and difficult-to-date, massive circular stone structures were also noticed. The sixth area is located along a northwest-southeast valley linking Wadi Halfa to the Gebel Umm Nabari area. Here again, granite outcrops are surrounded by a sandy landscape. All the sites here are located on the northern slope of the valley. Wadi al-Ku is the seventh area with remains of prehistoric sites; these were found along the valley.

Table 3.2. Eastern Desert fabrics compared with those from surrounding regions.

Fabrics	Eastern Desert	Western Desert	Second Cataract	Dongola Reach
Sand, fine	x	x	x	x
Sand/mineral, coarse	x	x	x	x
Sand, micaceous			x	x
Organic				x

Early Holocene sites are usually open-air surface concentrations of potsherds, lithics and ostrich-eggshell fragments, sometimes in the presence of upper or lower grinding stones. They are interpreted as seasonal camps, characterizing temporary occupations by mobile or semi-nomadic groups. No potsherds or lithic tools originate from caves or rock shelters, but as no systematic soundings were made it cannot be assumed or disproved that none are present. It is important to note that a number of surface scatters were located in front of a cave. Most of the prehistoric sites were reused in later periods and disturbed by new fireplaces, circular and rectangular stone structures (probably dwellings), tumuli and other stone structures of unclear use and date. The identification of these prehistoric sites as Early Holocene completely depends, at this stage of the research, on the recovered pottery. The chrono-cultural attribution was made possible by finding parallels with material from the surrounding prehistoric complexes: Nabta Early Neolithic, Khartoum Variant, Kerma Mesolithic and Early Neolithic, Karmakol Mesolithic and Early Khartoum. This effort was greatly aided by the fact that all these ceramic assemblages have recently been described using the same terminology (Gatto 2002, 2006a, 2006b, 2006c).² The pottery collected during the last two survey seasons of CeRDO will be discussed in some detail below. It was analyzed in Italy thanks to permission given by the Sudanese authorities to CeRDO.

The whole corpus is handmade of a sand-tempered fabric using coiling and pinching techniques and subsequently fired at low temperatures (around 800 °C), possibly in an open-air bonfire. A finer, hard and firm fabric is the most common, while a coarser fabric with sub-rounded or rounded inclusions is present in smaller amounts. Both are very similar, if not identical, to the

fabrics identified in the Khartoum Variant assemblage (Gatto 2006a: types I and III). Comparison between these fabrics and those recorded in the surrounding regions made clear that the variety is smaller in the Eastern Desert (Table 3.2), which may be explained by a limited availability of raw materials (Gatto 2002, 2006a, 2006b). This also implies production of pottery in the desert, as already proposed for the Nabta-Kiseiba ceramics (Zedeño 2002), although other explanations cannot yet be excluded. Few rims and bases were present, all from simple or deep bowls with inverted rims and rounded to pointed bases. Noteworthy is the extreme thickness (>9 mm) of a number of sherds. Similar shapes are commonly present in adjacent areas (Gatto 2002; Nelson 2002; Gatto 2006a, 2006b).

Due to the lack of characteristic elements in both fabrics and shapes, decorations were the main discriminating factor in chrono-cultural attribution of the studied pottery. Descriptions were made following the classification established for other Nubian assemblages (Gatto 2002, 2006a, 2006b), based on the classification proposed for Sudanese and Saharan ceramics (Caneva 1983, 1987, 1988; Caneva and Marks 1990). New types encountered in the Eastern Desert collection were added to this system (Table 3.3). The major types will be highlighted here. The Nubian dotted wavy-line pattern, obtained with the rocker stamp technique, is present in two distinct layouts: an arch-shaped pattern (type R2, Figure 3.2-c) and a wide zonal pattern (type R5, Figure 3.2-d). Both of them are also recorded at Nabta Playa and in the Second Cataract area (Gatto 2002, 2006a). Type R5 is also found in Karmakol sites in the Dongola Reach and the Forth Cataract area (Gatto 2006b).³ These types are different from the dotted wavy-line pottery typical of the Khartoum Region and the central Sahara (Caneva 1983, 1987, 1988; Caneva and Marks 1990). The rocker-packed, dotted zigzag

² I also analyzed the Early Holocene ceramics from Kerma, investigated by the Swiss Mission at Kerma, directed by Dr Matthieu Honegger (Honegger 2003; Honegger 2004; Honegger 2007; Honegger 2009). This study, however, is not yet published and not included in this overview.

³ The presence of these decorations in the Fourth Cataract area was indicated by several groups working in the region during recent international meetings.

Table 3.3. Eastern Desert decorative types compared with those from surrounding regions. ED: Eastern Desert; WD: Western Desert; SC: Second Cataract; K: Kerma; DR: Dongola Reach.

Decorative type	ED	WD	SC	K	DR	Remarks
R1	x	X	x	x	x	
R2	x	X	x			Nubian DWL
R3	x	x	x	x	x	
R4	x	x	x	x	x	
R5	x	x	x		x	Nubian DWL
R6		x				
R7			x	x		
R8			x			
R11					x	Khartoum DWL
A1	x	x	x	x		
A2	x		x	x		
A3	x		x	x		
A4			x			
A5			x			
A6			x			
A7	x		x	x		
A8			x	x		
A17	x					
A9	x		x	x		Return Technique
A10			x	x		Return Technique
A11	x			x		Return Technique
A12				x		Return Technique
A13	x			x		Return Technique
A14				x		Return Technique
A15				x		Return Technique
A16	x			x		Return Technique
A18	x					Return Technique
S1		x	x			
S2		?	x			
S3			x			
S5			x			
S6			x			
I1	x				x	IWL
I2	x					

pattern (type R1, Figure 3.2-a) is often combined with a decorated rim band (Figure 3.2-b). This particular decoration is widespread from the Nabta-Kiseiba region in the west, to the Second Cataract in the north, and as far south as the Atbara-Nile confluence (Haaland and Magid 1995; Gatto 2002, 2006a, 2006b).

A peculiar herringbone pattern (type A1, Figure 3.3-a) is made by the alternating pivoting stamp technique. It is recorded in Nabta Playa as well as in the Khartoum

Variant region (Gatto 2002, 2006a). The alternating, pivoting–stamp, double-grained line motif (type A7, Figure 3.3-c), with both zonal and geometric pattern variants, is common in the Eastern Desert. The same type is typical of the so-called El Barga phase at Kerma, but is rarely recorded in the Khartoum Variant corpus (Honegger 2003; Gatto 2006a). A set of decorations is obtained with the return technique (type A9, Figure 3.3-d, and type A10, Figure 3.3-e), a variant on the alternately

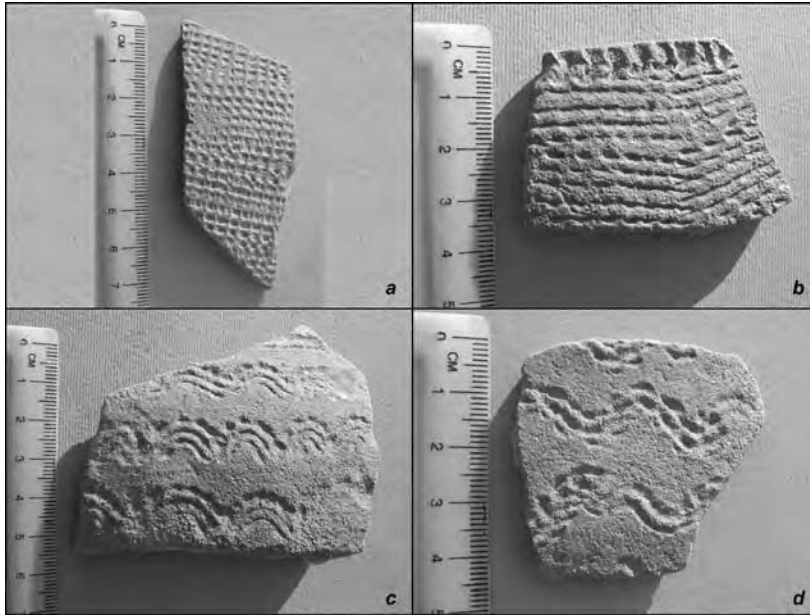


Figure 3.2: Examples of decorations made with the rocker technique; a-b: type R1; c: type R2; and d: type R5.

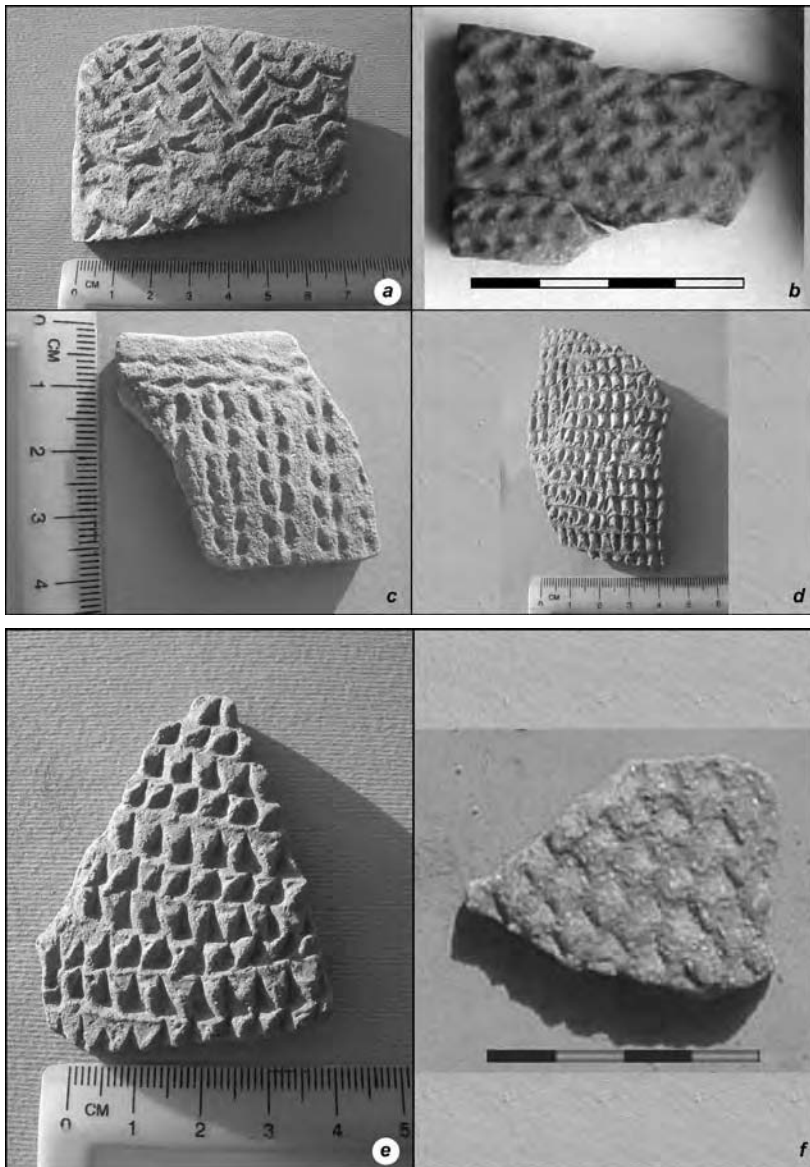
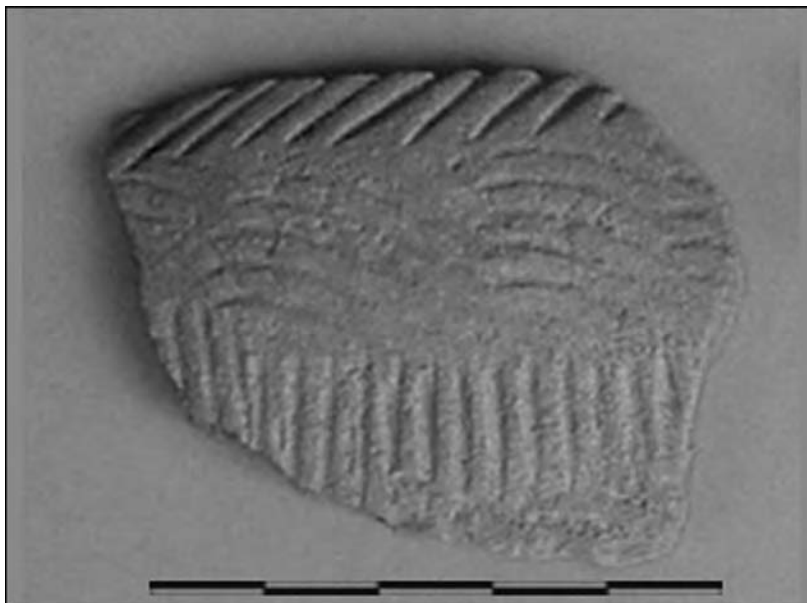


Figure 3.3. Examples of decorative types made with the alternating pivoting stamp technique; a: type A1; b: type A3; c: type A7; d: type A9; e: type A10; f: type A11.

Figure 3.4. Example of decorative type I2, made with the incision technique.



pivoting stamp. The impressions of a two-pronged tool were made by making the tool pivot, for each pair of lines, in the dots of the previously impressed line. The technique has been identified at Shaqadud and in the central Sahara, where it was described as a smocking pattern (Caneva 1987; Caneva and Marks 1990). In the Eastern Desert, as well as in the Second Cataract area, many additional patterns were recorded (Gatto 2006a). Yet another alternately pivoting stamp pattern, comprising packed double-grained lines is attested (type A3, Figure 3.3-b), with parallels in the Khartoum Variant corpus (Gatto 2006a). Another characteristic decoration is the return-technique smocking pattern (type A11, Figure 3.3-f), as earlier described elsewhere (Caneva 1987; Caneva and Marks 1990). Some of the oldest pottery in the Kerma region, dated to around 8200 BCE, also has this pattern.⁴ A composite pattern of arch-shaped bands and vertical slashes is obtained with the incision technique (type I2, Figure 3.4). Such a technique is basically absent in Nubia, except for the Dongola Reach and Fourth Cataract area where the Karmakol tradition includes an incised wavy-line pattern (Gatto 2006b). Conversely this technique is peculiar to the Early Khartoum assemblage (Arkell 1949; Caneva 1983, 1988; Caneva and Marks 1990), although this very pattern is missing.

In order to place the data on the pottery from the Eastern Desert into a chrono-cultural framework,

some notes on the surrounding traditions have to be made. Generally speaking, the Nabta Playa tradition is characterized by the rocker stamp technique, with the presence of two Nubian variants of the dotted wavy-line pattern (Gatto 2002). The Khartoum Variant tradition is richer in technique, including the rocker stamp, again with the Nubian, dotted wavy-line pattern, or the alternating pivoting stamp technique, including the return technique; or simple impressions (Gatto 2006a). At Kerma, vessels were decorated mostly with the alternating pivoting stamp (Honegger 2003), although examples of the return technique are present as well. The Karmakol corpus has a distinctive coarse organic tempered fabric, never encountered in the other contexts, and includes the classical Khartoum dotted wavy-line pattern. The rocker technique is the most common technique used to decorate the vessels. The incised wavy-line pattern is well attested in the Karmakol corpus, indicating direct links with the Early Khartoum tradition (Gatto 2006b).

Pottery production in the Eastern Desert was clearly associated with both Nabta Playa and the Khartoum Variant tradition on the one hand, and with Kerma on the other. No direct connection could be established with Karmakol. Interesting to note is the presence of a few examples of incised wavy-line pottery, all concentrated on sites close to Abu Hamed, as well as the presence of the incised composite pattern in the corpus. This may be evidence of a southern influence. Using the radiometric evidence from other contexts, particularly Nabta Playa and thus the Khartoum Variant, the Early Holocene

⁴ Illustrated at http://www.kerma.ch/index.php?option=com_content&task=view&id=52&Itemid=92, accessed on May 28, 2009.

Table 3.4. Tentative dating of decorated pottery types at Nabta Playa and Kerma by radiometric analysis. Adapted from Wendorf *et al.* 2001; Honegger 2003.

Decorative Type	Nabta/Khartoum Variant	Kerma
R1	6600–6200 BCE	—
R2	7000 BCE	—
R5	7000 BCE	—
A1	7000–6200 BCE	7200 BCE
A2	—	—
A3	—	—
A7	—	7200 BCE

decorated vessels from the Eastern Desert are dated between 7500 and 6000 BCE (Table 3.4). The Eastern Desert material is thus firmly associated with cultures farther west, although contacts with the south are attested as well. Following the aforementioned chrono-cultural sequences, Eastern Desert ceramics can be divided into two different phases. The older phase, dated 7200 to 6600 BCE, is contemporary to the so-called El-Ghorab/El-Nabta phase of the Western Desert, to the Khartoum Variant phase 1 of the Second Cataract region, and to the El Barga phase of Kerma. In this period every region had its own distinctive pottery traditions, such as the Nubian dotted wavy-line pattern at Nabta Playa and the alternating pivoting stamp technique at Kerma, and the decorations are mostly zonally applied. The fabrics are coarser than in the later phase. The second phase, dated 6600 to 6100 BCE, is characterized by the rocker packed dotted-zigzag pattern that is overall applied and coupled with rim-band decorations and finer sand-tempered fabrics. The data from the Kerma region are still scanty, but seem to follow the same pattern.

Pottery decorations are usually seen as a significant cultural marker, which they clearly are throughout Nubian history (Gatto 2002). Changes in pottery may be indicative of changes in the society or economy of the Early Holocene Nubian groups. In this respect it is interesting to note that the major break in the tradition of pottery decorative patterns and techniques occurs contemporaneously with the adoption of cattle pastoralism in the Nubian region (Wendorf *et al.* 2001; Honegger 2007; Chaix 2009; Honegger 2009). Thus the pottery of the first phase might be associated with groups of hunter-gatherers, producing pottery but still with a non-productive or not fully productive economy. The pottery of the second phase would then be related to groups with a pastoral-based economy living in an area

including the Nabta-Kiseiba region in the Western Desert, the Nubian Nile Valley between the Second Cataract and the northern Dongola Reach, and the Nubian Eastern Desert (Atbai). In the southern Dongola Reach, the Karmakol group had its own tradition, with both northern and southern influences. The Fourth Cataract area and the region around the Nile-Atbara confluence, where pottery from the second phase is attested, show evidence of the Nubian Early Neolithic, the Karmakol and the Early Khartoum ceramic traditions, indicating that these regions were the interface between the Nubian and the Khartoum tradition. The Early Khartoum, contemporary with the Nubian Neolithic, was a non-productive hunter-gatherer society until at least the 5th millennium BCE.

The discovery of such a large number of late Early Holocene sites in the Eastern Desert is not surprising, as this period corresponds to the so-called *optimum climaticum*, the wettest phase in the Holocene history of the Eastern Sahara (Wendorf *et al.* 2001; Kuper and Kröpelin 2006). The archaeology of Nabta Playa bears clear witness of this. Large semi-permanent villages were discovered there, located around playa basins and with remains of storage pits full of wild cereals, including *Sorghum* sp. (Wendorf *et al.* 2001). A similar pattern may be postulated for the Eastern Desert. The El-Ghorab/El-Nabta phase of the Western Desert, and thus the first Early Holocene occupation phase in the Nubian Eastern Desert, is contemporary and culturally related to the northern Elkabian (Wendorf *et al.* 2001; Vermeersch, this volume). Remarkably, no Early-Holocene Nubian decorated pottery was found north of Wadi Allaqi. The second phase is slightly more recent than the Elkabian and chronologically fits in the period where the Egyptian Nile Valley is apparently devoid of any archaeological record. Clearly this is not the case in Nubia, where, contrary to what is commonly assumed (Kuper and Kröpelin 2006), a complete Holocene sequence is attested both along the Nile and in the nearby deserts (Gatto 2002; Usai 2005; Gatto 2006a; Usai 2008a, 2008b).

Late Holocene Evidence

Archaeological remains of the Late Holocene are far scantier than those of the Early Holocene. This is due to the nature of the archaeological research as well as climatic changes, which resulted in a different settlement pattern. So far, radiocarbon dates are available for only a few sites, which place them in the 5th or 4th millennium

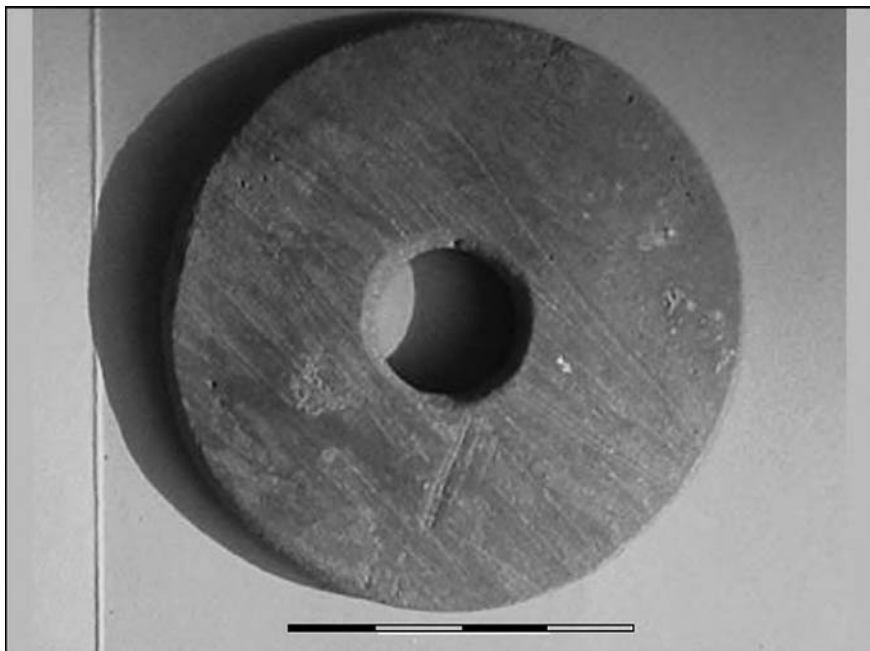
BCE; many others remain undated although they were likely active in the same period. Comparing artifacts with those of known contexts is again helpful to come to a better understanding of the history of the region. An overview of the most relevant information is presented in the following.

Numerous small, simple, conical tumuli were found scattered across the mouths of Wadi Gabgaba and Wadi Allaqi. Two that were excavated by the CeRDO expedition contained disarticulated human remains. Three greenstone beads were found in association with these, not sufficient to determine a date or cultural affiliation with certainty. A link with the Nubian Neolithic was proposed because of the alleged presence of similar beads in the Kerma area (Sadr *et al.* 1995). Nothing comparable has been recorded along the Nile, however, and no firm conclusions should be drawn based on this. Some rippled sherds were collected at the Early Holocene sites surveyed by the CeRDO expedition. In some, these are the only evidence of later occupation. Surely many more artifacts related to the Late Holocene were present on the surface, but during this survey attention was paid only to decorated pottery. Their cultural attribution is unclear as they have parallels in the Abkan, the A-Group, and even in the Pre-Kerma traditions such as the B-Group, its northern counterpart (Gratien 1995). It must be pointed out, however, that these sherds are quite thick compared to Abkan and A-Group examples and that the presence of red polish

on the surface, without black topping, is rare in both cultures. Both features are reported in the Pre-Kerma tradition (Honegger 2004). A pottery disk, resembling a so-called Clayton disk, was found in a site close to Gebel Umm Nabari (Figure 3.5). Clayton disks are often found together with pottery rings, similar to bowls without a base (open on both sides), and are characteristic of the Western Desert Late Predynastic to Old Kingdom periods (Riemer and Kuper 2000; Gatto 2001–2002; Riemer 2004), but examples have also been described in the Eastern Desert and in the Nile Valley. For the object from Gebel Umm Nabari, no date, cultural affiliation or function could be determined.

In 1994 the CeRDO expedition discovered a village (D5) and some tumuli in Wadi Elei, a southern tributary of Wadi Allaqi (Sadr 1997). The village appeared spread out along the valley for about 5 km and was composed of open stone circles, interpreted as huts, which were surrounded by oval stone pavements, in a regular pattern, of uncertain function. Two stone pavements and two huts were excavated, but no artifacts were found in association with them and their function and date could not be determined. Noteworthy is a second stone pavement below one of those excavated, indicating successive periods of occupation at the site. Many sherds and lithics were found on the surface. The lithics, made of local materials, were large and informal. Among the pottery handmade, brown-red, polished, rippled examples were collected, which may be contemporary

Figure 3.5. Pottery disk (Clayton disk) from site ED05-42 west of Gebel Umm Nabari.



to the Abkan or the A-Group phase in Nubia, but again also to the Pre-Kerma tradition (B-Group). Other pottery decorations are visible in the published drawings (Sadr 1997: 70, Figure 4), particularly a rocker plain-zigzag pattern, an incised herringbone pattern, an incised oblique-lines pattern with a rim-top decoration composed of incised alternate-oblique lines, and a possible rocker-packed dotted zigzag pattern (which might be combined with a coated surface). The rocker plain zigzag is characteristic of the Abkan corpus, but can also be found in the A-Group and the Pre-Kerma traditions. The other patterns rarely occur in the terminal A-Group, but are common in the following Pre-Kerma culture (Honegger 2004). Therefore, although the collected pottery is clearly related to the Early Nubian tradition, its chronological range remains too wider to help dating village D5.

Two of the tumuli (D5.1 and D5.2) were excavated as well. Their superstructure was composed of a stone ring filled with sand. In tumulus D5.1, the removal of the sand revealed what was interpreted as an offering place in the center of the tumulus, marked by two short stelae at the base of which were a pot, two animal horns of cattle and sheep or goats, beads and some charcoal. Below this offering area was an older quarrying pit dug into the bedrock and filled with sand, ash and charcoal. Beads of the same type found in the offering place and a polished stone pendent were also inside this pit. East of the offering place a human skeleton was found in a shallow pit. This had been disturbed, but a small, black burnished pot with a pointed base of a sand-tempered fabric was found associated with it. The skeleton itself was buried contracted on its left side with the head toward the west, facing the offering place. The skeleton was that of a middle-aged female and a gold bracelet was found among the bone fragments of the arms. A radiocarbon date of 4500 BCE was obtained for the charcoal in the quarrying pit (Sadr 1997). Tumulus D5.2 had been looted and only a few human remains were found. Although similar to D5.1, D5.2 had no quarrying pit, but its offering area was found intact. Grave goods consisted of pendants, a fragment of a pottery spout and a pot similar to that found in tumulus D5.1. Some charcoal was found as well and dated to 4000 BCE (Sadr 1997). Both graves are thus contemporary with the Abkan and Badarian cultures. Another tumulus, identified as D5.3, was found intact on top of a bedrock dyke that cuts through a portion of the settlement. Inside

were the remains of a 13- to 15-year-old adolescent, buried contracted in a tightly flexed position on its left side and with the head towards the south. A stone quartz pendent set in a gold wire brace was discovered in front of the chin. The grave could not be precisely dated, but the teeth were like those known from the Mesolithic in central Sudan (Sadr 1997). In the Wadi al-Ku area, a very large stone tumulus, composed of a stone circle of about 20 m in diameter, was discovered. The burial pit was located on the eastern side of the stone circle, while an offering area, with a fireplace and many animal bones of sheep and cattle as well as charcoal, were located in the center of the tumulus. A radiocarbon date of 3100 BCE, obtained from the charcoal, dates this grave to the latter part of the Nubian A-Group.

A project of the Institut Français d'Archéologie Orientale (IFAO), directed by François Paris, investigated the lower course of Wadi Allaqi and Wadi Gabgaba between 1996 and 2001. A number of fireplaces, stone structures and tumuli, some of which dated between 5500 and 4000 BCE (Paris *et al.* 2006) were discovered. Three localities were published in detail: GBG01-GBG02, SIG01 and SIG02. The first is a concentration of fireplaces, two of which are dated to the second half of the fifth millennium BCE and another to the first half of the fourth millennium BCE. Nearby, in a small valley overlooking Wadi Gabgaba to the west, a cluster of tumuli was recorded on top of a small hill, and another isolated on the opposite side of the valley to the south. There was great variability in size and shape of the stone superstructures of these tumuli and two were larger than the others. One, GBG02 A0, consisted of an external ring of about 7.5 m in diameter with a central pit, which had a side chamber, covered by a small pile of stones. A human body was found inside, contracted on its right side and with the head towards the south. Judging by the preserved physical features, it was of an adult female over 35 years of age. Organic remains, probably of matting, were found below the body. A necklace and a bracelet made of beads of various stones, including carnelian, two probably smoothed pots, a palette identified in the publication as made of schist, and a pebble were the grave goods found in association with this skeleton. To the southeast of the tumulus some sherds of black-topped, brown-impressed vessels as well as light brown (smoothed?) vessels were seen, in addition to a quartz pebble, most likely used as a grinder.

Two smaller tumuli were adjacent to A0 on its west side, one partially overlapping with it and clearly constructed later. Tomb A1 comprised a pit covered by stones. It contained the remains of an adult male buried in a semi-flexed position on his left side with his head to the southwest. The remains of what was probably leather were found beneath the body. A necklace made of unidentified marine shells, a pebble, a schist palette and a small bowl were found associated with this burial, likely interred as offerings. Tomb A2, larger than A1, had a very similar architecture. The human remains inside were of a young female, buried contracted in a semi-flexed position on her left side with her head towards the west. The right part of the skull was found displaced, probably by an intentional postmortem ritual. Grave goods included potsherds and an ear or lip stud. Here too, remains of leather were found. Five meters west of A1 and A2, another grave was discovered, consisting of a two-stepped stone superstructure, the bottom part being 5.4×4.0 m. The human remains in the pit were of an adult female, buried contracted on her left side. A necklace with three beads, Cowry shells, sherds of a brown ceramic vessel and a pebble were the funerary offerings. Around the head were the remains of leather and other organic traces interpreted as decomposed grains (*Panicum?*). Charcoal from this burial was dated 3980-3760 BCE (Paris *et al.* 2006).

Another small tumulus, GBG E, was located on the southern side of the valley. It contained the body of a young adult female, buried contracted on her left side in an extremely flexed position. The grave goods were remarkable: next to an oblong palette with a depression in the center, two roughly made flint flakes, a quartz perforator, a pebble, two black-topped pots and fragments of other two pots were found, as well as a number of long bones from large mammals (bovine?) and one small animal. All were worked into a spatula and pointed at the other end. A green object was described by the excavators as a piece of copper (Paris *et al.* 2006), but may be a piece of malachite, which is very common in contemporary graves in Nubia and Egypt. This would date the grave securely to the 4th millennium BCE. In Wadi Seiga, a northern tributary of Wadi Allaqi, the structures recovered by the IFAO project were quite different. These consisted of stone rings, the architecture and size of which varied slightly. Four of them were excavated; two were found empty (SIG01 and SIG02a), but the former yielded a radiocarbon date of 4420–4460

BCE (Paris *et al.* 2006). Feature SIG01E consisted of two adjoining enclosures, one predating the other. The excavation of enclosure E2 revealed a pit with the remains of an infant as well as a light-brown burnished pot. A fireplace excavated nearby, in a context that yielded similar pottery, was radiocarbon dated 3520–3120 BCE (Paris *et al.* 2006). Inside feature SIG02b, a brown bowl (possible lightly burnished) with a lateral spout was found, decorated with what seems to be a packed rocker plain-zigzag pattern. This pot has parallels in the cemetery of Gebel Ramlah (Gatto 2010), and in the excavated grave in Wadi Elei (Sadr 1997).

The northernmost evidence of this Nubian Desert funerary tradition was discovered in 2005 by the Aswan-Kom Ombo Archaeological Project in Wadi al-Lawi, the main southern tributary of the Nile Valley in the Kom Ombo plain (Gatto 2005; Gatto and Giuliani 2006–2007; Gatto in press). In a small valley identified as Shaab Negema, west of Wadi al-Lawi, was a plundered and heavily disturbed tumulus. Cleaning of the structure brought to light its complexity as far as the building technique is concerned (Figure 3.6). It consisted of two concentric stone rings, partially resting on the bedrock and partially on sand and a layer of crushed bedrock. The ring in the center of the structure had a diameter of 3.5 m, the one on the exterior measured 7.5 m across. A standing stone was found in the central ring, very similar to the stele identified in the tumuli in the Atbai region. The state of preservation of the site, however, leaves its interpretation as a stele uncertain. In the center of the structure, a pit was located. Three pots were found, one decorated on both surfaces with a wide rippled motif on dark-brown, burnished, black-spotted surfaces (Figure 3.7). Once the later backfill was removed from the shaft, human bones, potsherds and a quartz flake were collected, as well as two bone awls (Figure 3.8), one of which had an incised herringbone pattern at the basal part.

The recovered human bones were of two different individuals: a male, between 35 and 50 years of age, and a female, between 20 and 35 years of age. Despite the poor condition of the bones and the fact that all were disarticulated, it was evident that one of these individuals suffered from osteoarthritis of the spine, possibly the older male. The destruction of the burial site made it difficult to reconstruct the relationship between the two bodies. As human sacrifices were not alien to Nubian funerary customs (Reinold 2000), it must be taken into consideration that the presence of the young woman in



Figure 3.6. The tumulus at Shaab Negema (Wadi al-Lawi, near Kom Ombo) after cleaning.



Figure 3.7. Burnished rippled bowl from the Shaab Negema tumulus.

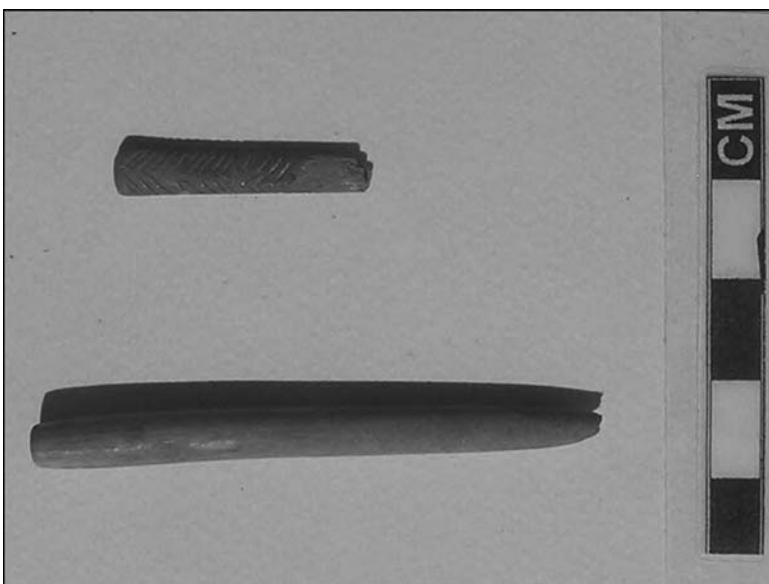


Figure 3.8. Bone awls from Shaab Negema (Wadi al-Lawi, near Kom Ombo).

the grave has to be interpreted as sacrificial. There is evidence, however, of desert graves being reused for later inhumations, as, for instance, attested at Gebel Ramlah (Kobusiewicz *et al.* 2010). The pottery associated with the Shaab Negema tumulus is definitely related to the Abkan and the A-Group traditions, but also to the Badarian and the Final Neolithic in the Western Desert. In particular, the presence of the rippled decoration on inner and exterior surfaces is a characteristic of the latter two periods, while it is absent in their Nubian counterparts. During the UNESCO Campaign to Save the Monuments of Nubia in the 1960s, some campsites, later radiocarbon dated to the mid-4th millennium BCE, were located in the Kom Ombo plain, far from the Nile Valley (Butzer and Hansen 1968). Because the pottery found there was mostly burnished and black-topped, ceramics already out of production in Egypt during that phase of the Predynastic, these campsites were identified as Nubian A-Group. With all these parallels, the Shaab Negema grave may be identified as either Early A-Group (first half of the 4th millennium BCE), or to an even earlier phase contemporary with the Badarian culture (second half of the 5th millennium BCE). A sample of human bone was sent to the IFAO radiocarbon dating laboratory in Cairo, but did not contain enough collagen for a reliable analysis.

More isolated and clustered prehistoric tumuli and stone structures are reported from the buffer zone between the Nubian and the Egyptian Eastern Desert, also closer to the Red Sea coast (Murray and Derry 1923; Sidebotham *et al.* 2008). It is difficult, however, to determine the cultural sphere to which they belong because the Nubian Abkan and A-Group cultures as well as the Egyptian Badarian and Tasian cultures share so many elements that they can easily be defined as part of the same “Nubian tradition.” Evidence such as the Wadi Atulla grave (Friedman and Hobbs 2002), or the Badarian sites in Laqeita (Debono 1951), may be seen as the northernmost variant of the culture flourishing farther south. Similar archaeological material has also been found in the Western Desert of Egypt and Sudan, particularly in the regions of Wadi Howar, Laqiya, Nabta-Kiseiba, and in the desert between the oases and the Nile south of the Qena bend (Wendorf *et al.* 2001; Lange 2003; Kobusiewicz *et al.* 2004; Lange and Nordström 2006; Jesse 2006–2007; Darnell 2008; Kobusiewicz *et al.* 2010). The spatial distribution of one of the cultural markers of the Nubian Neolithic tradition,

the so-called caliciform or tulip beaker, which is reported from Badari to Khartoum, and from the Gilf Kebir and Wadi Howar to Wadi Hammamat (Gatto 2006c; Jesse 2006–2007), confirms the strong relationship between people living in such distant areas.

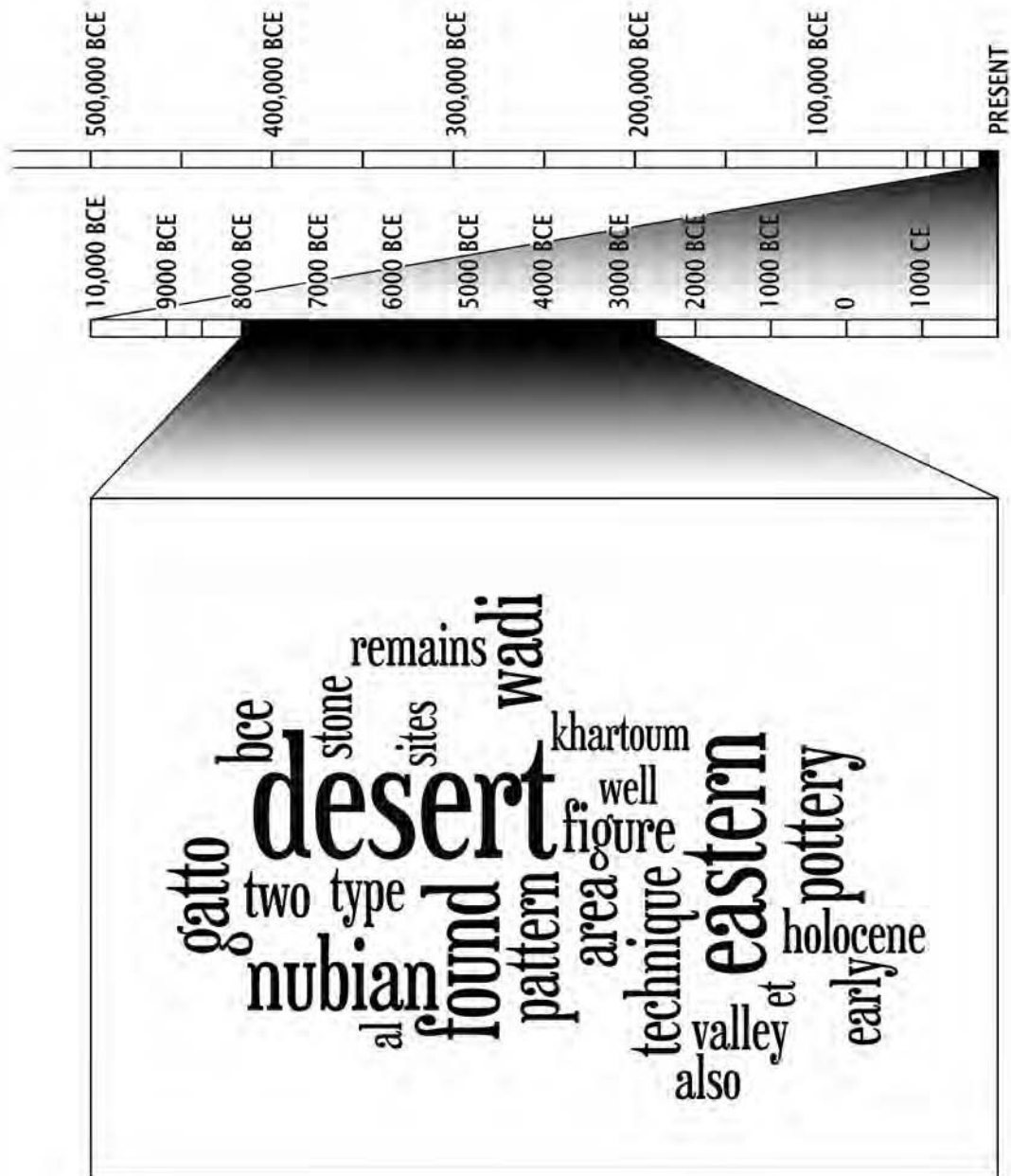
The data from the Nubian Eastern Desert show a great variability in grave typology (different superstructures and pit locations), funerary practices (presence or absence of offering areas, stelae and animal remains; variety in grave goods and body position), and typology of the burial grounds (isolated or clustered tumuli). Although tumuli of the same age have also been reported in the Western Desert, none of the graves along the Nile Valley that date to the 5th and 4th millennia BCE have a superstructure, apart from a few in A-Group cemeteries located in the area between Gerf Hussein and Tunqala (Gatto 2000). Compared to the long time span and the large area under consideration, the number of tumuli in the Eastern Desert is relatively small. These are, however, labor-intensive burials, and it must be assumed that they were made for purposes other than mere interment. In other parts of the Sahara and the Sahel, tumuli are also land markers. Isolated stone tumuli may be graves of important clan members (di Lernia and Manzi 2002). Noteworthy in the Eastern Desert is the large number of female inhumations, as well as several graves of children.

Burials without a superstructure are also recorded in the Western Desert, at Gebel Ramlah (Kobusiewicz *et al.* 2004; Kobusiewicz *et al.* 2010), and in Wadi el-Hôl (Darnell 2002). The absence of such graves in the Eastern Desert, with the exception of the grave in Wadi Atulla, which is cut into the bedrock, may be a matter of archaeological bias rather than a cultural distinction. On the other hand, not all of the stone structures reported have a funerary purpose. Some were found empty, and are thus difficult to interpret; others had only a pot inside. For these, a function as storage pit or cache might be postulated similar to the A-Group pottery caches found at Bir Sahara in the Western Desert (Gatto 2001–2002). The superstructure for such features seems to corroborate the intention of making a mark in the desert landscape. For people leading a nomadic life, the necessity to relocate supplies that were stored previously might be the explanation for the construction of such features, unknown in the Nile Valley. Finally, they may be evidence of early gold mining activities as indicated by the discovery of a quarrying pit and a gold bracelet in tumulus D5.1 in Wadi Elei (Sadr 1997).

Discussion

The information analyzed here, although scanty and patchy, clearly shows how the southern Eastern Desert (Atbai) was always part of the Nubian cultural realm, which also included parts of the Western Desert and the Nile Valley. The boundaries of this region evidently varied over time, as well as its interaction with surrounding cultural entities. The desert was inhabited and used by a pastoral nomadic segment of the Nubian society, many among other groups, which surely also played an important role in the management

of long-distance travel and trading. The characteristic funerary architecture discussed here, so unusual in the Nile Valley during Prehistory, later became the common Nubian funerary tradition of the C-Group, the Kerma and the Pan-Grave cultures. It should be noted how close the architecture of the Wadi al-Lawi tumulus is to some Pan-Grave tumuli (Näser, this volume), particularly the larger ones. The current state of our knowledge only allows a hint of this very complex cultural picture; much more research needs to be done on the prehistory of the Eastern Desert to arrive at more comprehensive insights.



Time line and word cloud created from Krzysztof Pluskota, *The Journey to the Rock Art Gallery of Bir Nurayet (Sudan)*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); The cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 4



The Journey to the Rock Art Gallery of Bir Nurayet (Sudan)

KRZYSZTOF PLUSKOTA

IN DECEMBER 1997 THE FIRST OF TWO DESERT TRIPS organized by Arita Baaijens, desert explorer and writer,¹ and the author, an archaeologist, started in Damer, about 220 km north of Khartoum in the Sudanese Nile Valley. We decided to walk with dromedaries carrying our water containers, food and equipment, believing that this would make it possible to reach deserted and mountainous places hardly accessible even for all-terrain vehicles. These arid areas, of which much less is known compared to the adjacent Nile Valley, were visited occasionally by travelers who passed through and left their traces. No local guides were employed during our trips. Equipped with the appropriate permits from the Sudanese Ministry of Tourism and maps from the Sudan Survey Department, we bought three female dromedaries at the market in Damer and set off towards the northeast. The aim of this expedition was to traverse the regions of northeast Sudan that are inhabited by different branches of the Beja tribes. We hoped to meet Beja people in their traditional environment in remote parts of the Nubian Desert and the Red Sea Hills. The route led from the Nile Valley to the Red Sea coast through the Nubian Desert and the Red Sea Hills.

¹ Arita Baaijens traveled for many years through the Western Desert in Egypt and the Kordofan and Darfour regions in Sudan. She published many articles, in Dutch, on her travels as well as several books: *Een regen van eeuwig vuur* (1993), *Oase Farafra* (1998), *Woestijnnomaden, Trektocht door Sudan* (2003), and *Desert Songs* (2008).

During our first journey we walked through Wadi Obak, Wadi Okliss, Wadi Ariab, Wadi Amur, Wadi Dayyat, Khor Sasa and Wadi Aquampt to the slopes of Gebel Erba (2213 m). After passing Wadi Tomala and Wadi Hokeib, we reached Mohamed Qol, a small settlement between the slopes of Gebel Erba and the waters of Dungunab Bay (Figure 4.1). We finished the first journey by walking 25–30 km every day for five weeks. Although the distance from Damer to Mohamed Qol is around 500 km as the crow flies, we walked more than 900 km because of the location of water wells, which were usually several days' walk apart. There were days when we walked across level, stony or sandy desert, but also days that we had to climb gorges so steep and narrow that it was difficult to find enough space for our night camp. In Mohamed Qol we left our dromedaries in the care of Mr Adarob, an Amara Beja living near the village.

Our second trip took place in December 1998–January 1999 (Figure 4.2). Initially we wanted to walk our dromedaries back to the Nile Valley, through the Nubian Desert, and reach the banks of the Nile near Abu Hamed, 550 km north of Khartoum, but two factors out of our control led to significant changes in this plan. First, there had been no rain in the Red Sea Hills for two years and the grass had been completely desiccated by the sun. Second, two of our dromedaries had young, respectively, one and three months old. These would be unable to make the last leg of the journey to Abu Hamed, a 200-km stretch of sandy desert with only one water well of

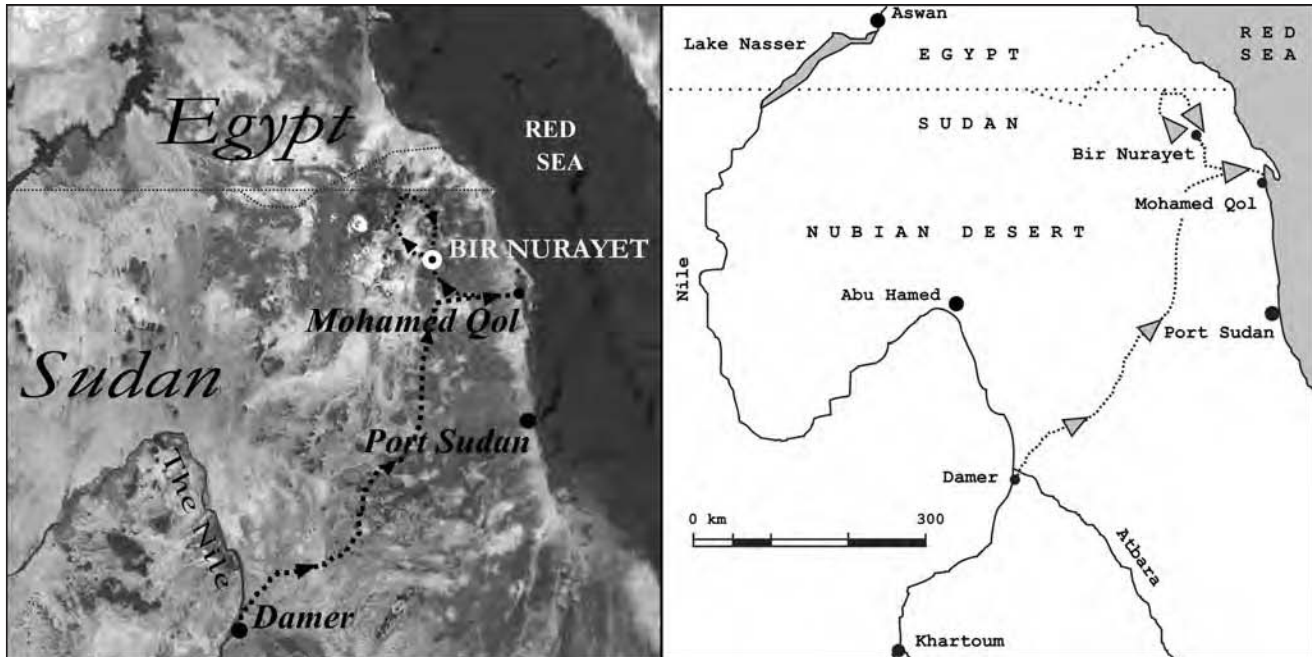


Figure 4.1. Schematic map of northeast Sudan showing the routes of our journeys through the Sudanese Eastern Desert. Satellite imagery courtesy of Google Earth.

uncertain quality at Bir al-Nigeim. The mothers feeding their offspring had to be regularly fed with *Sorghum bicolor* (درة, durra), which we had to buy at settlements some distance apart. Therefore, we kept going north, passing the settlements Gebeit al-Maadin, Sofaia (Salala) and Nurayet, passing through Wadi Hadayu, Wadi Diib, Wadi Hofra, Wadi Is, Wadi Oyo and Wadi Hipkok, making a loop back to Gebeit al-Maadin. We left our five dromedaries in Sofaia (Salala) with Bisharin sheikh Tayyeb Musa Shabadeen of the Shantiraab clan, after which we got a ride back to Mohamed Qol in a car.

Both trips led through regions of diverse climatic conditions and topography. The desert area between River Atbara and the first rocky hills visible from Wadi Okliss was almost completely flat and covered with small stones and pebbles. The only vegetation noticed consisted of small, thorny shrubs growing in the beds of seasonal streams (خور, khor). A series of long sand dunes that were difficult to traverse appeared close to Wadi Obak. The landscape gradually changed again after we passed the first rocky hills. Wadi Barut led into Wadi Ariab, famous throughout the region for its active gold mine. This was the first area covered with meadows of soft green grass, used by the Beja for pasture, that we reached. Scattered bushes were dominated by big *Acacia* trees and other plants. In Wadi Amur, large areas were covered with *Calotropis procera* (sodom's apple)

several meters high, a common desert plant known as *ishir* (عشر) in the Nile Valley. From Wadi Ariab onward the climatic conditions changed, the sky was more often overcast, sometimes with heavy, gray clouds giving the impression of an approaching rainstorm, which never actually arrived. The relative humidity was high, especially at night. Our trip led through valleys, some of them very narrow, some a few kilometers wide, surrounded by black, rocky mountain ranges. Some of these were more than 2000 m high, like Gebel Erba and Gebel Asoteriba. The impressive Wadi Diib, part of the several hundred-kilometer-long Wadi Oko, was evidently the bed of a river that had dried up thousands of years ago.

The routes of both our trips led through lands populated by three large Beja tribes, first the Bisharin (Umm Nagi), then, around Wadi Ariab, the Hadendowa, followed by the Amarar (Atman), and then, close to the Egyptian border, the Bisharin (Umm Ali) again. We traveled in the larger valleys, afraid to get lost in labyrinths of complicated and often blind khors. This was the main reason that we rarely encountered Beja settlements. Their hamlets, usually occupied by single clans (*bedana*), are most often situated in hidden, smaller khors, and seldom in the valleys that play the role of thoroughfares, traditionally dromedary caravans and presently more often wheeled transportation. Most



Figure 4.2. The caravan during our second journey.

settlements consisted of a few *Euphorbia* stem-dwellings, sometimes surrounded by low fences (Barnard 2008: 90; Magid 2008: 457). One astonishing feature of the remote settlements and households that we passed was that they were silent without obvious signs of activity like playing children, men and women working, or animals strolling around. No waste of any kind, so typical for villages regularly supplied with goods by modern markets, could be seen in their neighborhoods. Often this made the false impression of abandonment and more than once we were surprised by villagers who, after initial evaluation of who we were, did show up to help us with watering our dromedaries, filling our jerrycans, or showing us the proper route.

In empty, temporarily abandoned households, some furniture and other items were usually left behind. Before moving from their huts, the tenants usually hung their belongings from the ceiling or collected them in old petrol drums, thus leaving their goods secured against animals and water runoff after rains. We saw no traces of stoves or open fireplaces, but often aluminum bowls with a diameter of about 35 cm and filled with the leftovers of charcoal fires were lying close to the huts. In the regions that we visited, the Beja extensively used such small mobile charcoal hearths, both in their settlements and when traveling. As we could experience ourselves, this way of cooking is much more effective than using an open fire from which a lot of energy is wasted due to almost always present wind. In many inhabited settlements, for example Sofaia, the huts were complemented by hemispherical mat tents (Barnard 2008: 89; Sidebotham *et al.* 2008: 263). During both

trips we met people almost every day, usually close to water wells, but also in small settlements or bigger villages, like Sofaia, or in the large temporary camps near the gold mine in Wadi Ariab. Most of the Beja were pastoralists, mainly dromedary herders, but some, like those in Wadi Amur, cultivated considerable quantities of sorghum.

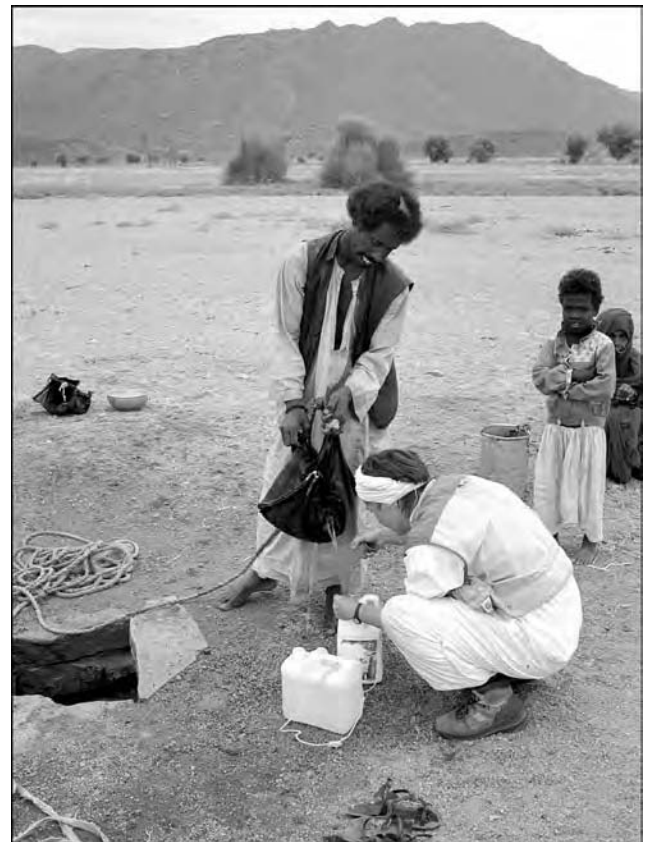


Figure 4.3. The water well at Bir Wario.



Figure 4.4. Petroglyphs of long-horned cattle and men with bolas in Wadi Diib.

All the Beja that we met were astonished by our presence in their land, but consistently helped us to find a better route or get fresh water (Figure 4.3). Our trips were not planned as archaeological surveys. Some observations of this nature were, however, unavoidable. We saw stone artifacts, predominantly made of quartzite, in the flat rocky desert to the northeast of River Atbara. Between Wadi Ariab and Wadi Is, near the border between Egypt and Sudan, we saw dozens of possible pan-graves and other burials on slopes and flat hilltops (Krzywinski, this volume; Nässer, this volume).

An exceptional, although not accidental discovery, was made in Wadi Diib (Valley of Wolves) on the last day of 1998. We walked to Nurayet from Mohammad Qol because on our map cartographers marked rock art close to that water well. In several cases, such marks did not mean much. This time, however, it meant a lot. During a break close to a water well at the foot of the monumental Gebel Magardi, we hobbled our animals to enable them to nibble the green branches of a succulent plant called *adlib* in the local vernacular. A young Beja man who helped us to choose a well with potable water denied that there would be any rock art at the site. Not being discouraged by his negative answer we started a short reconnaissance. On rocks facing Wadi

Diib, we noticed some petroglyphs representing cows. In the rocky area to the west of Gebel Magardi, we found other groups of drawings on cliffs situated above shallow caves, potentially used as shelters. There were representations of big-horned cattle, sheep and humans. Some of the depicted men were equipped with what looked like bolas, some with bows and others with sticks (Figure 4.4). About a dozen meters farther on, we found the entrance to a broad enclosed valley, roughly oval in shape and measuring about 200 m on its longer axis. Hundreds of petroglyphs covered the rocks and boulders encircling this valley. Two groups of drawings were of special interest. One of the more monumental drawings was situated almost exactly opposite the entrance into the valley. Two massive boulders were covered with representations of cattle. Many of them were overlapping earlier drawings. The rock face above and between these blocks was also richly decorated. There was a large scene depicting cattle and about a dozen of herders among them (Figure 4.5), as well as two scenes of cows being milked (Figure 4.6). In one of them a standing person with clear *steatopygia*, an extreme accumulation of fat in and around the buttocks, was milking a cow. From the neck of the cow an unidentified object was hanging. A second scene showed one person in contracted position,



Figure 4.5. Rock art panels in Wadi Diib showing pastoral scenes.

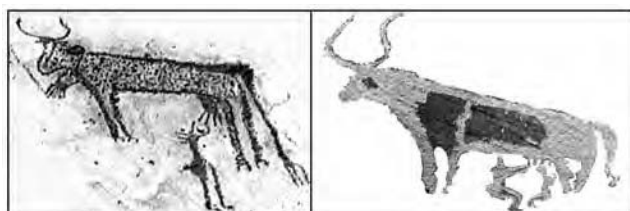


Figure 4.6. Rock art scenes of cows being milked, Wadi Diib.

or possibly on his knees, milking the cow and another, slightly smaller person, possibly a child, suckling the same cow's udder.

Another group of petroglyphs was situated a few hundred meters away in an adjacent valley. There were again two big boulders on which, apart from dozens of drawings of cattle and people (Figure 4.7), some wild animals were punched out, including a warthog and possibly an elephant. Some of the cows had evidently modeled or artificially deformed horns. Further drawings covered the other cliffs and boulders in the valley. Everywhere representations of cattle were predominant, although several scenes showed big game hunting. Of them one featured elephants and seemed to be among the earliest of all the petroglyphs in the valley (Figure 4.8). In many cases the rock drawings were punched or scratched over earlier drawings. The most interesting was a complex of such stratified images on an almost horizontal flat slab exhibiting clearly different stages of patination. Two phases could be inferred—cattle and ostriches were depicted in the earlier phase, while in the second phase, obviously much later, these pictures were covered by scenes of men on dromedaries hunting ostriches (Figure 4.9). We identified the site as Bir Nurayet.

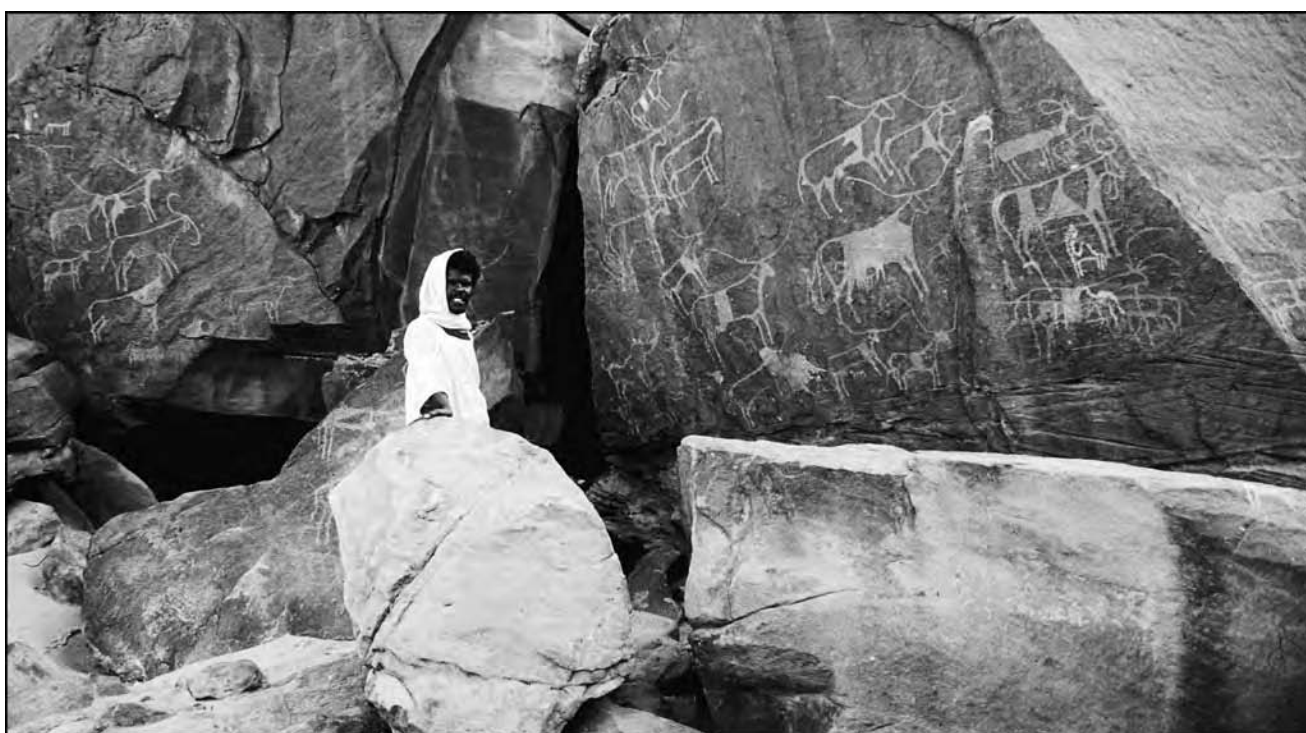


Figure 4.7. Boulders near Gebel Magardi, Wadi Diib, with representations of cattle.

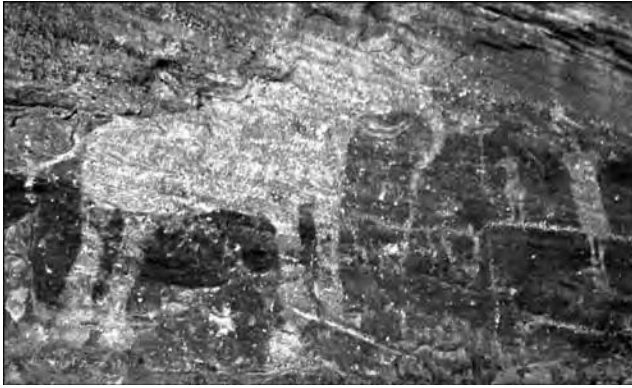


Figure 4.8. Elephant hunting scene near Gebel Magardi in Wadi Diib.



Figure 4.9. Panel of rock art near Gebel Magardi in Wadi Diib showing obvious stratification.

Some preliminary conclusions can be drawn on the basis of our short studies of the site. The rock art at Bir Nurayet consists of few representations of game animals, some in hunting scenes, and hundreds of petroglyphs of cattle, goats, sheep and their herders. Dromedaries are depicted pregnant or with exposed udders, suggesting being milked, or ridden by men. No examples of Predynastic or Dynastic Egyptian influences, such as giraffes, falcons, boats, deities, hieroglyphs or other symbols, were noticed (Espinell, this volume; Lankester, this volume). The presence of herding scenes in this part of northeastern Sudan indicates full-scale breeding of cattle, which has not previously been confirmed in this region of the Red Sea Hills. Bir Nurayet is approximately 50 km from Wadi Allaqi and communication between the two sites, for instance through Wadi Is, would have been easy. The rock art now discovered at Bir Nurayet appears to be a strong confirmation of the hypothesis concerning the presence of ancient cattle pastoralists in the area. Khor Daud has been mentioned as a barter market for the exchange of Nubian and Egyptian products. Its location in one of the richest A-Group sites near the mouth of Wadi Allaqi, the gateway to the Eastern Desert, led to the

conclusion that the key to the prosperity of the A-Group culture lay in its role as intermediary in the cattle trade between the Eastern Desert nomads and the agriculturists of Upper Egypt (Sadr 1991: 90).

The different shade of patina covering the petroglyphs is evidence of long human activity at Bir Nurayet. It was possibly an ancient center for magical ceremonies, at least during periods when the climatic conditions permitted the herding of cattle, before the time that domesticated dromedaries were introduced in the region (possibly around 100 BCE–100 CE). In the middle of Wadi Diib, a solitary outcrop known as Gebel Magardi rises from the flat bed of the valley (Figure 4.10). The configuration of the oval valley, with petroglyphs depicting animals, and the mountain almost adjacent to it leaves no doubt as to why this place was chosen. With Gebel Magardi as a male symbol and the oval valley as a female symbol, a context is created that could be associated with a fertility cult expressing the wish of the pastoralists to multiply their herds (Whittles 1998). The petroglyphs of Bir Nurayet should be compared with the repertoire of rock art in the Nile Valley and the Eastern Desert. The



Figure 4.10. Gebel Magardi in Wadi Diib.

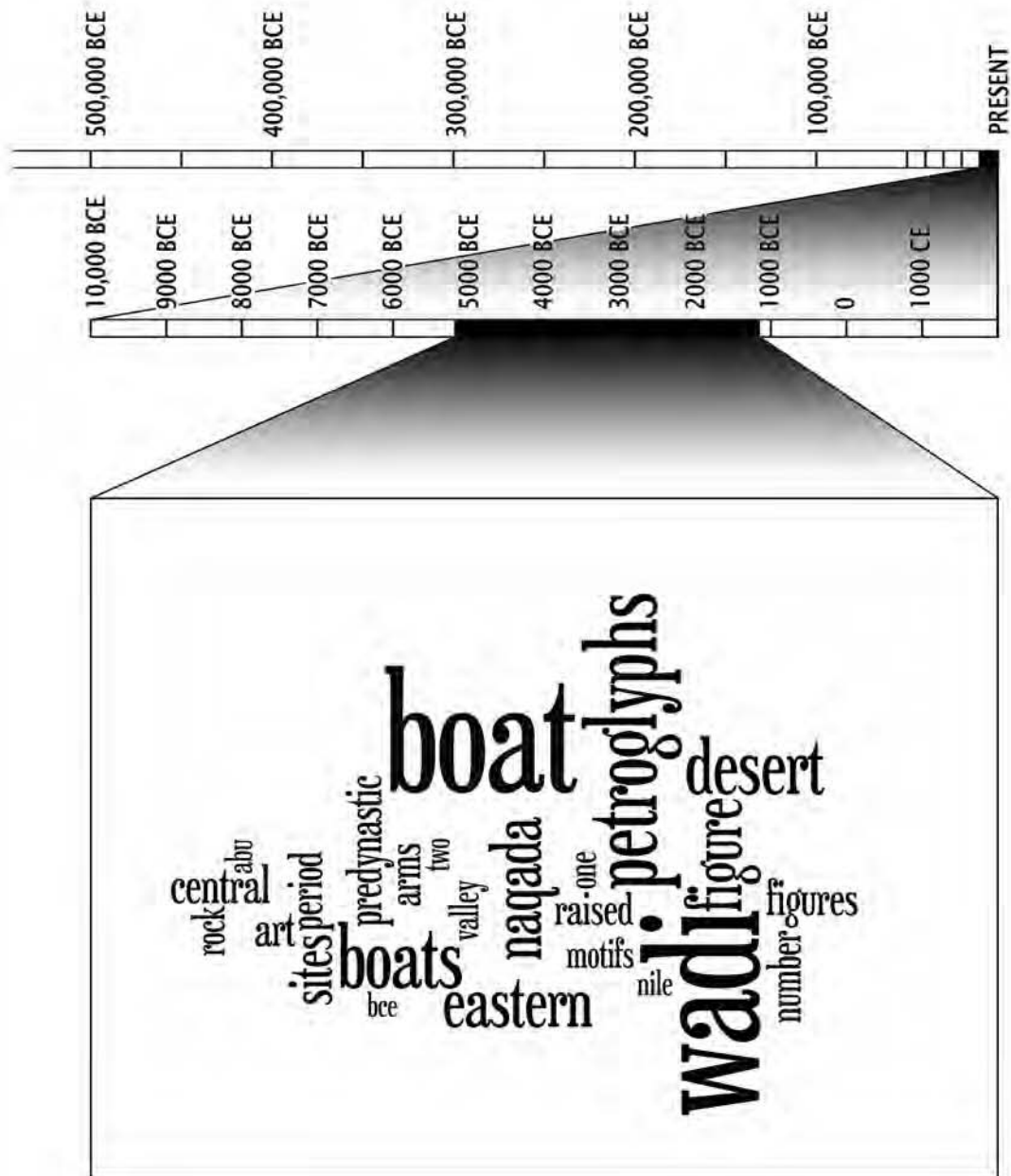


Figure 4.11. Petroglyph in Wadi Aquampt showing mounted dromedaries.

UNESCO Campaign to Save the Monuments of Nubia in the 1960s and the more recent rescue excavations and surveys in the Fourth Cataract region have provided rich documentation of many nearby rock art sites (Hellström and Langballe 1970; Kleinitz and Koenitz 2006; Kleinitz 2008). Farther north in the Eastern Desert, there are abundant rock art sites, such as those in Wadi Hammamat and Wadi Baramiya (Couyat and Montet 1913; Fuchs 1989; Redford and Redford 1989; Fuchs 1991; Morrow and Morrow 2002; Huyge 2009; Huyge and Ikram 2009; Judd 2009; Espinel, this volume; Lankester, this volume). Both Nile Valley and Egyptian Eastern Desert petroglyphs depict various subjects and objects, from textual inscriptions and religious symbols, to wild game hunting and pastoralism. The Bir Nurayet gallery, on the other hand, depicts almost exclusively pastoral life, including cattle, sheep, goats and dromedaries, with only few wild game and hunting scenes showing ostriches, antelopes, warthogs and elephants. Many of the drawings are of extremely high quality of execution or in some cases rather naturalistic depictions of the objects, such as the elephant hunting scenes. During our two long

trips we passed many gorges and smaller valleys, but apart from one petroglyph depicting two people riding dromedaries (Figure 4.11), which we saw close to Wadi Aquampt, we saw no other rock art until we arrived at Bir Nurayet.

The discovery of the rock art gallery at Bir Nurayet was reported by the author to the authorities of the National Corporation of Antiquities and Museums of Sudan in 1999. It was presented in 2000 at the symposium Cultural Markers in the Later Prehistory of Northeastern Africa and Recent Research in Poznan (Poland). After that conference, Michal Kobusiewicz of the Institute of Archaeology and Ethnology of the Polish Academy of Science declared readiness to lead an archaeological project to Bir Nurayet, and in 2002 the documents concerning an archaeological concession were signed in Khartoum. In 2005, the author presented the discovery of the rock drawings at Bir Nurayet in London (Pluskota 2006), and in 2008 at the conference on the history of the peoples of the Eastern Desert (between the Red Sea and the Nile in Egypt and Sudan) from prehistory to the present that is the basis for this volume.



Time line and word cloud for Francis Lankester, *Boat Petroglyphs in Egypt's Central Eastern Desert*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 5



Boat Petroglyphs in Egypt's Central Eastern Desert

FRANCIS LANKESTER

THIS CHAPTER AIMS TO ANALYZE THE BOAT petroglyphs of Egypt's Central Eastern Desert. Some information about their geographical context and the history of their discovery is provided first to serve as a context. A critical analysis of previous attempts to produce typologies of boat petroglyphs will be undertaken and a new proposal for their classification will be put forward. In order to provide a chronological meaning to the new typology stylistic comparisons with drawings known from the Nile Valley, ranging from the Naqada I to the Pharaonic Period, will be made. After identifying the limits of this approach, alternatives will be explored, mainly the association of drawings in the Central Eastern Desert with dateable petroglyphs. Finally, the enigmatic 'arms raised' figure and its relationship to the boat petroglyphs will be examined.

Geographical and Historical Context

The petroglyphs considered in this chapter are located within the roughly rectangular area between the Nile Valley in the west, the modern asphalt road between Qift and Quseir (through Wadi Hammamat) in the north, the Red Sea Hills in the east, and the modern asphalt road between Edfu and Marsa Alam (through Wadi Baramiya) in the south. Positioned between 25°–26° N and 33°–33°45' E, the area forms a rectangle of about 125×50 km or 6250 km². A northwest–southeast sandstone range makes up a valley system draining into the Nile River. It is in this area, comprising about 3% of the Eastern

Desert, that many ancient petroglyphs are concentrated. The earliest information about the petroglyphs in Egypt's Central Eastern Desert comes from a series of explorers and colonial administrators, such as Sir Arthur Weigall (Weigall 1909). It was, however, the German orientalist and ethnographer Hans Alexander Winkler (1900–1945) who started the systematic exploration and recording of the petroglyphs in the region. After private visits in 1932 and 1934, he was employed by the Robert Mond Expedition (RME) of the Egypt Exploration Society and two publications appeared shortly afterward (Winkler 1937, 1938). Winkler recorded comparative patination on color cards that he intended to use for dating later. He did not, however, make much use of this method and instead relied on the prevalent idea in the 1930s that a culturally superior 'master race' had invaded Egypt to kick-start civilization. In this framework, the petroglyphs had to coincide with the start of Egyptian civilization. The outbreak of the Second World War and the untimely death of Winkler on the eastern front prevented him from ever finishing his research.

After the end of the Second World War, little work was done until Gerald Fuchs visited Wadi Baramiya in 1989–1991. Beginning in 1997, David Rohl started the Eastern Desert Survey (EDS) mostly investigating the southern valleys (Wadi Hijalij, Wadi Kanais, Wadi Baramiya, and Wadi Umm Salam) and re-recording a number of Winkler's sites in Wadi Abu Wasil, Wadi Hammamat, and Wadi Atwani. Rohl had been attracted to the rock art of the Central Eastern Desert partly because

of the concentration of boat motifs. The Eastern Desert Survey comprised three four-day fieldwork periods; the author participated in two of these (Rohl 2000). The three subsequent Rock Art Topographical Survey (RATS) expeditions covered an expanded area compared to the Eastern Desert Survey and recorded 120 new sites (Morrow and Morrow 2002). Both teams used similar methods and shared some of their members. Continuity in recording techniques was maintained by Peter Cherry, a leading participant in the Eastern Desert Survey as well as the Rock Art Topographical Survey, who prepared and standardized the recording sheets used by both expeditions. Coordinates provided by a hand-held global positioning system (GPS) receiver and site descriptions were recorded by both teams, as were the number and types of boats, and the presence and description of figures and animals. Sketches of the petroglyphs and individual components, especially boats, were made. The data from the Robert Mond Expedition, the Eastern Desert Survey and the Rock Art Topographical Survey were all plotted on satellite imagery of the area to make it easy to recover data for publication. Each of the teams produced a photographic archive totaling over 5000 images.

The area surveyed comprises 15 valleys (*wadis*). From north to south these are Wadi Atwani, Wadi Hammamat, Wadi Qash, Wadi Mineh, Wadi Abu Wasil, Wadi Dahabiya, Wadi Abu Iqaydi, Wadi Shalul, Wadi Abu Mu Awad, Wadi Umm Salam, Wadi Umm Hajalij, Wadi Miya, Wadi Baramiya, Wadi Kanais and Wadi Hajalij (Figure 5.1). Wadi Hajalij, Wadi Dahabiya, Wadi Abu Iqaydi and Wadi Shalul run north–south, the rest are orientated approximately east–west. The combined corpus from the published results of the two surveys

constitutes 222 sites (Table 5.1). It is striking that there is a considerable number of boat motifs in an area beginning 50 km from the River Nile, near the small rock-cut temple of Pharaoh Seti I (1290-1279 BCE) in Wadi Kanais. Indeed, the search for these motifs and an explanation for them were the main motivation for David Rohl’s work.

Table 5.1. Number of sites identified in each valley (*wadi*) in the survey area.

Wadi	Number of sites	Sites with boat petroglyphs	
		Number	%
Abu Iqaydi	15	8	53
Abu Mu Awad	22	18	88
Abu Wasil	26	23	85
Atwani	13	8	63
Baramiya	18	18	100
Dahabiya	2	2	100
Hajalij	2	2	100
Hammamat	16	12	75
Kanais	4	3	75
Mineh	25	17	68
Miya	7	3	43
Qash	3	2	66
Shalul	14	7	50
Umm Hajalij	9	9	100
Umm Salam	46	37	76
Total	222	166	75

Boats are clearly an extremely prominent feature within the Central Eastern Desert rock art repertoire. Boat petroglyphs are present at 75% of the sites surveyed by the Eastern Desert Survey and the Rock Art Topographical Survey. With the exception of three valleys, Wadi Miya, Wadi Shalul and Wadi Abu Iqaydi, boats are found in around two-thirds or more of the sites (Table 5.1). Next to boat motifs, there are approximately 1100 human representations and over 2000 animal motifs in the combined corpus. Boat petroglyphs are not just located on the direct routes to the Red Sea, but also in remote areas, usually where *Acacia* trees or shrub vegetation are present on the sandstone escarpment. Surprising in an arid desert area at great distances from both the Nile River and the Red Sea, their meaning also needs to be explained.

The recent research became subject to some criticisms. It was, for example, argued that the inventories were incomplete, lacked details on technique, had few dimensions and lacked scale in the photographs (Huyge

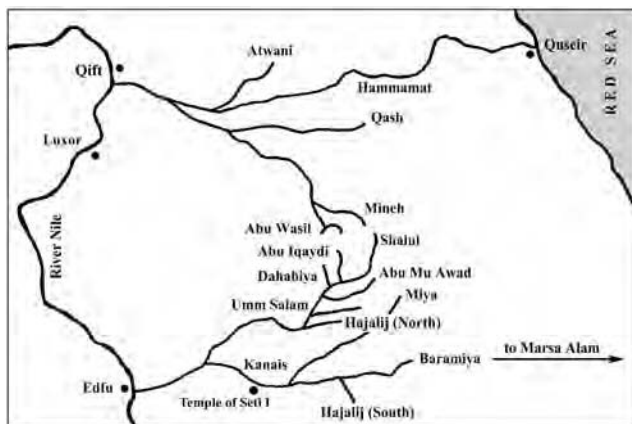


Figure 5.1. Map of Egypt’s Central Eastern Desert, showing the locations of the valleys (*wadis*) discussed in this chapter.

2002). It should be said, however, that most of these details are in the original recording sheets and that omissions were probably caused by the desire for a relatively fast turnaround, of less than two years, from work to publication. This haste is evident from the publications. Individual animal numbers, particularly of cattle and ibex, are not always stated. Out of a total of 830 boat petroglyphs, 48 cannot be identified due to a lack of illustration, measurements or even classification. Thus, the boat corpus is reduced to 782 identifiable motifs. A further 42 boat petroglyphs from both the Eastern Desert Survey and the Rock Art Topographical Survey publications are described, but are not illustrated. Many of the unidentified boat petroglyphs were evidently judged by the researchers to be of Predynastic origin, as Dynastic types are always noted as such. For example, WAS-17 (EDS 113) has a reference to four boats with high prows and decoration on both prow and stern, but there is no further description regarding boat type (sickle or square), nor an illustration. This makes a certain attribution of these particular images to the Predynastic problematic. Outside the scope of this chapter are the discoveries south of Wadi Baramiya, in the Kom Ombo drainage basin, by the Eastern Desert Survey and later expeditions under the auspices of the University of Minnesota, in Wadi Dumqash, Wadi Sibrit, Wadi Muweilhat, and Wadi Sha'it. This material, which is reported to include more boats and also a large numbers of cattle, needs to be published with the above comments in mind.

Boat Petroglyphs: Typology

The Eastern Desert Survey divided the boat into four types: sickle, incurved sickle, square and incurved square (Winkler 1938). To these, the Rock Art Topographical Survey added a 'flared' category (Figure 5.2). The resulting typology, however, can only be used with some difficulty. A detailed reading of the publications reveals that differences between boat types on occasions may be explained more by the way in which the recording was done than to actual differences. It has been pointed out that it may even be impossible to make clear-cut distinctions between previously defined types of rock drawing and that "any attempt to draw extremely fine distinctions will probably result in more types of representations than there were types of boats" (Vinson 1970: 127). Despite the difficulties in using the suggested typology, I decided that it was worth utilizing it as the

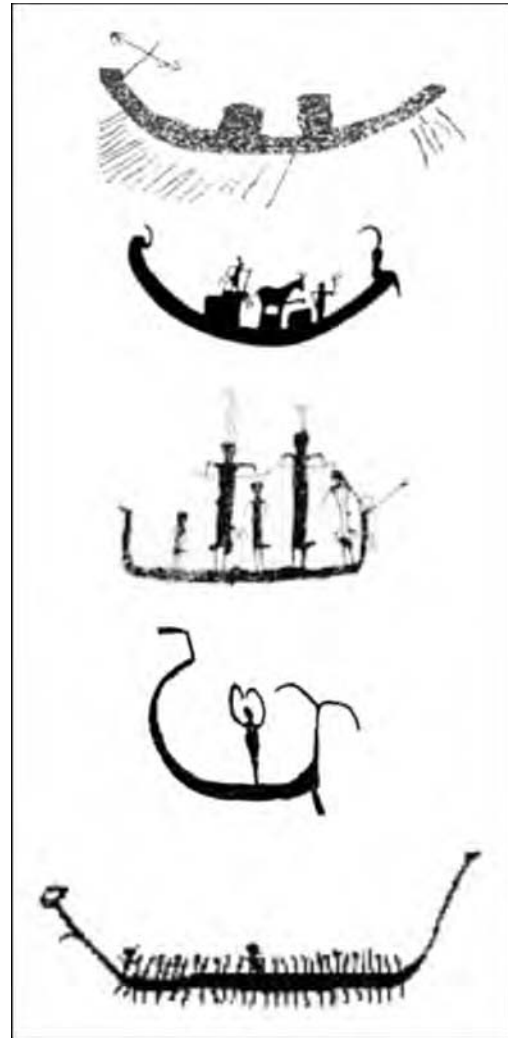


Figure 5.2. Examples of sickle, incurved sickle, square, incurved square and flared boat types as found in the rock art of the Central Eastern Desert.

basis of a more thorough analysis by complementing it with an alternative way of describing and classifying the motifs. The features selected as significant are both related to the boats (cabins, oars, steering oar, sail or mast) and to people in them (crew and large figures either in isolation or in groups).

The correlation between the types used in the recent publications and selected features was analyzed, and the results are summarized in Table 5.2. Cabins are present in 131 boats (16%). This feature is not evenly divided over the different types of boats—as many as 34% of the incurved square boats and only 11% of the square boats are shown with a cabin. Cabins appear more frequently than oars, which are only seen in 48 (6%) of all boat petroglyphs. Both cabins and oars may be found in the same drawing, but this is so in only 10 cases. Steering

Table 5.2. Boat petroglyphs in the Central Eastern Desert separated by type and feature (identified by type: 782).

	Boat type					
	All	Square	Sickle	Flared	Incurved square	Incurved sickle
Total	830 (782)	383 (49%)	279 (35%)	44 (5.5%)	38 (5%)	38 (4%)
With a cabin	131 (16%)	41 (11%)	50 (18%)	5 (11%)	13 (34%)	9 (23.5%)
With oars	48 (6%)	21 (5.5%)	15 (5%)	3 (7%)	6 (16%)	1 (2.5%)
With a steering oar	42 (5%)	7 (2%)	38 (13.5%)	0	0	2 (5%)
With a mast or sail	39 (5%)	9 (2%)	27 (10%)	2 (4.5%)	1 (2.5%)	0
With a crew	195 (23%)	110 (29%)	65 (23%)	25 (60%)	7 (20%)	3 (10%)
With one large figure	133 (17%)	65 (17%)	26 (9%)	6 (14%)	16 (42%)	6 (16%)
With several large figures	33 (4%)	13 (3%)	10 (4%)	3 (7%)	1 (3%)	0

oars are present in 5% of the boats. They are usually found in association with sickle boats and rarely also with incurved sickle and square boats. Table 5.2 also provides the number of sails, and masts shown without a sail, features that are rarely seen. Sickle boats are most often shown with a sail or a mast, but still comprise 10% of the total number. If the percentage of boats with a mast or a sail are added to those with oars, this results in only 11% of the boats being shown with an evident means of propulsion.

In addition to the features related to the boats, three features relate to people in them: crew, one isolated large figure, or the presence of several large figures. Crews are shown in about a quarter of all boats. They are not, however, evenly distributed over the different boat types. Flared boats most often have a crew (60%), about a quarter of sickle and square boats, 20% of incurved square boats, and only 10% of incurved sickle boats. It is noteworthy that flared boats are almost always devoid of features other than crews. Large figures, described in the recent publications as ‘chieftains,’ form a rather small proportion of the additions to the basic hull drawing; only about a fifth of all boats are shown with one or several large figures. Only the incurved square boats are relatively often (42%) depicted with a large central figure. Two or more figures are rare, always less than 10% of any boat type. While scenes of boats being dragged or towed were featured prominently in the publication of the Eastern Desert Survey, dragging scenes are relatively rare. There are only 37 (5%) examples of boats being dragged out of a total of 782 identified boat petroglyphs. Even when those with a possible tow rope, but no figures shown, are added, this number only

increases to 50 (6%). As with the representation of a crew, most of the draggers are shown merely as stick figures or lines, lacking any anatomically recognizable features. At a few sites, notably in Wadi Wasil (WAS-10, RME-26), however, the figures have heads, arms and hair or perhaps even beards. Only one boat has an ‘arms raised’ figure on board, also in Wadi Wasil.

Dating Boat Petroglyphs

No definitely dateable artifacts have been found in associated contexts with any of the petroglyphs. The value of obtaining absolute dates for ancient rock art, by radiometric dating techniques (radiocarbon methods or uranium-thorium series) or optically stimulated luminescence (OSL), is still hotly debated (Beck *et al.* 1998; Malakoff 1998; Huyge *et al.* 2001; Whitley and Simon 2002; Huyge 2005; Jacobs and Roberts 2007; Vafiadou *et al.* 2007). The most reliable way still is to use stylistic analysis to compare rock art with mobiliary art with a better-understood history (but see Espinel, this volume). In order to date the boat motifs in the Central Eastern Desert stylistically, it is necessary to study them within the overall context of comparable material with known dates (Table 5.3), mostly found in the Nile Valley.

Table 5.3. Chronology of the late prehistoric periods in the Upper Egyptian Nile Valley. Adapted from Hendrickx 1996.

Period	Approximate date (calibrated)	Diagnostic pottery
Naqada III (Protodynastic)	3300-2900 BCE	
Naqada IIC-IID (Gerzean)	3650-3300 BCE	D-Ware
Naqada I-IIAB (Amratian)	3900-3650 BCE	C-Ware
Badarian	4400-3900 BCE	
Tasian	4600-4400? BCE	

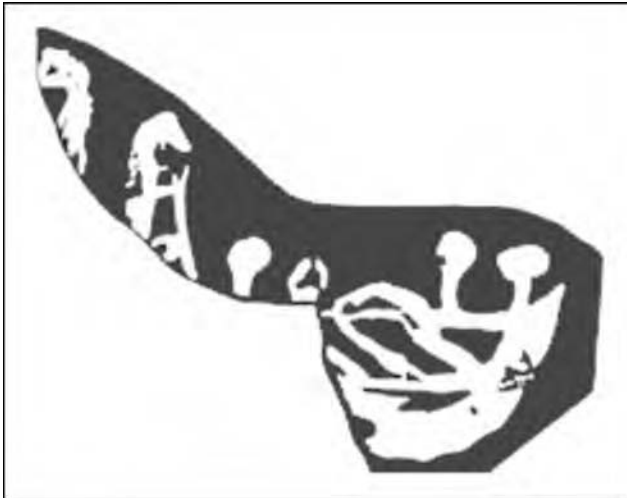


Figure 5.3. Drawing on a piece of pottery, possibly representing a boat with a very high prow (now in the Ashmolean Museum, Oxford, UK).

Mobiliary art of the Predynastic era (5000–3100 BCE) includes pottery, palettes, models, knife handles, ivory and bone labels, the painting in Tomb 100 in Hierakonpolis, and the Gebelein Linen.¹ Our main sources of information for the Dynastic period comprise papyri, tomb paintings, and boat models. There are also a small number of simple clay boat models from excavated contexts dating to the Badarian period (around 3900 BCE). These are canoe-like models, perhaps representing a papyrus boat with built-up sides rather than a raft with a flat deck. They are so simple that it is not possible to recognize a comparable type in the rock art. There are no representations of boats on Badarian artifacts. It is in the Naqada I period that such evidence is first found. There are at least 15 drawings that may be identified as boats—9 on pottery, 4 on the Gebelein Linen, one on a stone palette, and one on a clay box in the Ashmolean Museum (Oxford, UK). Although the majority seems to represent sickle-shaped boats, there are two examples of square-hulled boats, and one contested example with a very high prow on a ceramic sherd, also in the Ashmolean Museum (Figure 5.3).

Naqada I Boat Motifs

A large variety of boat forms is found in the Naqada I Period, which suggests that a wide variety of boats was

¹ The Gebelein Linen comprises the remains of a painted strip of textile (made out of *Linus usitatissimum*) displaying a Nilotic scene found in 1930 in a tomb in Gebelein, south of Luxor, and dated to the late Naqada I or early Naqada II Period (3700–3500 BCE). It is kept in the Museo Egizio, Turin, Italy (S.17138).

actually used in Egypt as early as the fourth millennium BCE. As a consequence, simply comparing apparently similar shapes in mobiliary art from the Nile Valley and in the desert rock art corpus will be unproductive. Naqada I boats on mobiliary art show multiple oars or none; sometimes there is also a long steering oar toward the stern, and most boats are shown with cabins. A Naqada I boat on a C-Ware bowl in the Egyptian Museum (Cairo, Egypt) is often shown without its complete context, which includes images of ostrich, crocodile, antelope, hunting dog, hippopotamus, scorpion and fish (Figure 5.4). The first five of these are also represented in several of the petroglyphs. Caution should be used, however, when trying to date the petroglyphs on the basis of the images on pottery. The creators of the rock art could have seen the represented fauna over a long period of Egyptian Predynastic and Dynastic history. Nor are there any exact parallels in the petroglyphs to the boat on the bowl in the Egyptian Museum in Cairo. There are representations of hippopotami on several C-Ware bowls, including animals being harpooned. There is a comparable harpooning scene in Wadi Mineh (EDS 78), but while there are a number of bowls with hippopotamus motifs, the rock art example is unique. Hippopotamus hunts are a feature of royal activity in the Dynastic period, but the presence of a hippopotamus hunting scene in the rock art does not necessarily constitute a dating marker.



Figure 5.4. Image of a boat surrounded by ostrich, crocodile, antelope, hunting dog, hippopotamus, scorpion and fish on a C-Ware bowl (Naqada I Period, 3900–3600 BCE), now in the Egyptian Museum, Cairo, Egypt.

The clay box in the Ashmolean Museum in Oxford has an incurved sickle boat with an S-shaped prow and a double ‘frond’ at the stern. It does come from a dateable context from the end of the Naqada I period (Randall-MacIver *et al.* 1902; Figure 5.5). This drawing is different from the four sickle boats on the Gebelein Linen, which is also dated to the end of Naqada I or the beginning of Naqada II Period. In addition to the S-shaped prow and double feature at the stern, there are several lines projecting inwards from the stern, whereas in incurved boat drawings in the Eastern Desert there is only one, usually projecting from the often triangular object at the top of the stern (Figure 5.6). The number of incurved ‘frond boat’ petroglyphs in the Nile Valley related to the drawing in the Ashmolean Museum and at the same time stylistically comparable to the petroglyphs in the Eastern Desert is very small. There is one petroglyph from near Silsila (Červíček 1974: figure 244) and two at HK 61 at Hierakonpolis (Berger 1992: 108), but no others are apparent from anywhere else in Egypt. In the Central Eastern Desert, however, there are 37, making a total of 40 of which only three are in



Figure 5.5. A clay box from the end of the Naqada I Period (ca. 3600 BCE) with a decoration showing an incurved sickle boat with an S-shaped prow and a double ‘frond’ at the stern, now in the Ashmolean Museum, Oxford, UK. Adapted from Randall-MacIver *et al.* 1902.



Figure 5.6. Example from the study area of a petroglyph of an incurved boat with a single line or ‘frond’ projecting inward from a triangular object at the top of the stern (BAR 2-RATS 156).

the Nile Valley. It is clear, however, from unpublished photographs that there are more examples south of Wadi Baramiya. The single Silsila example marks the southernmost distribution of this particular motif. As there is only one image on mobiliary art that is even somewhat comparable in style, there is no dateable range from the Nile Valley that can be applied to the rock art. However, several pertinent observations can be made. The motif does not appear at all on any D-Ware pottery (Graff 2002). While there are examples of boat representations with upward-bending ends, there are none with the triangular element or the three ‘fronds.’ The ‘arms raised’ figure is found on both Naqada I and II pottery and figurines, and may even date from Badarian times as there are figurines attributed to that period in a similar position. The motif only continues into the Naqada III Period in a Nile Valley context on one pot from Tomb U-J at Abydos, and is not associated with any petroglyphs assigned to this period.

Among the over 800 boat petroglyphs in the Central Eastern Desert, a very small number are of the incurved type with an S-shaped prow and two or three ‘fronds’ (Figure 5.6). Just over half (19 or 51%) of the 37 are located in Wadi Kanais and Wadi Baramiya, which are essentially the same valley, and 14 (40%) at Kanais alone. There is a further ‘frond’ boat in Wadi Miya, one in Umm Salam, two in Wadi Abu Wasil, five in Wadi Mineh and five in Wadi Hammamat. None are known in the centrally located Wadi Shalul and Wadi Iqaydi, or in the southern valleys Wadi Hajalij and Wadi Abu Mu Awad. The balance between the south and the north is thus nearly 2:1. These boat types seem to be associated with rock art creators traveling on the main east–west routes. Thus, approximately 5% of the identified boat petroglyphs in the Central Eastern Desert could belong to this distinct type. The boat petroglyphs at HK 61 in Hierakonpolis are found in contexts attributed to the Naqada I Period (Berger 1992: 108). Also, the box in the Ashmolean Museum is of late Naqada I date. It is not exactly similar to the rock art examples in that it only has two ‘fronds,’ not three. But there are examples of related boats with two ‘fronds,’ including examples from Kanais where two and three ‘frond’ boats are evidently contemporaneous. The evidence is admittedly thin, but combined with the lack of such a boat style on D-Ware vessels and of significant continuation of the ‘arms raised’ figure after the Naqada II Period, it is possible to date

this boat type to the late Naqada I or the early Naqada II Period.

Naqada II Boat Motifs

The largest number of boat representations that are commonly assigned to the Naqada II Period is found on D-Ware pottery (Graff 2002). There are similar boats in the painting in Tomb 100 in Hierakonpolis (Wilkinson 2003: 69). A total of 59 boat petroglyphs, identified as Type I and dated to the Naqada II Period by the different investigators (Figure 5.7), were found in Upper Egypt and Lower Nubia (Dunbar 1941; Engelmayr 1965; Hellström and Langballe 1970; Červiček 1986; Huyge 1995; Váhala and Červiček 1999). Thus the representations in the petroglyphs are heavily outnumbered by those on the D-Ware pottery. The latter are shown with various ‘standards,’ while the petroglyphs in the Nile Valley almost never possess this feature. This suggests that the representations on the pottery are special in some way. It is noteworthy in this context that the vast majority of D-Ware vessels were retrieved from graves.

There are only 10 examples of the typical Type I Naqada II boat in the Eastern Desert. Four of these have ‘standards,’ two of the type often associated with ‘Min’s thunderbolt’ (Figure 5.2). One has a standard comparable with another representation found on D-Ware pottery; the other has no parallel on D-Ware pottery. The Type I boat petroglyph is therefore very rare in the Eastern Desert. They are furthermore confined to only a few places, five are in Wadi Hammamat and three in one site in Wadi Baramiya (Figure 5.8); the last one is in Wadi Qash. Two representations in Wadi Hammamat resemble boats in the painting in Tomb 100 at Hierakonpolis; another (at HAM-5) is the sole painted petroglyph in the Eastern Desert and also has a strong resemblance to boats in Tomb 100. This type is clearly present only on routes from the Nile Valley to mines or quarries in the desert or the Red Sea coast. One complicating factor is that although there were many sickle boats in the survey area,

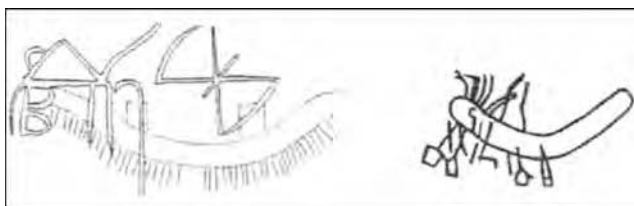


Figure 5.7. Typical example of a Type I petroglyph, dated to the Naqada II Period (3600–3300 BCE). Adapted from Červiček 1974.



Figure 5.8. Example of ‘Type 1’ sickle boat (BAR 1-RATS 154).

a large number of them comprise only a simple crescent and lack further detail which makes them impossible to classify.

Naqada III Boat Motifs

In the Naqada III Period, boat models, knife handles, ivory and bone labels, the Qustul Incense Burner,² and drawings on pottery (rarely) display a wider range of boat forms compared to the mobiliary art of the Naqada I and II Periods. While the carved ivory knife handles in the Metropolitan Museum of Art (New York City) and in the Louvre (Paris) are not provenanced, bone labels show similarly shaped boats. Boat models, the Qastul Incense Burner and a vase in the British Museum (London) display a new kind of boat design with a very high prow and a triangular stern. The same design is seen in 48 petroglyphs in Lower Nubia and Upper Egypt (Dunbar 1941; Engelmayr 1965; Almagro Basch and Almagro Gorbea 1968; Hellström and Langballe 1970; Červiček 1986; Huyge 1995; Váhala and Červiček 1999). A similarly shaped boat with a more sloping prow and without the triangular stern is displayed on a graffito in Gebel Sheikh Suleiman, by some boat models, on the Narmer Palette,³ and in 18 petroglyphs in Lower Nubian

² The Qustul Incense Burner is a decorated limestone incense burner that was found badly shattered during the first decade of the 20th century CE in a tomb in Qustul, Lower Nubia. It is thought to be associated with the A-Group (3200–3000 BCE) and to display the first known depictions of the symbols of the Egyptian monarchy. The Qustul Incense Burner is kept in the Oriental Institute of the University of Chicago (OIM 24069).

³ The Narmer Palette is a 63-cm long, shield-shaped piece of green siltstone, decorated with enigmatic imagery on both sides, probably representing the unification of Egypt under one ruler. It was discovered in the Temple of Horus at Hierakonpolis in 1897



Figure 5.9. Example of a Naqada III (3300–2900 BCE) boat petroglyph (MIN 10).

and Upper Egypt (Dunbar 1941; Almagro Basch and Almagro Gorbea 1968; Otto and Buschendorf-Otto 1993; Váhala and Červiček 1999).

In the Eastern Desert, there are only three examples of boat petroglyphs dated to the Naqada III Period, two with the typical triangular stern (SHA-14 and QAS-2) and one without (MIN-14). The latter clearly has a falcon sitting on top of the prow (Figure 5.9), in the horizontally perched position that is typical of representations of falcons before the second half of the First Dynasty (2950–2860 BCE). All three examples are in the central part of the Eastern Desert. Another has been apparently seen in Wadi Midriq, south of Wadi Baramiya. There is thus an obvious decline in the number of relatively easily dateable boat drawings in the rock art corpus as we progress in time through the successive Naqada periods, from 37 (Naqada I), to 10 (Naqada II), to 3 or 4 (Naqada III). This only applies, however, to distinctive and quite readily identifiable boat types. In the Naqada III Period, there are sickle-shaped boats in mobiliary art, including an example on a tag from the reign of King Djer (2939–2893 BCE). This shows a line running from one up-curved end of the boat to the deck and could represent a rope or strut fastening intended to strengthen one end of a boat primarily made of papyrus (Vinson 1970: 199). This is the only known example of such a feature. Altogether, only 50 boat petroglyphs in the Eastern Desert, out of nearly 800, can be readily identified by stylistic comparison with Predynastic artifacts from the Nile Valley.

or 1898 and dated to the Naqada III Period (3300–2900 BCE). The Narmer Palette is kept in the Egyptian Museum in Cairo, Egypt (JE 32169, CG 14716).

Pharaonic and Later Boat Motifs

The Eastern Desert was one of the sources of raw materials such as gold, granite, greywacke and galena for Pharaonic Egypt. At the same time, one of the routes along which disassembled boats were transported by donkey caravan, in order to be reassembled on the Red Sea coast on their way to the enigmatic Land of Punt (Phillips 1997; Bard and Fattovich 2007), led through Wadi Hammamat (Figure 5.1). This route, and that to Berenike farther south on the Red Sea coast, is also attested by late rock art as well as Greek and Latin inscriptions, especially in Wadi Qash (QAS-3/RME-18) and Wadi Mineh (MIN-14/RME-24b). It should be expected to find representations of boats with masts or sails along these routes between the Nile Valley and the Red Sea. Vessel technology obviously advanced in Egypt during the early Dynastic Periods, which is obvious in the use and the position of a sail. Indeed, an important defining feature of a boat petroglyph dating to the Pharaonic Period is the presence of a mast and sail, and there is no clear example in the Central Eastern Desert of a petroglyph showing a sail before the Naqada III Period, although they are known from Lower Nubia. The position of the mast is also indicative, as it moved back toward the middle of the vessel from the Naqada III Period to the New Kingdom (1570–1070 BCE), a period of nearly two millennia. Early boats would probably only have been able to sail before the wind. We do not see seagoing vessels, with the mast set one-third of the way back from the prow (Bowen 1960), illustrated before the 4th Dynasty (2613–2498 BCE). And it is not until the reign of Hatshepsut (1498–1483 BCE) that large seagoing vessels able to carry large cargoes are shown, in addition to large Nile vessels that could transport two massive stone obelisks at a time.

There are many paintings in royal and private tombs, temple murals, papyri as well as boat models that display vessels from the Pharaonic Period. There are several features that assign a boat an Old, Middle or New Kingdom date. In the Old Kingdom (2686–2181 BCE), there are usually two rear steering oars with thin leaf-shaped blades (Landström 1970: 40); a triangular sail also appears at this time. The vessel that was interred next to the Pyramid of Khufu had an incurved stern and a vertical prow, after the 1224 pieces of cedar wood were reassembled into an almost 44-m-long boat. This feature later only occurs in New Kingdom tomb paintings of the Otherworld, never in secular contexts. The boat

associated with the Pyramid of Khufu was certainly not an ordinary vessel and may even have not been meant for actual travel or transport at all. The Egyptian hieroglyph for “to sail upstream” consists of an incurved sickle boat with its sail unfurled, while the processional boat of Osiris, God of the Afterlife, is an incurved vessel with double steering oars. Maritime Egypt was remarkable with the prevailing winds from the north and the flow in the River Nile running in the opposite direction. By the 9th–10th Dynasties (2160–2040 BCE), boats are shown with one or more very large steering oars attached to a pole at the rear of the vessel. Middle Kingdom vessels (2040–1782 BCE) also have this feature, in combination with a retractable mast. Finally, the central mast is a defining feature of New Kingdom vessels (1570–1070 BCE); as is the triangular oar blade, which never appears before this period.

There are 39 examples of boat petroglyphs with a central mast in the current Central Eastern Desert corpus (Figure 5.10). If they were associated to people actually using the vessel, these should be expected along the transverse routes to and from the Red Sea. Only 8 of the boat petroglyphs, however, are in Wadi Hammamat and Wadi Baramiya, which are direct routes to the Red Sea; the rest are not. To the 39 boat petroglyphs with a mast, 13 drawings of boats with triangular-bladed steering oars, but without a mast or a sail, should be added. Steering oars are sometimes present on Predynastic drawings; therefore the mere presence of one is not diagnostic for a late date. Moreover, a double steering oar with leaf-like blades is only present at three sites (MUA-22, HAM-1 and HAM-13). This makes a total of 52 vessels evidently from the Egyptian Dynastic Period. Adding the 50 previously identified Predynastic boat drawings, a total of 102 boats are directly comparable with dateable Nile Valley image motifs, accounting for only 13% of

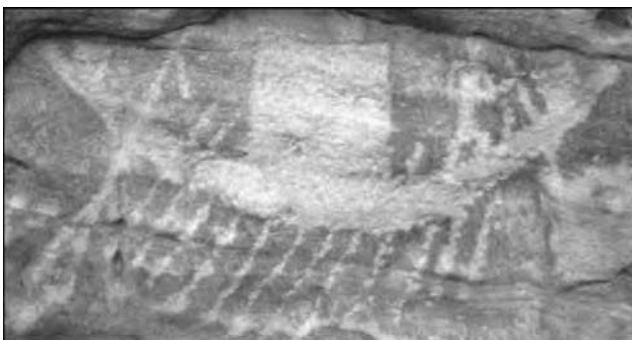


Figure 5.10. Example of a Pharaonic boat petroglyph (MUA 9-RATS 145).

identified boat petroglyphs in the Central Eastern Desert. We can compare this to the presence of features such as a mast, a sail, and steering oars, especially those with triangular blades, in the catalogues of Lower Nubia and Upper Egypt. Boat representations with sail, mast (usually centrally situated), double steering oars or triangular steering oars range from 20% in Elkab (Huyge 1995) and 22% in Sayala (Engelmayer 1965) to 30–50% in Lower Nubia (Dunbar 1941; Almagro Basch and Almagro Gorbea 1968; Hellström and Langballe 1970; Otto and Buschendorf-Otto 1993; Váhala and Červiček 1999). The average in the Nile Valley is 38%, compared to 5% in the Central Eastern Desert indicating that, at least as far as drawings of boats are concerned; the petroglyphs in the Central Eastern Desert are much less likely to date to the Pharaonic Period than those in the Nile Valley.

Overview of Sites with Boat Petroglyphs

Half of the Eastern Desert boat petroglyphs simply display hulls; distinctive motifs, such as the probably Naqada I incurved design and the recognizably Naqada III motifs, are rare. Many are located without accompanying animal or human motifs or, when present, without providing useful information. Therefore, dating the vast majority of the Central Eastern Desert corpus is problematic and a significant proportion of sites with boat petroglyphs (37.5%, comprising 44.5% of the boat petroglyphs) cannot be assigned a secure date. As scientific dating is still problematic, the approach taken here is to identify ‘compositions.’ These are sets of associated and related motifs in terms of style, subject, superimposition and patination. An illustrative example is shown in Figure 5.11 (BAR-9), where six boats, one with an ‘arm raised’ figure amidships, are found among numerous animal and hunting motifs. All these images, with the exception of four later animal additions, constitute a single composition.

The sites and boat petroglyphs identified as ‘Predynastic’ or ‘Probably Predynastic’ are not evenly distributed: 98 (25%) are in Wadi Kanais or Wadi Baramiya, which basically constitutes a singly valley, and 65 (16.5%) are in Wadi Umm Salam, although this figure is affected by the considerable number of boat sites that are probably rather than definitely Predynastic (Table 5.4). It should be noted that not all the southern, east–west valleys have a significant number of Predynastic petroglyphs. Wadi Abu Mua and Wadi Umm Hajalij have only five ‘Predynastic and ‘Probably Predynastic’ boat

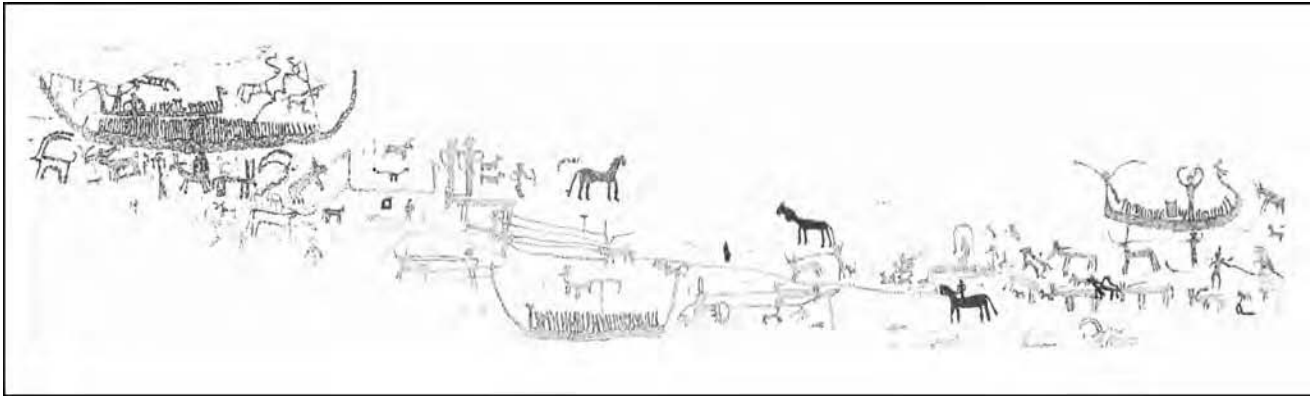


Figure 5.11. Composite drawing of the petroglyphs in Wadi Baramiya (BAR 9). Adapted from Fuchs 1991.

sites between them. Wadi Abu Mu Awad has six boat sites, at which clearly Pharaonic and later boat drawings are dominant, corresponding to a considerable number of pharaonic inscriptions located in this wadi (Rothe *et al.* 2008). Indeed, this valley has the highest number of boat sites not identified as Predynastic in the whole of the Central Eastern Desert. In addition, the central valleys Wadi Abu Iqaydi, Wadi Dahabiya and Wadi Shalul have only two ‘Predynastic’ sites between them. This provides further evidence that there is a north–south divide in the rock art corpus. The northern central valleys Wadi Mineh and Wadi Abu Wasil, however, do have a significant number of ‘Predynastic’ and ‘Probably Predynastic’ sites, 11 and 6 respectively, and there are over 80 Predynastic boat petroglyphs in these two valleys. In the north, Wadi Hammamat has only three boat sites that can be assigned to the Predynastic. This compares with the southern route to the Red Sea, Wadi Kanais and Wadi Baramiya, which combined have 12 ‘Predynastic’ and ‘Probably Predynastic’ boat sites.

‘Arms Raised’ Figures

The ‘arms raised’ figure is a significant feature of the Central Eastern Desert petroglyphs, also because of its association with drawings on pottery from the Naqada Periods. An ‘arms raised’ figure is a human-shaped figure with the arms raised and lightly bent at the elbows creating an arc toward or above the head (Figure 5.12). Figures with the arms raised in an apparent worshipping gesture (not necessarily the later Egyptian gesture in front of the face), but are not curved inward are not identified as an ‘arms raised’ figure. Although the distinctive ‘arms raised’ motifs have received a great deal of attention due to similarities with images on Naqada II D-Ware pottery, there are only 54 at 25 sites in the

Table 5.4. The number of sites and boat petroglyphs of different periods per valley (*wadi*) in the survey area.

<i>Wadi</i>	Predynastic sites	Probably Predynastic sites	Pharaonic and later sites	Mixed Predynastic and Pharaonic	Unidentified sites	Predynastic boats	Pharaonic and later boats
Abu Iqaydi	0	0	3	0	5	0	9
Abu Mu Awad	1	1	6	1	9	5	12
Abu Wasil	10	1	6	0	7	35	7
Atwani	3	1	0	0	3	10	0
Baramiya	1	5	4	4	4	70	14
Dahabiya	1	0	0	0	1	10	0
Hajalij	1	1	0	0	0	38	0
Hammamat	3	0	4	2	3	13	15
Kanais	2	0	1	0	0	28	1
Mineh	4	2	4	3	4	44	15
Miya	1	0	1	0	1	12	6
Qash	0	0	1	1	0	13	2
Shalul	1	0	3	0	3	1	4
Umm Hajalij	2	1	3	1	1	15	3
Umm Salam	10	5	6	1	13	64	15
Total	40	17	42	13	54	358	103

Central Eastern Desert (Table 5.5). There are none in the central Wadi Dahabiya and Wadi Shalul, reinforcing the evidence for a north–south divide in the rock art distribution. Most (60%) of the sites with ‘arms raised’ figures and 59% of the ‘arms raised’ figures themselves are in the southern valleys, whereas just under half of all the valleys in the survey area were classified as ‘southern.’ Only five figures (9%) are present in



Figure 5.12. Example of an ‘arms raised’ figure with the arms raised and bent at the elbows creating an arc above the head (BAR 4).

central valleys and 32% of sites with ‘arms raised’ figures are in northern valleys, more than the percentage of northern valleys (14%). There is thus a significant bias in percentage terms to distribution summarized in Table 5.6. Within these valleys, Wadi Kanais and Wadi Baramiya stand out, as almost 30% of the figures are in these two valleys.

Twenty-one (40%) of the individual figures are actually positioned in boats and 17 of 25 sites (71%) have at least one ‘arms raised’ figure in a boat. None of these, however, are associated with the type of vessel shown on D-Ware pottery. In addition, there are only three places at which an ‘arms raised’ figure is present without there being a boat petroglyph nearby. One is in Wadi Baramiya (BAR-8, EDS 29), where a single multi-plumed figure stands among a herd of ibex. It is part of a site with two boats and several bovids, plus a hieroglyphic inscription dating to the reign of Pharaoh Tutmose I (1524–1518 BCE). Given the distance between the two sets of images, differing heights and subject matter, however, they should be judged as constituting different sites. Another is in the schist quarries in Wadi Hammamat, where two ‘arms raised’ figures stand in the middle of a mass of animal petroglyphs (RATS 223). This scene includes many ibex and have hieroglyphs carved over parts of them. The third is in Wadi Umm Salam (SAL-20, RATS 68) where a single-plumed ‘arms raised’ figure accompanies four other plumed figures, one of whom carries a bow and another has a throw-stick, together with a dog and a bovid.

There are 16 provenanced figurines making the ‘arms raised’ gesture from the Naqada I and II Periods, and the late Naqada I Gebelein Linen shows four as part of a ‘dance’ taking place in three lines (Ucko 1968). The

Table 5.5. The number of sites with human figures and total number of human figures per valley (*wadi*) in the survey area.

Wadi	Number of sites	Human figures	
		Number	Percentage
Abu Iqaydi	1	1	2
Abu Mu Awad	1	1	2
Abu Wasil	1	2	4
Atwani	2	3	6
Baramiya	5	6	11
Dahabiya	0	0	–
Hajalij	1	3	6
Hammamat	3	5	9
Kanais	1	10	18
Mineh	2	2	4
Miya	1	2	4
Qash	1	9	17
Shalul	0	0	–
Umm Hajalij	0	0	–
Umm Salam	6	10	18
Total	25	54	100

Table 5.6. Distribution of ‘arms raised’ figures by region.

	Sites with petroglyphs	Sites with arms raised figures	Number of arms raised figures
Northern valleys Wadi Atwani Wadi Hammamat Wadi Qash	32 (14%)	6 (24%)	17 (32%)
Central valleys Wadi Abu Iqaydi Wadi Abu Wasil Wadi Dahabiya Wadi Mineh Wadi Shalul	82 (37%)	4 (16%)	5 (9%)
Southern valleys Wadi Abu Mu Awad Wadi Baramiya Wadi Hajalij Wadi Kanais Wadi Miya Wadi Umm Hajalij Wadi Umm Salam	108 (48%)	15 (60%)	32 (59%)
Total:	222	25	54

pottery corpus contains four ‘arms raised’ figures on C-Ware vessels, from a total of 175 pots or sherds, 75 of which have a reliable provenance. There are another 37 on 20 D-Ware vessels, from a total of 469 pieces, 252 of which have a reliable provenance (Graff 2002). All but four of the figures on pottery are female; 10 of the D-Ware vessels with figures have a reliable provenance, while 10 do not. Thus, at most the motif is present on

less than 3% of all D-Ware vessels, while it is present at 36% of Central Eastern Desert rock art sites that are identified as Predynastic or Probably Predynastic, or 11% of all the sites considered here. The scarcity of the figures on pottery contrasts with the 244 drawings of boats on D-Ware vessels. Therefore, while the figures in the rock art are associated with several probable late Naqada I or early Naqada II boat motifs, those on D-Ware vessels (dated to the Naqada II Period) are associated with one particular boat type. This boat type is rare in the Central Eastern Desert and is never seen there associated with the 'arms raised' figure.

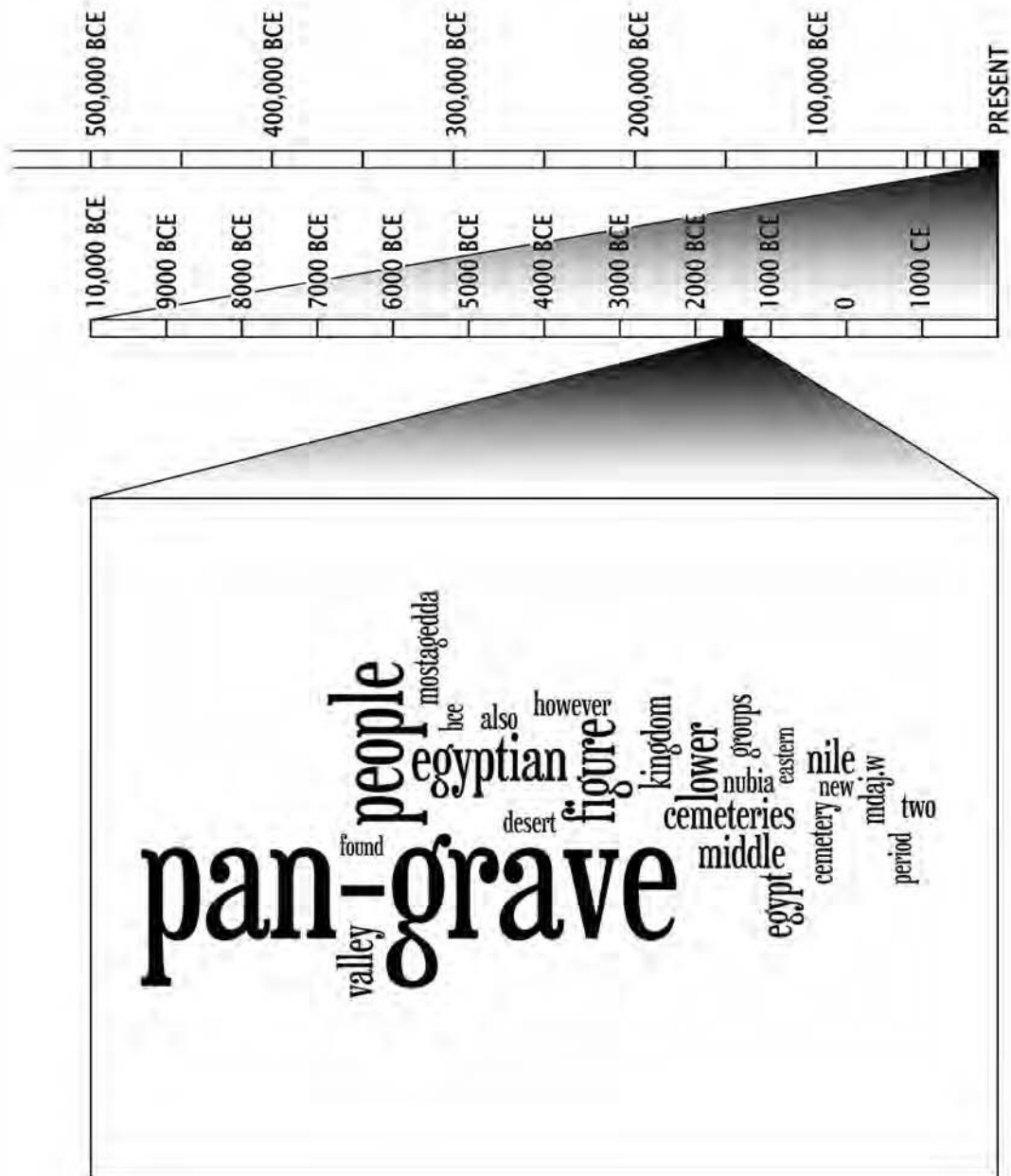
Discussion

The majority (80%) of the Central Eastern Desert sites with petroglyphs can be categorized as 'Low,' in that the petroglyphs are found at a height of 1–5 m above the ground surface. 'Medium' (6–10 m) and 'High' (higher than 11 m) sites make up about 10% each. The prevalence of hunting scenes, with human figures either directly engaged in hunting with dogs or carrying hunting equipment, and the rarity of riverine fauna in those scenes suggests that hunting was the main purpose for visiting the desert of the rock art creators. Many sites are either in shady spots or near junctions of valleys where hunters would have been waiting for the game. Their considerable number indicates a less arid climate at the time. There are also many boat petroglyphs associated with hunting scenes. The 'frond' boat is especially connected with the 'arms raised' figure. These vessels can be assigned a Predynastic date. For dating boat motifs, the hitherto accepted method of classifying and dating drawings by comparing these to dated drawings with a similar shape should be rejected. More is to be expected from an approach identifying the presence or absence of selected identifying features, such as oars and cabins. Features such as steering oars and masts or sails are among the rare aids in determining that the date of these drawings is likely to be Pharaonic. The lack of a means of propulsion in the vast majority of the boat petroglyphs indicates that this was not a concern of the Predynastic rock art creators. They were apparently more interested in the association between boats and other motifs. The presence of large numbers of boat petroglyphs in many places in the desert, rather than concentrated along the direct routes to and from the Red Sea, reinforces this conclusion.

Scientific dating is not yet reliable and the use of differences in patination is only applicable to petroglyphs

that are open to the same influences on the same quality of rock surface. Therefore, dating by association with clearly Predynastic motifs, such as the 'arms raised' figure, and Dynastic motifs, such as a vessel with a mast or sail, is the obvious way forward. It is clear that most Predynastic petroglyphs are in the southern valleys and that Wadi Kanais and Wadi Baramiya together preserve a very significant concentration. There are also many Predynastic petroglyphs in the northern area, with a remarkable hiatus in the central Wadi Iqaydi and Wadi Shalul. The overwhelming majority of boat petroglyphs in the Central Eastern Desert that can be dated appear to be Predynastic. A considerable number of sites, however, cannot be dated due to the lack of comparable associated motifs.

The number, distribution and variety of boat drawings show the importance of boats in early ancient Egyptian culture. The association with the 'arms raised' figure, present in the Eastern Desert as well as the Nile Valley, indicates that many of the Predynastic representations must be considered ritualistic. These clearly visible images were part of everyday rituals among the people who went out into the desert to hunt, herd, or mine stone or minerals, or were on their way to the Red Sea or back. In contrast, the combination of boats, figures and animals on D-Ware pottery was hidden from view in graves in the Nile Valley. D-Ware vessels display no hunting scenes, but do have representations of ostrich, addax and ibex, the subjects of hunting in the petroglyphs. The sickle boat drawings on the pottery are not the same as the 'frond' vessels associated with the 'arms raised' figures in the petroglyphs. The connection between the artifacts in the Eastern Desert and the Nile Valley remains unclear. Possible explanations for the observed difference include a temporal difference between the two boat motifs, or a formalizing of a single boat motif on the D-Ware pottery. Perhaps because of a process of desiccation, making the desert less attractive for hunter-herder-gatherers, identifiable boat motifs decline during the Naqada II and Naqada III Periods. Certainly, the 'arms raised' motif did not continue into the Naqada III and Pharaonic Periods. There are also Pharaonic and later boat petroglyphs in the Central Eastern Desert, especially in Wadi Hammamat and Wadi Abu Mu Awad that have a considerable number of pharaonic inscriptions. These tend to be isolated and not clearly associated with hunting scenes. Although the boat motif continues, the purpose for it being pecked into the rock or the reasons behind the presence of its creator in the Eastern Desert appears to be different.



Time line and word cloud created from Claudia Näser, *Nomads at the Nile: Towards an Archaeology of Interaction*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 6



Nomads at the Nile:

Towards an Archaeology of Interaction

CLAUDIA NÄSER

THE PAN-GRAVE PEOPLE ARE GENERALLY considered to have been the inhabitants of the Eastern Desert during at least the second millennium BCE and possibly a much longer time period. Archaeologically, however, they are only known from the Egyptian and the Lower Nubian Nile Valley. What sounds as a paradox at first, is in fact an analytically interesting constellation. In this chapter I will focus on four of its aspects. First, I will briefly describe the evidence in hand on the Pan-Grave People, concentrating on the archaeological sources. Second, I will explore the basic parameters of their socio-economic organization and the circumstances of their appearance in the Nile Valley. Third, I will discuss a case study illustrating the central point of my argument, that the available record reflects a transitional stage and is strongly influenced by the interaction between the Pan-Grave People and their riverain neighbors. Finally, I will return to my introductory remarks about the analytical relevance of this special, but in archaeological contexts rather frequent constellation, and highlight some of the methodological problems and potentials that arise from it.

As stated above, the presence of the Pan-Grave People in the Eastern Desert has not yet been archaeologically

¹ This chapter is based on research carried out under the auspices of the Collaborative Research Centre ‘Difference and Integration: Interaction Between Nomadic and Settled Forms of Life in the Civilisations of the Old World,’ founded in 2001 at the Universities of Leipzig and Halle, <http://www.nomadsed.de/>. I particularly want to thank my colleagues Bernhard Streck and Jörg Gertel, University of Leipzig—working with them was a great privilege and a constant source of inspiration.

demonstrated. Rather, their remains are limited to the Egyptian and the Lower Nubian Nile Valley. Domestic sites of the Pan-Grave People are rare. In places, Pan-Grave pottery was found in Egyptian settlements or cemeteries, or in contexts of the Lower Nubian C-Group (2300–1550 BCE). Numerous additional stray finds exist of which the context is not recorded in great detail. The most important data set comprises more than 50 cemeteries, distributed over more than 30 sites (Figure 6.1).² The designation ‘Pan-Grave People’ here refers to the people who produced the material culture generally summarized under the heading ‘Pan-Grave.’ Notwithstanding the numerous problems connected with the term ‘people’ and its application in archaeology, I will use it here for lack of a better terminology.

The Archaeological Record of the Pan-Graves

In general archaeological understanding, the Pan-Grave People are defined and differentiated from other groups

² For extensive, but not complete, compilations of Pan-Grave sites and finds, see Bietak 1966: 64–70 and Meurer 1996: 83–85 (limited to Egypt). Further sites have been reported by Williams 1983: 12, 111–113; Säve-Söderbergh 1989; and Williams 1993: 121–148). Recently Pan-Grave cemeteries have been located and partly excavated at Hierakonpolis (Friedman *et al.* 2001; Giuliani 2006), Kubaniya (Gatto and Giuliani 2006–2007: 123–124, figure 5–8; Pitre *et al.* 2007: 59–61, figure 1), and Mo‘alla (N) (Figure 6.1; Manassa 2009; and C. Manassa (2011), “El-Moalla to El-Deir,” in W.Z. Wendrich (ed.), *UCLA Encyclopedia of Egyptology*, stable resource, <http://digital2.library.ucla.edu/viewItem.do?ark=21198/zz00293crv>, accessed on April 25, 2012).

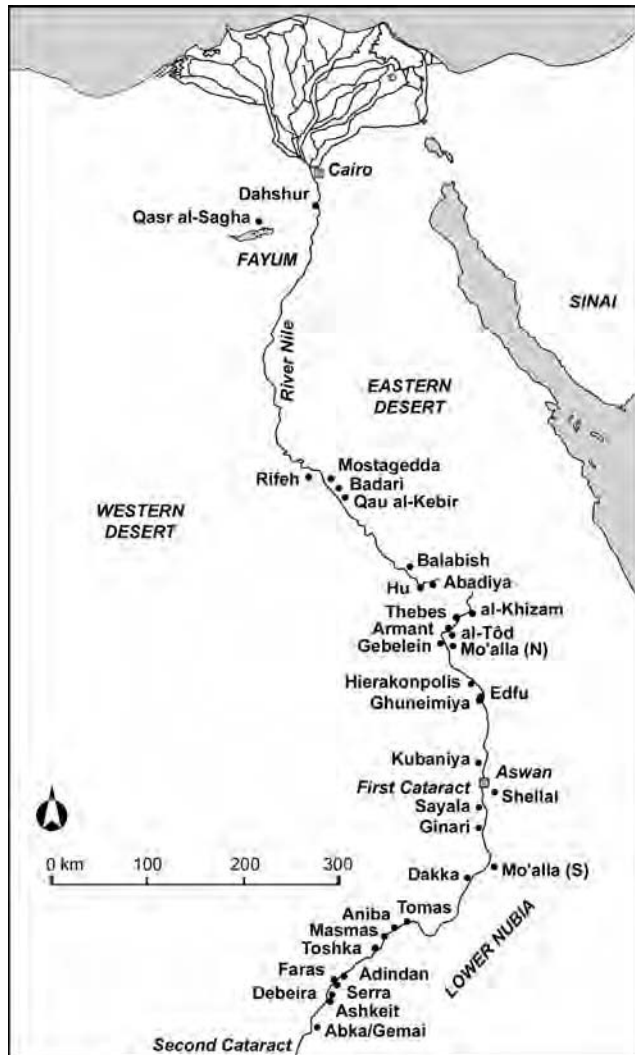


Figure 6.1. The distribution of Pan-Grave cemeteries in the Egyptian and Lower Nubian Nile Valley. Drawing by Ralf Miltenberger.

in the Nile Valley by their distinct material culture and especially their burial practices. An important and eponymous characteristic is the shape of the graves. The burial structures are circular, often fairly flat pits (Figure 6.2), which were first recognized as a diagnostic feature and labeled Pan-Graves at the cemeteries of Abadiya and Hu because of their resemblance to a frying pan (Petrie 1901: 45). The superstructures of these Pan-Graves, where present, are flat stone circles, usually 2–3 m in diameter (Figure 6.3). A further characteristic are deposits of the frontal parts of skulls of goats and sheep, and more rarely cattle (bucrania), around the burial pit (Figure 6.2), or the stone circle (Figure 6.3), or in separate offering pits. These skulls are often painted with ornamental decorations. Also distinctive of the Pan-Grave material culture are small, rectangular mother-of-pearl plaques worn “side by side . . . like

piano keys” (Brunton and Morant 1937: 118) as bracelets (Figure 6.4). Such bracelets are known from Pan-Grave burials of all ages and both sexes. A last diagnostic is characteristic Pan-Grave pottery, which is the most common burial good (Figure 6.5). Typical shapes are large, deep bowls with a broad decorative band of crossed lines, some of which show traces of being used as a cooking pot. Also typical are smaller, round-bottomed and black-rimmed vessels with a characteristic shape that distinguishes them from similar, and possibly related, vessels of other Nubian cultures; rather angular bowls with fields of incised lines at different angles; as well as the so-called four-horned dishes. It is notable that the Pan-Grave ceramic repertoire does not include any closed shapes (storage vessels). In funerary contexts this missing component is substituted by small amounts of Egyptian pottery (Figure 6.2). Combined with Pan-Grave sherds found in stratified Egyptian settlement contexts, these vessels form the basis of the dating of Pan-Grave sites to the late Middle Kingdom and the Second Intermediate Period of Pharaonic Egypt (1800–1550 BCE).

The Pan-Grave sites in the Nile Valley have not yet been chronologically differentiated or sequenced (but see Bourriau 1981). Although it must be assumed that not all known sites are contemporary and that especially the larger cemeteries were used over decades or even centuries, they still evade partitional dating. Pan-Grave pottery can so far not be phased and newer studies of late Middle Kingdom and Second Intermediate Period Egyptian pottery, often found associated with Pan-Grave material, still need to be analyzed in this regard. An exception is the meticulously studied stratigraphic sequence of Elephantine (ancient Aswan) material, where “the complete spectrum of the pottery production of the Pan-Grave Culture is present” (Raue 2002: 22) in Stratum 13, corresponding to the late 12th and early 13th Dynasties of Pharaonic Egypt (1850–1700 BCE).

The abrupt and massive appearance of Pan-Graves in the Nile Valley suggested already to Petrie (1901: 48) that they represent an immigrant population. He was, however, mistaken about their provenance, which he assumed to be the Western or Libyan Desert (Figure 6.1). Later research showed the area east of the Nile Valley to be the origin of the Pan-Grave People (Bietak 1966: 61–78). Among numerous pieces of circumstantial evidence, one specific argument is the massive presence of shells of the *Nerita* snail, a mollusc from the Red



Figure 6.2. A typical Pan-Grave excavated at Cemetery SJE47, Debeira, southern Lower Nubia. Adapted from Säve-Söderbergh 1989, volume 4.2.



Figure 6.3. Superstructure of a Pan-Grave at Cemetery C, Aniba, central Lower Nubia, with a deposit of horns of goats, sheep and cattle. Adapted from Steindorff 1935.



Figure 6.4. Jewelry found at Pan-Grave Cemetery 3100/3200, Mostagedda, Middle Egypt. Adapted from Taylor 1991.

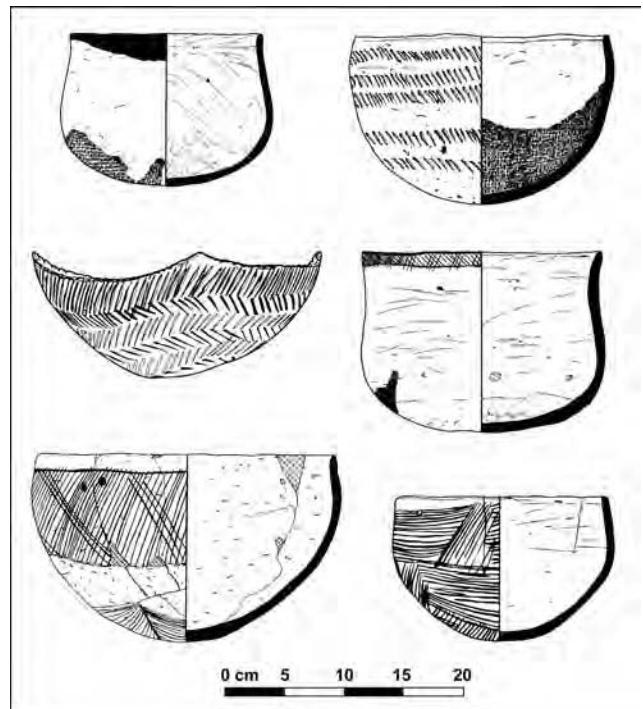


Figure 6.5. Typical Pan-Grave bowls from Cemeteries C and N at Aniba, now in the Ägyptisches Museum—Georg Steindorff—der Universität Leipzig (inventory numbers 4081, 4110, 4112, 4113, 4114 and 4223). Drawings by Jana Helmbold.

Sea, in Pan-Grave burials (Bietak 1966: 59-60). More information about their homeland was found in Egyptian texts of the Middle Kingdom (1975-1640 BCE). During that period the Egyptian state had extended its domain to include the Lower Nubian Nile Valley. The region was secured by a series of fortresses and remained, along with its local population, identified as the C-Group, under Egyptian control for about 250 years. Two entries in the so-called Semna Despatches, a dossier of administrative

texts from the Lower Nubian fortresses, report groups of people, named *mDAj.w* (Medjayu), who are said to have come from locations in the Eastern Desert and tried to enter the Nile Valley, but were turned back by Egyptian military patrols (Smither 1945: 7-9, plates 3, 3a, 5, 5a). It should be noted that the mentioned groups were small, 7-10 persons, and that they consisted of men, women and probably also children (the damaged texts do not allow a definite conclusion on this). *mDAj.w* also occur

in two other dossiers of similar nature, *pRamesseum 18* and the corpus of the Buhen papyri, but the poor state of their preservation makes it difficult to understand their exact content (Meurer 1996: 108). Thus, the two notes in the Semna Despatches and a handful of other sources led to the assumption that the term *mDAj.w* refers to an ethnic group whose initial homeland, designated by the associated toponym *mDA*, was in the Eastern Desert (Bietak 1966: 70-78). It is noteworthy that the toponym already occurred in the late Old Kingdom, around 2300 BCE, while the ethnonym appeared only about 200 years later, from the late First Intermediate Period onward (Näser in press-b). The link between the *mDAj.w* of the ancient written sources and the archaeologically attested Pan-Graves was established through a text of the late Second Intermediate Period (1630–1520 BCE). The Kamose stela reports that *mDAj.w* served as mercenaries in the army of the Theban ruler Kamose who came to reunite the Egyptian state (Meurer 1996: 105). Säve-Söderbergh (1941: 139) observed that Kamose's political sphere of influence matched the overall distribution of Pan-Grave sites in Egypt and concluded that the *mDAj.w* of the contemporary texts must be Pan-Grave People. This is also indicated by further circumstantial evidence, such as the name of an Egyptian fortress in Lower Nubia that “repels the *mDAj.w*,” in a region which saw a particularly heavy influx of Pan-Grave People. Some later scholars, however, expressed their doubts about this equation (most recently Barnard 2009). Indeed, two Pan-Grave cemeteries have since been reported in Lower Egypt, at Dahshur and Qasr al-Sagha (Figure 6.1, Meurer 1996: 83). In order to integrate these into the general picture of the presence of the Pan-Grave People in Egypt, more data on their dating and cultural context must be obtained. Even the confirmation of their identification, however, would not invalidate the principle behind Säve-Söderbergh's argument (Säve-Söderbergh 1989: 18-19).

The Socio-Economic Constitution of the Pan-Grave People

The Pan-Grave People are usually described as nomads or semi-nomads. This attribution is based on the written sources, which picture the *mDAj.w* as non-sedentary groups, and the archaeological record, with the scarcity and the ephemeral character of Pan-Grave habitation sites, the scattered distribution and the small size of their cemeteries, the limited repertoire of material culture present in the burial equipment, and, last but

not least, the horn deposits which were interpreted as evidence for a pastoral economy. But the deciding criteria doubtlessly are an implicit or explicit comparison with the current inhabitants of the Eastern Desert, the sheep, goat and dromedary herding Beja, as well as the assumption that the environmental conditions in the region only permitted a mobile lifestyle from the third millennium BCE onward. These arguments, however, are insufficient to classify the Pan-Grave People as nomadic, an attribution that would anyway remain meaningless without a more precise definition of that term.

Recent studies in ethnology, social geography and increasingly also in archaeology, distinguish among numerous variations of nomadic lifestyles, depending on what segment of population is involved in the animal husbandry and the degree of mobility practiced by that segment (Irons and Dyson-Hudson 1972; Salzman 1980; Cribb 1991; Sadr 1991; Khazanov 1994; Streck 2002; Barnard and Wendrich 2008; Szuchman 2009). Only when mobility encompasses an entire society and permeates its entire economic and cultural life, should the term ‘nomadism’ be applied. At the same time, pastoral nomadism is not the only fully mobile way of life. It shares this characteristic with, for example, service nomadism (Hayden 1979), the prototypical representatives of which are the Sinti and Roma, as well as with most hunter-gathering societies. In contrast to foraging, pastoral and service nomadism have one thing in common: both are specialized ways of life that require a sedentary counterpart in order to compensate for the deficits of this mode of production. Both need an interrelation with a relatively complex sedentary society. Nomadic groups require access to agricultural produce and often also to other items which they do not manufacture themselves. Access to such products can only be guaranteed by a stable surplus production on both sides as well as a stable, often complex system for their exchange. In this understanding, nomadism and sedentism are ‘symbiotic’ forms of life (Näser in press-a).

It is of analytical relevance to my argument that these criteria are met in the historical context of the Pan-Grave People. As early as the First Intermediate Period, the late third millennium BCE, an Upper Egyptian district governor, Ankhtifi of Mo‘alla (N) (opposite Gebelein in Figure 6.1), reports that he sent barley to *wAwA.t*, a term, which at that period, designated the whole of Lower Nubia (Schenkel 1965: 45, 54; Näser

in press-b). Irrespective of which part of the Nubian population benefited from this specific delivery, the text indicates an agricultural surplus on the Egyptian side as well as the existence of a network for its distribution. Although in the subsequent Middle Kingdom sources evidence for these is scarce, at least one text, the inscription on the so-called Small Semna Stela, points to regular exchanges. It exempts those Nubians who wanted to engage in trade from a general prohibition to cross Egypt’s southern border, which was at the time at the Second Cataract (Meurer 1996: 10-11). Without doubt, the Egyptian occupation of Lower Nubia in the early Middle Kingdom radically changed any regional network of interactions. On the one hand, many resources came directly under Egyptian control, rendering their exchange unnecessary; on the other hand, contacts among the different population groups were more regulated, as indicated by the text in hand. At the same time, the presence of Egyptians in Lower Nubia opened up new local markets. That the *mDAj.w* are not explicitly mentioned as providers of animals or animal product in the Egyptian texts of that period should not perturb us. Trade known to have existed with other Nubian populations, or indeed other neighbors of the Egyptian state, is similarly not reported unless the products are sweepingly declared as tributes paid by the respective peoples.

Only indirect information is available on the economic activities of the Pan-Grave People. The annals of 12th Dynasty Pharaoh Amenemhat II (1879–1842 BCE) enumerate, among other tributes, rather symbolic amounts of gold and cattle from *wbA.t-sp.t*, a region of *mDA* (Altenmüller and Moussa 1991: 9-10, 33-34). In other sources incense and other aromatics, and possibly again gold, from *mDA* are also mentioned (Zibelius-Chen 1988: 75-76, 98-100). Given the environmental conditions in the Eastern Desert, the region must have been a thoroughfare for most of these products rather than their place of origin (Edel 1984: 191-192). In a 13th Dynasty funerary inscription (1755–1630 BCE), however, an anonymous Egyptian official reports that he “roamed [the territories] of the *mDAj.w* to scour (them) for cattle for his god” (Vernus 1986: 141-144, plate 16). Independent of these sources, the Pan-Grave People have so far usually been characterized as cattle herders. An analysis of the funerary horn deposits, however, demands a revision of this hypothesis. Extensive material of that type came from Cemetery SJE47 in Debeira in southern

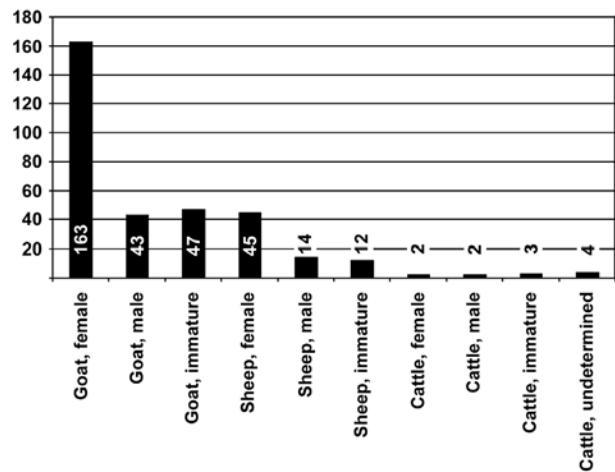


Figure 6.6. Graph summarizing the identification of the animal horns found at Pan-Grave Cemetery SJE47, Debeira, southern Lower Nubia. Data from Säve-Söderbergh 1989, volume 4.1; charted by the author.

Lower Nubia (Säve-Söderbergh 1989, volume 4.1: 166-174, volume 4.2: 19-22, plates 80-87). With 160 graves, it is the largest known Pan-Grave burial ground. Almost a fifth (17%) of the graves preserved horns, 335 sets in total. Among them, only 11 horn pairs (3.3%) were from cattle (Figure 6.6); most (75.5%) were from goats and about a fifth (21.2%) from sheep. Similar proportions occur at other cemeteries analyzed so far. It is known from (sub-)recent pastoral societies, however, that the composition of animal offerings does not necessarily represent the ratio of animals actually kept. Among the Sudanese Longarim, for example, only the main person involved in a ritual will sacrifice a bull, while other people contribute goats (Kronenberg 1961: 261). In any case, the horn deposits indicate that goats and sheep must have formed a considerable proportion of the livestock of the Pan-Grave People. They are therefore probably best characterized as having practiced a mixed animal husbandry.

The proposed model of a ‘symbiosis’ between nomadic and sedentary populations calls for further reflection on the reasons for the influx of the Pan-Grave People into the Nile Valley. So far, two factors have been named in this respect (Näser in press-b): a dramatic climatic change, which led to a deterioration of the living conditions in the Eastern Desert; and the collapse of the Egyptian state at the end of the Middle Kingdom, which led to a withdrawal from Lower Nubia and the abandonment of access regulations at the Egyptian borders. The latter will have facilitated access to the

Nile Valley, but cannot be recognized as its cause (Näser 2005, in press-a, in press-b). Regarding the first factor it should be noted that later New Kingdom sources also refer to *mDAj.w* living in the Eastern Desert and that the region was likely inhabited continuously throughout history until the modern era. It was probably only a small part of the population that migrated from the Eastern Desert into the Nile Valley during the late Middle Kingdom and the Second Intermediate Period. This movement can certainly not be accounted for by ecologically deterministic or opportunistic explanations; rather it should be situated within its specific historical framework. In view of the model of ‘nomadic-sedentary symbiosis,’ I would argue that the political changes at the end of the Middle Kingdom led to a collapse of the established networks of exchange and trade, which in turn resulted in a situation of economic stress for at least some Pan-Grave groups, which they countered by a search for new habitats and new sources of subsistence. A similar pattern of group-specific responses to economic crises emerges from ethnographic and ethnohistorical studies of the Beja, the more recent inhabitants of the Eastern Desert (Weschenfelder, this volume). In more general terms, socio-geographical research has shown that high economic vulnerability is a recurrent element of nomadic populations (Gertel 2002: 68-70). Under the described historical conditions at the end of the Middle Kingdom, it may have led to instability that in turn triggered the witnessed migration processes.

A relevant observation in this respect is that the known Pan-Grave cemeteries are generally very small. They rarely comprise more than 30 burials and only the cemeteries at Mostagedda, Balabish, Hierakonpolis, Debeira and Ashkeit (Figure 6.1) preserve more than 50 graves (Petrie 1901; Brunton and Morant 1937; Säve-Söderbergh 1989; Friedman *et al.* 2001; Giuliani 2006). From this and what is inferred from the Semna Despatches, it can be assumed that the Pan-Grave People entered the Nile Valley in small groups. The general distribution of Pan-Grave cemeteries has not yet been studied systematically and its analysis is beyond the scope of this chapter. It can be noted, however, that two of the larger cemeteries, SJE47 at Debeira East and SJE95 at Ashkeit, are part of a concentration of Pan-Grave burial grounds in southern Lower Nubia only a few kilometers upstream of the Middle Kingdom fortresses of Serra East and Faras (Figure 6.1). One of these two fortresses, probably Serra, was called *xsf-mDAj.w*, ‘he,

[the name of the pharaoh, in this case Senusret III, should be added here], who repels the *mDAj.w*’ (Meurer 1996: 49-51). This seems to indicate that this region saw a particularly large influx of Pan-Grave People; why this was so remains a subject for further studies.

At one of the other large cemeteries, Mostagedda 3100/3200 in Middle Egypt, sex and age of the recovered burials were determined (Brunton and Morant 1937: 114-133, plates 70-77). Of the 86 individuals investigated, almost half were adult women; men and children each constituted about a quarter of the population (Figure 6.7). This distribution confirms that the Pan-Grave People migrated into the Nile Valley in family groups, and that it was by no means only men, who came to be recruited as mercenaries. On the other hand, the relatively low number of male burials might be explained by that very activity. Most scholars assume that the Pan-Grave People that are attested archaeologically in Egypt, from the late Middle Kingdom onward, primarily served as mercenaries. It should be underlined that the textual evidence for this period is inconclusive. Contingents from *mDA* in the Egyptian army are mentioned several times in late Old Kingdom texts. Later employment of *mDAj.w* as mercenaries in Egypt proper is unequivocally attested only at the end of the Second Intermediate Period, on the Kamose stela. In one entry of the Semna Despatches, *mDAj.w* occur as scouts for a Lower Nubian fortress (Smither 1945: 7, plates 5, 5a). Possible references in the Naqada Inscription and the Admonitions of Ipuwer

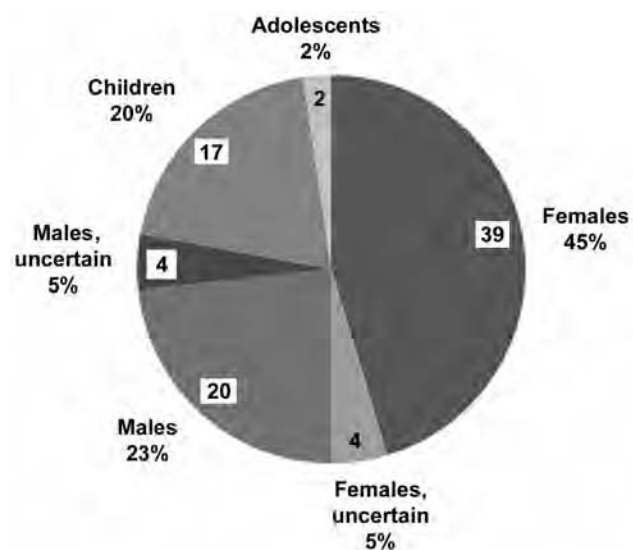


Figure 6.7. Graph summarizing the results of the anthropological analysis of the burials at Pan-Grave Cemetery 3100/3200, Mostagedda, Middle Egypt. Data from Brunton and Morant 1937; charted by the author.

are inconclusive, both in content and their exact dating (Meurer 1996: 101, 105). Thus, other occupations or services rendered by the Pan-Grave People in the Nile Valley should not be *a priori* ruled out.

Analysis revealed no gender- or age-related differences in the size or the equipment of the graves at Mostagedda 3100/3200. In general, there are no graves or grave inventories that stand out from the average in terms of quality or quantity. Thus, the social stratification of the Pan-Grave society was either limited, or failed to be expressed in funerary practices. In this respect, the Pan-Grave People differed markedly from their sedentary neighbors both in Egypt and in Nubia. The only exception is the horn deposits, which occur with the burials of men, women and children alike, but are usually limited to an average of 15–20% of the graves in a given cemetery. If these horn deposits were status indicators, as is suggested by their prominent placement in association with the grave superstructures and other peculiarities, it appears that social hierarchy was preserved along family lines, including members of all gender and age groups. This theory does, however, require further study before any firm conclusions can be drawn.

The grave goods at Mostagedda, and in many other Pan-Grave cemeteries, frequently include flint flakes, unworked pebbles, polishing stones and simple bone tools (Figure 6.8). The abundance of such objects, and indeed their raw materials, is reminiscent of a Neolithic technology (Gatto, this volume), which apparently continued to be in use among the Pan-Grave People, at least for some time, even in the Egyptian environment. Metal axes and daggers, which the Pan-Grave People obtained from the Egyptians, are sometimes incorrectly referred to as typical grave goods and as indicators for the mercenary activities of the *mDAj.w* (Säve-Söderbergh 1941: 139-140; Strouhal and Jungwirth 1984: 189; Bietak 1987: 124). It should be noted, however, that they are quite rare and that at least axes are also found associated with the burials of women, adolescents and children (Brunton and Morant 1937: 116-118, 127, plates 70-71).

Especially in Egypt, Pan-Grave cemeteries seem to show a gradual acculturation of their owners. In the funerary architecture, for instance, the rectangular shaft replaces the circular burial pit. However, attempts to statistically pinpoint such a diachronic development at Pan-Grave Cemetery 3100/3200 in Mostagedda have failed. The subsequent search for noisy factors produced a surprising result. Rectangular shafts are statistically

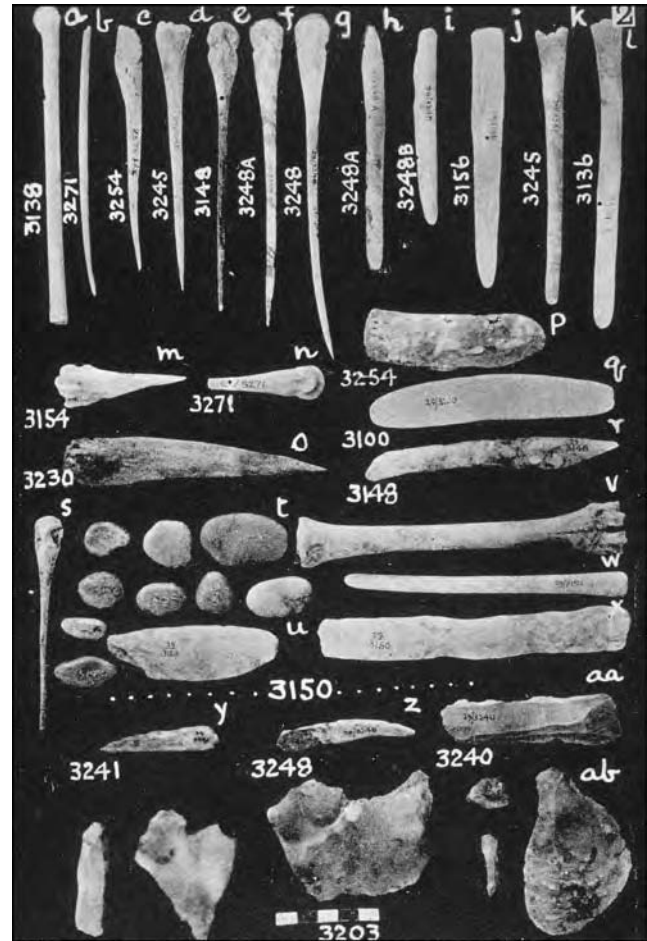


Figure 6.8. Bone, shell and stone tools found at Pan-Grave Cemetery 3100/3200, Mostagedda, Middle Egypt. Adapted from Brunton and Morant 1937.

significant more frequently associated with male than with female burials. This shows that acculturation was not an inevitable mechanical process, or an indiscriminate adoption of Egyptian cultural practices by the Pan-Grave People, but instead should be pictured and understood as a strategy of active agents, which must be analyzed case by case in its specific contexts and intentions. The example of the grave architecture offers an unexpected insight into the complexity of the process. It suggests that in this case there was a dichotomy in the adoption of new forms. Either the women of the Mostagedda community were more ‘conservative’ in the choice of their grave architecture, or else the social rulers inflicted a more ‘traditional’ burial style upon the female members of their group.

Despite recent efforts (Cohen 1993), research until now has failed to indicate other cultural and economic developments of the Pan-Grave People in the Nile Valley. It is thus still unknown for how long individual groups

retained their original culture, though we may assume that trajectories differed in different surroundings. It is my personal impression that the Pan-Grave People in Egypt were, at least in some aspects, closely linked to their ‘host’ society through the services they rendered, be they mercenary or otherwise. This, along with the loss of their traditional lifestyle and the extreme cultural alienation they must have experienced in their new environment, will soon, perhaps within a few generations, have led to almost complete acculturation. This process seems to have been completed by the early New Kingdom; at least there are no graves that contain typical Pan-Grave objects along with objects of the 18th Dynasty (1539–1292 BCE). In contrast, in Lower Nubia relatively complex processes of interaction can be inferred from the intrusion of Pan-Grave elements into the funerary culture of the C-Group.

A Case Study of Two Painted Skulls

To underline the need for contextually oriented analyses and “thick descriptions (Geertz 1973)” of the interaction processes between the Pan-Grave People and their sedentary neighbors, I return to the animal skulls deposited at some of the Pan-Graves. Many of these preserve decorations on the front of the skull or on the horns themselves. The ornamental patterns comprise arrangements of dots and stripes, rarely also lozenges or zigzags, executed in red, black and occasionally also in white paint (Figure 6.9). In some cases the designs cover the whole skull in an unstructured fashion, while in others a line across the central axis of the skull divides it up into two halves that are bedecked with different motifs. These decorations have not yet been studied and no interpretation of their meaning or purpose has been put forward. From the overall corpus, two specimens are of note. These were found at Cemetery 3100/3200 in Mostagedda, together with about 40 other horn pairs, in a separate deposition pit identified as 3252 (Brunton and Morant 1937: 120-121, plate 71). One of the two skulls is from a goat and preserves a painted lotus flower flanked by a pair of eyes (Figures 6.9 and 6.10). Even more remarkable is the second one, a bucranium that bears a drawing of a man with a short hieroglyphic inscription in front of it.³ This central motif is again

³ Usually this inscription is read as *QskAnt* and thought to represent the name of the depicted man (El-Sayed 2004: 361-362). There are doubts, however, concerning this reading. The third sign, conventionally understood as *kA*, sign D28 in Gardiner’s sign list, rather seems to be one of the group D37 to D44. Further study

flanked by a pair of eyes (Figures 6.9 and 6.10). The latter may provide a key for the interpretation of the entire composition. By applying eyes, the carrier of the motif, the dead skull, is made to see and is thus revived. This revival was probably not so much intended to affect the sacrificed animal, but rather the deceased. The objects chosen for this ritual manipulation may be understood by comparison with (sub)recent pastoral societies in East Africa, where close links between cattle and humans are commonplace and may include the proclamation of so-called favorite animals that become the focus of ritual activities and special adornments (Kronenberg 1961).

The two painted skulls from Mostagedda provide an insight into a thus far unnoted facet of the Pan-Grave acculturation process. They do not reflect the appropriation of ready-made objects, but are the result of a purposeful adoption of new cultural techniques, namely figured decoration and writing, to implement an originary Pan-Grave funerary concept. It is furthermore remarkable that this adoption is specific to its context. The depiction of the deceased and the preservation of his name are central elements of Egyptian funerary culture. In contrast, the Lower Nubian C-Group knows no figured representations of the deceased, but a central aspect of its funerary practice is the construction of stone-lined tumuli, which serve as both cult places and indicators of status. It may not be coincidence that stone circles with tumulus-like superstructures are so far only known from Pan-Graves in Lower Nubia and not from Egypt, with the possible and atypical exception of Hierakonpolis (Friedman *et al.* 2001: 34-36). It should be noted that at Hierakonpolis a C-Group cemetery is also present, with superstructures of sandstone slabs and mud bricks, in itself a testimony for the incorporation of new influences in traditional funerary practices (Friedman 2002; Friedman *et al.* 2004). Assuming that the decorations on the two painted skulls from Mostagedda represent a traditional concept while recruiting new techniques for its expression, it can be argued that the ornamental decorations, which are preserved on animal skulls from many Pan-Grave cemeteries all over Egypt and Lower Nubia, were similarly related to the revival of the deceased. It may have been the act of painting, however, as much as the chosen motifs, that evoked the desired significance. Moreover, the skulls themselves are

is required before a new reading can be suggested. I thank Hans Barnard for drawing my attention to this issue and Jacco Dieleman and Karola Zibelius-Chen for discussing it with me.

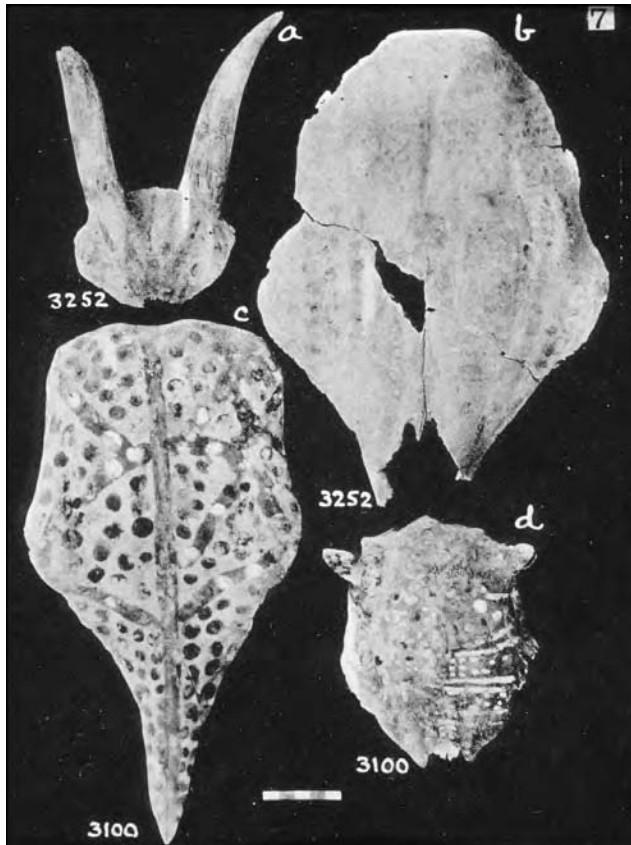


Figure 6.9. Decorated animal skulls found at Pan-Grave Cemetery 3100/3200, Mostagedda, Middle Egypt. Adapted from Brunton and Morant 1937.

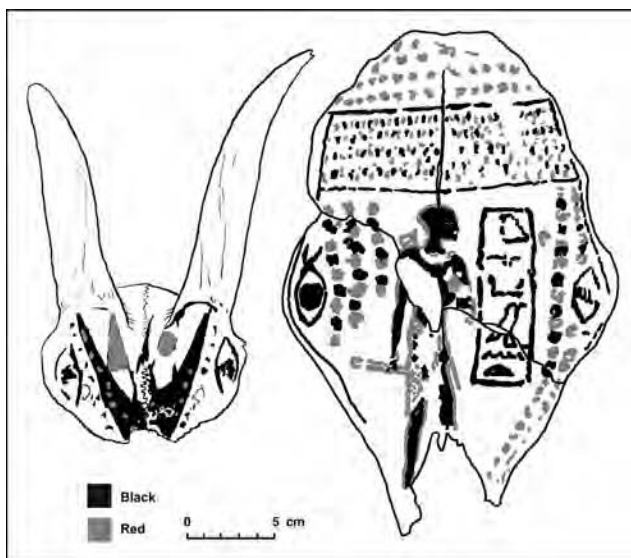
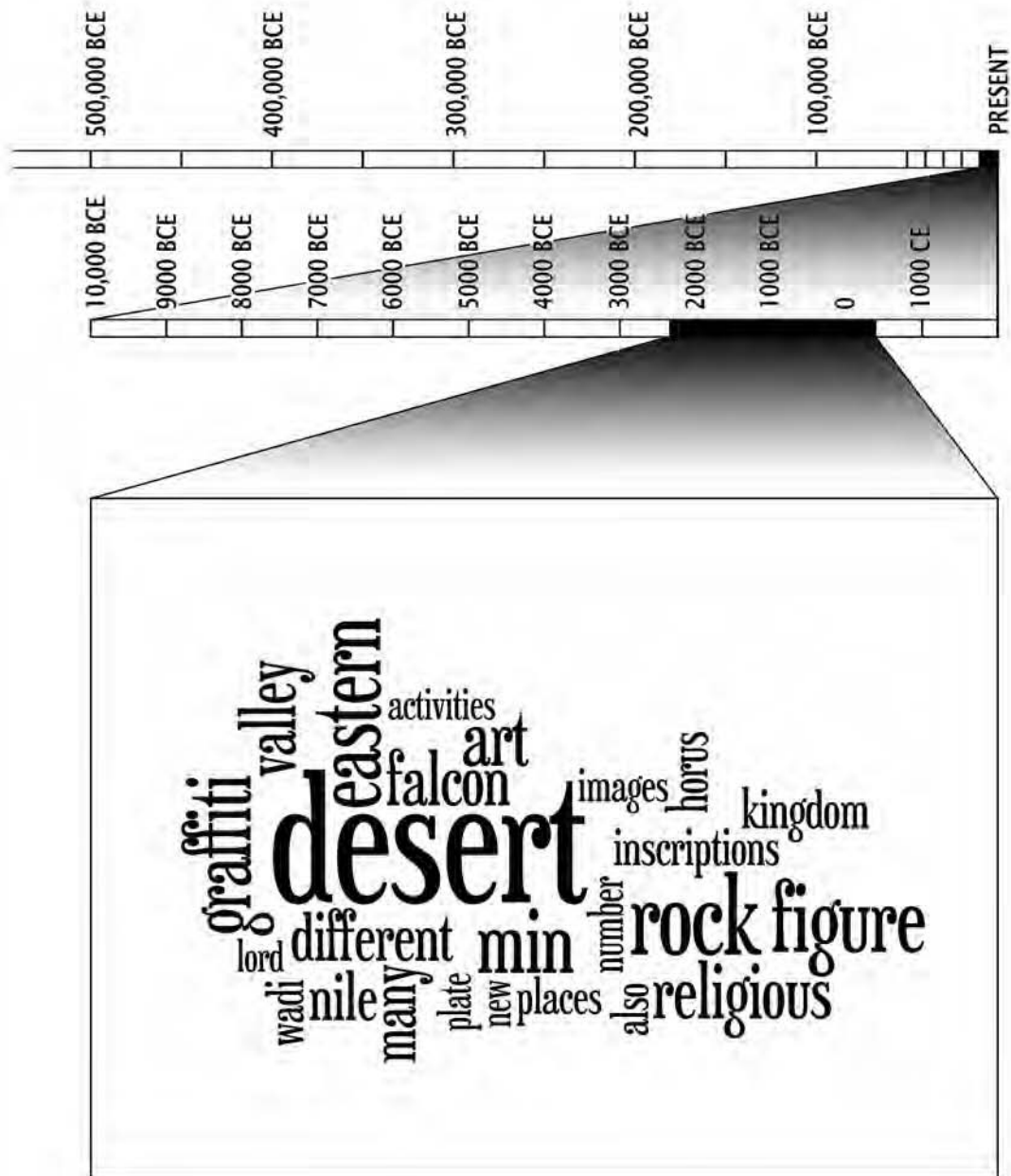


Figure 6.10. Painted decorations on two animal skulls found at Cemetery 3100/3200, Mostagedda, Middle Egypt. Adapted from Brunton and Morant 1937; drawing by Ralf Miltenberger.

consciously prepared objects. As the painting is directly on the bone, they must have been freed from hide and flesh, and cleaned, before they were decorated. These actions may well have been parts of rituals in themselves.

Discussion: Towards an Archaeology of Interaction

From these final observations I would like to return to the beginning of my argument, which concerned the special nature of the archaeological sources of the Pan-Grave People. As I have shown, it is only the particular combination of circumstances at the end of the Middle Kingdom that forced individual Pan-Grave groups to seek new economic strategies, thereby becoming visible in the archaeological record. Pan-grave sites in the Nile Valley are no testimonies of a nomadic society of the Eastern Desert, although they have often been discussed as such. They do not represent the Pan-Grave People in their regular existence, but in an environment unfamiliar to them, in the process of abandoning their traditional way of life, thereby experiencing and practicing entirely new forms of interaction with their settled neighbors. This recognition is analytically relevant and a prerequisite for the adequate understanding of the available archaeological material. It may have a limited bearing on our understanding of the nomadic past of the Pan-Grave People, but it offers excellent data for the examination of the way in which some Pan-Grave groups left their nomadic life for good. The Pan-Grave sites in the Nile Valley are testimonies of a cultural transition in a hybrid situation, and this is where their great potential lies. A first step towards a cultural-historic relevant analysis of the existing archaeological data, beyond opportunistic explanations, is to position them within their specific historical framework and to relate them to the conditions and the processes of interaction that produced them. From this insight follows the question whether the same does not also apply to other types of archaeological and historical material representing mobile groups, or indeed other socially marginal communities. The sources in which these become tangible may not so much illustrate their regular existence, but rather historically specific situations, which are marked by transitions brought about by economically, culturally or otherwise critical developments. If this were indeed the case, it would have a huge influence on how we should approach such materials and what we can possibly learn from them.



Time line and word cloud for Andrés D. Espinel, *Gods in the Red Land: Development of Cults and Religious Activities in the Eastern Desert*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 7



Gods in the Red Land: Development of Cults and Religious Activities in the Eastern Desert

ANDRÉS D. ESPINEL

THE EASTERN DESERT HAS BEEN AND STILL is the arena for a wide range of activities, including hunting, gathering, grazing, mining and policing, by locals as well as people from the Nile Valley (Málek 1975; Yoyotte 1975; Roquet 1985; Darnell 2007; Sidebotham *et al.* 2008; Riemer *et al.* 2009). These have left a heterogeneous collection of archaeological and epigraphical evidence, unevenly scattered in time and space. Along with the reflections of economic and political use, there are also attestations of activities related to the religious beliefs and practices of the human groups that entered the area. This data set has attracted limited attention of scholars and researchers, who often studied them to know their most worldly contents, such as the prosopographical and administrative information they can provide (Seyfried 1981; Eichler 1993; Hikade 2001, 2006). The aim of this chapter is to underline the potential of this kind of data for retrieving their original meanings and intentions and to indicate the complexity of their study by providing some examples of religious activities in the desert during the Pharaonic period (between 2600 and 300 BCE).

The study of religious phenomena displayed in the Eastern Desert will be analyzed here by emphasizing

three aspects, which are both complex and closely connected. The first comprises the continuities and changes in the religious practices in the region. Because cultural phenomena are based in many ways on a complex mixture of traditions and innovations, detection and definition of cultural permanence and transformation are problematic, even more so in the Eastern Desert which history is still poorly understood. Frequently, scholars interpret the continuities and changes in religious practices on the basis of knowledge inferred from very partial or even bad data and, in many cases, on inappropriate cultural aspects, such as superficial anthropological parallels of material culture (Wendrich 2008: 538-539). Apart from poorly dated rock art, evidence of pious actions during the Pharaonic period is apparently limited to Egyptian visitors, not the elusive indigenous population. In this sense, ancient religious practices in the Eastern Desert would be a good source for tracking developments in Pharaonic Egypt as they seem to follow some generic cultural trends (Baines 1987, 1991; Assmann 1996). There are, however, obstacles to the study of this data set in the light of change or resistance to change. Long-standing traditions are riddled with many exceptions, generated by a complex mixture of intimate feelings, personal taste and more prosaic influences (Espinel 2005: 69-70). As a result, the reduced catalogue of textual and archaeological data in the Eastern Desert offers

¹ This study was possible by research grant P.I.E. 200810I104 from the Spanish Ministry of Science and Innovation (MICINN) and the Spanish National Research Council (CSIC).

extremely heterogeneous information on underlying religious beliefs.

The second aspect entails the idiosyncratic features of the religious activities in the Eastern Desert compared to the Nile Valley. Again the definition of “idiosyncrasy” is problematic. In some instances alleged “desert peculiarities” could be the result of archaeological bias—similar features had disappeared from the riverine archaeological record, or have not yet been detected there. In other cases, however, these singularities seem tightly linked to the climatic and topographic conditions in the Eastern Desert. The reasons behind most idiosyncrasies remain unclear. Most logical would be the cultural traits of the inhabitants of the desert. This is problematic, however, as the cultural traits of the native desert inhabitants during the Bronze Age, such as the Pan-Graves, are scarcely known. Because the identity and history of the desert inhabitants are blurred and at times conflicting, precise attribution of pious practices to Egyptians or native desert inhabitants is intentionally avoided here.

The third and last aspect concerns methodological problems linked to the specific traits of the recording and study of the phenomena. It is necessary to note here two properties of the data and the way these are analyzed here. First, religious activities in the desert are generally attested by means of rock art and rock inscriptions. There are many difficulties related to dating and interpretation these sources, particularly rock art (Judd 2009: 73-100). Theories and conclusions derived from them have to be modeled as imprecise reconstructions and generic trends during long periods of time. In other words, they have to be studied by *longue* or *moyen durée* approaches at the expense of more defined and precise insights. Second, because my personal experience in the Eastern Desert is extremely limited, this chapter is mostly based on my research of the existing literature. It is therefore limited to publications with information that is generally very partial because of the methodology or preliminary character of the research. Many scholars, especially in the past, analyzed texts and images separately and differently according to type (Prehistoric, Pharaonic, Greek, etc.), thus divorcing epigraphic, artistic, archaeological and spatial information from each other and neglecting possible semantic and spatial connections among them.

The Nature of Religious Practices in the Eastern Desert

When I refer to religious practices, I mean any kind of human activity, either material or spiritual, related to pious ideas and feelings. These include possible magical and totemistic ideas as well (Huyge 2002: 192-194). The importance of private Egyptian religiosity has been appreciated by Egyptologists in different ways according to its development over time (Assmann 1996), its generic and permanent features (Baines 1987, 1991), or to its relative relevance or possible absence (Kemp 1995). Similar to the Nile Valley, such activities in the Eastern Desert were usually focused on specific places. Because of their ephemeral nature (gestural, oral or mental) many of these actions are lost forever. Only very few of them have been embodied as materials that have been preserved in the archaeological record. This group of evidence comprises steles, non-epigraphic votive offerings (figurines, flint nodules, shells, etc.), figurative scenes, and written formulas inscribed on rock panels. The precise intentions and “authorships” of many of these artifacts cannot be easily established. For textual and figural graffiti, it is generally accepted that these are mostly religious expressions (Červíček 1986: 71; Morrow and Morrow 2002: 21).² It is also usually assumed that the authors of the pre-formal (prehistoric, not Pharaonic) rock art were from the local population and, subsequently, that Egyptians from the Nile Valley were the creators of hieroglyphic texts and formal (Pharaonic) scenes.³

Such notions obviously conceal much more intricate realities. In many cases, rock art and carved texts could have had much more mundane origins or functions, such as memorials or territorial and economic signals (Espinel 2000, 2002: 7-12). Furthermore, the origin of these artifacts is often far from clear. In some instances, formal and pre-formal images cannot be ascribed with any certainty to Nile Valley Egyptians or desert dwellers, nor to historic or prehistoric communities. Because precise dating techniques and comprehensive typologies are still unavailable, or are grounded in ambiguous chronological and ideological systems, researchers should be cautious and self-critical with their interpretation of rock art and graffiti (Cruz-Uribe 2008: 187-230). Along the same

² See also D. Huyge, “Rock Art,” (2009), at <http://escholarship.org/uc/item/4qx7k7pz> (accessed May 31, 2011).

³ The terms ‘formal’ and ‘pre-formal’ have been taken, with slight conceptual variations, from Kemp 2006: 112-113.

lines, comparisons between rock art and their typological and thematic parallels in the decoration on Egyptian Predynastic pottery or Pharaonic art are precarious interpretative tools as they are based more in some alleged formal similarity than in a strong contextual and semantic resemblance (Wengrow 2006: 111-114; Lankaster, this volume). It is risky to assign rock art styles or motifs to distinct periods and human groups as typologies and behavioral patterns do not permit the reconstruction with any certainty of ancient human actions. Rock art drawings stylistically estranged from Pharaonic art conventions could have been made by Egyptians that were unfamiliar or unskillful, or they could have been copied by different groups of people in different periods. Likewise, some locals hired by the Egyptian state could have been immortalized in hieroglyphic texts, made by their colleagues from the Nile Valley, while others could have tried to emulate Pharaonic-style scenes and motifs themselves.

Archaeological and rock-inscribed records attesting religious activities in the Eastern Desert are numerous and can, despite the above *caveats*, be informative. In some instances, they are similar to finds in the Nile Valley, such as the carving of *ex-votos*, votive offerings, and *proskynemata*—permanent markers of veneration (Geraci 1971; Bernand 1994; Dijkstra 2008: 186-189). In many cases, these graffiti, also attested in the Western Desert (Darnell 2010; Förster 2010), repeat elements and expressions documented in Nile Valley temples and monuments. This is the case of different religious images and formulas (Eichler 1994), such as gods, altars, divine ships, human figures in worshipping attitudes and foot- or sandal-prints (Quaegebeur 1993; Jacquet-Gordon 2003; Ciampini 2005). In other cases, desert cults offer more idiosyncratic elements, apparently related to the surrounding landscape and its extreme conditions. Among them there are three features of special interest.

First, sanctuaries and religious activities could be attached in some instances to natural features in the landscape or to earlier anthropogenetic traces, such as existing rock art or inscriptions. The characteristics of certain desert sceneries could have inspired or encouraged their choosing as cultic places. In other words, natural landscapes could have shaped religious beliefs and practices. The Theban Mountain complex on the west bank of the Nile offers some possible examples. These, however, are not clearly supported either by iconographic or, above all, by textual data. On the one hand, features in

its surroundings, such as the al-Qurn peak, a prominence in the Deir al-Bahari cliffs, and a cascade in the Valley of the Queens, could evoke a pyramid, a cow emerging from a reed bed, and a vagina, respectively (Desroches-Noblecourt 1990; Donohue 1992). On the other hand, geological features, such as iron-crusting limestone boulders and strangely shaped flint pebbles, probably made the Ancient Egyptians assign these parts of the area a heavenly and chthonic significance (Graves-Brown 2006). Similarly, the relationship between the landscape and graffiti, particularly rock art, was shaped by artistic *modi operandi* in which symbolic contents could be tightly interwoven with geographical features by means of formal artistic peculiarities such as orientation or lateralization (Huyge 2002: 204).

All these possible connections have rarely been observed or recorded by scholars, resulting in the notable absence of studies of the emplacement and spatial context of rock carvings. Actually, notwithstanding the development and influence of studies on the cultural significance of the natural places in other historic contexts, such as Prehistoric Europe (Tilley 1994; Bradley 2000; Tilley 2004; Fairén-Jiménez 2007), Egyptologists have many reservations about interpretations that include the natural landscape. One of the reasons is the emphasis on textual information at the expense of other evidence. Therefore, researchers have not been too concerned until very recently when several studies were published describing certain symbolic meanings deduced from the characteristics of natural spaces (Richards 1999; Kendall 2004; Love 2006; Seidlmayer 2006; Wegner and el-Yazid 2006; Williams 2007) and of flora and fauna (Beaux 2004; Evans 2004; Janák 2007; Evans 2008). Despite their cursory character, these works are proving useful for understanding many aspects of ancient Egyptian culture. With regards to the Eastern Desert, these considerations on the landscape have barely been addressed. Formal and linguistic aspects of figural and textual graffiti have attracted most of the attention of researchers. As a result, more holistic studies, which take into account their relationship with the surrounding landscape, have been neglected. Consequently, it is very difficult to ascertain whether these played a role in the creation and the meaning of rock figures and texts, whatever their intent (religious or mundane). A good example of this is the crocodile figure carved in relation to some Middle Kingdom (1775–1640 BCE) graffiti in Wadi

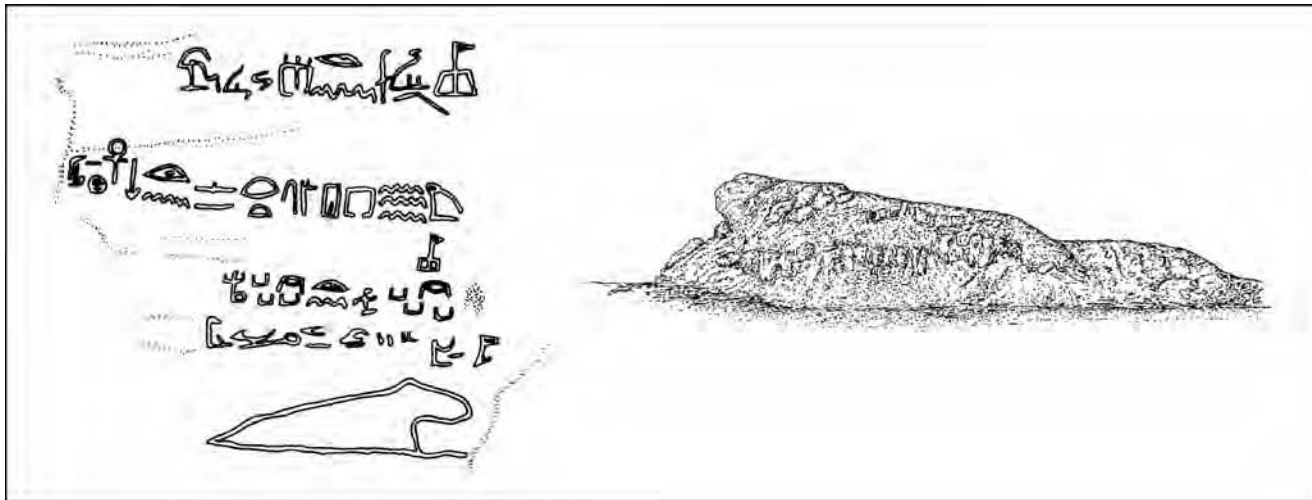


Figure 7.1. Middle Kingdom graffiti at Abu Kua' including the depiction of a crocodile silhouette (lower left) and the mountain ridge at al-Muwayh. Adapted from Bülow-Jacobsen 2003: 59, figure 18; drawings by Ana García Martín (not to scale).

Kua, near the modern Qift-Quseir asphalt road (Weigall 1909: plate 4-26; Figure 7.1). Its meaning was unclear for many years, but recently an east–west oriented hill that resembles the silhouette of the depicted reptile was discovered in the neighborhood, at al-Muwayh. At present, this is also the more reasonable argument for explaining the Graeco-Roman name *Krôkodilo* for this place (Bülow-Jacobsen 2003: 54, 59, figure 18).

Second, the sacred and secluded character of desert cults was relative and plural. Examples mentioned below show that some spaces, according to the moment and visitors' needs and beliefs, were used indistinctively as holy spaces and human shelters. Furthermore, in some instances they could successively or even simultaneously have housed different *genii loci* (protective spirits of the place). Third, in many instances their sacredness and related pious activities were discontinuous. Located in remote and inhospitable areas, these sites were only sporadically visited over the centuries and did not have any kind of permanent rituals or priesthood attached to them. Actually, they cannot be understood as temples, but rather as sacred places or, in other words, as numinous spaces perceived as inhabited by the gods by visitors. Nevertheless, their religious meaning and function remained over time, possibly with changes, because of their topographic features, previous drawings and graffiti, or possibly other markers such as poles, cairns or similar simple structures. These allowed visitors to recognize such sites as long-standing divine dwellings. Occasionally, passers-by left new graffiti on the rocks, enriching and perpetuating their venerability and leaving

some information about the history of the sanctuary (Adams 2007: 215-218).

Despite the obvious religious importance of many rock art stations, scholars rarely have attempted to reconstruct or even record in their entirety possible “stratigraphic” sequences of the rock art and inscriptions in these places by recording and analyzing their palimpsests and patinas (Judd 2008; Luft 2010: 59-193). Because most of them have been visited by the researchers for only a brief period, their study generally has been reduced to analyzing drawings and textual inscriptions separately, according to their interest in themes or periods. This approach has obliterated contexts and possible relationships among the elements of the rock panels that could reflect on the continuities and changes in their cultural use and meaning. I will discuss the possibilities and difficulties of studying sacred places in the Eastern Desert using the desert cults of Min and Horus as case studies. Needless to say, these are only part of a much bigger pantheon also inhabited by divinities such as Sopdu, Ptah, Amon, Hathor and many others (Bloxam 2006).

The God Min (Pan)

Min is by far the most persistent male divinity in the Egyptian Eastern Desert (Figure 7.2), in contrast to the Western Desert where his presence is quite rare (Fakhry 1951: 413-414, 426; Darnell 2002: 22). The first attestations of Min in the Eastern Desert date back to the 6th Dynasty (around 2200 BCE). Often combined with Amon or Pan into a syncretic image, Min occurs

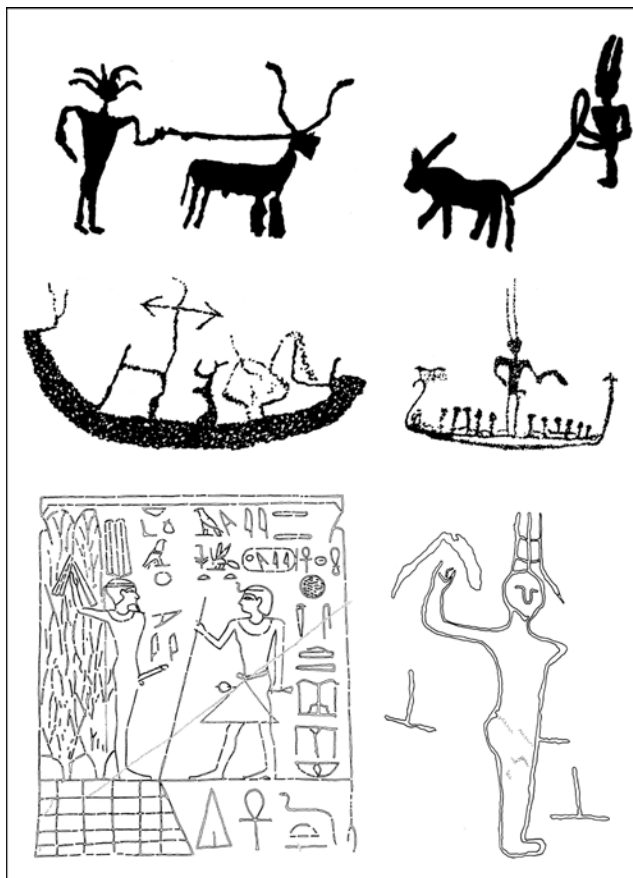


Figure 7.2. Feathered and ithyphallic divinities controlling cattle or wild animals at Winkler’s site 18 in Wadi Gash (top-left), and at Wadi Umm Salam (top-right). Top-left adapted from Winkler 1938: plate 4-18, M154a; top-right adapted from Wilkinson 2003: 110, figure 41. Ships carrying a ‘Min standard’ and an ithyphallic feathered divinity in Wadi Gash (center); adapted from Winkler 1938: plate 34, number 20; plate 38, number 6. A Pharaonic representation of Pepy I (6th Dynasty, 2325–2175 BCE) before Min in Wadi Hammamat (bottom-left), and an Early Roman representation of Min-Pan in Wadi al-Qash (bottom-right). Bottom-left adapted from Couyat and Montet 1913: plate 15-63; bottom-right adapted from Winkler 1938: plate 5-21, M187. The drawings are to different scales.

in the Eastern Desert during all the Pharaonic periods and up to the second century CE (Cuvigny 1997). His presence in the desert, however, could be even older. Rock art scenes from the Naqada II period, around 3500–3200 BCE, preserve ithyphallic gods and figures with feathered head dresses, as well as standards that recall the iconography and symbols of Min known from the Nile Valley (Figure 7.2). Actually, similarities among the iconographies of the Pharaonic Min and these “prehistoric” proto-Mins, some of which could be Pharaonic (Figure 7.2), have inspired different hypotheses about the foreign origins of this Egyptian god (Gundlach 1982: 137; Wilkinson 2003: 191-193).

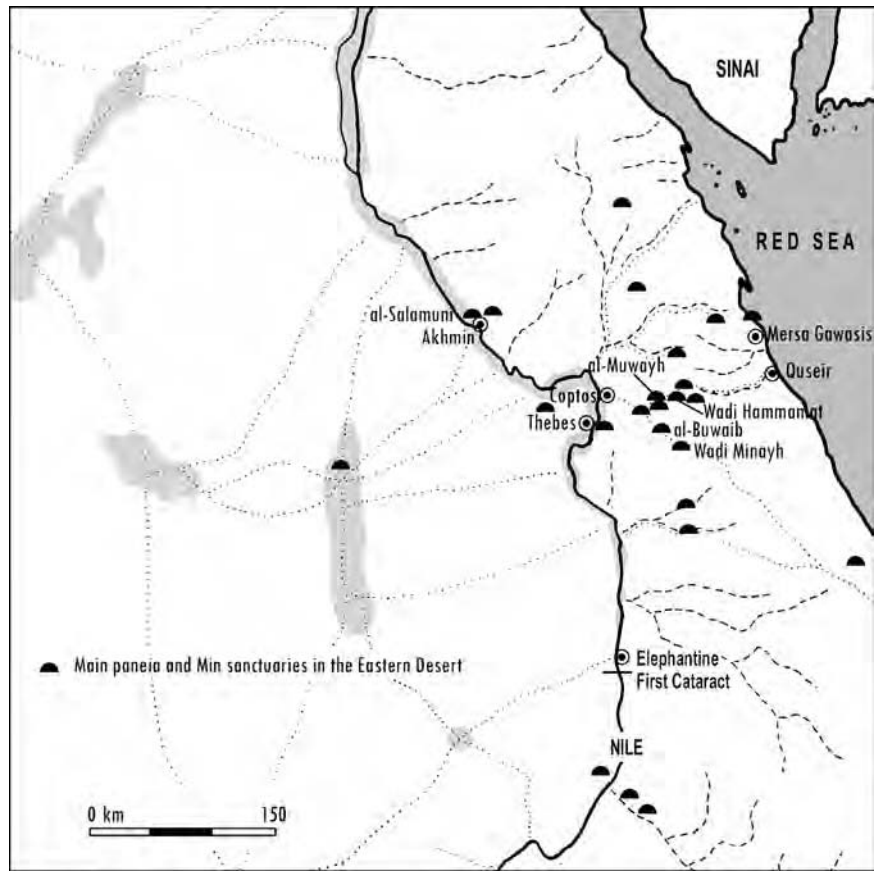
These pages do not pretend to be an arena to vindicate or qualify those ideas. As I have stated before, scholars should be suspicious of creating clear connections between prehistoric and historic representations, such as the tentative one between “proto-Min” and Min. Rock art shows the former god in close relations with ships (Winkler 1938: plates 12-1, 15-1 22-1/2, 34-22, 35-29, 38-58, 61; Morrow and Morrow 2002: 50, SAL7G; 106, MUA10C; 143, IQA10B; 160, BAR4C) and in scenes of control over animals (the “Lord of the Beasts” motive, Winkler 1938: plate 22-1, Morrow and Morrow 2002: 43, SAL3A; 63, SAL14G; 77, SAL27I; 84 SAL35A; see also Figure 7.2). According to these depictions, the god or set of divinities played rather different roles than his Nile Valley epigone that was usually depicted in a static pose and particularly related to sexuality and fertility. Despite these differences, which seem to identify them as discrete deities, it seems clear that both gods were interconnected in some way. Common religious substrata and possible influences among them (“proto-Min” figures were probably still carved during the Pharaonic period) could explain the shaping of Min in the Nile Valley, from the beginning of the Dynastic era (McFarlane 1995; Kemp 2006: 137, 138, figure 47), as a relatively recent desert divinity disguised with older local attributes from a different god.

During the Dynastic period, Min maintained the same iconographic traits and epithets in the Eastern Desert and in the Nile Valley. However, there were significant regional differences in the kind of sanctuaries where the god was worshipped. From the beginning of Egyptian history, Min was secluded and adored in extant temples in urban centers, mainly in Coptos and Akhmin (Goyon 1952; McFarlane 1995: 258-259; Gabolde *et al.* 2000). In the latter city there was also a chapel, the al-Salamuni *speos*,⁴ devoted to him in the mountain cliffs (Kuhlmann 2007), which was probably inspired by the same beliefs that made up some similar desert cultic places devoted to Min known as *paneia* (Figure 7.3). In the Eastern Desert, the god was worshipped intermittently in more reduced and varied spaces by diverse occupational groups such as Egyptian miners and soldiers, as well as possibly by small local nomadic communities.

It is difficult to find cult places in the desert devoted to Min that date before the New Kingdom (1539–1075 BCE) with any certainty, if they existed at all. Pre-formal

⁴ A *speos* is a rock-cut chamber behind an Ancient Egyptian temple which could comprise the larger part of a small chapel.

Figure 7.3. Map showing the location of the main *paneia* in the Eastern Desert and other sites mentioned in this chapter.



elements linked to this god are attested in different places in the Eastern Desert, for instance at Winkler's site 18 (Winkler 1938: 24-26). During the Old Kingdom (2575–2150 BCE), Min is mentioned in only one cult scene of Pepy I on a rock panel in Wadi Hammamat (Figure 7.1; Couyat and Montet 1913: 59, plate 16-63), which is not clearly related to any religious structure or natural feature. The first possible chapels devoted specifically to Min date back to the Middle Kingdom. They were recently discovered at Mersa Gawasis, near modern Safaga, on the Red Sea coast, where steles dedicated to Min had been found previously (Sayed 1977: plates 8b, 15-a/c; Pirelli 2007: figures 92-93, plate 17). The structures are on top of a coral terrace on the Red Sea shore adjacent to other possible cultic platforms. All of them are humble in their execution and "pre-formal" in their conception. These alleged 'Min chapels,' identified as WG 12 and WG 29, are small rounded platforms oriented to the east. They are thought to be associated with Min because of the presence of many fragments of *Lambis lambis* shells, which were occasionally linked to the god (Bard and Fattovich 2007: 43-44, 244, figure 10; Manzo 2010: 158-162). Leaving aside this possible exception, subsequent cults of Min

adopted more consistent and widespread forms across the Eastern Desert (Figure 7.3). At least from the New Kingdom on, he was adored in rock shelters. These small sanctuaries were called *paneia*, after the god Pan, in the Graeco-Roman period. Such chapels, generally shadowy and cool refuges, bring to mind various roles of Min, such as his patronage of mining activities and his chthonic properties of regeneration and fertility.

The term *paneion* (plural *paneia*) requires a brief discussion. The word has been extensively used in order to define cultic places devoted to Min and brings to mind a well-defined, permanent sanctuary. Desert *paneia*, however, are generally quite the opposite. In many cases they are tiny natural shelters that momentarily worked as Min chapels and could be used simultaneously or successively as religious places for other divinities (Gilli 2005). This is the case for the structures discussed here, with few images and texts specifically mentioning Min or Pan. The carving of an *ex-voto* or an image of Min perpetuated the site as his cultic place, being a reminder for later visitors. However, these elements did not assign it to this deity exclusively because, as has been stated above, a *paneion* could house other divinities. The *paneia* of Wadi Minayh and al-Buwayb are good

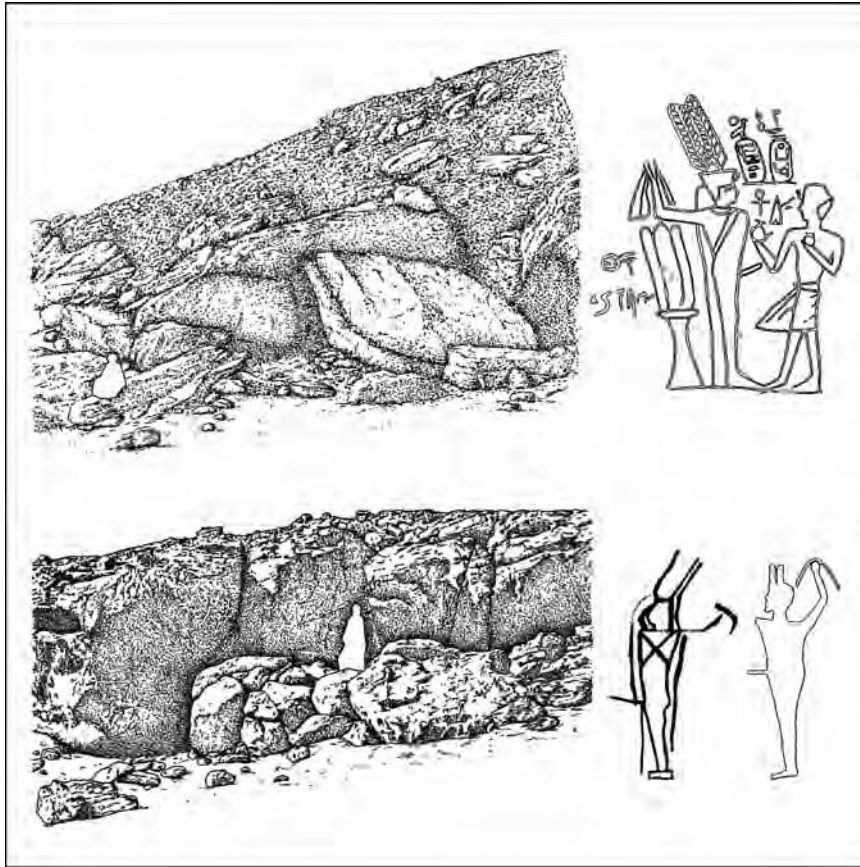


Figure 7.4. Top: The *paneion* in Wadi Minayh (adapted from de Romanis 1996: plate 2; drawings by Ana García Martín) and a New Kingdom graffiti carved on it (adapted from Colin 1998: 119, figure 9). Below: The *paneion* at al-Buwayb (adapted from Bernand 1972a: plate 67-2; drawings by Ana García Martín) and some of the Min images carved around it (adapted from Colin 1998: 125, figures 25, 26). The drawings are to different scales.

examples of these features (Figure 7.4). Both places are small, narrow limestone shelters that originally held different panels of pre-formal or local rock art serving as a lure for later pious activities. In Wadi Minayh, possible prehistoric rock art images of “elephants, asses, ibexes, ostriches, [and a] sailing-boat” have been recorded (Winkler 1938: 6, site 18A). According to the epigraphic evidence, the place was visited again in the New Kingdom, when an image of Min and several hieroglyphic graffiti were carved (Colin 1998: 92-107). Both the rock art and the Pharaonic inscriptions probably served as a catalyst for later Greek and Latin inscriptions and drawings, made in the first half of the first century CE, as well as subsequent Byzantine and Islamic texts and *wusum* (Bernand 1977: 160-167; de Romanis 1996: 203-217, plates 1-20; Cuvigny and Bülow-Jacobsen 1999: 133-163).⁵

The *paneion* of al-Buwayb knew a similar development. Here, pre-formal rock art is more abundant indicating a bigger religious significance of the place to the ancient locals (Winkler 1938: 7, site 24B; Bernand 1972a: plate 76). The dating of these images, however, remains unclear. Descriptions and photographs suggest that some figures could be prehistoric, while others are clearly more recent than the Greek inscriptions. The rock into which the main rock art panel was carved, to the right of the entrance into the grotto, is now lost, possibly because of an earthquake (Cuvigny and Bülow-Jacobsen 2000: 243). During the New Kingdom, the shelter was identified as a sacred site dedicated to Horus and, especially, to Min (Colin 1998: 107-114). Subsequently, Demotic, Greek and Arab inscriptions, and also late rock art motives, were carved in and around it (Bernand 1972a: plates 87-88; Cuvigny and Bülow-Jacobsen 2000). Both *paneia*, with their complex palimpsests of rock art panels and inscriptions, are, like many other desert sites, good examples of sacred places cemented in human memory over centuries. Because of the difficult conditions of field research in the desert, however, they have not been studied sufficiently to understand

⁵ A *wasm* (وسم , plural *wusum*) is a Bedouin animal brand that is also used to claim the rights to natural resources, such as water from a well, firewood from a tree or grazing in a valley. It can be scratched in stone, but also laid out with sticks or pebbles (Sidebotham *et al.* 2002: 206; Wendrich 2008: 514-515).

fully their layering and development. For example, the Greek and Latin inscriptions have been published separately from the hieroglyphic and demotic texts, and the rock art has not even been cursorily analyzed. Therefore, it is difficult to gain insight into details such as the arrangement of the panels, the spatial and temporal interrelations among them and the way they were connected to the landscape. Neither site has been studied archaeologically in any detail, even though pottery related to the sites could provide more details on their use and history, which is currently unknown (Colin 1998: 92-107; Sidebotham 2002: 420).⁶ Both chapels and their surroundings, with their orientation and physical features, would be the best places in the area to provide protection against the scorching midday sun (Cuvigny and Bülow-Jacobsen 1999: 134) This may indicate that *paneia* were different from Egyptian temples in the Nile Valley, where they were permanent spaces with a function limited to religious activities and restricted accessibility. The combined use of the shelters in the desert as sacred places and refuges can be explained by the harsh conditions of the area, where their numinous nature was enforced by their usefulness. Resting in or around them, the visitors could have recognized and thanked the power of the *genii loci* and perpetuated the sacredness of the place with votive carvings.

Falcon Gods in the Eastern Desert

Some *paneia*, for instance, al-Buwayb and Winkler's site 18, also contain falcon graffiti (Figure 7.5). Unlike the images of Min, these have never attracted much attention, even though they are equally widespread throughout the Eastern Desert. As the symbolism and meaning of falcons in Ancient Egypt are extremely rich and complex, it is not possible to suggest a unidirectional or unique reading for these graffiti. Without doubt some of them, above all the oldest ones, allude to royal power. That is the case, for example, of many Proto- and Early Dynastic *serekhs*,⁷ both in the Eastern and Western Desert (Winkler 1938: plate 11-1/4; Darnell 2002: 19-22, number 2; Ikram and Rossi 2004), or some Middle Kingdom falcon statues inscribed with royal names found on the Sinai Peninsula and in the Western

Desert (Engelbach 1933: 72, numbers 8-9, plate 3).⁸ In other instances, however, these depictions are linked to heavenly deities. Their dating is difficult because there are no comprehensive iconographic studies and there are examples from the Early Dynastic to the Graeco-Roman period. Most of them, however, appear to cluster in New Kingdom contexts. Some of the falcon figures suggest cults by locals or Nile Valley Egyptians to divine perceptions of natural or faunal features in the landscape and may point at Egyptianization processes of Nubian and desert deities (Kormisheva 1990).

Most falcon images are simply representations of a falcon or a falcon-headed human depicted in a formal style. Sometimes this is complemented with other features, such as a royal crown, sun disc, flabellum or altar. In rare instances they are identified. Leaving aside the self-evident "Horus, Lord of the deserts (foreign countries)," epithets usually refer to gods associated with cities in the Nile Valley, such as Horus as Lord of Edfu, Kuban, Aniba or Buhen. Like Min, these gods were worshipped in the desert in a rather different setting than in their permanent urban sanctuaries. It is tempting to try and relate the places where these divinities were carved with the boundaries of the political influence of their respective localities. Results derived from such spatial analyses, however, should be considered with some caution. The limited presence of these images, both in the Nile Valley and in the Eastern Desert, does not allow the reconstruction of any precise border of political or administrative entities. Actually, their distribution may indicate very different and sometimes conflicting intentions and roles. Comparison among the Eastern Desert distribution of graffiti related to Horus as Lord of Miam (Aniba) and Buhen on the one hand, and to Horus as Lord of Kuban, Ombos or Edfu on the other, are potential examples of this heterogeneity.⁹

Aniba and Buhen were important political entities in Lower Nubia during the New Kingdom. References to their city falcon gods are only found in the Nile Valley. They appear in several formal temples in Lower Nubia (Leitz 2002: 621, 643-644). Horus as Lord of Aniba is also attested in the cultic natural place of Gebel Agg (Simpson 1963: 36-44; Trigger 1996: 804), and in Sehel (Gasse and Rondot 2007: 184, 507, number 304). The geographical restriction of this divinity to

⁶ I owe this last citation to Dr G. Lassányi.

⁷ A *serekh* is a rectangular enclosure representing a palace façade, usually surmounted by a Horus falcon. The *serekh* is an early convention to indicate a royal name.

⁸ Now in the Nubian Museum, Aswan (JdE 54497 and JdE 54498).

⁹ I am very grateful to Dr C. Näser for pointing out to me the absence of Horus of Aniba in the Eastern Desert.

the Nile Valley of Lower Nubia contrasts with the wide distribution of evidence left by officials from Miam (Aniba) in the Eastern Desert. In several instances some of these individuals left rock inscriptions close to graffiti of unnamed falcons. Such is the case of the much-traveled prince of Miam Heqa-nefer at the end of the 18th Dynasty (Damiano-Appia 1999: 513-517, number 1), as well as other persons from that region, in Wadi Barramiya (Žába 1974: 227-228, A5-A6; Rothe *et al.* 2008: 117, BR07; 118, BR08). The apparent absence of the falcon deities of Miam and Buhen in the Eastern Desert could be explained by their relation to specific mytho-geographical roles somehow connected to the Nile Valley. It is necessary to keep in mind, however, that this omission could be also explained by archaeological bias. Furthermore, people from these cities could have also inscribed falcon graffiti representing their local deities without, for unknown reasons, qualifying epigraphs.

Horus of Edfu (Behdet), Kom Ombo and Kuban, on the other hand, are well attested in the Eastern Desert. Both Kom Ombo and particularly Edfu were prosperous cities in Upper Egypt during the New Kingdom, and Horus of Behdet (Edfu) played an important role in official religion and ideology (Leitz 2002: 621-622). In a more provincial and private context, he was a popular deity as can be seen, for example, in some New Kingdom private graffiti left in Edfu province, both in the Nile Valley and in the Eastern Desert (Žába 1974: 226-235, A3-21; Regulski 2008, number 2). Despite his minor importance (Leitz 2002: 659-660), Horus of Kom Ombo is also documented in similar areas during the same period (Figure 7.5, Rothe *et al.* 2008: 336, MD06). In both cases, the falcon images were inscribed in valleys that are directly connected with stretches of the Nile Valley controlled by one or the other city. An exception is Horus “the elder, Lord of Ombos” that is recorded in a valley close to the Red Sea (Rothe *et al.*

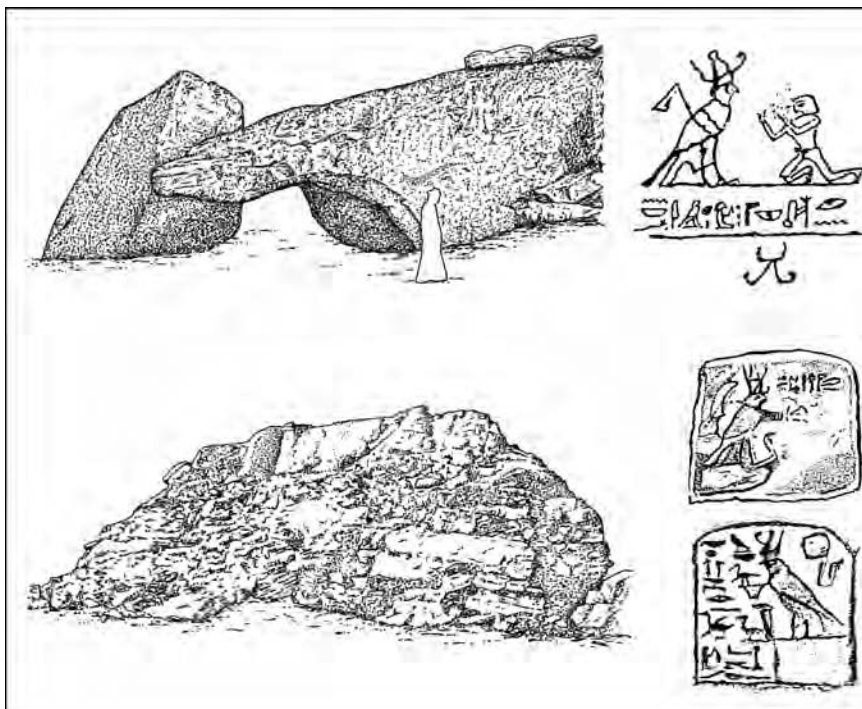
2008: 392, AL01). Horus, Lord of Behdet also appears in some desert sites close to, but not directly connected to, Kom Ombo (Rothe *et al.* 2008: 337, MD07). Images of the local Horus of the Lower Nubian city of Kuban (Baki), at the mouth of Wadi Allaqi, show a similar distribution. Horus of Baki is attested in temples all along the Lower Nubian Nile Valley (Leitz 2002: 619-620), as well as in many carvings probably made during the New Kingdom by several officials and scribes in a valley close to the city.

Falcon images, with or without precise geographical origins, are sometimes related to images of Min, or other divinities, and to different types of *proskynema* and votive offerings. Because most of the rock art has been recorded without clear descriptions of their interrelation or their spatial context, it is impossible to get a clear idea of their meaning. In some instances these images seem to be closely related to the natural places where they were carved. For example, at different sites in both Wadi Allaqi and Wadi Barramiya, where concentrations of falcon images appear in relation to New Kingdom inscriptions. In Wadi Allaqi these graffiti were carved during a short period of time in two different places close to the entrance of the valley: in Huqab Karar and Huqab al-Askar (Figure 7.6). Both sites are currently submerged under Lake Nasser. The first place, also known as Umm Agaib, is a low hill. Falcon images and inscriptions, probably of the New Kingdom period (19th–20th Dynasties), appear around a small rock shelter, particularly on a south-facing wall that was earlier decorated with pre-formal rock art panels. These were most likely carved long before the falcon graffiti and include well-known solar symbols, such as giraffes and boats (Černý 1947: 53-54; Piotrovskii 1964: 239-242; 1983: 43, 45-46). A Pharaonic inscription apparently identifies the falcon deity as Horus of Baki (Kuban), the Nile Valley city at the mouth of Wadi Allaqi (Piotrovskii



Figure 7.5. Left: A falcon from al-Buwayb with an altar, a fan and possibly the name of Thutmose III (1479–1425 BCE). Adapted from Rothe *et al.* 2008: 28, BB03. Right: Graffiti at Wadi Midrik “made by Khnum-[?] and the lady of the house Bi/Nebi (?) to Horus the Elder, lord of Kom Ombo,” early 18th Dynasty. Adapted from Rothe *et al.* 2008: 336, MD06. The drawings are to different scales.

Figure 7.6. Top: The shelter of Huqab Karar (adapted from Piotrovskii 1964: 240, figure 9; drawings by Ana García Martín) and the graffito “Made by the scribe Nebnetjeru, son of Hori, to his Lord” (from Piotrovskii 1983: 45, number 7). Bottom: The *inselberg* (*monadnock*) of Huqab al-Askar (adapted from Černý 1947: plate 9, number 1; drawings by Ana García Martín) and two stela-like graffiti dedicated to Horus as “Lord of Baki (Kuban)” (adapted from Piotrovskii 1983: 59, numbers 151, 153). Note that both falcons are alighted on perches or ledges. The drawings are to different scales.



1983: 45, number 13). Other graffiti provide some names, and even an image, of worshippers interrelated to falcon images (Figure 7.6, Piotrovskii 1983: 45, numbers 7, 10-11 and 15). Huqab al-Askar, also known as Umm al-Ashira, was a rather more remarkable *inselberg* (*monadnock*) in a significant site. This boulder, apparently with no important earlier pre-formal rock art examples (here again comprehensive rock art studies are absent), marks the geological border between the sandstone and granitic Nubian platforms. In front of it was evidence of attempts to dig a well in ancient times (Černý 1947: 53). Actually, remains of a stele erected there by Ramesses II mention the pit (Piotrovskii 1983: 66, number 197; Giddy 1998: 37). Its lunette shows the Pharaoh offering to Min-Amon, who is also depicted in graffiti nearby (Piotrovskii 1983: 54-59, numbers 109, 118, 150). Falcon divinities, however, seem to have been the main subject of local devotion. Figures of falcons and stele-like graffiti were carved at the basis and at the highest point of the rock, where a falcon’s nest could potentially exist. Few of these carvings identify the *genius loci* again as Horus, Lord of Baki. Others seem to refer to this city as the origin of the authors of the inscriptions (Černý 1947: 54-55; Piotrovskii 1964: 242-260; 1983: 50-65, numbers 64-198).

Similar features are present in the area of Wadi Barramiya. Various falcon graffiti are documented in several places along that watershed (Rothe *et al.* 2008:

124, BR14; 139-141, BR26-BR28; 143-144, BR30-31; 152, BR39; 154, BR 41). A remarkable place is Žába’s site number 2, a large sandstone rock shelter in the south side of the valley (Žába 1974: 226-235, A3-21; Rothe *et al.* 2008: 156-177, BR43-61). It was inscribed during the New Kingdom with different graffiti of people involved in desert activities (among them Heqa-nefer, prince of Miam). According to some inscriptions the place was an occasional cult place to an unnamed hippo goddess (Rothe *et al.* 2008: 173, BR57), as well as to Horus without epithets (Rothe *et al.* 2008: 165, BR50; 170, BR54), as Lord of the Desert (Rothe *et al.* 2008: 162-163, BR48), and as Lord of Edfu (Rothe *et al.* 2008: 176, BR60). The most conspicuous sacred place in Wadi Barramiya, however, is the sandstone hill of Kanais, which has many similarities with Huqab al-Askar. It is a prominent outcrop decorated with Prehistoric petroglyphs, New Kingdom graffiti and Greek inscriptions (Bernard 1972b); like the Nubian hill it was related to well-digging activities. In this case the sacredness of the place was reinforced with the building of a *speos* dedicated to Amon-Min by pharaoh Sety I (1290–1279 BCE). Here, once more, graffiti depicted, among other divinities, the Horus falcon as Lord of Behdet and as Lord of the Desert (meaning foreign countries; Porter and Moss 1952: 325, numbers 27 and 31).¹⁰

¹⁰ I am very grateful to Dr S. Ikram for providing me with recent pictures of several graffiti and inscriptions from Kanais.

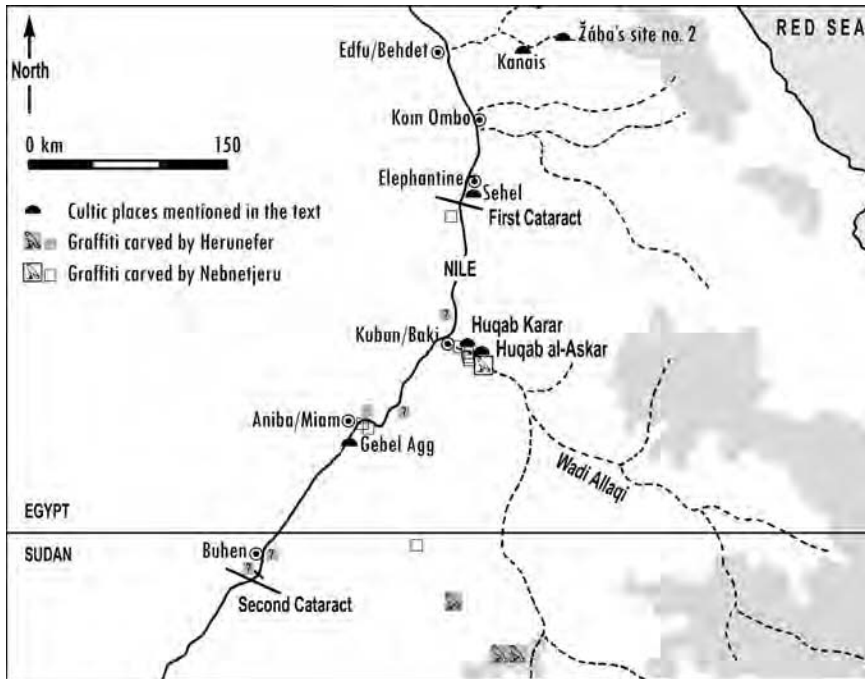


Figure 7.7. Map of Upper Egypt and Lower Nubia indicating sites with falcon graffiti carved by Herunefer and Nebnetjeru, as well as other sites mentioned in the text.

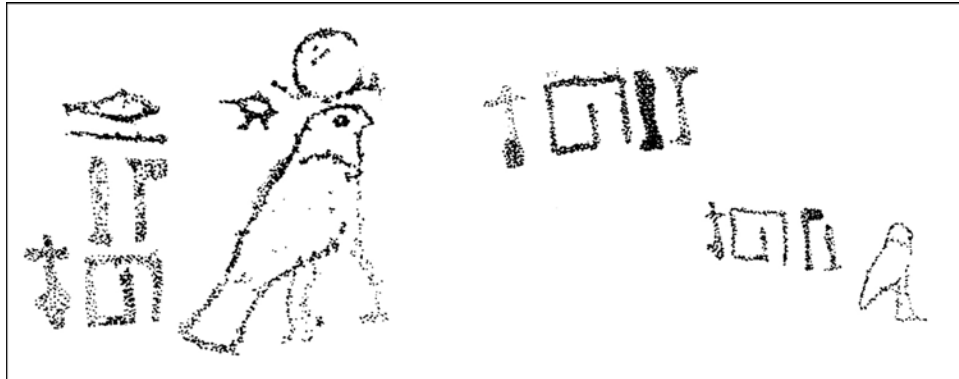
Many instances of falcon graffiti have been recorded at other Eastern Desert sites (Figure 7.7). Like the Min figures, the reasons behind their carving are unknown. Their creation could be the consequence of very different phenomena, such as sighting a falcon or the presence of falcon perches or nests (Meeks 1991), the identification of a place with this bird because of a rock reminiscent of its shape, or the connection of falcon divinities to the cult of “high places,” as was common in Nubia (Williams 2002; Millet 1984: 113-114; Welsby and Welsby-Sjöström 2006; Williams 2007). Probably the main reasons were inscrutable personal motives. These carvings could act as permanent examples of devotion or pious markers of the activity of some of the people in the desert. This is most likely the case for the falcons that are directly attached to hieroglyphic inscriptions by *ir.n* (“made” or “fashioned by”). It is significant that some examples of this phenomenon were created by priests who operated in the Nubian Eastern Desert (Figure 7.8). The most active one was a person called Herunefer who left his name in several places (Leclant 1963: 21-22, plate 4, figure 11; Leclant 1964: 9, figure 1; Damiano-Appia 1999: 518-521, numbers 2-4; Castiglioni and Castiglioni 2007: 19-20, figure 3).¹¹ In certain locations and times, this individual is associated with a drawing of a falcon with no identifying inscriptions. The origin of Herunefer is never stated, but according the distribution of his

graffiti, an origin from Aniba or, less likely, Buhen can be assumed.¹² A second example is the priest Nebnetjeru, son of Heri, who wrote his name in many places in Lower Nubia and the Eastern Desert, but left just one falcon graffiti, at Huqab el-Askar (Figure 7.6). His origin is probably Baki (Kuban) as his name was left mostly around that city and along Wadi Allaqi (Weigall 1907: 113; Roeder 1911: 183, §454, plate 118d; Piotrovskii 1983: 42, number 2; 45, number 7; 46, number 15; 47, number 22; 49, numbers 47, 52; 53, number 101; 60, number 155; Damiano-Appia 1999: 529-532, number 11; Andrassy 2002: 11-12). Again, the distribution of the names of Herunefer and Nebnetjeru in Lower Nubia and the Eastern Desert could mirror the political influence of their respective localities of origin at an indeterminate moment during the New Kingdom. Admittedly, this is a big assumption to make. As their monuments are not clearly connected to official inscriptions, both priests, who were likely not contemporaries, could have created them for personal reasons and not territorial interests.

¹¹ Without further arguments, Damiano-Appia (1999: 518-519) dates these inscriptions to the beginning of the 20th Dynasty.

¹² Other epigraphic attestations from Nubia and the Eastern Desert mention priests called Herunefer (Žába 1974: 138-139, number 106; 140, number 111; 233, number A18; Hintze and Reineke 1989: 34-35, number 57, plate 27), but these seem to be different individuals. Evidence suggests that the origin of other priests and scribes called Herunefer were Buhen (stele 1188 in the British Museum, London) and Aniba (Jacquet-Gordon 1981: 228-229, no. 1), which indicates that this anthroponym was common in Lower Nubia during the New Kingdom.

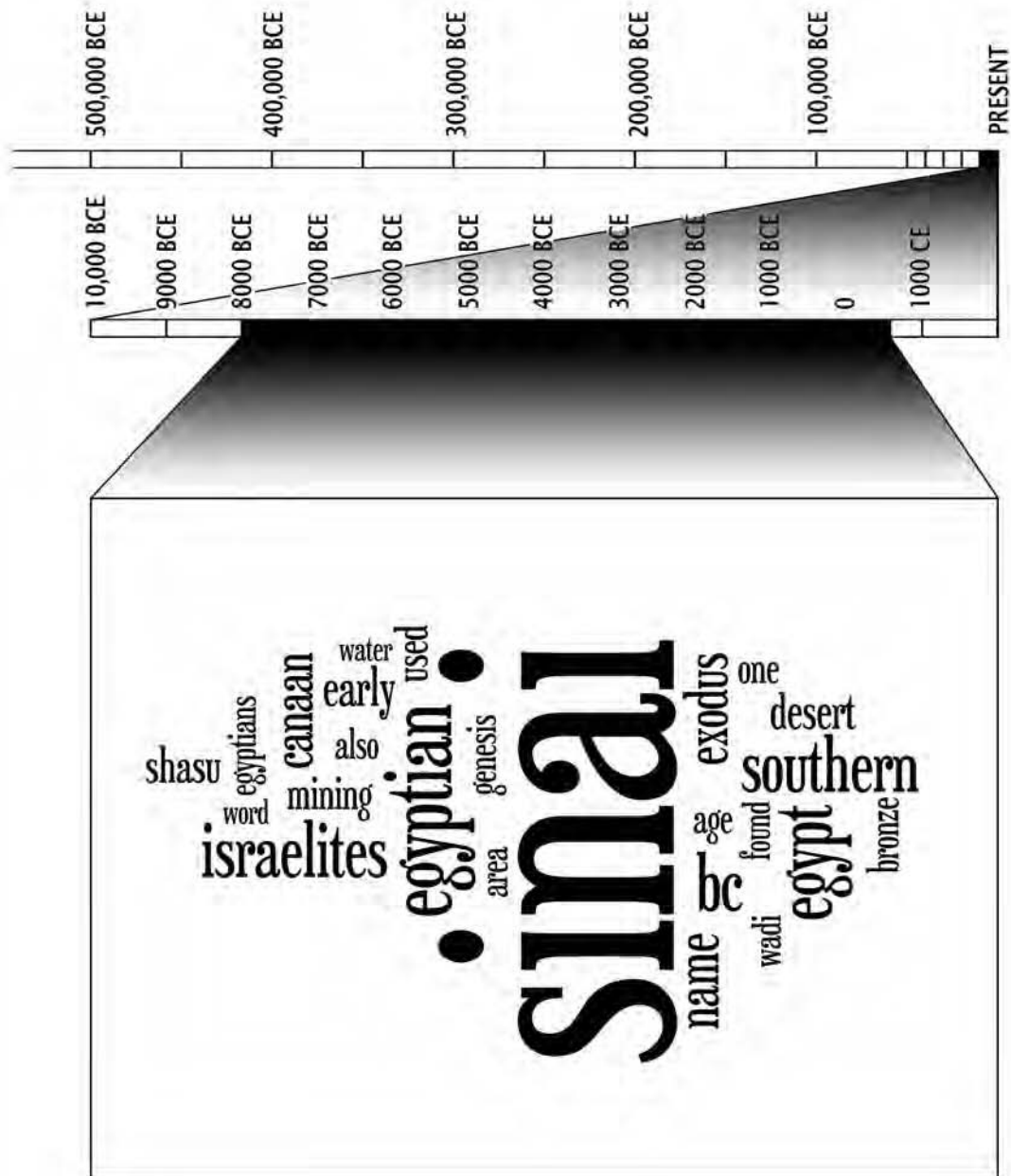
Figure 7.8. Falcon graffiti "made by the priest Herunefer" in Bir Murrat. Adapted from Damiano-Appia 1999: 540, figure 1, inscriptions BM-A/1, BM-B/1 (scale unknown).



The Difficulties of Understanding Past Religious Beliefs

The varied data left by the abovementioned scribes show how difficult it is to find coherent interpretative models of ancient religious behavior and practices, even in the same chronological and spatial framework. Despite the small catalogue of their material expressions, Egyptian religious feelings in the desert cannot be reduced to simple categories. They are shaped by a wide variety of factors, endogenous and exogenous to the worshipper and to the scholars who analyze from a distance the material remains of these practices. Any research into this plurality of circumstances and practices should entail a very careful record of the related evidence. From the examples and a discussion of the problems presented previously, it is evident that the study of religious phenomena in the Eastern Desert needs a far

more comprehensive and holistic approach, with artistic and epigraphic data interwoven with archaeological and spatial analysis in order to place the data in the most complete historical and cultural framework. This desire is at present incompatible with the many problems of field research in the desert, but should be kept in mind when reading the categorical and conclusive interpretations made in the past on the religious activities of ancient Egyptians in the area. Assertions like the presence or absence of idiosyncrasies, changes or continuities in the Eastern Desert during Pharaonic times should be taken at face value. The current evidence and state of research only permit extremely provisional conclusions on Egyptian religiosity in the Eastern Desert. Nevertheless, they are sufficient to glimpse the complexity and variety of pious activities in the Red Land.



Time line and word cloud created from James K. Hoffmeier, *Sinai in Egyptian, Levantine and Hebrew (Biblical) Perspectives*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 8



Sinai in Egyptian, Levantine and Hebrew (Biblical) Perspectives

JAMES K. HOFFMEIER

THIS CHAPTER EXAMINES THE SINAI PENINSULA from the perspectives of the ancient Egyptians, Levantines and Israelites. The Sinai Peninsula stands as the land bridge between northeast Africa and southwest Asia (Figure 8.1). Because of its strategic position it played an important role in commercial and military relations between the Egyptian (African) and Asian (Semitic) worlds over the millennia. Some of these interactions will be explored here, using archaeological and textual sources from earliest times to the end of the Late Bronze Age (around 1200 BC).¹ During the past 30–40 years considerable archaeological work has taken place in Sinai, some of which will be discussed along with the Egyptian and Hebrew textual material. For the Egyptians, Sinai served two primary functions, economic and military, while for the peoples of the deserts of Sinai it was a place to hunt, graze their herds, and to subsist through seasonal movement. Among the textual traditions to be considered are the Hebrew biblical sources that report on the movement of Israelite pastoralists between these two worlds. Many critical scholars have minimized the worth of the Pentateuchal narratives as a source for background material about Sinai. The late Anson Rainey, one of the leading historical geographers of the Levant in the past 50 years, demurred with this negative assessment, claiming that “in spite

of the literary character of the biblical tradition, it does embody considerable geographic information” (Rainey and Notley 2006: 118). I agree with this observation and think that the Hebrew Bible can contribute background information about Sinai that supplements our knowledge from archaeological and anthropological sources.

Three distinct geographical areas make up Sinai. The northern sector comprises mostly flat sandy deserts and aeolian sand dunes. South of the dune sheet is the central area marked by the Tih Plateau, which measures around 20,000 km². The plateau slopes from about 150 m (450 ft) above sea level, at the foot of Gebel Halal in the north, to an elevation of approximately 1600 m (4800 ft) at its southern edge (Greenwood 1997: 31–32). The



Figure 8.1. Satellite image of Sinai, northern Egypt and the southwestern Levant.

¹ On the issue of dating, see the editorial remarks at the end of Chapter 1: Introduction to Part 1: From Adam to Alexander (500,000–2500 years ago).

chalky Tih Plateau is separated from the Sinai granitic massif in the far south by a series of valleys running east-west (Greenwood 1997: 33). It is in this southernmost sector that Gebel Musa (2285 m, 6965 ft), Gebel Katrina (2637 m, 8038 ft) and Gebel Serbal (2070 m, 6309 ft) are located, the candidates of geographers and historians for Mount Sinai of the biblical exodus tradition (Hoffmeier 1999, 2005). The western sector of the coastal zone has undergone vast environmental changes in the past three millennia. The Pelusiac branch of the Nile in the second millennium BC, and earlier, flowed east though the Nile Delta to just north of present-day Qantara, and then emptied into a lagoon that debouched into the Mediterranean Sea. The coastline, created by the tectonically formed Pelusiac line, likely existed from at least 6000 BP (Moshier and el-Kalani 2008). Between 4000 BP and the first millennium AD, the coastline migrated north as the Pelusiac branch expanded the delta (Stanley and Coutellier 1987; Stanley and Goodfriend 1999; Stanley 2002). The south and central zones of Sinai have remained rather stable, although evidence now suggests that in the Upper Paleolithic (40,000–25,000 BP) the Levant was more humid than during the historical era (Gilead 1991; Gladfelter 1997), and that this moister environment continued into the Neolithic Period (Bar-Yosef 1982).

Southern Sinai is comprised of large igneous (granitic) mountains, which correspond to the granite range in Egypt that runs parallel to the Red Sea (Greenburg 1981). Owing to tectonic activity in the Red Sea and the Gulf of Aqaba, which are part of the Great or African Rift, and the submersion of the Gulf of Suez, the Sinai Peninsula was formed (Greenwood 1997: 16-25). A line of depressions caused by seismic activity created a series of lakes that demarcate Sinai from Egypt. Today the Suez Canal runs along this line, passing through the Bitter Lakes, Lake Timsah and the now desiccated Ballah Lake system. The Ballah Lakes were largely drained in the 19th century AD, when the Suez Canal was excavated. Systematic land reclamation for agriculture and human occupation over the past century has resulted in the near obliteration of these lakes. In Pharaonic times, perhaps during the 12th Dynasty or earlier (Sneh *et al.* 1975; Shea 1977), what appears to have been a defensive canal system was excavated between the lakes (Figure 8.2). This, along with marshy stretches of land, acted as a barrier to limit unfettered access to Egypt by invaders or infiltrating pastoralists. Questions remain about the

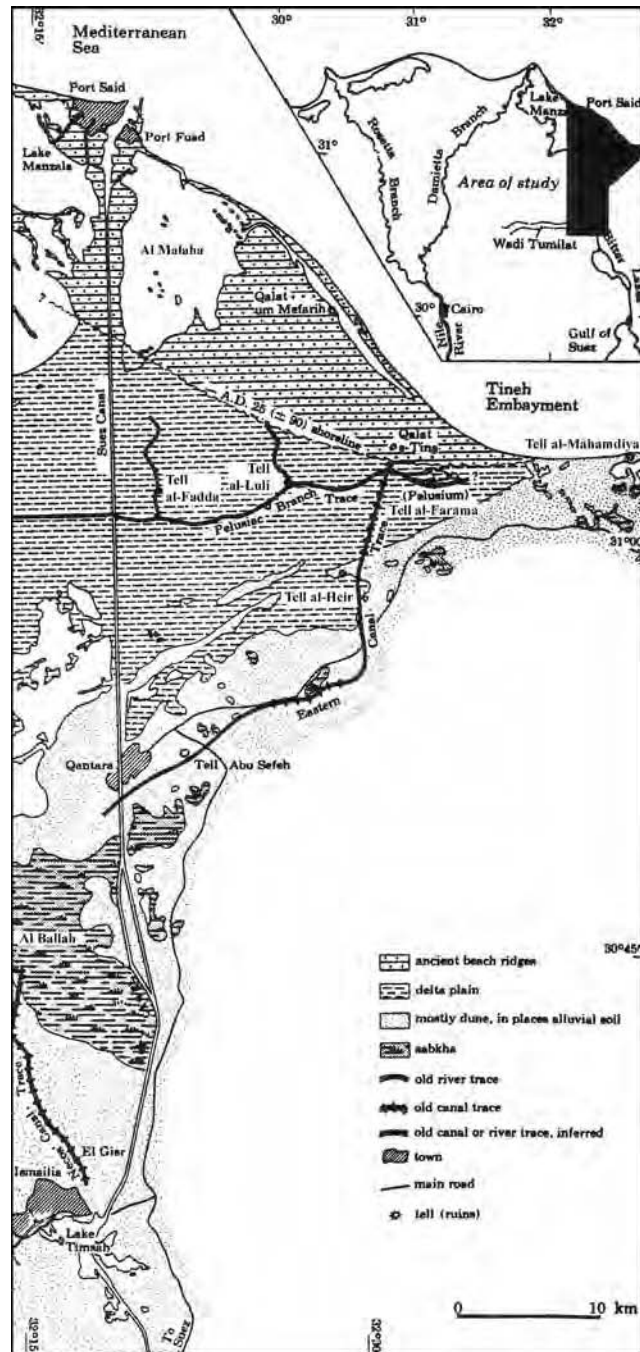


Figure 8.2. Map of the northeastern Nile Delta and northwestern Sinai showing some of the ancient lakes and traces of the 'East Frontier Canal.' Adapted from Sneh *et al.* 1975.

dating of this feature, and despite recent efforts by me to investigate this canal, no new data were found to clarify the dating (Hoffmeier 1999: 164-175; Hoffmeier and Abdel-Maksoud 2003).

Despite the natural obstacles, and perhaps a man-made canal, two main travel routes connected Egypt with Canaan (Figure 8.3). An international highway, known to Egyptologists as the 'Ways of Horus' and to



Figure 8.3. Map of the Sinai Peninsula showing travel routes and key toponyms. Drawing by Jessica T. Lim.

geographers as the ‘Via Maris,’ ran east–west along the Mediterranean coast, beginning in the eastern Delta and terminating at Gaza.² In the Bible this road was known as “the way (or road = *derek*) of the land of the Philistines” (Exodus 13:17).³ This route served as a commercial and military corridor as early as the 4th millennium BC as is clearly demonstrated by archaeological surveys across northern Sinai in the 1970s and earlier 1980s (Oren 1987, 1993). A series of forts and military depots defended this route as the panoramic reliefs of Pharaoh Seti I at Karnak Temple show (Figure 8.4, Gardiner 1920; Epigraphic Survey 1986: 1-6). In recent years,

excavations along the international road across northern Sinai have revealed some of these forts (Hoffmeier and Abdel-Maksoud 2003; Oren 2006).⁴ The excavations at Tell Hebua I and II have resulted in the discovery of the east frontier capital as well as the extremely large forts that guarded Egypt’s border with Sinai (Abdel-Maksoud 1998a, 1998b). Texts identify the site as Tjaru (Abdel-Maksoud and Valbelle 2005). The fort at Hebua II, located southeast of a water channel that separates it from the fort at Hebua I, was discovered in 2007 and to date no academic reports on the site have appeared.⁵

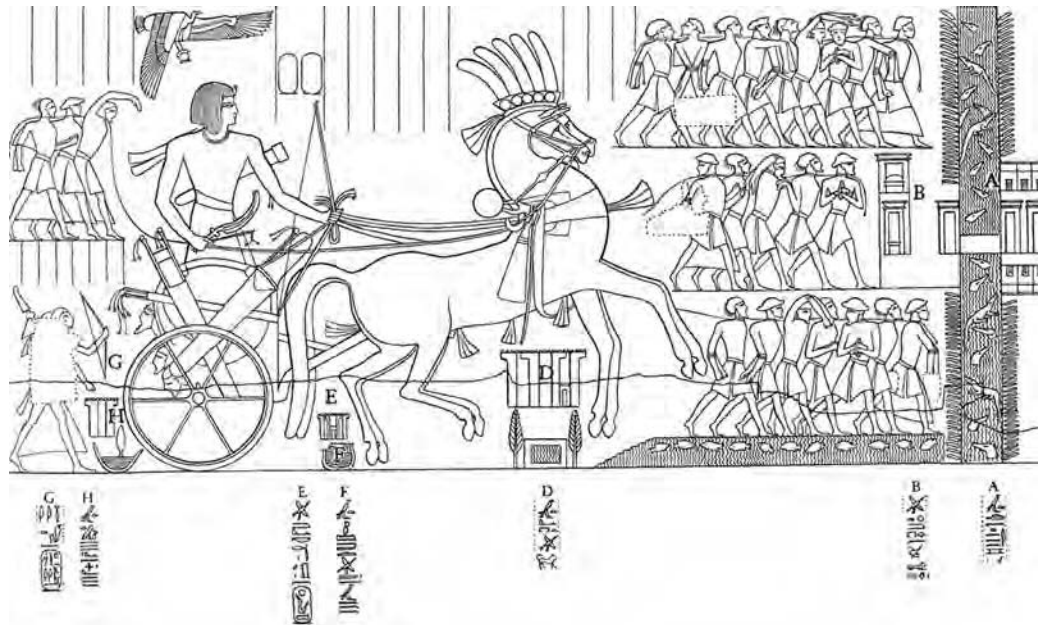
² For a recent review of geological, archaeological and inscriptional data on this subject, see Hoffmeier and Moshier in press.

³ All the Bible references quoted in this chapter are from the Revised Standard Version.

⁴ For a review of all the recent archaeological work along the Ways of Horus, see Hoffmeier and Moshier in press.

⁵ Dr Mohamed Abdel-Maksoud, however, graciously allowed me to visit his excavations in May 2008.

Figure 8.4. Line drawing of a relief of Pharaoh Seti I in the Temple of Karnak, near Luxor. Adapted from Gardiner 1920.



A second route connecting Egypt and Canaan (modern Israel) was an extension of Wadi Tumilat that runs east from near the base of the Nile Delta into Sinai. A series of forts ran south from Avaris (Pi-Ramesses) into this valley (Kitchen 1998), with the *Htm*-Fort of Pharaoh Merneptah-hetepirmaat in Wadi Tumilat (Tjeku, *pAnastasi VI 54-56*, Gardiner 1937: 76.12-15; Caminos 1954: 293-295), probably at Tell al-Retabeh, serving as the main entry point (Morris 2005: 382-384). The road extending from Wadi Tumilat, east of Lake Timsah, followed a track roughly parallel to its northern counterpart, the Ways of Horus (Figure 8.3). Situated 20–30 km (15–20 mi) south of the coastal route, this road passed the limestone escarpment that includes Gebel Helal (892 m, 2719 ft), Gebel Maghara (944 m, 2877 ft) and Gebel Yeleq (1092 m, 3328 ft). Upon reaching the eastern extent of Sinai, this road turns north to Beer-Sheva, Hebron, Jerusalem and other important Canaanite and Israelite sites. Little is known from Egyptian sources about the Sinai portion of this route, but it is known as the ‘Way of Shur’ in the Bible (Genesis 16:7, 25:18; 1 Samuel 15:7, 27:8). There is no evidence that this route was defended like the Ways of Horus. Shur in Hebrew means ‘wall’ (Koehler and Baumgartner 2001: 1453), leading some to think that this name may allude to the forts on Egypt’s east frontier that would have guarded the entry to Wadi Tumilat (Hyatt 1971: 172; Sarna 1989: 120). This interpretation, however, is problematic and has been questioned (Na’aman 1980: 100-101). Another possibility is that Shur refers to the wall-like Cenomanian limestone escarpments of Gebel Helal and Gebel Maghara.

Egyptian Terms for Sinai

The ancient Egyptians considered Sinai to be a foreign land, but they sought to exercise control over the Mediterranean coastal region and the mining districts of central Sinai. As important as Sinai was to Egypt’s military and economic interests, it remains uncertain whether the Egyptians even had a specific name for the entire peninsula. Sir Alan Gardiner, after studying the corpus of texts from Serabit al-Khadim and Wadi Maghara, the two principal Egyptian mining centers, declared that “it is an astonishing fact that despite the multitude of inscriptions found in Sinai, and the importance of the peninsula in Egyptian eyes, we are not in a position to say with certainty what name the Egyptians gave to the place” (Gardiner and Peet 1955, 1). The rather generic term ‘mining district’ is used for the Serabit-Maghara area (Erman and Grapow 1926-1931: Volume 1, 438). The primary meaning of *biḥ* is metal (Erman and Grapow 1926-1931: Volume 1, 436),⁶ but when written with the foreign land determinative, the meaning becomes mining or metal district (Gardiner and Peet 1955: 1). Amenemhet, a 12th Dynasty (1938–1755 BC) expedition leader, reports on a stela from Serabit al-Khadim that “I came to the mining district for my lord” (Gardiner and Peet 1955: 140). The ill-fated boat of *The Ship Wrecked Sailor*, a literary text of

⁶ Harris 1961: 50-62 offers a lengthy discussion of this word and suggests that it means iron or meteoric material. He is dubious of the association of *biḥ* with mines and mining but offers no convincing explanation for why *biḥ* occurs in connection with areas where the Egyptians went to mine.

the Middle Kingdom (1975–1640 BC), was on a mining mission to ‘the mining district of the sovereign,’ which must have been Sinai. In the absence of any other obvious name among the scores of Egyptian inscriptions at Serabit al-Khadim and Wadi Maghara, Gardiner concluded that the term *bi3* “may be perfectly well a specific place name used by the Egyptians for Sinai” (Gardiner and Peet 1955: 2).

At Ain al-Sukhna, situated on the western littoral of the Red Sea, about 40 km (25 mi) south of modern Suez, a new and important group of texts has recently been discovered (Abdel-Raziq *et al.* 2002). The inscriptions were recorded by mining expeditions on their way (apparently) to Serabit al-Khadim. One is from the first year of the reign of Pharaoh Montuhotep IV (1970–1963 BC), the last monarch of the 11th Dynasty. This text reports that the expedition came “in order to bring turquoise . . . of the highlands,”⁷ but no specific name is used. A second text, likely from the reign of Pharaoh Senusert I about 40 years later, mentions *bi3* written with the foreign land determinative (Abdel-Raziq *et al.* 2002: 57). Since it was first suggested that *bi3* was the most likely Egyptian name for Sinai, no new data have appeared to challenge this view. Rather the new Ain al-Sukhna texts corroborate this hypothesis.

Hebrew Terms for Sinai

Sinai is universally used in modern times for the extension of the Eastern Desert that connects Africa and Asia. Like the term used in English, the Arabic *sina*’ (سیناء) is etymologically related to the Hebrew term used in the Hebrew Bible. The origin of the name is disputed and, further complicating matters, the Bible also uses the name Horeb. Biblical scholars have traditionally regarded the dual usage as indicative of the different sources of the narratives, Sinai being the term used by the earlier Yahwist (J) and the later Priestly writers (P), while Elohist (E) and Deuteronomist (D) authors preferred Horeb (Hyatt 1971: 71; North 2001). The word Sinai is found 35 times in the Bible. The term is used in three different ways. By far the most frequent usage of Sinai is in combination with *har* (mountain), which occurs 16 times, invariably in connection with the location where Moses received the law⁸; 13 times

Midbar Sinai (wilderness or desert of Sinai) is found⁹; and Sinai stands alone on 6 occasions, all in poetic materials except Exodus 16:1. The poetic usages mention the theophany at Sinai or apply it as an epithet for God “the one of Sinai.”¹⁰ The Exodus 16:1 occurrence of Sinai is connected with the location of the wilderness of Sin, “Israel came to the wilderness of Sin, which is between Elim and Sinai.” Several scholars have suggested that one term perhaps derives from the other (Seely 1992; Propp 1999: 590), Sin being a shortened form of Sinai. This explanation is unlikely, however, because Exodus 16:1 clearly places the Wilderness of Sin between Elim and Sinai. Additionally, according to the text, the Israelites did not reach the wilderness of Sinai until after leaving Rephidim, six weeks after departing Egypt (Exodus 19:1-2; Numbers 33:16). This indicates that the two deserts were not one and the same, despite the similarity of the names. Rather, it suggests that Sinai was a more specific area within the Sinai Peninsula.

A second explanation for the origin of the word Sinai is that it stems from the type of bush mentioned in Exodus where Moses experiences a theophany (Beegle 1972: 63). This bush is identified as *s^eneh* (Exodus 3:2). Levenson agrees with Beegle that the similarity of the sound between *s^eneh* and Sinai “cannot be coincidental” (Levenson 1985: 20). The *s^eneh*-bush is a “multicoloured bramble” (*Cassia obovata*; Koehler and Baumgartner 2001: 760). Others are skeptical of the connection: “It is dubious if there is any connection between the name of the bush and that of Sinai” (Cassuto 1951: 31), also because Horeb and not Sinai is the name of the mountain in Exodus 3:2. Given the Hebrew writers’ fondness for wordplay, one might have expected Sinai to be used alongside the *s^eneh*-bush if they appreciated a connection between these words. A third theory for the origin of the word Sinai is the possible connection between the Hebrew word Sinai and the Egyptian name for the city of Pelusium (Tell Farama) in North Sinai. Pelusium is the Greek name, meaning “city of mud,” which may have derived from the Egyptian term *sin*, meaning mud of clay (Cheshire 1985; Meltzer 1992). This city is mentioned twice in the Old Testament where it is written as *sin* in Ezekiel 30:15-16, which was written in the early 6th century BC. Pelusium is also possibly the city mentioned in Assyrian texts as *Sinu* from the time of Ashurbanipal’s

⁷ Translation by the author, based on the text in Abd el-Raziq *et al.* 2002: 40.

⁸ Exodus 19:18, 20, 23; 24:16; 31:18; 34:2, 4, 27, 32; Leviticus 7:38; 25:1; 26:46; 27:34; Numbers 31; 28:6; Nehemiah 9:13.

⁹ Exodus 19:1, 2; Leviticus 7:38; Numbers 1:1, 19; 3:4, 14; 9:1, 5; 10:12; 26:64; 33:15, 16.

¹⁰ Deuteronomy 33:2, 16; Judges 5:5; Psalms 68:8, 17.

conquest of Egypt in 667–666 BC. Given the distance between Pelusium, in the northeastern-most point of the Nile Delta, and the Bible's location of Sinai as a region, most likely in southern Sinai, which according to the biblical itinerary took the Israelites considerable time to reach, two and a half months (Exodus 12:18, 29 and 19:1), it seems unlikely that Pelusium (*sin*) gave its name to Sinai, or vice versa. None of the presented theories to explain the origin of the term Sinai have attained a consensus. Sinai is not found in any Egyptian text, making it likely that the name Sinai was not an Egyptian term, but may have been the name of the peninsula used by desert dwellers and has survived into modern times thanks to its transmission in the Bible.

The term Horeb occurs 17 times in the Bible (Exodus 3:1; 17:6; 33:6; Deuteronomy 1:2, 6, 19; 4:10, 15; 5:2; 9:8; 18:16; 29:1; 1 Kings 8:9, 19:8; 2 Chronicles 5:10; Psalms 106:19; Malachi 4:4). Unlike Sinai, the meaning of Horeb is known (a dry wasteland), which is a cognate with Akkadian *hurbu* and *huribtu* that means desert (Koehler and Baumgartner 2001: 350). The expression “wilderness of Horeb” does not occur in the Old Testament, perhaps because it would be redundant; once, however, “Mount Horeb” is used (Exodus 33:6). Because all the occurrences of *hōrēb* except this one refer to a region, one wonders if *har hōrēb* in Exodus 33:6 might be understood as the genitive of association, which could be translated as “mountain of Horeb,” a mountain located in Horeb rather than a mountain named Horeb. Exodus 3:1 states that Moses “came to Horeb, the mountain of God,” and Deuteronomy 1:6 declares that “the Lord our God spoke to us at Horeb, saying, You have stayed long enough at this mountain.” All other references use Horeb as a regional name and it seems misleading to state that there are two different names used in the Bible for the sacred mountain, as it appears to be located within a region called Horeb. “Horeb was originally the designation of a region in which Sinai lay, and gradually it came to be understood as simply synonymous with Sinai” (Mayes 1979: 115). Similarly, based on Exodus 17:1-7, it was proposed that Horeb might have been a larger geographical region, because Rephidim is situated in Horeb, where the Israelites are said to have arrived before they reach Sinai in Exodus 19:2 (Sarna 1991: 14). The term Horeb is descriptive of the geography of Sinai, and thus might be the name given to it by the Israelites themselves. If the toponym Sinai was indeed the name used by local tribes, this may

be the explanation for interchangeability of the terms in the Bible.

According to the Hebrew writers, Sinai actually consisted of seven smaller deserts, Shur, Etham, Sin, Sinai, Paran, Zin and Kadesh, all introduced by *midbar* (Seely 1992: 47). Paran was the toponym used by the early second century AD geographer Ptolemy for the area today known as Fayran in Arabic and it may be that Paran was originally the ancient Semitic name for the whole of the Sinai Peninsula and that the name (Wadi) Fayran in southern Sinai preserves that ancient name (Aharoni 1961). Aharoni believed that Paran was also used for a specific area around Kadesh-Barnea (Ain Qudeirat) as well as for all of Sinai. This understanding finds support in the biblical records of the flight of Edomite prince Hadad from Solomon: “They set out from Midian and came to Paran; they took people with them from Paran and came to Egypt, to Pharaoh king of Egypt” (1 Kings 11:18). According to this reference, Paran was located between Edom (Midian) and Egypt, which would apply to the area of Kadesh. Others likewise have wondered if Paran was not the name for the Sinai during the Late Bronze and Iron Age I, while Sinai applied to an area within the southern portion of the peninsula (De Vaux 1978: 431).

The usage in the Pentateuch thus suggests that the name Sinai originally applied to a limited area and not to the entire peninsula. Exactly how and when Sinai became the name for the entire region is unknown. In the writings of Herodotus (II: 8, 12, 15, 19) and other classical writers, Arabia is the name given to Sinai (Liddell *et al.* 1995: 233). In his account of Cambyses's conquest of Egypt, in 525 BC, Herodotus (III: 4-9) mentions Arabia and Arabians as situated between Palestine and Egypt. The reason for this must be that during the first millennium BC, migrations brought Arab tribes, such as the Qedrites, from southern Arabia to the areas east of Israel.¹¹ The first mention of Arabs in Near Eastern texts is on the Kurkh monolith of King Shalmaneser III.¹² It

¹¹ Kedar (Qedrites) are mentioned with some frequency by the biblical prophets (for instance, Isaiah 21:16-17, 42:11, 60:7; Jeremiah 2:10, 49:28; Ezekiel 27:21), indicating their presence in the region.

¹² The Kurkh monolith is an inscribed stone, standing about 2.2 m high, with a description of the first six years of the reign of the Assyrian King Shalmaneser III (859-824 BC), including the Battle of Qarqar. It was found in 1861 by J.E. Taylor near the village of Kurkh (Üçtepe), in the Turkish province Diyarbakır. The Kurkh monolith is now in the British Museum, London.

reports that one thousand dromedaries of Gindibu' of Arabia were contributed to the Battle of Qarqar in 853 BC (Hallo and Younger 1997–2002: Volume 2, 263-264). During the Persian Period (6th–5th centuries BC), Arabs are mentioned in inscriptions indicating that they had moved into the areas of southern Palestine, Trans-Jordan and Sinai (MacDonald 1995). During the Hellenistic period, the Septuagint translators of Genesis 46:34 added a note that the land of Goshen was “of Arabia,” showing that they understood that the northeastern delta where Goshen was situated was beside Arabia, which can only be Sinai.¹³ Possibly during the Byzantine period, when Christian pilgrims began visiting sites in the Holy Lands, the biblical name Sinai replaced Arabia and was extended to the entire peninsula.

Early Human Presence in Sinai

Humans have inhabited Sinai from as early as the Upper Paleolithic (Phillips 1988; Gladfelter 1997), and during the Middle and Lower Paleolithic (Phillips and Gladfelter 1989). The presence of humans has also been documented in the Neolithic (Bar-Yosef 1982) and the Chalcolithic Periods (Beit-Arieh 2003: 78-100). This presence is not, however, continuous. In the Early Bronze Age (3500–2000 BC), an increase in the number of sites has been documented (Beit-Arieh and Gophna 1976, 1981; Meshel 2000: 99-103). The upsurge of Early Bronze Age sites in Sinai is mirrored in southern Canaan (Finkelstein 1995: 16, figure 2.1), and corresponds to the rise of Dynastic Egypt. Sinai, then, has been inhabited more or less continuously since the late Pleistocene, with notable gaps, despite the challenges it presents to human habitation with its limited reserves of water and vegetation, hot summers and cool winters, and rugged terrain. In the biblical tradition, Sinai is described as “the great and terrifying wilderness, with its fiery serpents and scorpions and thirsty ground where there was no water” (Deuteronomy 8:15), while the Egyptian expedition commander Harwer-re around 1837 BC described being in Sinai “in this evil season of summer” (Gardiner and Peet 1955: 97). The archaeological evidence suggests that two types of individuals inhabited the peninsula (Finkelstein

¹³ The Septuagint is the translation, made between the third and first centuries BC, of the Hebrew Bible into (Koine) Greek, the *lingua franca* in the region at that time. The name refers to the 70 interpreters that are said to have worked on the translation and is sometimes abbreviated *LXX*.

1995: 15-19). First were outsiders who entered Sinai for “economic, political, military or religious” purposes, while the second category comprised the “desert people” (Finkelstein 1995: 19). The Egyptians and Israelites represent the first group.

Egyptian Economic Interests

Evidence for commercial contact with the southern Levant has been documented as early as the Chalcolithic Period in the mid-4th millennium BC (Gonen 1992). It has been observed, however, that “there is a sudden and drastic change in the number and character of these relations at the beginning of the Early Bronze Age. A larger number of Egyptian artifacts, especially ceramic vessels, have been found in Palestinian sites of this period and at southern sites, such as Tell Erani, Tell Maahaz and Tell Halif, the majority of the ceramic assemblages discovered are Egyptian in form” (Ben-Tor 1992; Gophna 1998). These data reflect expanded Egyptian commercial interaction with southern Canaan in the Early Bronze Age I, which, in turn, coincides with the political unification of Egypt, around 3200–3100 BC. The *serekh* with the Horus name of Narmer has been discovered etched on sherds at Arad (Amiran 1974), Tell Erani (Yeiven 1993) and Tell Halif (Levy *et al.* 1995).¹⁴ These epigraphic finds demonstrate that the commercial ties were undertaken by royal sponsorship and for this to occur travel across northern Sinai was necessary. Petrographic analysis of the sherd with the *serekh* found at Tell Halif showed that it was made of Nile clay and that the vessel must have been transported from Egypt and was not locally made (Levy *et al.* 1995). Rather than suggesting Egyptian colonization of the region (Brandl 1992), however, these facts likely reflect the economic activity in the area, which may have included Egyptians residing in southern Canaan.

While it is possible that commercial and economic exchange occurred on the Mediterranean Sea,¹⁵ the land route was definitely used as shown by archaeological

¹⁴ A *serekh* is a drawn rectangular enclosure, representing the façade of a palace, surmounted by the falcon-god Horus, indicating that the enclosed Hieroglyphic text is a royal name. The *serekh* predates the better known cartouche by several centuries. Narmer is the first Pharaoh of a united Upper and Lower Egypt, around 3100 BC. The Horus name is one of several official names of a Pharaoh.

¹⁵ Cedar from Lebanon surely came to Egypt by sea as the Palermo Stone records ships with cedar arriving during the reign of Pharaoh Sneferu (Gardiner 1961: 62).

surveys in North Sinai. Investigations have identified over 250 sites from the Early Bronze Age I–II, indicating that this corridor was active in the late 4th millennium BC (Oren 1987, 1993, 2006). In Egypt, Early Bronze Age I vessels from the Levant have been found as far south as Abydos, in the burials of First Dynasty rulers (Spencer 1995: 76), indicating that the movement of materials was in both directions. A royal label from First Dynasty Pharaoh Den, found at Abydos, depicts the monarch smiting the head of a desert dweller, showing sand and dunes as the environment of the activity (Spencer 1995: 87), along with an inscription that reads *sp tpy skr i3b(t)*,¹⁶ “first occasion of smiting the east(erners).” This representation could celebrate royal military action against eastern tribes who posed problems for Egypt’s economic interests in Sinai. It further indicates that Egypt was willing to take military action to protect its economic interests around the end of the 4th millennium BC.

The earliest record of Egyptian mining operations in southern Sinai comes from the Third Dynasty relief of Pharaoh Sekhemkhet who is portrayed in Wadi Maghara smiting a foreign enemy (Gardiner and Peet 1955: plate 1). While turquoise may have been the principal material mined in Sinai, it is now apparent that copper was also pursued. Early investigators of the two major Egyptian mining sites, Serabit al-Khadim and Wadi Maghara, thought that only minimal amounts of copper were mined (Gardiner and Peet 1955: 5), although there is evidence that at sites near Serabit al-Khadim copper was mined (Lucas and Harris 1989: 202–205). Against the view that only limited copper mining and smelting occurred to service the miners, recent discoveries have revealed “the largest assemblage of metal-casting molds ever discovered in the Near East” were found during the excavations at Serabit al-Khadim in 1977 and 1978 (Beit-Arieh 1987), including a mold for ingots. A second cache was uncovered in Mine G that appeared to date to the New Kingdom, a date supported by the ceramic remains (Beit-Arieh 1987). The large amounts of copper-working instruments exceeds what would be required to support the work of the miners and a mold for ingots would only be needed to make copper for transport elsewhere. Consequently some now think that copper was exploited by the Egyptians in southern Sinai (Mumford and Parcak 2003). It is worth recalling that

the Egyptians referred to the mining area of central and southern Sinai as *bi3*, a word that means metal (Erman and Grapow 1926–1931: Volume 1, 436), which would be fitting if copper was being mined there.

At Ras Budran (Site 345) on the Markha Plain, just south of Abu Zenima, the remains of a late Old Kingdom fort were discovered approximately 200 m from the Red Sea shore (Mumford 2006). This circular stone stronghold, measuring 44 m in diameter, was located on a bay with easy access to the valleys that lead to the Egyptian mining areas in Wadi Kharig, Serabit al-Khadim and Wadi Maghara. A structure of this size and permanence suggests that it was designed to protect Egyptian mining operations from hostile locals who might interfere with Egypt’s economic interests (Mumford 2006). It also was a place where some processing of raw materials took place. Another site that bears the marks of regular Egyptian mining operations, to judge from the presence of permanent stone structures, is Serabit al-Khadim (Hanna *et al.*, this volume). The temple of Hathor, Lady of Turquoise, was apparently founded in the 12th Dynasty, with chapels and pylons being added with regularity throughout the New Kingdom to the late Ramesside era (Bonnet *et al.* 1994; Valbelle *et al.* 1994; Bonnet 1998; Mumford 1999).

The Desert People

Many Pre-Pottery Neolithic sites have been documented in Sinai. Bar-Yosef has studied a number of them and believes that they were seasonally occupied (Bar-Yosef 1982, 1984). He labeled the Pre-Pottery Neolithic people of southern Sinai ‘Neolithic nomads’ and ‘hunter-gatherers’ who occupied winter camps at lower elevations, near the sea, and in the summer months moved to higher elevations, typically 1200–2000 m above sea level (Bar-Yosef 1982: 9; Bar-Yosef 1984: 145). Their circular stone structures were set 20–40 cm into the ground and had silos associated with them. The discovery of rubbing stones and querns indicate that grains were being consumed. The stratigraphical evidence within the habitats points to repeated occupations (Bar-Yosef 1982: 10). The clustered arrangements of the circular stone domiciles of the Pre-Pottery Neolithic A (8300–7300 BC) were supplanted by similar structures in the Pre-Pottery Neolithic B (7300–5800 BC), but planned around a central courtyard (Rosen 2009). The circular houses of Sinai follow the same basic plan as those in southern Canaan, whereas in

¹⁶ Written with only the R-15 sign makes it impossible to know if ‘the east’ or ‘easterners’ is meant. Translation by the author.

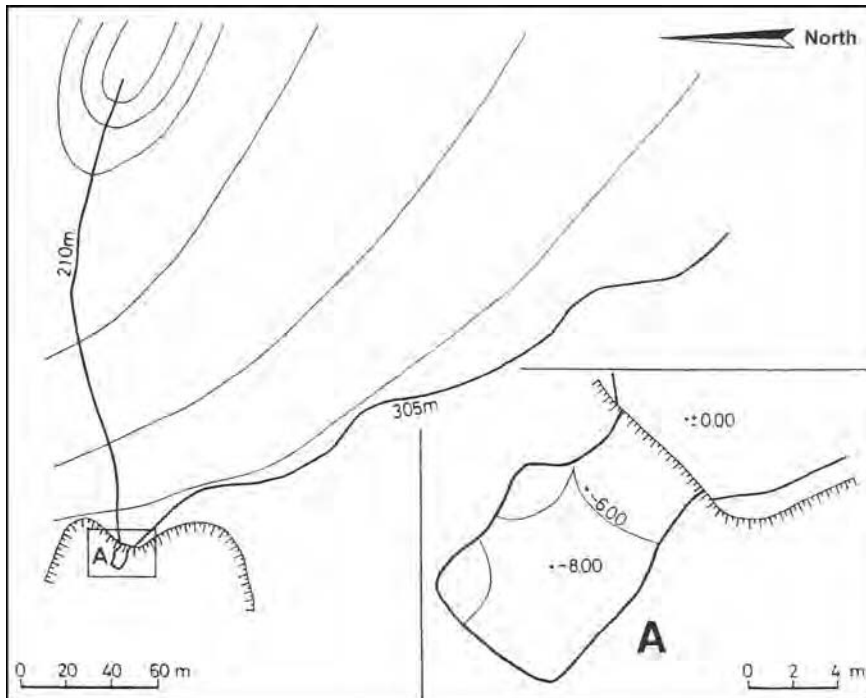


Figure 8.5. Plan of a 'desert kite.' Adapted from Meshel 2000: 122.

northern Canaan rectilinear houses were standard for this period (Bar-Yosef and Khazanov 1991).

Other impressive architectural features left in Sinai by its Pre-Pottery Neolithic inhabitants are the so-called 'desert kites.' These are found in Syria, Jordan and Sinai, and there is widespread agreement that these enormous stone structures were used for hunting gazelle and likely also other desert game (Meshel 2000: 121-142). Dating the desert kites has posed challenges. Meshel believes they could go back to the Pre-Pottery Neolithic times, although the construction of the majority seems to be later and they continued to be used into the modern era (Meshel 2000: 139-141). In excess of 20 kites have been discovered in southern Sinai, in the area between Gebel Serbal in the west and Ain Hudra in the east (Figure 8.5). Some have arms that exceed 300 m in length, indicating that these structures were not built by a small group of individuals, but rather "reflect cooperative hunting, probably requiring a larger community than earlier hunting strategies" (Rosen 2009: 61).

The culture connection between the Negev (southern Canaan) and Sinai is further evidenced by the presence of the same types of cultic sites. Three types of religious installations have been identified: standing stone shrines, open sanctuaries, and cairns (Avner 1984, 1990). Standing stones dating to the 11th–10th centuries BC according to Avner have been found in Trans-Jordan, southern Israel and Sinai (Avner 2001). The stones

typically are not worked and are of different shapes and sizes, and most likely symbolize various deities. At Har-Karkom, just inside Israel's present-day border, scores of cultic installations have been found around the mountain, with some of the stones displaying human features (Anati 2001: 30-33). The excavator believes that they span from the Chalcolithic Period to the Early Bronze Age (Anati 2001: 9).¹⁷ These standing stones are likely the precursors to the later Canaanite standing stones, known from the Middle and Late Bronze Ages, and were probably adapted by the Israelites (Avner 2001). It has been suggested that the tall narrow Egyptian stelae at Serabit al-Khadim, which are different from the standard shape of such Egyptian monoliths, may have been influenced by the local tradition for making standing stones (Hoffmeier 2005: 247-248).

One of the most intriguing architectural features associated with the Chalcolithic and later Early Bronze I cultures of Sinai are the *nawamis* (نواميس, 'concealing a secret,' but also 'mosquitoes,' Murray 1935). Some think that that these circular burial structures were constructed by the Neolithic peoples of Sinai (Rosen 2009: 61). Others, such as Captain Henry Spencer Palmer, were told by local Bedouin that these monuments were built by the Israelites during the wilderness period to protect

¹⁷ See my critique in Hoffmeier 2005 (125-126) on Anati's association of this site with Mount Sinai of the Israelites.

them from plagues of mosquitoes (Palmer 1892:106). Professor Edward Henry Palmer (no relation), who visited Sinai in 1868 and 1870 with the Palestine Exploration Fund, was also intrigued by the *nawamis*, some of which he described “as large as 10 ft high and 8 ft in diameter” (Palmer 1872: 255-256), 3.0×2.5 m, respectively. He thought of them as “primeval dwellings” that had been subsequently used for burials, but, like other early investigators, he had no way of dating the structures. Recent excavations of some *nawamis* and adjacent settlements suggest that they date to the Chalcolithic Period and the Early Bronze Age I, based on the lithic assemblages, ceramic materials and radiocarbon data (Bar-Yosef *et al.* 1977; Bar-Yosef *et al.* 1986; Beit-Arieh 2003: 439). Most likely they were family burial structures that contained primary and secondary interments (Bar-Yosef *et al.* 1986).

The Neolithic peoples of Sinai, it appears, had a subsistence-based economy that included hunting game, capturing migratory birds and collecting grains. During the winter months they moved from higher elevations closer to the sea, where they could fish and collect shell fish (Bar-Yosef 1982). They were not attracted to Sinai for its natural resources as was the case for people in following millennia. Turquoise and secondarily also copper were the natural resources that attracted ancient Egyptian mining expeditions to southern Sinai. Turquoise is already found in the Neolithic cultures of Fayum and Badara, in Egypt, and subsequently also in other Predynastic and Early Dynastic contexts (Lucas and Harris 1989: 404). Remarkably, turquoise is rarely discovered in Canaanite sites (Beit-Arieh 2003: 97). Because Sinai is the closest source of turquoise to Egypt, the turquoise found at Neolithic sites undoubtedly came from there. As there is no evidence for Egyptian activity at Wadi Maghara and Serabit al-Khadim until around 2700–2650 BC, it appears that the earliest miners of turquoise, and undoubtedly also copper, were the native people of Sinai and southern Canaan. The examples of turquoise from Neolithic contexts in Egypt does not prove mining occurred as these pieces could have been surface finds by Sinaitic Neolithic peoples who engaged in some sort of trade contact with their contemporaries in the Nile Valley, perhaps via the Wadi Tumilat.¹⁸

Despite the extensive surveys and investigations of Sinai in the 1970s and early 1980s, no Pottery Neolithic

site has been identified. Consequently, when and under what circumstances domesticated sheep and goats were introduced into Sinai remains uncertain.¹⁹ By the end of the 7th millennium BC, however, ovicaprid bones were deposited in abundance at sites across the ancient Near East (Hesse 1995; Zeder and Hesse 2000; Pedrosa *et al.* 2005). There is no reason to doubt that pastoralists in Sinai during the late 7th-6th millennia BC would also have had sheep and goats. At a Chalcolithic site with Ghassulian cultural features near Serabit al-Khadim ovicaprid bones were documented (Beit-Arieh 2003: 78-100), signaling that by this period herding constituted a significant part of the economy. Radiocarbon dates from this site fall between 4216 and 3985 BC. Two of the buildings (Structures A and B at Wadi Oasis) are elliptically shaped in a building style similar to the *nawamis* in the area (Beit-Arieh 2003: 80-82), while the flints associated with the settlement are Canaanite types (Beit-Arieh 2003: 87). The importance of this site lies in its location in the heart of the mining district and the possible relationship of its inhabitants with the beginning of turquoise and copper mining. The black hematite stone hammers discovered there were likely used in turquoise mining operations (Beit-Arieh 2003: 87, 92), and chips of turquoise were found near one of the structures. The ceramic remains send mixed signals. There are Chalcolithic types, such as pierced lug-handled juglets, a flat base of a jar and bowls that are attested at Ghassul, Beer-Sheva and Arad. Egyptian wares were also found, known from the First Dynasty at Abydos and southern Canaanite sites in Early Bronze Age I and II contexts (Beit-Arieh 2003: 84-85). It is not clear whether the presence of Egyptian pottery at this early date indicates that the Egyptians actually worked at the site, or that these vessels belonged to the people of southern Canaan who were trading with Egyptians at sites like Arad, Tell Erani, Tell Maahaz and Tell Halif. If the latter scenario is correct, then we have a mechanism to explain how the products of southern Sinai could reach Egypt prior to the beginning of Egyptian-sponsored mining expeditions to the area, namely via southern Canaan.

The millennium between 3200 and 2200 BC (the Early Bronze Ib-III) saw a dramatic increase in the number of sites of local or Canaanite culture in Sinai. Early Bronze Age I sites (3500–3200 BC) are not attested at all in southern Sinai, which contrasts with a significant

¹⁸ This suggestion was made by Dr James Phillips of the Field Museum of Natural History, Chicago, in an e-mail communication.

¹⁹ I am grateful to Dr James Phillips for this information in an oral communication.

rise in the expansion of sites in southern Canaan and along the Ways of Horus in northern Sinai. For the Early Bronze Age II (3000–2700 BC), however, the Ophir Expedition found that “in the EB II settlement in Southern Sinai peaked and changed in character” (Beit-Arieh 2003: 440). This Early Bronze Age II culture, it has been suggested, had close affinities with Arad (Amiran 1977). Larger sites are found in the central mountain area and in Wadi Fayran. Stone habitation areas were planned following several designs. One type comprises broad rooms built around a courtyard, while another has a larger circular central building surrounded by small rooms that are thought to be animal pens (Beit-Arieh 2003: 440–441). For the Early Bronze Age III (2700–2200 BC) and the era that corresponds to the Egyptian Old Kingdom (Third–Fifth Dynasties) evidence for Egyptians was found in central and southern Sinai (Beit-Arieh 2003), in Wadi Maghara.

The Middle and Late Bronze Ages (around 2000–1200 BC), corresponding to the Egyptian Middle and New Kingdoms, saw an unprecedented military and economic activity by the Egyptians in southwest Asia. This is also marked in the archaeological record of the mining areas of southern Sinai. The 12th and 18th–19th Dynasties coincide with the greatest building activities are Serabit al-Khadim (Hanna *et al.*, this volume). Royal stelae, chapels and pylons were added throughout the area (Gardiner and Peet 1955; Beit-Arieh 1987; Bonnet *et al.* 1994; Valbelle *et al.* 1994; Valbelle and Bonnet 1996; Bonnet 1998; Mumford 1999). The period from 1500–1200 BC, however, is matched by surprisingly little evidence for the presence of the Semitic speaking peoples of Canaan and the ‘desert people.’ Work in southern Sinai revealed that the “MB II [Middle Bronze Age II] and Late Bronze Age are represented by remains of Egyptian Middle and New Kingdom for turquoise in the area of Serabit al-Khadim and Maghara but there does not appear to have been any settlement eastward into the mountains” (Beit-Arieh 2003: 440). Beit-Arieh’s efforts only resulted in the recovery of “random LB [Late Bronze Age] sherds” in the survey area. Some explain this hiatus as evidence that the “subsistence mode [of the population] was closer to the pastoral end of the sedentary nomadic continuum” (Finkelstein 1995: 101).

The copying of the so-called Proto-Sinaitic inscriptions in the mines at Serabit al-Khadim by Sir Flinders Petrie in 1905 and the study of them by subsequent scholars

revealed that the language was Semitic and that the signs constituted a Proto-Canaanite alphabetic script (Naveh 1997: 23–42; Briquel-Chatonnet 1998). Contrary to earlier opinions that texts represented the origins of the Semitic alphabetic script, these texts are predated by other Proto-Canaanite inscriptions discovered at Shechem, Gezer and Lachish in Canaan (Naveh 1997, 26), and even earlier Proto-Canaan alphabetic texts found in Wadi al-Hol in the Western (Libyan) Desert of Egypt (Darnell *et al.* 2005). These texts show that the signs developed from the Egyptian Hieroglyphic script and date to around 2000 BC. What the Serabit al-Khadim inscriptions illustrate is that there were Canaanites working in the mines during the 15th century BC. It remains unclear whether these were working with the Egyptians or independently. Interpreters (‘w) are mentioned as members of expeditions on twelve different texts from the 12th Dynasty at Serabit al-Khadim, and an “overseer of interpreters” is also mentioned (Gardiner and Peet 1955: 17). The inclusion of such interpreters on mining missions suggests that the Egyptians were dealing with locals, or that workers from southern Canaan labored for the Egyptian expeditions.

A number of the hieroglyphic texts at Serabit do specifically mention the presence of foreigners. Stela 110, dating to the reign of Pharaoh Amenemhet III refers to 20 Asiatics of Óami (Gardiner and Peet 1955: 113). The location of this place is uncertain, although it has been suggested that it could be a toponym within Sinai or the southern Negev (Ahituv 1984: 113). Stela 120 refers to 20 men of Retenu, while Stela 114 mentions ten foreigners (*h3styw*). Another inscription of Amenemhet III mentions a “domestic” (*hry pr*) who is an Asiatic (‘3m), and it includes a reference to the “brother of the ruler of Retjenu, Khebed” (Gardiner and Peet 1955: 115). Khebed, who is depicted four times in the Temple of Hathor, on Stelae 103, 112, 115 and 405, was obviously a person of some standing. First of all he was identified in Egyptian hieroglyphs as “the brother the ruler of Retenu [Canaan].” Who this ruler was and from where he ruled is not known from the Sinai texts. Khebed is shown riding on a donkey with attendants leading and following the equine, further indications of his elite status (Gardiner and Peet 1955: plates 37, 39). The general consensus, based on the Egyptian texts at Serabit al-Khadim, is that people of south Canaan and Sinai worked for the Egyptian mining expeditions (Gardiner and Peet 1955: 19). Others, however, think that at least

some of the Asiatics named on 12th Dynasty texts were part of the growing Semitic-speaking population of the Avaris area, in the eastern Nile Delta (Bietak 1996: 19), and that Khebbed came from Egypt.²⁰ Whether Khebbed came from Egypt or southern Canaan, he was probably responsible for recruiting and overseeing Asiatic workers for the mining operations.

For the New Kingdom, the picture is not clear. There are around 170 Egyptian inscriptions at Serabit al-Khadim that date to the New Kingdom (Gardiner and Peet 1955: 149-201), but they are not nearly as informative on the mining operations as those from the 12th Dynasty. References to Asiatics or men of Retenu associated with the expeditions are absent. That these were present, however, can be inferred from the 15th-century BC Proto-Sinaitic inscriptions. It is doubtful that these texts were etched by common miners, but rather by some supervising official(s). The idea that local or nomadic peoples were involved in mining operations with the Egyptians in South Sinai is attested elsewhere in the region. At Timna in southern Arabah, for example, Egyptians mined copper during the 19th–20th Dynasties. The presence of distinctive Midianite, painted pottery and a tent shrine at Timna shows that nomadic Midianites and Edomites worked along with the Egyptians (Rothenberg and Glass 1983; Rothenberg 1988, 1993). This pattern continued in nearby Edom, in southern Jordan, at Khirbet al-Na'as during the Iron Age I (Levy 2009).

Population Fluctuations in Sinai

As data from surveys and excavations in the Negev and Sinai in recent decades have mounted, it was noticed that there are periods where the presence of humans is considerable and then there are periods where evidence for humans is scant or even non-existing. Finkelstein has advanced a hypothesis to explain the fluctuations of populations in Canaan and those in the Negev and Sinai (Finkelstein and Perevolotsky 1990; Finkelstein 1995). He proposes that a cyclical pattern prevailed in Canaan in which periods of sedentarization are followed by periods of nomadization. These periods are precipitated

not by climatic change, but rather by various economic factors that include foreign intervention (Finkelstein 1995: 37-49). Fringe areas, like the southern Negev and Sinai, expand while the more urbanized centers contract, and vice versa (Finkelstein 1995: 155-157). This explains depopulation and the absence of evidence of human habitation in certain regions at different times. This cyclical pattern is the process that brought the Israelites to Canaan around 1200 BC (Finkelstein and Perevolotsky 1990). In this view, the Israelites originated from a Canaanite group who took up a pastoral-nomadic lifestyle after the collapse of the Middle Bronze Age city-states and, after a period of nomadism through adjacent areas like Transjordan, the Negev and Sinai, began a process of sedentarization in small farming villages that mark the beginning of the Iron Age (Finkelstein and Perevolotsky 1990).

This theory has been forcefully challenged (Rosen 1992, 2009). Rosen dismisses Finkelstein's position that nomadic pastoralists leave little or no archaeological footprint and argues that careful investigations can reveal ancient encampments (Cribb 1991; Rosen 2003; Veth *et al.* 2005; Hauser 2006; Bernbeck 2008; Eerkens 2008; Smith 2008; Wendrich and Barnard 2008). He maintains, against the notion of cyclical population and de-population of regions, that "demographic fluctuations seem to reflect shifts in the edge of systematic agricultural settlement, coincident in some cases with shifting pastoral territories" (Rosen 2009: 58). Levy and his colleagues have recently proposed adopting a "position between Rosen and Finkelstein" (Levy *et al.* 2004: 69). Regardless of which theory of population fluctuation prevails, it seems to me that, at least northern Sinai, along the Ways of Horus, and the mining areas of southern Sinai are directly affected by the political and economic stability and the military prowess of Egypt, from the end of the 4th millennium BC in the north and from around 2700 BC in the south. It seems that the earliest miners of copper and turquoise in Sinai were the local desert people, along with residents of southern Canaanite. When there is evidence for an Egyptian presence at Wadi Maghara, beginning during the Third Dynasty, the scores of Early Bronze Age II sites in southern Sinai were abandoned, and for the Early Bronze Age III period only Egyptian materials are found (Beit-Arieh 2003: 440). It appears that once the Egyptians were politically stable and could send their own expeditions to Sinai, they no longer relied on local

²⁰ While only implied in his book on Avaris, Dr Manfred Bietak made this view clear to me in an e-mail correspondence. His view is strengthened by the recent discovery of a yet unpublished seal with the title "ruler of Retenu" on it, which is the second such seal. Consequently, Bietak believes that the ruler of Retenu was part of the growing Semitic population in the eastern Nile Delta.

miners for turquoise and copper. Subsequently, the local population took on a different role, now working under Egyptian supervision. This new economic and political reality may explain why they become less visible in the archaeological record.

The Egyptian View of Sinai

From an ancient Egyptian perspective Sinai was a foreign desert, or *ḥ3st*, a place to exploit for its mineral and other reserves. The northern road to Canaan was the route to the Semitic world and military efforts were aimed at protecting Egypt's economic interests and access to Canaan (Hoffmeier 2006). In the New Kingdom this route was systematically militarized to guard Egypt against hostile invasion and to provide military support for imperial interests in the Levant (Oren 1987, 2006; Hoffmeier in press; Hoffmeier and Moshier in press). There is, however, another perspective that the Egyptians had on Sinai. It was also the wasteland of the Shasu, the Egyptian generic term for nomads or Bedouin. The term *š3sw* first occurs in Egyptian texts of the 18th Dynasty (Erman and Grapow 1926-1931: Volume 4, 412; Giveon 1971; Weippert 1971; Ward 1992). Prior to this period, terms like *ḥryw š3(w)*, literally meaning 'those who are on the sand,' were used for desert dwellers (Erman and Grapow 1926-1931: Volume 3, 135), as was *ḥ3styw*, meaning 'desert dwellers,' which is found from the Old Kingdom through the New Kingdom (Erman and Grapow 1926-1931: Volume 3, 236). These terms, like Shasu, are not ethnically specific; Shasu is comparable to the Arabic word Bedouin. The word derives from the verb *š3s*, which means 'to go' or 'to pass through' (Erman and Grapow 1926-1931: Volume 4, 412), pointing to the mobile lifestyle associated with desert dwellers. Because nomads were viewed as marauders and thieves, it has been suggested that the Canaanite word *šasah*, meaning 'to plunder,' is linked to the word Shasu (Lambdin 1953: 155). The Egyptian antagonism towards the Shasu and the lands where they roamed is proverbial, as can be seen in *pAnastasi* I, which dates to the reign of Pharaoh Ramesses II (1279-1213 BC), where the scribe portrays the dangers for Egyptians traveling through Shasu country, "[I]ions are more abundant than leopards and bears, while it is hemmed in on all sides by Shasu-Beduin. . . . The narrow pass is dangerous, having Shasu-Beduin concealed beneath the bushes. . . . [They] have fierce faces. They are unfriendly" (Wente 1990: 106-108). The area being described appears to be

farther north, in Canaan, but Shasu were found there as they were in Sinai and the Negev.

The Shasu were often the object of Egyptian military action in northern Sinai and the Negev (Giveon 1971), but the name was also used for dwellers of the Eastern Desert in Egypt. Perhaps the most detailed portrayal of Shasu is the famous battle reliefs of Pharaoh Seti I at Karnak (Figure 8.4, Epigraphic Survey 1986: plates 2-6). The initial campaign of Pharaoh Seti I was apparently instigated by internecine conflict between tribes along the strategic route from Egypt to Canaan. The text that introduces the panoramic scenes declares that "Shasu enemies are plotting rebellion! Their tribal leaders are gathered in one place, standing on the foothills of Khor, and they are engaged in turmoil and uproar. Each of them is killing his fellow. They do not consider the laws of the palace" (Murnane 1985: 55). The zone of this upheaval is further delineated by the statement that "the [devastation] which the energetic Pharaoh. . . made against the Shasu enemies, from the fortress Tcharu [Sile] to Canaan" (Murnane 1985: 55). This area spans from Egypt's east frontier at Tjaru (Hebua) to Gaza. The Shasu were of course no real threat to Egypt's power, but they were irritants and the turmoil they spawned could disrupt communication and travel between Egypt and Canaan (Murnane 1985: 57). No doubt the type of impediments to travel reflected in *pAnastasi* I were what prompted Seti's actions.

The *Great Harris Papyrus* comments on the campaign by Pharaoh Ramesses III against the Shasu, probably in Sinai. The ruler announces "I destroyed their tents," indicating that troubles with the desert people of Sinai continued for imperial Egypt into the 12th century BC (Erichsen 1933: 76.10). What is intriguing about this text is that the word used for tent is not the common Egyptian term *im(3)w* (Hoffmeier 1977), but the Semitic word *'ohel*. This is the same word that is used in the Hebrew Bible to refer to the habitat of Abraham (Genesis 12:8; 13:3, 12), Jethro the Midianite (Exodus 18:7), the Kenites (Judges 4:18-22), and to the Israelite desert sanctuary. There is little doubt that the Shasu, the desert people of Sinai, lived in tents, just as the early Israelites did in Genesis and in the wilderness period (Hoffmeier 2005: 196-198). It has been suggested that some of the lower circular structures in south Sinai were not buildings per se, but an area demarcated for tents (Figure 8.6, Beit-Arieh 2003: 400, but see Saidel 2001, 2008).

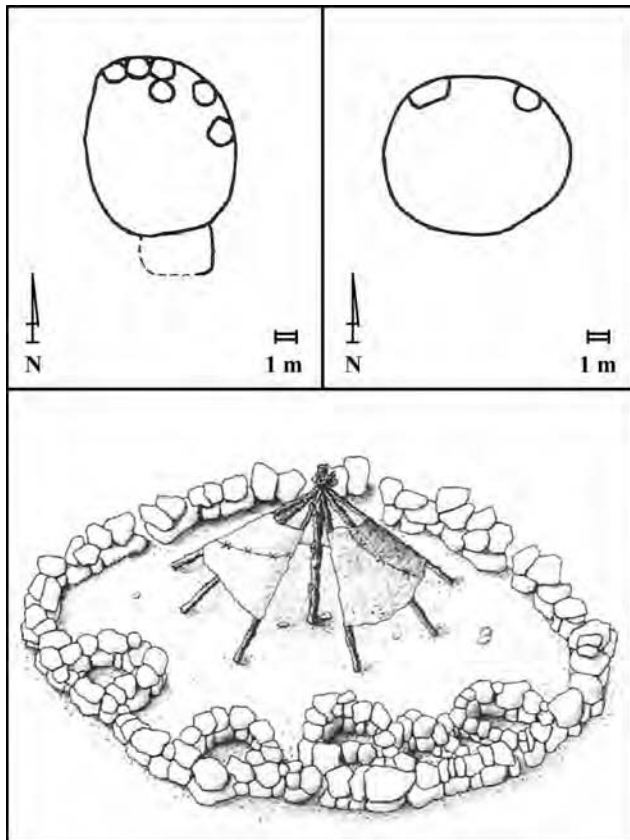


Figure 8.6. Plan of a stone encampment in Sinai (top), reconstruction of a tent camp (bottom). Adapted from Beit-Arieh 2003: 400.

In the scenes of Pharaoh Seti I in Karnak, Shasu men are shown wearing pointy beards and floppy caps, while the caps of others have short tassels on the back, and the warriors wore some sort of wrapped garment around their torsos (Figure 8.4). These different caps could signify different clans or tribes of Shasu. They are shown to fight with spears and small duckbill axes. In 2002, during our excavations at Tell el-Borg in North Sinai, we discovered part of a relief from a larger battle scene depicting Shasu showing at least two lines of fleeing enemies (Figure 8.7). The legs of the upper group are visible, running over hilly terrain, and the heads of two men are shown on the lower register. They wear caps and one has a duckbill axe, but they look different from those on the reliefs in Karnak. The fleeing figures and the hilly terrain show that these are Shasu in their desert environment. Based on art historical analysis of all the pieces of the scene, the Pharaoh who pursues these Shasu is probably Ramesses II (Hoffmeier and Pinch-Brock 2005). Finding this scene associated with the gate of a 19th-Dynasty fort indicates that one of the purposes of this fort was to display royal power against

the troublesome Shasu who might interfere with Egypt’s military interest in the area.

While the term Shasu is typically used as a sociological designation (Ward 1992, 1165-1167), there are cases where a second name follows, indicating a geographical region or tribal identity. *pAnastasi VI*: 55-56, dating from the reign of Pharaoh Merneptah (1213–1203 BC), contains a report of an Egyptian military stronghold allowing a Shasu band of Edom (*š3sw n idwm*) to water their herds in the pools of Pithom (*pr itm*) in Wadi Tumilat (Gardiner 1937: 76). The Edom mentioned here is no doubt is associated with the descendants of Esau (Edom), the brother of Jacob (Genesis 25:29-34; 36). When Moses is about to lead the Israelites out of Sinai, he sent messengers to the king of Edom requesting permission to pass through his territory, explaining, “here we are in Kadesh, a city on the edge of your territory” (Numbers 20:16). This shows that Edomite territory included the area immediately northeast of Sinai. The geographical list from the Egyptian temple at Amara in Nubia records the name *t3 š3sw se^c-r-er*, which has been associated with Seir of the Bible (Weippert 1974; Astour 1979). Genesis 32:3 suggests that this territory is one and the same as Edom or is some part of it or adjacent to it: “Jacob sent messengers before him to his brother Esau in the land of Seir, the country of Edom.” Other passages in Genesis demonstrate the correlation of the two, “Esau settled in the hill country of Seir; Esau is Edom. These are the descendants of Esau, ancestor of the Edomites, in the hill country of Seir” (Genesis 36:8-9). The biblical texts suggest that the Shasu of Edom primarily lived in southern Trans-Jordan, but, as *pAnastasi VI* shows, they could bring their flocks to Egypt across Sinai on the Way of Shur and into Wadi Tumilat towards the end of the second millennium BC.

Another intriguing Shasu group is one that is written with the element *yhw3* (Fairman 1939). Because this linguistically corresponds to the name of the Israelite god YHWH, it has generated much discussion. It was recognized that the list of names in the temple of Pharaoh Ramesses II (1279–1213 BC) at Amara represents a copy from the earlier temple of Pharaoh Amenhotep III (1390–1353 BC) at nearby Soleb (Giveon 1964). When the two lists are placed side by side, the sequence at Amara, which include the *yhw3* names, matches the order in the Soleb list. The toponym ‘Shasu land of Yahwa’ led many scholars to believe that this name points to a geographical territory where a cult for Yahwa flourished



Figure 8.7. Relief discovered by the author at Tell al-Borg, in northern Sinai. Drawing by Lyla Pinch Brock.

in the 14th century BC (Giveon 1971: 28). Recently this toponym was identified as the region where the worshipers of Yahu, the god of the Israelites, wandered, which is likely to be in northeastern Sinai, around Kadesh-Barnea (Ahituv 1984: 122). Redford accepted the connection between the *yhwʔ* of the lists in Amara and Soleb and the god of the Israelites, believing that this toponym points to the regions where Yahweh originated and that the Shasu somehow figured into the amalgam that constituted the Israelites (Redford 1992: 272-273, Rainey 2008). This interpretation is strengthened by the proximity of Seir in the same list. Thus some think that “the Shasu land of Yahwa” was in the same region as or adjacent to the Shasu land of Seir (Edom). This connection, if correct, would support the position that Yahweh may have originated in northeastern Sinai or Arava, or that pastoralists in the second millennium BC were worshipers of this deity. It should be noted, however, that there are other scholars who reject any association between the early Israelites and the Shasu (Yurco 1997; Hoffmeier 2005: 243-245). More recent studies of the lists at Amara and Soleb have pointed out a number of problems. It was noted, for instance, that *Se-c-r-er* is spelled with two r’s, whereas Hebrew Seir usually has only one, and that the name as it stands can be associated with a location in Lebanon or Syria (Astour 1979). Unless we allow that Seir is inaccurately

recorded, then the equation of this toponym with Seir of the Bible presents a challenge. If Astour is correct, the toponym containing the supposed divine name places it hundreds of miles north of Sinai, and thus either is not YHWH or is too far removed to have had any influence on the Israelites. This also means that Shasu, in addition to living a nomadic existence in Sinai, the Negev and the Trans-Jordan, also traversed lands far to the north.

The Genesis Patriarchs in Sinai

According to the book of Genesis, Abraham and his family migrated to Canaan from Harran in northern Mesopotamia, in present day Turkey (Genesis 11:27-12:6). He, followed by his sons Isaac and Ishmael, along with the sons of his later wife Keturah (Genesis 25:1-6), and his grandson Jacob are described as pastoral nomads (Bernbeck 2008; Cribb 2008; Kuznar and Sedlmeyer 2008), who herded sheep, goats and cattle, and moved among southern Canaan, the Negev, and the hill country (Genesis 12:6-9; 13:2-4). Beer-Sheva, a key site in the Negev, served as a center for much of the activities of this family (Genesis 21:14, 31-33; 22:19; 26:33; 28:10; 46:1, 5). In the story about how Joseph was sold by his brothers and ended up as a slave in Egypt, the young man traveled from Beer-Sheva, or possibly Hebron, in the south to search for his brothers who had moved the flocks to graze in northern Canaan. Joseph expected to

find them in Shechem (Genesis 37:12-13), but learned on arrival that they had moved farther north to Dothan (Genesis 37:17). These narratives reflect the practice of seasonal movements to higher elevations during the summer months, and then a return to the lowlands in the colder seasons. Furthermore, what the Genesis narratives describe, seasonal movements between the Negev and urban areas in Canaan, reflect the practice of enclosed nomadism (Rowton 1974; Rosen 2003; Wendrich and Barnard 2008).

Sinai also played a role in the narrative of Hagar, Abraham's Egyptian concubine. When she fled from her mistress Sarah, Abraham's wife, she departed for Egypt via the Way of Shur and stopped at a well "between Kadesh [Barnea] and Bered" (Genesis 16:14). The former place figures prominently in the wilderness episodes in Numbers. It is from Kadesh in the Wilderness of Paran that Moses is said to have dispatched spies to reconnoiter the land of Canaan (Numbers 13:3, 26). Kadesh-Barnea was on the very southern border of Canaan (Numbers 34:4) and is probably to be equated with Ain Qudeirat. The location of Bered is unclear, but it is obviously farther east, situating Beer-lahai-roi, the name of the well in the Hagar episode, on the Way of Shur, possibly near Wadi al-Arish in Sinai (Rainey and Notley 2006: 113). Three times in the Patriarchal narratives, drought in Canaan motivates the ancestors of the Israelites to go or to consider going to Egypt, to the lush and well-watered Nile Delta. Abraham did so for a brief time (Genesis 12:10-16), Isaac almost did (Genesis 26:1-3), and then Jacob and his entire clan moved into Egypt (Genesis 46). Mention of Beer-Sheva on the route to Egypt in Jacob's journey (Genesis 46:1) demonstrates that the route envisioned is the Way of Shur across Sinai, heading for Wadi Tumilat, much like the Edomite Shasu did in the time of Pharaoh Merneptah. Upon arrival in Egypt, the sons of Jacob implore Pharaoh to allow them to stay: "They said to Pharaoh, We have come to sojourn in the land; for there is not pasture for your servant's flocks, for the famine is severe in the land of Canaan; and now, we pray you, let your servants dwell in the land of Goshen" (Genesis 47:4). The practice of asking for permission to enter Egypt from Sinai and to pasture and water flocks is reminiscent of what is described in the 12th Dynasty Prophecy of Neferti where it announces that the foretold ruler Amenemhat would arise in Egypt to build the Walls of the Ruler "to prevent Asiatics (*ꜥ3mw*) from going down into Egypt. They (will have to)

beg for water in the customary manner in order to let their flocks drink" (the translation is my own). In other words, the walls or forts would keep the Asiatic pastoral nomads from coming in from Sinai in an unrestrained manner. They would need to get permission to access the water sources in Wadi Tumilat and the eastern Nile Delta as had been the practice prior to the political and economic breakdown of the First Intermediate Period (2125–1975 BC).

The Egyptian texts and the Hebrew tradition show that pastoral nomads, who seasonally spent time in the southern Canaan, southern Jordan and Sinai, at different periods came to Egypt during times of drought. To enter, the pastoralists had to get official permission. In the case of the Israelites, they entered to live as aliens (*lgwr*) with the permission of the Crown. They were reportedly even given the responsibility to care for the cattle of the Pharaoh (Genesis 47:6). But in the course of time the ruler as well as the fortune of the Israelites changed and they were pressed into forced labor, sometime during the New Kingdom, being treated like prisoners of war (Hoffmeier 1999: 112-116). The dramatic story of this oppression is beyond the scope of this chapter, but it was their exodus from Egypt that placed the Israelites in Sinai.

Forty Years in the Wilderness of Sinai

Before Moses led the Israelites out of Egypt, the Bible records that he fled Egypt after killing an Egyptian taskmaster (Exodus 2: 11-22). He would have traveled across Sinai to get to Midian, where he lived in exile for some years. Midian is located in northwest Arabia (Rainey and Notley 2006: 120). There, as the story continues, he met and married the daughter of Jethro, the priest of Midian. The Midianites, Genesis 25:1-2 claims, were also descendants of Abraham, via his marriage to Keturah. The Midianites, accordingly, were kinsfolk of the Israelites, and some theorize that Jethro and his clan had preserved the religion of Abraham and introduced it to Moses.²¹ Moses cared for the flocks of Jethro, and it is while grazing in "Horeb, the mountain of God" (Exodus 3:1) that he encountered the God of Abraham, Isaac and Jacob (Exodus 3:5). Because Mount Sinai was probably somewhere in southern Sinai, the presence of Moses in this mountainous region suggests that he had moved his flocks from Midian to the higher elevations of

²¹ For an overview of some of the theories on Jethro and the Midianites, see Slayton 1992.

south Sinai, probably in the summer. The Midianites of the Bible are closely connected to another group called the Kenites. After nearly a year at Mount Sinai, on what may be described as a religious pilgrimage, Moses and the Israelites set out for Canaan. Moses implores his Midianite brother-in-law, Hobab to join the Israelites as a guide, saying “come with us, and we will do you good . . . for you know how we are to encamp in the wilderness and you will serve as eyes for us” (Numbers 10:29-30). Once in the land of Canaan, the Kenites remained tent dwellers. Their territory is identified as being in the Negev (1 Samuel 27:10), and the area of Arad is specifically mentioned in Judges 1:16. One of their descendants is identified as “Heber the Kenite . . . the descendants of Hobab, Moses’ brother-in-law” (Judges 4:11). The term Kenite derives from the word *qayin*, which means metalworker or smith (Koehler and Baumgartner 2001: 1097). Consequently there is widespread agreement that the Kenites of the Bible were itinerant metalworkers (Halpern 1992), and thus the application of the name Kenites to the Midianite in-laws of Moses may originally have conveyed their profession or trade rather than their ethnicity.

These traditions carry some interesting implications. While the Bible presents the Midianites and Kenites as kin of Moses, their presence with the Israelites in southern Sinai up to the time of their departure may have been because this clan of metalworkers was helping the Israelites with the mining, smelting and working of the copper for the portable tent-shrine of the Israelites. Many of the cultic objects needed for the desert sanctuary were made of copper or bronze (*n^oḥošet*), such as the claps for tents (Exodus 26:11), base stands (Exodus 26:37), the altar, its grating and utensils (Exodus 27:1-4), pillar bases (Exodus 27:10-11), and the purification laver and its stand (Exodus 30:18). Second, because the Old Testament associates the Kenites with the Midianites, an otherwise anonymous ‘desert people’ who moved in and out of Sinai is now known. Mention was made already to the identity of the Midianite copper miners and workers at Timna who labored with the Egyptians during the transition period between the Late Bronze Age III and the Iron Age I. It may be that the Midianites and Kenites who associated with the Israelites had tribal associations with the miners at Timna and other sites in Sinai.

Just before reaching Mount Sinai, the Israelites are said to have stopped at Rephidim. Its location was

thought by early explorers to be Wadi Fayran, or within it. More recent investigators have also made this equation (Aharoni 1967: 199; Beegle 1972: 186-187; Perevolotsky and Finkelstein 1985). It should not be surprising to find the Israelites at this location, as it is one of the two best-watered areas of Sinai, the other being Ain Qudeirat, which likely is Kadesh-Barnea. While at Rephidim, a nomadic people known as the Amalekites attacked the Israelites. The Amalekites are frequently encountered in later history as a continual nemesis for the Israelites. For example, the prophet Samuel commissioned King Saul to wipe out the Amalekites because they had attacked the Israelites in Sinai centuries earlier (1 Samuel 15:2-3) and Saul pursued the Amalekites from the southern Negev across northern Sinai “as far as Shur, which is east of Egypt (1 Samuel 15:7). Genesis 14: 6-7 claims that the territory of Amalek is also located in Sinai and the southern Negev. It contains the tradition of the coalition of Mesopotamian kings who attacked Trans-Jordan and the Negev in Abraham’s day, referring to the invaders coming to Mount Seir (Edom) and “as far as El-Paran on the border of the wilderness; then they turned back and came to En-Mishpat (that is Kadesh), and subdued all the country of the Amalekites.” As the territory of Amalek includes Kadesh (Barnea) or Ain Qudeirat, it appears that they seasonally moved between the prime water sources of Sinai, Kadesh-Barnea in the north and Wadi Fayran (Rephedim) in the south.

Ain Qudeirat is identified as the likely site of Kadesh, based on its location on the border between Sinai and Canaan, and because it has the most reliable source of water in northern Sinai (Aharoni 1967: 70-72; Gilead 1993; Rainey and Notley 2006: 121). Another candidate is Ain Qadis, located about 10 km south of Ain Qudeirat. Because the Arabic name Qadis preserves the older Semitic word Kadesh, some have thought that this is ancient Kadesh-Barnea. It is a smaller site with a less profuse source of water, however, which has resulted in this site being largely abandoned as a consideration for biblical Kadesh.²² Now located within the Egyptian part of Sinai, Ain Qudeirat has yielded evidence of human presence beginning in the Paleolithic Period (Gilead 1993). Because it was such an important water source in the area, it is astonishing that there is little evidence for any human occupation in the Bronze Age, although Early Bronze Age II is represented (Beit-Arieh and

²² For a review of these two sites and the identity of Kadesh-Barnea, see Hoffmeier 2005: 122-124.

Gophna 1976). Not until the 10th century BC, Iron Age II, do we have the beginning of substantial structures, namely a series of three Judean forts, the last of which was destroyed violently early in the 6th century BC, possibly at the time of the destruction of Jerusalem by the Babylonians (Cohen 1983, 1993; Cohen and Bernick-Greenberg 2008).

After the exodus and once in Sinai, Exodus 15 reports that the Israelites encountered a problem with water. Bad-tasting water and the absence of water are frequently mentioned as a dilemma for the Israelites in Sinai, as it was for the ancient desert dwellers and seasonal pastoralists of Sinai. Exodus 15:23 records that at a site named Marah (Hebrew for bitter), the Israelites would not drink the water because of its taste. Arabic Bedouin frequently name wells and springs in accordance with the taste of the water and *Murr* (Arabic for bitter) is one such name (Bailey 1984). There is a Bir al-Murra located less than 10 km south of Suez on the west coast of Sinai, a route that may have been taken by the Israelites on their way to southern Sinai. Perhaps the best-known story about water in the wilderness narratives is set at Rephidim in the Wilderness of Sin (Exodus 17:1-15). At this location, no water was found although it was expected there. While at Rephidim the Israelites were attacked by the Amalekites (Exodus 17:8-13) and apparently the issue behind this clash was the new water source that Moses discovered when he famously struck a rock (Exodus 17:5-6). It has been noted that in igneous formations, like the area around Wadi Fayran, dykes can create “the hydrological setting for the accumulation of shallow ground water” and local Bedouin claim to know how to tap into these water deposits (LaMoreaux and Hussein 1996: 93-95). Defeating the Amalekites here proved beneficial for the Israelites as Kadesh-Barnea is reported to be one of their centers (Genesis 14:6-7). This meant that the Israelites would not face a challenge from the Amalekites at the spring at Kadesh-Barnea itself, and none is reported (Mattingly 1992).

Mount Sinai

Since the early centuries of the Christian era clerics, biblical scholars and in recent centuries also geographers and archaeologists, not to mention fascinated laypeople, have been engrossed in the search for Mount Sinai, the location of the revelation to Moses (Exodus 20-24). More than a dozen locations have been proposed, ranging from Gebel Halal in northern Sinai to Gebel Serbal and Gebel

Musa in southern Sinai, not to mention other contenders in Trans-Jordan and Arabia.²³ During the recent period of Israel’s control of Sinai (1967–1982), Israeli scholars took advantage of the opportunity and did extensive archaeological work, some of which has been mentioned above. The investigations of South Sinai led a number of archaeologists to agree with the traditions behind locating the activities described in Exodus 17-34 and Numbers 1–10 in southern Sinai. The reasons for this thinking are largely due to ecological factors making life more tolerable in the higher elevations—it is cooler, water sources are more reliable, and vegetation is more plentiful than in the central and northern parts of Sinai (Meshel 1982; Perevolotsky and Finkelstein 1985; Beit-Arieh 1988; Meshel 2000: 143-161; Rainey and Notley 2006: 118-121).

The description in Deuteronomy 1:2 that it “is an eleven days’ journey from Horeb by way of Mt. Seir to Kadesh-Barnea” is valuable for locating Mount Sinai for two reasons. First because there is widespread agreement that Ain Qudeirat is Kadesh-Barnea, and second the figure eleven is so irregular and holds no particular symbolic significance that it is understood as a precise figure by biblical scholars (Davis 1978; Davies 1979; Hoffmeier 2005: 122-124; Rainey and Notley 2006: 120). The information in Deuteronomy 1:2 certainly supports the tradition that Mount Sinai is located in South Sinai because of the distance that this entails, between 265 and 350 km (Hoffmeier 2005: 123) and 288 and 400 km (Davies 1979), while it makes north and central Sinai locations, such as Gebel Halal or Har Karkom, and those in Arabia, such as Hala al-Badr, unlikely (Hoffmeier 2005: 130-144; Rainey and Notley 2006: 120).²⁴

During their year-long stay near Mount Sinai, the Israelites are said to have constructed a tent sanctuary, known as the Tabernacle (*miškan*, or Tent of Meeting, *’ohel mō’ēd*). It is now common to consider the Hebrew tent-shrine as a priestly (5th century BC) retrojection back to the ‘Mosaic age’ as the later priests could not envision a time when the Israelites did not have a sanctuary (Wellhausen 1885: 36-37). The idea of a portable sanctuary is appropriate for a desert people, especially those who move seasonally, and because of the Near Eastern analogues, scholars have questioned

²³ For a review of these theories, see Hoffmeier 2005: 111-148.

²⁴ For the distance involved in a day’s journey as it applies to the travel of the Israelites in Sinai, see Hoffmeier 2005: 149-153.

the wisdom of 19th-century AD scholarship (Friedman 1980, 1992; Kitchen 1993; Homan 2002). Excavations at Timna revealed that the Egyptian Hathor shrine was altered after the Egyptians ceased mining operations, around 1150 BC, and the work was now run by Midianites, to judge from the presence of “Midianite pottery” (Rothenberg and Glass 1983; Rothenberg 1988, 1993). “A large amount of heavy red and yellow cloth” was discovered in the shrine, leading to the conclusion that it was from a Midianite “tented sanctuary” (Rothenberg 1993). As Midianites, Israelites and other desert people lived in tents, it is only logical that their deities would likewise live in tent-like structures. The Israelite Tabernacle and its sacred accoutrements point to a desert culture, and a Sinaitic one in particular. First of all, the wooden frame for the Tabernacle, Exodus 25 and 26 claims, was made of *šittîm*, acacia. The word used in Hebrew, *šittîm*, is cognate with the Egyptian name for the same tree, *šnd.t* (Lambdin 1953; Koehler and Baumgartner 2001: 473). Trees are rare today in Sinai and the three most common species are tamarisk, acacia and palm. Acacias were severely exploited by Bedouin in the 19th century AD, “trees have been cut down unsparingly by the Bedawin, and turned into charcoal for exportation to Egypt” (Palmer 1872: 47), and they were likely more common in ancient times. Recently, several disassembled boats were discovered (Bard and Fattovich 2003, 2007), stored in caves near the ancient port of Wadi Gawasis (Sayed 1977, 1980), on the Red Sea coast in Egypt. One of these boats, dating to the 12th Dynasty, was made of acacia and some the planks exceed the length that present-day acacias are capable of producing.²⁵

Three layers, the Pentateuch reports, covered the frame of the Tabernacle. The innermost was made of linen (Exodus 26: 31, 36; 27:9, 16, 18), as were garments worn by the priests (Exodus 39:27-29). One might not expect a people in Sinai to have access to linen, but the Israelites had purportedly just left Egypt and the Hebrew word *šēš* derives from the Egyptian word *šs* (Erman and Grapow 1926-1931: Volume 4, 539; Lambdin 1953; Koehler and Baumgartner 2001: 662). The middle layer was made of goat’s hair (Exodus 26:7, 14; 40:19). The third and outer layer is made of *ʿḥašîm* skin. This obscure word occurs almost exclusively in

connection with the Tabernacle. One interesting proposal is that this word is cognate with the Arabic word *tuḥaš*, which means dolphin or porpoise (Cross 1998: 89). For Cross, the use of dolphin skins in the construction of the Tabernacle has a ring of authenticity to it: “I must say that I find it hard to believe that priests bent on producing a fraudulent description of Moses’ tabernacle would have chose dolphin skin for outer curtains” (Cross 1998: 89). As is commonly known, dolphins and porpoises occur in the Red Sea around the Sinai Peninsula. The other occurrence of *tuḥaš* in the Old Testament is Ezekiel 16:10. This passage is an allegory in which Israel is likened to an abandoned baby girl. God rescues her, cleans her up and dresses her (Ezekiel 16:8-12), which included putting on shoes of *tuḥaš*. Interpreting this enigmatic reference was helped by the ethnographic observation by Edward Robinson, in 1838, of Bedouin sandals made of the “thick skin of a fish which is caught in the Red Sea. . . . The skin is clumsy and coarse, and might answer very well for the external covering of the tabernacle, which was constructed at Sinai” (Robinson 1841: 171). In this light, the thought that the outer covering of Tabernacle was made of dolphin or porpoise hides fits a setting in Sinai, especially as such would have provided excellent protection of the contents of the shrine from the elements.

Finally, some of the gemstones used in the priestly regalia are of interest here. Turquoise is one of them (Exodus 28:18; 39:11). The Hebrew term used is *nopek*, which derives from the Egyptian word for turquoise, *mḥk3t* (Muchiki 1999: 251; Koehler and Baumgartner 2001: 709). It remains uncertain whether *mḥk3t* was originally an Egyptian word, or whether it was the name for the gemstone used in Sinai, which the Egyptians then borrowed. Serabit Khadim in south central Sinai is the principal source for turquoise for Egypt and the Levant. Two other gems mentioned in association with the priestly breastplate are worth mentioning. The first is *ʿaḥalamâ*, which occurs in Exodus 28:19 and 39:12 and is recognized to be the Hebrew writing of the Egyptian *ḥnm(t)* (Lambdin 1953; Muchiki 1999: 238-239). This was possibly red jasper (Harris 1961: 124). Jasper comes in different colors, but red was a favorite in ancient Egypt and was used “chiefly for beads and amulets, though sometimes as inlay for jewelry” (Lucas and Harris 1989: 397). Jasper is found in the Eastern Desert of Egypt (Aston *et al.* 2000). I have not been able to find any evidence that jasper was mined in Sinai, but

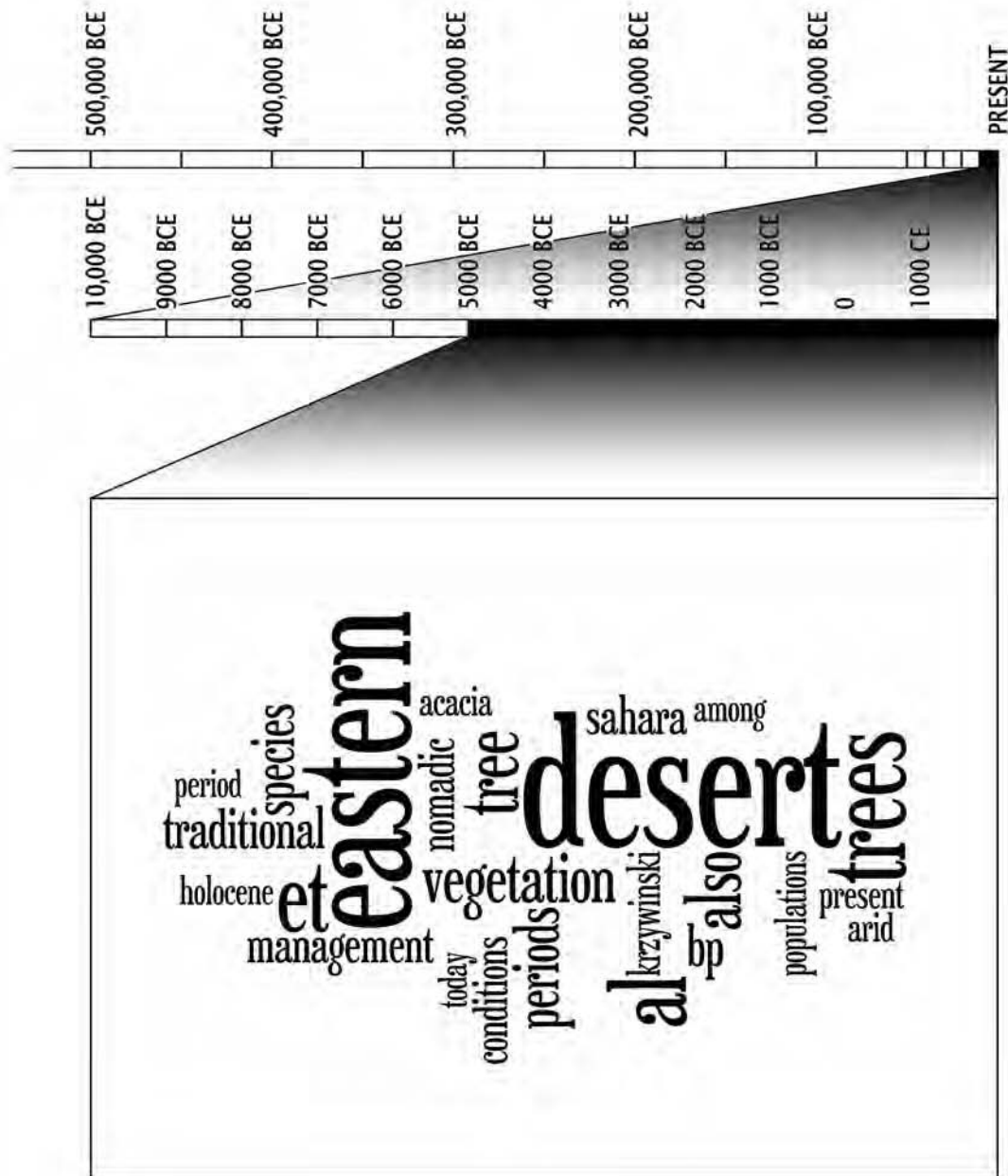
²⁵ As reported by Dr Katheryn Bard at the Annual Meeting of the American Research Center in Egypt, Toledo, April 2007 (Bard and Fattovich 2003; Bard and Fattovich 2007).

as the Eastern Desert has the same geomorphology as the western Sinai there could be jasper in Sinai even though the sources have not yet been discovered by modern investigators. The third and final gemstone to consider is *lešem*, mentioned in Exodus 28:19; 39:12. The etymology from Egyptian *nšm(t)* is generally recognized (Lambdin 1953; Muchiki 1999: 248). This is probably green feldspar, one of the most widely used semi-precious stones in Egypt (Harris 1961: 115-116), which also occurs in the Eastern Desert (Lucas and Harris 1989: 394). The sanctuary of the Israelites thus fits the setting of Sinai.

Discussion

The traditions preserved in the Pentateuch portray a challenging life for the Israelites in Sinai, including encounters with hostile pastoral nomads, like the Amalekites, as well as friendly ones, like the Kenites and Midianites. All these peoples were identified by the Egyptians as Shasu. Life for the peoples of Sinai, including the Israelites, throughout history was demanding because of limited water and food supplies, heat in the summer and cold in the winter, rugged

mountains and desolate deserts. And yet, according to the biblical tradition, it is within this matrix that the Israelite tribes rallied around their god, Yahweh, recorded their laws and constructed their tent-shrine. Centuries later, the biblical writers recall the desert experiences of their ancestors in different ways. The 6th-century BC prophet Jeremiah reflects on the Sinai experience by reminding his audience that God had led the Israelites through the wilderness, “a land of deserts and pits, a land of drought and deep darkness, a land that none passes through and where no man dwells” (Jeremiah 2:6). Indeed, Sinai proved to be a harsh place to live for the Israelites, like it did for other peoples who more or less periodically subsisted there. The 8th-century BC prophet Hosea remembered it this way: “I am the LORD your God from the land of Egypt; you know no God but me, and besides me there is no savior. It was I who knew you in the wilderness, in the land of drought” (13:4-5). According to the biblical tradition, then, this inhospitable northern extension of the Eastern Desert was the crucible in which early Israel’s religious and social institutions were forged.



Time line and word cloud for Gidske L. Andersen, *Vegetation and Management Regime Continuity in the Cultural Landscape of the Eastern Desert*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 9



Vegetation and Management Regime Continuity

in the Cultural Landscape of the Eastern Desert

GIDSKE L. ANDERSEN

SITUATED ON THE EASTERN FRINGE OF THE Sahara (Figure 9.1), the Eastern Desert of Egypt and Sudan is one of the most extreme deserts in the world. Droughts that can last for several years are characteristic and the variability in rainfall is huge, not only in time but also in space. Nevertheless, the Eastern Desert has supplied its local inhabitants and their animals with sufficient resources to support their pastoral lifestyle for millennia. After the desiccation of the Sahara around 5500 cal. BP, the main livelihood strategy across the North African drylands is one or another variety of nomadic pastoralism.¹ More than 80% of the arid and hyper-arid lands are presently rangelands, better suited to pastoralism than to crop production (Millennium Ecosystem Assessment 2005). Since the 1970s there has been an increasing focus among scientists on the degradation of drylands, so-called desertification (Thomas and Middleton 1994), and questionable environmental narratives have attributed resource degradation to pastoral nomads,

¹ In this context, ka (kilo-annum) stands for “1000 years ago,” Ma for “1,000,000 years ago” and BP for “before present” (which is arbitrarily defined as 1950). In cases where it is unclear whether the date is calibrated (cal. BP) or uncalibrated (BP), I have assumed that the conventions for reporting radiocarbon dates have been followed (Stuiver and Polach 1977). In cases of uncertainty, dates are marked with a question mark.

whose mobility is said to have allowed them to plunder resources and move on (Davis 2006). Most nomadic pastoralists, however, have strong attachments to places and, because of their extreme reliance on precarious natural resources, have developed often sophisticated indigenous systems to protect them (Hobbs 1989, 2006). Drylands can therefore be characterized as coupled human-environment systems, or cultural landscapes (Krzywinski and Pierce 2001; Reynolds *et al.* 2007). It is in this context that the history of Eastern Desert can best be understood.

In addition to water, trees are the foundation for the coupled human-environment system of the Eastern Desert. From the desert core to the moister borderlands, multipurpose tree species are a key resource in traditional livelihoods. Trees are long-lived and drought-enduring and therefore represent virtually the only reliable resource for people and their animals, and their importance increases with increasing aridity. Trees provide basic needs such as shade, shelter, fuel and material for construction and handicraft. Every tree is managed to optimize the supply of fodder for animals. Dominant tree species can be considered keystone species in arid ecosystems because they improve soil fertility and increase biodiversity (Hobbs 1989; Belsky 1994; Krzywinski and Pierce 2001; Munzbergova and Ward 2002). The skills required to survive in the Eastern

are related to the strength or weakness of the Saharan anticyclonic pressure zone and therefore to the advances and withdrawals of the Polar Front and the Intertropical Convergence Zone. Broadly speaking, hyper-arid periods correspond to glacial periods at higher latitudes and semi-arid periods to the interglacial periods (Le Houerou 1997). This correspondence, however, is not valid at present with an interglacial period in northern latitudes and a hyper-arid climate in North Africa.

Between 19,000 and 16,000 BP the Sahara-Sahel climate belt extended about 300 km farther south than at present (Talbot 1983), while this boundary was 500–600 km north of its present location around 7000 BP, during the Holocene African Humid Period (also referred to as the Holocene Pluvial Period or the Holocene wet phase; Neumann 1989). The African Humid Period is sometimes characterized as the ‘Green Sahara,’ with the region nearly completely vegetated and with several large and small lakes and wetlands, which at 6000 BP covered an area about ten times larger than presently (Hoelzmann *et al.* 1998). In the Eastern Sahara (west of the River Nile), this last humid period seems to have started 12,000–9000 BP and ended around 6000 BP (Nicoll 2004). At that time the aridification trend towards the current hyper-arid conditions started. The transition from the Green Sahara to the hyper-arid Sahara that we know today is considered one of the most important environmental changes of the last 10,000 years (Liu *et al.* 2007). It was during this significant environmental change that nomadic pastoralism became established; by 6300 BP (5300 BCE) “multi-resource pastoralism appears to have become the vital human subsistence strategy in the Egyptian Sahara” (Kuper and Kröpelin 2006: 805) and around 5500 BP (4300 BCE) the first evidence of vertical, seasonal-based transhumance is found in the Acacus Mountains in Libya (di Lernia 2002).

What is remarkable about the Holocene desiccation is its apparently abrupt character, which has been modeled (Claussen and Gayler 1997; Brovkin *et al.* 1998; Claussen *et al.* 1999; Renssen *et al.* 2003; Liu *et al.* 2007) and is also indicated by Saharan dust deposits in an offshore sediment core collected off the coast of Mauritania (Ocean Drilling Program 685, de Menocal *et al.* 2000). The abrupt increase in deposited dust is interpreted as a collapse in vegetation cover, hence the transition from a green Sahara to its present state within decades to centuries (de Menocal *et al.* 2000). Driving this change seems to be slow changes in orbital

forcing, a decrease in summer insolation and a reduction in the intensity of the African monsoon and reduced precipitation (Wanner *et al.* 2008).² Because these changes are gradual compared to the sudden collapse in vegetation cover, inferred from the abrupt increase in dust deposited, there has recently been speculation about the importance of dust originating from desiccated lakes (Kröpelin *et al.* 2008a; Claussen 2009). Different mechanisms have been suggested to explain how the apparent sudden vegetation collapse was possible with a gradual decline in insolation (Brovkin *et al.* 1998; Claussen *et al.* 1999; Liu *et al.* 2007).

Recent research (Kröpelin *et al.* 2008b), however, suggests a more gradual transition in vegetation type and cover from 5600 to 2700 cal. BP onward, based, among others, on pollen records from Lake Yoa in Northern Chad. This challenges modeling scenarios and places a new focus on regional variability in North Africa (Brovkin and Claussen 2008; Kröpelin *et al.* 2008b). So far, the spatial resolution of simulations has been very coarse, proxy data are few and previous simulations are valid primarily for the Western Sahara (Brovkin and Claussen 2008). Analysis of radiogenic isotope records (Sr-Nd ratios) from a sea sediment core off the coast of Somalia (Netherlands Indian Ocean Programme 905) indicate that the Holocene aridification of northeastern Africa was a two-step process, in which the second step started around 6000 (cal?) BP, but was more gradual and ended with the modern-day climate at 3800 (cal?) BP (Jung *et al.* 2004). This suggests that there is an east–west gradient influencing the speed of climate and vegetation changes across the Sahara, perhaps induced by the concentration of landmasses in the east (the continent-constellation effect, Jung *et al.* 2004).

Notwithstanding the above uncertainties about abruptness and regional variability, cyclical changes in climatic conditions are believed to have caused variations in vegetation cover and type. During the past 125,000 years each wet and dry cycle has consistently been characterized by the same floral elements. This is well-documented for the wetter periods, but the documentation of the flora during the drier periods

² Orbital forcing refers to the effect on the climate of fluctuations in the tilt of the Earth’s axis and the shape of its orbit, resulting in variations of the total amount of sunlight reaching the Earth by up to 25% at mid-latitudes. Insolation (short for ‘incident solar radiation’) is a measure of the solar radiation energy received by a given surface area of the Earth during a given time period.

is limited because of the erosion of sediments and the adverse conditions for the preservation of organic material. Due to the regional variability in landscape types and aridity, the vegetation characteristic of the more humid periods has been able to survive on humid margins or in moister high-altitude *refugia*, for later re-expansion during moister periods. The north–south orientation of climatic zones in the Sahara region has also led to an intermixing of Mediterranean, Saharo-Arabian, Sudanian and Sahelian flora elements. There is a near-complete absence of data on the vegetation history of the Eastern Desert, but a broad idea can be obtained by the general pattern of changes in the Sahara (Le Houerou 1997). During the wet periods since the Upper Pleistocene, the northern Sahara has been dominated by Mediterranean trees and shrubs similar to the ones in the present semi-arid and sub-humid zones of North Africa. Dominant during the arid periods were *Artemisia* species and during hyper-arid periods the region was mostly a Chenopodiaceae-Amaranthaceae-Poaceae steppe. In the central highlands, the flora in the wet periods was similar to that in the northern part with more temperate-climate species at higher altitudes. During arid and hyper-arid periods, vegetation similar to that presently known in comparable zones was present. In the southern part, the vegetation was a mix of Mediterranean, Sahelian and Sudanian elements during humid periods, while Sahelian and Saharo-Arabian elements dominated the arid and hyper-arid periods, respectively.

Looking more in detail at the Holocene Period, several investigations from the eastern Sahara (west of the River Nile) shed light on environmental changes and human occupation (Kuper and Kröpelin 2006). Charcoal finds give an idea about the vegetation and its changes in the same period (Neumann 1989). During the climatic optimum around 7000 BP there was a northward shift of tropical vegetation zones of 500–600 km (Neumann 1989), while around 5700 BP the shift was 300–400 km. North of 25°N, the vegetation consisted of the same elements as today (*Acacia* spp., *Tamarix* spp. and Chenopodiaceae), but their distribution was wider. To the south, tropical elements such as *Balanites aegyptiaca*, *Boscia senegalensis*, *Calotropis procera*, *Cassia senna*, *Grewia tenax*, *Leptadenia pyrotechnica*, *Maerua crassifolia* and *Ziziphus* spp. were increasingly found as elements of an *Acacia* desert scrub, thorn savanna or deciduous savanna along the north–south aridity gradient. In Egypt dry conditions have prevailed

since 6000 BP, except in the Gilf Kebir area where human settlement continued up to 4300 BP. Gilf Kebir is interesting compared to the Eastern Desert because its topography, reaching more than 1000 m above sea level, creates an internal moisture gradient similar to that found in the Eastern Desert. Seasonal availability of surface water and extensive stands of ephemeral grasses have encouraged episodic visits of nomads in the Gilf Kebir area up to the 20th century CE (Neumann 1989).

The environmental changes in the Eastern Desert are probably comparable to the overall changes in the Eastern Sahara, except that the mountainous character of the Eastern Desert and the proximity of the Red Sea mitigates the general north–south aridity gradient. It is therefore likely that conditions have been more humid here than at sites at the same latitude in the eastern Sahara. This is parallel to the situation today with isohyets and vegetation zones shifted northwards over the Eastern Desert of Sudan and Egypt (Ayyad and Ghabbour 1985). Such a northward shift is also indicated by the few Holocene finds existing from the Eastern Desert. In the Egyptian Eastern Desert, the best-documented finds of Holocene environmental conditions are from Sodmein Cave and the Tree Shelter, two sites near Quseir (Moeyersons *et al.* 1999; Moeyersons *et al.* 2002; Marinova *et al.* 2008; Vermeersch, this volume). Finds at the Tree Shelter indicate three different climatic periods, the first in the early Holocene until around 8000 BP with wetter conditions characterized by rare, heavy rains. Subsequently there was a more moderate but maybe wetter precipitation regime until around 5000 BP, with humid pulses. Two such pulses are found at the Tree Shelter, around 8100 BP and 6630–6770 BP, of which the later is also found in Sodmein Cave (7500–6300 BP). Charcoal finds indicate a vegetation with tropical elements with *Acacia* sp. and *Salvadora persica*, accompanied by rarer finds of *Cadaba farinosa*, *Capparis decidua*, *Maerua crassifolia*, *Tamarix* sp. and *Ziziphus spina-christi* (Marinova *et al.* 2008). Other rare but remarkable finds include *Acacia albida* and *A. nilotica*, *Boscia salicifolia* and *Olea* sp. (Moeyersons *et al.* 1999; Moeyersons *et al.* 2002).

Farther north, in an area east of the River Nile around 27°N (roughly the territory of the Kushman tribe), tropical elements are still found today and relicts of woodlands from the African Humid Period have been reported (Hobbs 1989), including isolated specimens as well as groves of *Acacia albida*, *Haloxylon persicum*,

Maerua crassifolia, *Olea africana* and *Pistacia khinjuk*. The minimum precipitation under which *Acacia albida* presently survives is between 50 and 100 mm per annum (Neumann 1989), and the tree is a reliable indicator of groundwater. This could indicate that precipitation similar to that at Gilf Kebir (23.5°N, 26.0°E) was found around 3° farther north in the Eastern Desert during the African Humid Period. In a cave in the same area, on the southern Galala Plateau (Figure 9.1), the remains of animals such as leopards, genets and shrews were observed (Hobbs 1989), the latter two being small mammals living in riverine habitats and well-watered and wooded semi-desert areas. On the basis of this, Hobbs concluded that the prehistoric Galala Plateau, and probably much of the Eastern Desert, was formerly a woodland savanna resembling those now found in north-central Kenya. Another find that can shed further light on the past environment of the Egyptian Eastern Desert are horizontally layered sediments in Wadi Menih al-Heir (25°N 36' 21" / 33°E 37' 28", Figure 9.1). A ridge exposes what are presumably lake sediments; these are, however, not yet dated.³ If they are proven to be from the African Humid Period, lakes existed much farther north than is indicated by other records outside of oases (Hoelzmann *et al.* 1998). Lake sediments from the Sudanese part of the Eastern Desert, in the Red Sea Hills, are less sensational in terms of their latitudinal situation, nevertheless, only few are reported. Two charcoal samples from lake sediments in Khor Omek (19°N 02' 52" / 36°E 10' 45", Figure 9.1) are dated to around 7300 BCE (TUa-692A, 8250 BP ± 75) and 6300 BCE (T-10768; 7490 BP ± 205).⁴

Few studies document the Holocene environment in the southern Eastern Desert, but fossil evidence suggests there was sufficient water to sustain a permanent flow on the Erkowit Plateau, in Sudan, until 1700–1900 BP (Mawson and Williams 1984). Vegetation was probably denser and this wetter climate was probably a wider regional phenomenon. Still, at present the local climate and vegetation of the mist oasis in Erkowit is remarkable compared to the surrounding areas, although severe degradation has occurred during the last 50 years (Kassas 1956; Vetaas 1993; Krzywinski and Pierce 2001). Similar conditions, vegetation and trends of change are also

present in the northernmost mist oasis in the Eastern Desert, in the Gebel Elba area (Figure 9.1). The now dry river valleys (*wadis*) along the northern and western slopes of Gebel Elba are “densely covered with acacia thickets, the only place in the Eastern Desert where the vegetation looks like a forest” (Zahran and Willis 2009). This gives an impression of what the Eastern Desert could have looked like at the most optimal sites during the African Humid Period. Also at sites at higher altitudes in the upper part of the drainage systems in other parts of the Eastern Desert there are still traces of desert ‘forests,’ with tree densities several times greater than lower in the drainage system (Figure 9.2). According to Kushman tribesmen: “High in the drainage, the sayaal and tundhub are still present, showing the land as it should be” (Hobbs 1989: 98).⁵

With increasing aridity, such as after the African Humid Period, the sequence of permanent vegetation changes expected to have occurred is first the disappearance of short-lived species with higher moisture requirements, and thereafter probably the longer-lived savanna and Mediterranean species that require more regular moisture input. The distribution of ephemeral species becomes restricted in time and space by very rare occurrences of rainfall when desert valleys might turn into “a green lawn” (Kassas 1953). On a spatial scale such changes create a landscape with a scattered pattern of permanent, drought-enduring perennial species, primarily associated with *wadis* or other locations with optimal conditions for soil moisture.⁶ This is how we know the Eastern Desert today, with scattered trees as the main floral element, occurring at varying density along the regional north–south and the internal altitudinal and aridity gradients. In the arid core, trees are confined to *wadis* and ephemeral river beds (*khors*), while in the desert borderlands they also grow in smaller runnels and on hillsides. This is also the case in more arid parts when other factors, such as altitude, modify the local aridity gradient. In the Egyptian

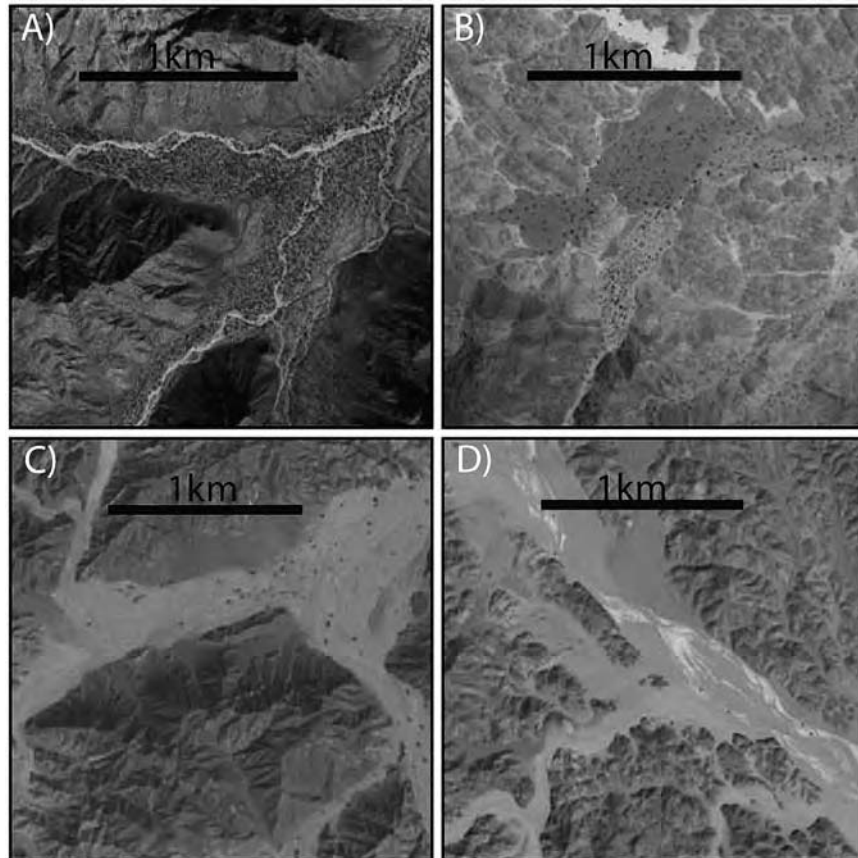
⁵ ‘Sayaan’ is *Acacia tortilis* and ‘tundhub’ is *Capparis decidua*.

⁶ In this context, *wadi* (from Arabic وادي) refers to a geomorphological feature consisting of a dry, ephemeral riverbed, or a dry river valley, which contains surface water only after occasional rain events. *Wadi* deposits comprise poorly sorted sands and gravels that accumulate rapidly and sometimes invert resulting in a ridge rather than a valley. Although surface water is generally absent, in the Eastern Desert subsurface water seepage is constant and ecologically significant for perennial plants and human life and cultures. See also the editorial remarks at the end of Chapter 1: Introduction to Part 1: From Adam to Alexander (500,000–2500 years ago).

³ Information courtesy of Dr Knut Krzywinski, University of Bergen, Norway.

⁴ Published here with permission of Dr Knut Krzywinski (University of Bergen, Norway).

Figure 9.2. Traces of Holocene desert 'forests' in the Eastern Desert. A: The mist oasis of Gebel Elba (22°N 12'17" / 36°E 23'01"). B: The upper reaches of a drainage system (24°N 16'54" / 35°E 00'32"). Compare these to lower in the drainage system where tree densities are several times lower, as in C: 24°N 25'24" / 34°E 37'56" and D: 24°N 41'32" / 34°E 40'40". Trees appear as black dots in the imagery. Satellite imagery courtesy of Google Earth.



Eastern Desert this is, for instance, seen in the upper reaches of Wadi Hulus and in Wadi Hanjaliyyah, on the northern slopes of Gebel Nuqrus in the Mons Smaragdus area, and in the mist oases of Erkowit and Gebel Elba.

Survival Strategies of Trees

Against the background of the environmental history of the Eastern Desert, summarized above, it is easy to understand the increasing importance of trees for the new culture of nomadic pastoralism that emerged parallel with the desiccation during the Holocene. As rainfall decreased and seasonal grazing provided by ephemeral species diminished, trees continued to offer such multiple and essential resources as fodder, fuel, shade and building material all year round. Some of the more important tree species in the Eastern Desert at present include *Acacia tortilis*, *Balanites aegyptiaca*, *Capparis decidua*, *Maerua crassifolia*, *Moringa peregrina*, *Salvadora persica* and *Ziziphus spina-christi*. As shown above, paleo-ecological investigations indicate that these tree species have been present in the area for thousands of years, during dry as well as moist periods. *Acacia tortilis* (Forssk.) Hayne,⁷

⁷ Several subspecies of *Acacia tortilis* are described, of which three are found in the Eastern Desert, *A. tortilis* ssp. *tortilis*,

the dominant and most important tree species in the Eastern Desert today, even growing at sites with virtually no rainfall, was probably also a main element in the documented acacia tree savanna in the Eastern Desert during the wet period 115,000 BP (equivalent to the Eemian Interglacial Period) when rainfall was perhaps as much as 600 mm per annum (Moeyersons *et al.* 2002). This testifies to an extremely wide ecological tolerance, also seen in its present distribution all over arid Africa and the Middle East. This broad tolerance range show that the genus developed under water-stressed conditions (Jacobs 2004), and explains its possible presence during both pluvial and hyper-arid periods in northern Africa. While the strategy of ephemeral species is to escape droughts by surviving as seeds during long dry periods, the strategy of long-lived trees and shrubs is to persist under unfavorable conditions. The set of adaptations and traits that makes this long-term persistence of trees possible, identified as the persistence niche (Bond and Midgley 2001), explains how trees could become among

A. tortilis ssp. *raddiana* and *A. tortilis* ssp. *spirocarpa*. The morphological and ecological differences among these subspecies are not clear and their status as separate subspecies is still debated. In this chapter reference is always at species level.

the most dependable resources in the nomadic lifestyle. Because of the key importance of *Acacia tortilis* for the ecosystems of Eastern Desert and the pastoral nomadic lifestyle, I will use adaptations and traits found in it to exemplify the persistence niche.

Dealing with unfavorable conditions in arid lands is mainly about persisting during long-term lack of surface moisture and different strategies to utilize alternative sources of water have been developed by *Acacia tortilis*. In the southern Eastern Desert, water from humid air will condense on its long thorns and contribute to a significant wetting of the soil underneath the canopy, to such an extent that the ground underneath the canopy becomes green with ephemeral vegetation (personal observation in the Red Sea Hills, Sudan). Its roots grow deep to reach levels of permanent moisture and secure water extraction from otherwise inaccessible sources. Wide horizontal roots, on the other hand, are activated after rainfall, and perhaps also dewfall, in order to secure an effective uptake of shallow soil moisture over as large an area as possible during the short period that the soil is moist. There are indications that the roots of *A. tortilis* have the ability to transport soil moisture, not only the normal transport from deeper moist levels to upper dry ones, but also from moist upper levels to dry deeper ones (Ludwig *et al.* 2003). This process of inverse hydraulic lift or hydraulic redistribution could be of great importance after rainfall events and nocturnal dewfall (Burgess *et al.* 1998; Schulze *et al.* 1998, but see Scholz *et al.* 2008). The maximum depth of roots is not known as few studies have excavated and measured roots, but depths of more than 50 m have been reported (Kassas and El-Abyad 1962; Canadell *et al.* 1996). Observations from the Eastern Desert, such as for a large *A. tortilis* growing next to the periodically dry, 55-m deep well at al-Kanais (Figure 9.1, Murray 1925), also indicate that considerable rooting depths are possible for these trees.

Due to the importance of deep roots, root growth is a primary priority in the seedling and sapling stages. Because soils dry fast and roots need time to reach the permanent soil moisture at deeper levels, successful recruitment probably involves rare occasions of several consecutive rainfall events. *Acacia tortilis* has therefore developed the ability to switch demographic strategies between regeneration from seeds in resource-rich sites, where water stress is low, and sprouting in climatically harsh sites, where water stress is high. During field work in the Egyptian Eastern Desert in 2003, sprouting

was recorded among 95% of the arboreal species that appeared in the period between 1965 and 2003 according to high-resolution Corona satellite imagery (Andersen and Krzywinski 2007b). Sprouting from both roots and stem was recorded, both for *Acacia tortilis* and *Balanites aegyptiaca*. Due to repeated droughts and browsing pressure that retards growth, reaching maturity might take several decades (Andersen and Krzywinski 2007b). However, when an individual is established and has reached maturity, the main challenges to survival have been defeated. Being a tree is in itself a form of life built for longevity (Petit and Hampe 2006). Drought-enduring trees, such as *A. tortilis*, also have wood impregnated with different substances and crystals that improve their resistance to attacks by pests and diseases. The high content of calcium-oxalate in the wood is probably the reason why nomads value acacia charcoal highest (Briggs *et al.* 1999), for these crystals promote a glowing combustion (Prior and Cutler 1992). The longevity of trees in tropical climates is difficult to assess due to the lack of annual growth rings in the wood. A study combining radiocarbon analysis and recent growth rates, however, indicates that *A. tortilis* trees in the Egyptian Eastern Desert can be up to 650 years old (Andersen and Krzywinski 2007a), clearly underlining the central role of longevity for these tree populations.

The persistence niche is related to such ecological concepts as ‘remnant population dynamics’ and ‘the storage effect’ (Warner and Chesson 1985; Eriksson 1996). The core of both concepts is the ability of individuals to grow old and thereby store reproductive potential over time. In the case of arboreal species in arid lands this refers to their ability to endure long droughts and to set seed and reproduce when rare, but optimal conditions occur. This means that even a seemingly declining population can be vigorous and increase or maintain its size in a long-term perspective; in other words “the average population growth rate is more strongly affected by the benefits of favorable periods than by the costs of unfavorable periods” (Warner and Chesson 1985: 769). Favorable periods are, however, rare and quantitative descriptions of optimal conditions for recruitment do not exist, although there seem to be observations indicating that several consecutive rainfall events are required (Kennenen and van der Maarel 1990; Rohner and Ward 1999). Clearly, such conditions rarely occur in hyper-arid environments. Simulations show that populations can be maintained by one large recruitment

event every 50 years (Rohner and Ward 1999; Wiegand *et al.* 2004). Interestingly, this seems to have been the periodicity of rainfall-caused flood events at Sodmein cave in the Egyptian Eastern Desert at about 7000 BP (Moeyersons *et al.* 2002). Even when recruitment events occur, however, both drought and excessive browsing threaten the long-term survival of seedlings and saplings. In such cases where green biomass is removed, the ability of saplings to resprout (sapling banks) secures the persistence of populations.

The tree populations in the Eastern Desert are contracted compared to the more widespread distribution during the African Humid Period. They survive only in the most favorable locations and may be under further threat (Andersen and Krzywinski 2007b) and can therefore be considered relict populations. An interesting aspect of relict populations is their tendency to form ‘stable rear edges’ (Hampe and Petit 2005). This means that populations are genetically disconnected from the main distribution range of the species and have been so for so long that genetic drift and adaptation to local conditions occurred, implying that they are highly specialized genetic populations with very high variability among themselves. It has been suggested that “the existence of stable rear edges could be particularly common in those plant or animal species whose populations are able to endure long periods without recruitment” (Hampe and Petit 2005: 464). In the case of the Eastern Desert, this suggests that the current acacia populations have remained during both drier and wetter conditions and probably therefore represent unique genetic diversity. Both studies from the Eastern Desert and the Negev indicate that this is the case for *Acacia tortilis* (Shrestha *et al.* 2002; Abdel-Rahman 2007).

Traditional Management Strategies of Nomadic Pastoralists

The nomadic enterprise is built on the concept of mobility. It has been questioned whether this pastoral mobility is motivated by a desire to conserve resources, or by a concern for livestock survival (Adriansen 2008). The positive ecological effect, preventing overgrazing and overexploitation of resources, is nevertheless present and probably the result of a long-term adaptation of the nomadic pastoral culture to the limited resource base. Ecologically sound management systems, involving both ephemeral and arboreal vegetation are not only known in the Eastern Desert, but also among several nomadic groups in North

Africa and the Middle East. On the Arabian Peninsula and into Syria, the *hima* system is described, where vegetation in certain areas is seasonally protected (Hobbs 2006). The motivation is to allow species to regenerate free from grazing pressure. Among nomadic groups in Morocco, movement motivated by leaving the vegetation to flower and seed is known, because with frequent movement “camels are happy and plants are happy” (Davis 2005: 515). In the Sinai an ethnoconservation management system *al-hilf* has been described, in which the Jabaliya Bedouin prevent herds from entering pastures in the mountains (above 1800 m above sea level) during February and March when the plant species flower and seed. This is a deliberate action to secure species regeneration and resource access (Hobbs 2006).

In contrast to ephemeral species providing seasonal graze, trees constitute a permanent resource. The fundamental role of trees in the pastoral nomadic lifestyle in the Eastern Desert is shown by the fact that every single tree is in use or managed and reflected in statements by the Beja such as “when the last tree is gone, it is the end of the world” (Andersen 2007).⁸ A set of management strategies and crucial and potentially complex rules of ownership have been developed by the nomads in order to protect, secure and optimize their utilization of trees (Hobbs 1989; Briggs *et al.* 1999; Krzywinski and Pierce 2001). Without the sustainable management of the scattered resource base that trees constitute, over-utilization and deforestation can easily occur because of limited recruitment and the ecological importance of the storage effect. The interaction among humans, domesticated animals and trees not only secures a resource for the nomads, but also has several positive effects on the microhabitat, the ecosystem and even the tree. The tree as a physical structure influences the microclimatic conditions under its canopy and animals are attracted not only by the food that a tree supplies, but also by its shade. Their presence results in an accumulation of animal droppings, and hence of nutrients, under the canopy. This has positive effects on understory productivity (Belsky 1994). The higher nutrient content and better water retention capacity of soils where livestock have been gathered, in corrals, also enhances the survival and growth of first-year seedlings (Reid and Ellis 1995).

⁸ G.L Andersen, *Long-Term Dynamics of Wadi Trees in a Hyper-Arid Cultural Landscape* (Bergen, University of Bergen, 2007) is also available through <https://bora.uib.no/handle/1956/2217> (accessed 15 January 2012).

The sustainability of management regimes is best seen in a long-term perspective. The management of trees is already depicted in the Egyptian New Kingdom (1539–1075 BCE, Figure 9.3). Three main types of utilization are depicted, all of which are still practiced in the Eastern Desert today, direct browsing, shaking of the branches, and pollarding (tree pruning). Fodder is obtained from trees by browsing or by shepherds shaking leaves and pods onto the ground. According to Ababda nomads in Egypt, one tree can provide fodder for two goats per year in the form of leaves, young shoots, pods and seeds. Shaking branches with the shepherd’s crook probably also prevents certain types of pest attacks. I observed in March 2003 that fenced trees in the St Catherine Protectorate on the Sinai Peninsula were in a much poorer state owing to pests than were surrounding unprotected trees that were managed in a traditional way. According to local informants, shaking branches for fodder reduces the risk of infections and pollarding reduced the risk of death. Pollarding as a strategy is done primarily to remove dry branches and optimize the use of the tree as

a fodder resource. A secondary but important result is that branches left on the ground constitute a stable fuel resource. Pollarding reduces the transpiration rate of the trees and, according to Beja in Sudan, is used actively to prevent withering trees from drying out (Krzywinski and Pierce 2001) and is generally considered to improve the vitality and vigor of the trees (Springuel and Mekki 1994). It probably also prevents and reduces infections caused by wax scales. These have been observed in the Egyptian Eastern Desert and can cause withering of branches or, in the worst case, kill the tree (Stimmel 1998).

The digestion of seeds by ungulates can reduce bruchid infestations, or their effects, as well as improve the germination and dispersal of seeds (Miller 1994; Rohner and Ward 1999; Barnes 2001; Midgley and Bond 2001; Or and Ward 2003). The role of domestic animals needs to be appreciated in the light of the extermination of the larger mammalian savanna type of fauna, including, among others, elephants, giraffes, ostriches and rhinoceroses. These species were present in the Eastern Desert up to the Egyptian Old Kingdom (2575-2150

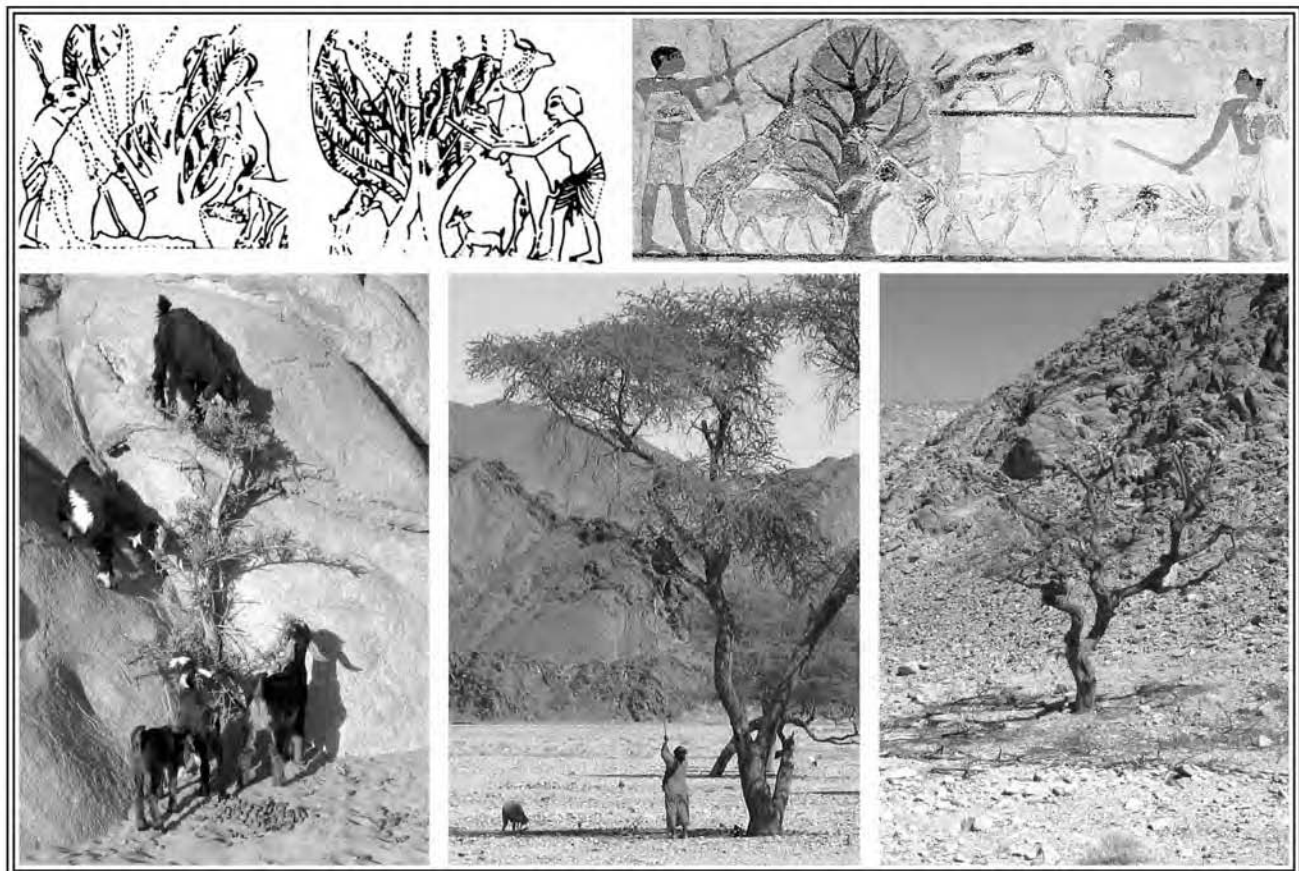


Figure 9.3. Management of trees as depicted in the Egyptian New Kingdom (upper panel). The same practices (lower panel from left to right: direct browsing, shaking of branches with the shepherd’s crook and pollarding) can still be seen today.

BCE, Butzer 1959), and some species managed to survive until 80–100 years ago (Le Houerou 1997). Royal desert hunting is depicted throughout the Old, Middle and New Kingdoms in Egypt (Strandberg 2009), and up to recent times hunting has been recognized as one of the main reasons why many species are on the verge of extinction in the Sahel and East Africa (Le Houerou 1997). As for the Negev Desert, where both larger mammals as well as pastoral nomads are virtually absent at present, the re-introduction of camels (*Camelus dromedarius*)⁹ has been suggested as a measure to facilitate tree regeneration (Ginguld *et al.* 1997; Wiegand *et al.* 2004). In a non-traditionally managed system, however, browsing needs to be controlled after recruitment events to prevent browsing-induced killing of seedlings and saplings. Such destruction of recruits is one of the main obstacles to the renewal of populations (Kenneni and van der Maarel 1990; Wilson and Witkowski 1998; Rohner and Ward 1999; Midgley and Bond 2001; Wiegand *et al.* 2004). Under a traditional herding regime, however, typically involving rapid movements from place to place and varied routes on a daily basis, over-utilization and reduction of the resource base are prevented. Traditionally, children playing while herding the flock secure both rapid movement and varied daily routes.

Dry branches from pollarding and wood from dead trees have been used to produce charcoal. Among the Beja in Sudan the traditional *ferkabas* technique is still used in some places for the small-scale production of charcoal for domestic use (Krzywinski and Pierce 2001).¹⁰ This technique cannot use large, fresh or wet pieces of wood, as is often done in the commercial kiln production of charcoal. Among the nomadic tribes in the Eastern Desert customary law prohibits the destruction and cutting of green trees. The active protection of trees to prevent environmental destruction has also been recorded in the Eastern Desert (Hobbs 1989; Krzywinski, this volume; Weschenfelder, this volume). The ‘lineage reserves’ constitute a system among the Ma‘aza Bedouin

in which individual trees or groves, particularly of acacia trees, are protected. This responsibility rests with one person and transfers to his son. This system began only in the 1950s, during a drought, in response to the increased cutting of trees at that time. Today most trees in the Ma‘aza territory are safeguarded by this system. A similar system, called *dakhl*, is known among the Muzaynah tribe in Sinai. One man is responsible for the protection of a group of trees in a certain area; any destruction of trees or the cutting of green limbs is fined according to tribal laws (Hobbs 2006).

For at least the last 3000 years trees appear to have been managed following basically the same procedures. Practices such as protecting green and mature trees, for example, in lineage reserves and the cutting of dry and possibly infected branches testify to an environmental concern that increases the longevity of trees and contributes positively to the storage effect. The recruitment bottleneck is reduced by the presence of domesticated animals, which reduces the effect of infestations of seeds, and by traditional herding with rapid movement, which increases the chance for seedlings and saplings to survive and grow into mature trees. As part of an ecological framework consisting of the storage effect, remnant population dynamics and the persistence niche, these practices are sustainable.

The Effects of Discontinuity of Management

Despite the fact that nomads appear to have a toolbox of ecologically sound and sustainable management strategies, current trends in the arboreal vegetation in the Eastern Desert seem to be negative. A study based on observations from 19 sites in the southern part of the Egyptian Eastern Desert shows that between 1965 and 2003, recruitment was generally low and mature mortality high (Figure 9.4, Andersen and Krzywinski 2007b). A negative trend caused by high mortality and low recruitment rates is also reported in other arid lands. The main cause of this decline in arboreal vegetation seems to be excessive commercial charcoal production (Andersen and Krzywinski 2007b). Studies from the Sudanese Eastern Desert also blame charcoal production for an observed negative trend (Cole 1989; Krzywinski and Pierce 2001). This is not, however, said for the Negev Desert, where drought is put forward as the main reason for the decline (Ben David-Novak and Schick 1997; Shrestha *et al.* 2003), despite greater and more frequent rainfall there than in the Egyptian Eastern Desert (Evenari 1985). Nomads have long been blamed

⁹ See also the editorial remarks at the end of Chapter 1: Introduction to Part 1: From Adam to Alexander (500,000–2500 Years Ago).

¹⁰ “The producers collect trunks and branches of trees and burn them on an open fire. As the fire progresses, the burning coals are raked out, allowed to cool, and put in sacks. Sand may be thrown on the burning wood; this causes incomplete combustion by lowering the amount of oxygen that feeds the fire and thus increases the amount and quality of the charcoal” (Krzywinski and Pierce 2001).

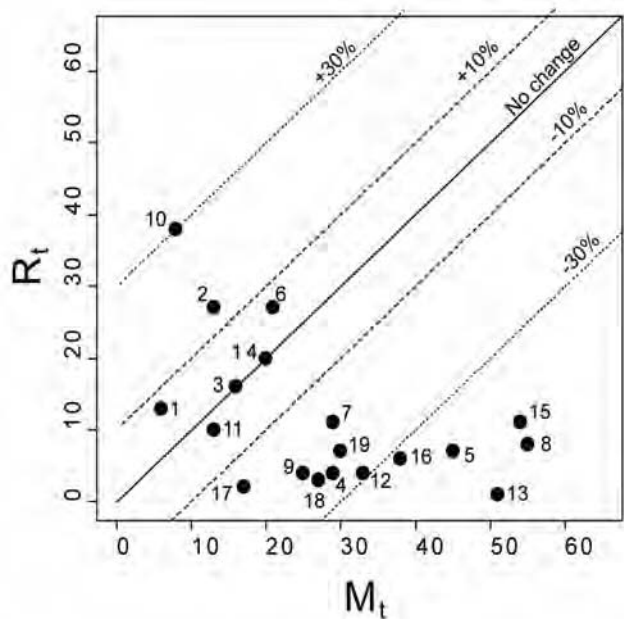


Figure 9.4. Relative total recruitment (R_t) and mortality (M_t) of trees at a selection of sites in the southern Eastern Desert of Egypt between 1965 and 2003. Recruitment is low, on average 12%, ranging between 1 and 27% (reaching 38% at a site on high altitude) and mortality is high, on average 31%, ranging between 6 and 55%. After Andersen and Krzywinski 2007b.

for the environmental degradation and desertification of arid lands. This view, however, is based on an outdated understanding of the ecology and dynamics of arid lands (Ellis and Swift 1988; Westoby *et al.* 1989; Warren 1995). Recently there has been an increasing recognition of indigenous environmental and ecological knowledge, as well as the ecological soundness of traditional management regimes and the importance of integrating local knowledge into the scientific knowledge base (Reynolds *et al.* 2007).

The present negative trend in tree density should therefore not be interpreted as evidence for traditional management systems leading to environmental degradation; the focus should rather be on the driving forces behind changes in the management regimes, in particular on the utilization of trees for charcoal production. The traditional, small-scale *ferkabas* production for domestic use has been almost completely replaced by large-scale commercial production. The driving force behind commercial charcoal production is the need for cash income, not least to pay taxes. There is an immense demand for energy in general and for charcoal in particular (Hillring 2006). This raises the question of who the producers of charcoal are and whether their motivation is for surplus income or for securing basic needs (Floyer 1893; Hobbs 1989; Abdel-Moneim and Briggs 1991; Springuel 1994; Springuel and

Mekki 1994; Solway 1995; Krzywinski and Pierce 2001). It is a well-established fact that one of the chief causes of desertification is the tendency to view the environment as a medium for rapid economic gain (Geist and Lambin 2004).

In the northern Eastern Desert, people from the Ma'aza tribe “look back on acacia cutting in the 1950s as an act of drought induced despair” (Hobbs 1989: 100)—in other words, of poverty. But poverty is not necessarily connected to drought; in particular not among nomads whose lifestyle is an adaptation to dry periods. Poverty today is mainly a political issue, at the global as well as at national and local levels, in particular as regards the development and marginalization of minority and indigenous populations. When day-to-day survival becomes a major challenge for local nomads, traditional management strategies may be disregarded, although generally there is a strong moral commitment to conserving their resources (Briggs 1989; Hobbs 1989; Krzywinski and Pierce 2001; Grainger 2003). On the other hand, locals who have settled, or in other ways have lost their connection and any previous commitment to the land, have another attitude towards the resources. Loss of identity and connection to the native land is not a recent phenomenon:

Well-established old patriarchs with children to follow them preserve the trees most carefully, never cutting the branches, but serving themselves only with such leaves as are shaken off by the shepherd's long crook. But a family who have usurped another's valley, or who are perhaps merely shepherds of sheep of some rich Nile-dweller, will cut down every branch and finally burn the trunks into charcoal (Floyer 1893: 419).

A recent problem, however, is the rapidity of change, and in particular in relation to the slow dynamics that govern the ecosystem. Only during the last ten years an immense development of tourism has occurred along the southern reaches of the Eastern Desert. As a result, soft sedentarization, which entails the adaptation of the nomads to the increasing tourist market, over time leads to sedentarization (Hobbs 2007). This adds to the existent politically motivated sedentarization. As is true for many European cultural landscapes (landscapes shaped and maintained by humans), the Eastern Desert landscape is now facing two trends—intensification and abandonment. Either people are sedentarized and stop using their land in the traditional ways, or a non-traditional intensified land use, such as commercial charcoal production is started. This change in livelihood will weaken the nomadic

culture, the sense of identity among younger generations and their ability to maintain their culture, history, heritage and traditional knowledge, but it will also affect the cultural landscape and the ecology of the Eastern Desert.

The effect of excessive charcoal production is obviously destructive, both in a short-term and a long-term perspective, but what are the effects of abandonment? Abandonment of the desert implies a loss of factors that maintain the cultural landscape and will ultimately lead to the loss of the cultural landscape itself. The value of cultural landscapes has been increasingly appreciated, as for instance reflected in the European landscape convention and an increasing number of UNESCO heritage sites. There are indications of directly positive effects for the ecosystem as a whole and even perhaps a mutual dependence between the existence of a traditional, pastoral nomadic lifestyle and the survival of trees. This can be formulated as two different hypotheses, one that traditional land-use strategies, including the presence of domesticated animals, alleviates the recruitment bottleneck, and another that traditional strategies increase mature tree survival, thus enlarging the storage effect. These hypotheses should be tested on sites distributed along a gradient of aridity and of socioeconomic change, and be interpreted in a long-term climatic perspective. This could give an answer to the intriguing question of whether it is possible that the withdrawal of nomads from what was once a savannah forest, far from relieving it from the stresses of human pressure, will deprive it of the maintenance that sustains it in its contracted state. This hypothesis of mutual dependence also directs attention to the accumulated traditional ecological knowledge that is present among local people and is now in danger of being lost within a generation.

Discussion and Conclusion

The arboreal vegetation present in the Eastern Desert today has been characteristic of this region throughout both arid and pluvial periods for at least the last 125,000 years. Its importance as a component of the ecosystem increased in tandem with the desiccation around 5500 cal. BP (de Menocal *et al.* 2000), at the same time as nomadic pastoralism became established in the area. Resources from trees became, as they still are today, essential for the traditional pastoral nomadic lifestyle. Trees are key elements of the ecosystem, securing high biodiversity, but there are also indications that tree populations can constitute stable rear edges and therefore they represent great genetic

diversity at the population level. This adds another argument for the importance of conserving the remaining and declining tree populations of the Eastern Desert. This locally specific genetic variability has the potential to become an important asset for future reforestation under a possibly more arid future climate regime.¹¹

The desiccation during the Late Holocene that seems to have been abrupt in the Western Sahara may have been more gradual in the east. There might also have been important variability within the eastern region, as is the case today with the eastern Sahara, west of the River Nile, being nearly devoid of vegetation, while the Eastern Desert is in places remarkably green despite being among the hottest desert of the world. There is evidence that during the Holocene tropical vegetation reached farther north in the Eastern Desert than in the eastern Sahara. This could be similar to the present pattern where isohyets turn northwards, over the southeastern Eastern Desert today, but also probably did so over the northern Eastern Desert during the Holocene. This suggests that as pastoralists left the eastern Sahara after the desiccation at the end of the Holocene, the Eastern Desert might have been a viable alternative to the Nile Valley, as it still is today, although its nomadic population is now shrinking with increasing speed. It is clear that more data on the Holocene is needed from the Eastern Desert in order to explore regional variations and their further implications.

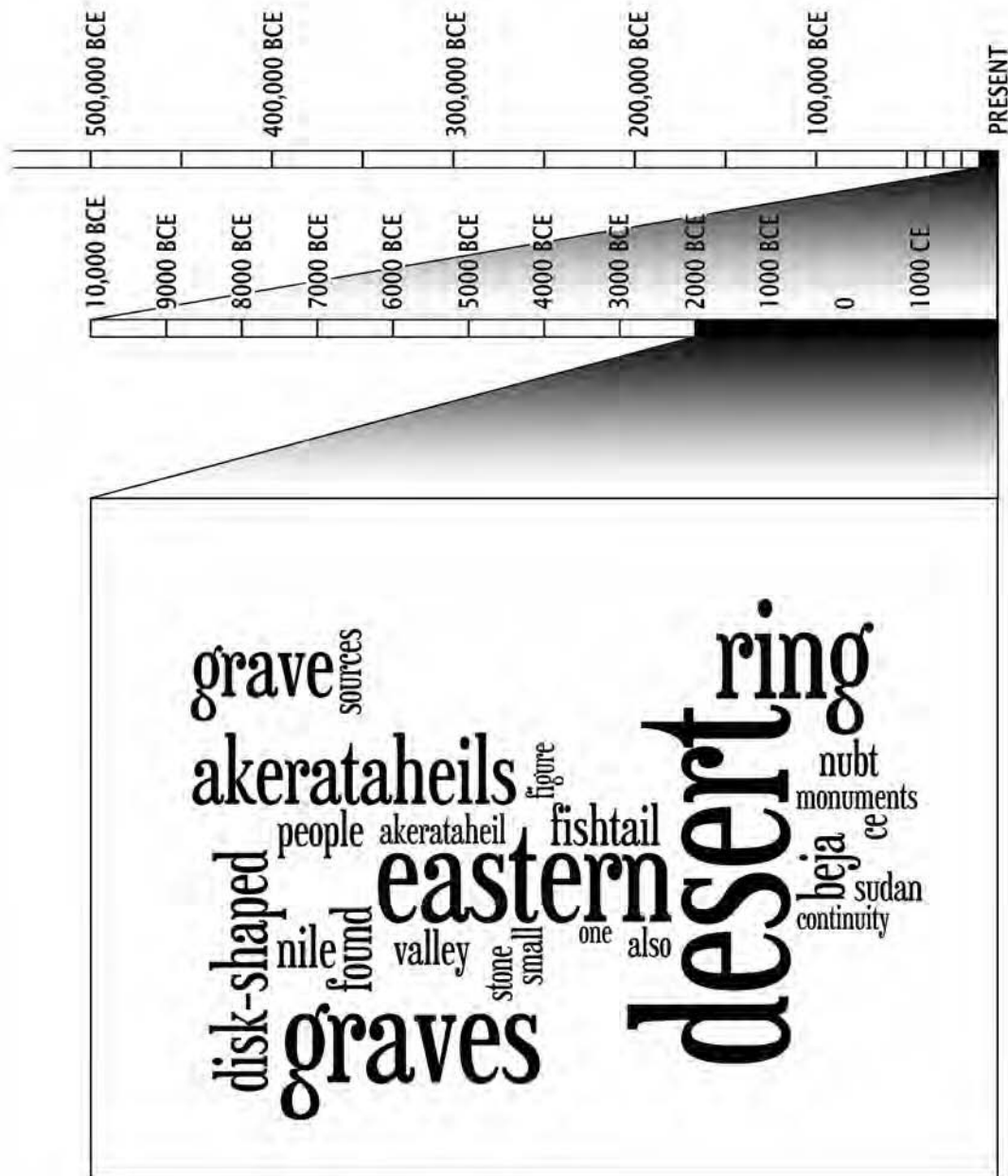
Today every single tree I have observed in the Eastern Desert bears marks of having been or still being utilized and managed as part of a traditional management regime that is attested to have been in existence for over 3000 years. There is ample evidence that this regime has been sustainable and in line with the ecological conditions that underlie such concepts as the storage effect, the persistence niche and the remnant population dynamics, and this governs the survival of tree populations. There are even indications that the traditional management regime not only conserves the tree resource base but also facilitates the survival of trees. In other words, there could be a mutual dependence between the survival of tree populations and the existence of nomadic cultures and their traditional management strategies. If so, there must have been long-term continuity in the management regime, probably at least since the desiccation at the end of the Holocene and the simultaneous contraction of tree populations.

¹¹ See http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (accessed November 3, 2009).

Traces of the former savanna vegetation of the region can be seen in the form of trees scattered along ephemeral streams (*khors*). Contraction and isolation of tree populations have happened during previous hyper-arid periods, laying the foundation for later re-expansion into a savanna landscape under pluvial conditions. In addition to the positive and negative effects of human interference, however, the current hyper-arid period is also characterized by the lack of large herbivores with their mitigating and positive effects on, among others, infested seeds, sprouting of seeds, breaking off of dry and possibly infected branches, and adding of nutrients underneath trees. In other words, large herbivores have several effects on the ecosystem similar to those of a traditional management regime employing domesticated animals. Is it possible then, that this management not only sustains present arboreal vegetation, but does so to greater effect than would otherwise be possible?

Doubtless there are severe and significant negative influences from human presence in the desert environment, but these cannot be attributed to a traditional nomadic management regime. A particularly important factor in the Eastern Desert today is the speed of change and its detrimental effect on an ecosystem governed by slow

dynamics. This is evident in relation to the importance of the longevity of trees and the storage effect. Therefore, the ecology of arid lands needs to be studied in a long-term perspective, and this fact makes it apparent why the accumulation of ecological and environmental knowledge among nomadic peoples over generations is of great scientific interest (Reynolds *et al.* 2007). One should keep in mind that desert dwellers have developed their cultures and lifestyles in keeping with the resilience of the environment (Coughenour *et al.* 1985; Ellis and Swift 1988; Krzywinski and Pierce 2001; Davis 2005), an insight that lies at the heart of the dryland degradation debate (Geist and Lambin 2004). Conserving ecosystems or landscapes under human influence, so-called cultural landscapes, by prohibiting human intervention is increasingly acknowledged to be a mistake (Krzywinski and Pierce 2001). If the cultural landscape of the desert, managed by native inhabitants for millennia, is to remain for future generations, the desert dwellers need to be empowered and their lifestyle encouraged rather than marginalized. This depends on policymakers recognizing not only that traditional strategies are sustainable in the long term, but also that the pastoral nomadic lifestyle and cultural heritage are intrinsically valuable.



Time line and word cloud for Knut Krzywinski, *The Eastern Desert Tombs and Cultural Continuity*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 10



The Eastern Desert Tombs and Cultural Continuity

KNUT KRZYWINSKI

RESearch INTO THE MATERIAL REMAINS OF THE inhabitants of the Eastern Desert is still in its infancy, and any effort to determine whether they exhibit continuity in culture must rely on a broad spectrum of sources. At the poles of this spectrum lie textual and archaeological sources, the former largely originating from cultures based outside the Eastern Desert, the latter still largely dependent on surface surveys and observations. Bridging the gap between these sources requires an interpretative effort that involves inferences based on association, distribution, typology and chronology. This chapter is based on more than 20 years of such surveys and test excavations in the heartland of the Eastern Desert in Egypt and Sudan. In it I argue that the core of the cultural monuments lies within the desert itself, not on its fringes along the Nile Valley; that a pastoral nomadic culture has prevailed in this region since the desiccation of the Sahara; and that cultural continuity can be traced within this material culture. The possibility of linking this culture in various periods to groups mentioned in written sources can, therefore, not be summarily disregarded.

The Eastern Desert and Its Peoples

The Eastern Desert as a geographical name for the arid land between the Nile Valley and the Red Sea coast should, strictly speaking, only be used for Egyptian territories, but has increasingly been used to refer to the whole area from the delta of the River Nile to the Eritrean

border, including the Red Sea State in Sudan. Atbai, presently a name for a part of the area in Sudan was used by earlier authors for this region. It is now infrequently used but appears from time to time, particularly with reference to the southern fringes of the Eastern Desert (the southern Atbai). The Eastern Desert is not a virgin environment, but rather a cultural landscape where every resource is used and maintained by humans in ways that can date back thousands of years (Andersen, this volume). People have adapted to the desert environment when developing their culture modified the desert resources accordingly. Outsiders have seldom appreciated deserts. They considered them hostile, dangerous wastelands that they have exploited for minerals and increasingly turned into dumping grounds. They have seen this land from the outside, from a riverain or moist part of the world. For the desert people and their animals, for the desert plants and wildlife, the desert environment, as such, is optimal.

From south to north the Eastern Desert comprises three different desert landform types. In the middle of the Eastern Desert is a mountainous desert with peaks rising up to 2000 m above sea level intersected by narrow valleys (*wadis*) with occasional rivers (*khors*). Deposits are mostly poorly sorted gravels and sands that have accumulated rapidly. Surface water is generally absent, but subsurface water seepage is constant and ecologically significant for perennial plants and thereby for human life and cultures in the desert environment. Along the Red Sea coast is a coastal plain with patches of mangrove forest along the seashore. To the west

wider valleys occasionally drain into the River Nile (Krzywinski and Pierce 2001). Although, as elsewhere in North Africa, livelihoods are presently changing, the indigenous people who inhabit the Eastern Desert are basically still pastoral nomads. The land belongs to the Beja people, but there are also other groups that have recently migrated into the region. Tribes that currently identify themselves with the Beja are, to the south, Tu Bedawiye speaking Hadendowa, Amara and Bisharin and the Tigre speaking Beni Amer, while north of the Egyptian border the Ababda speak Arabic (Newbold 1935; Paul 1954; Morton 1988, 1989; De Jong 2002).

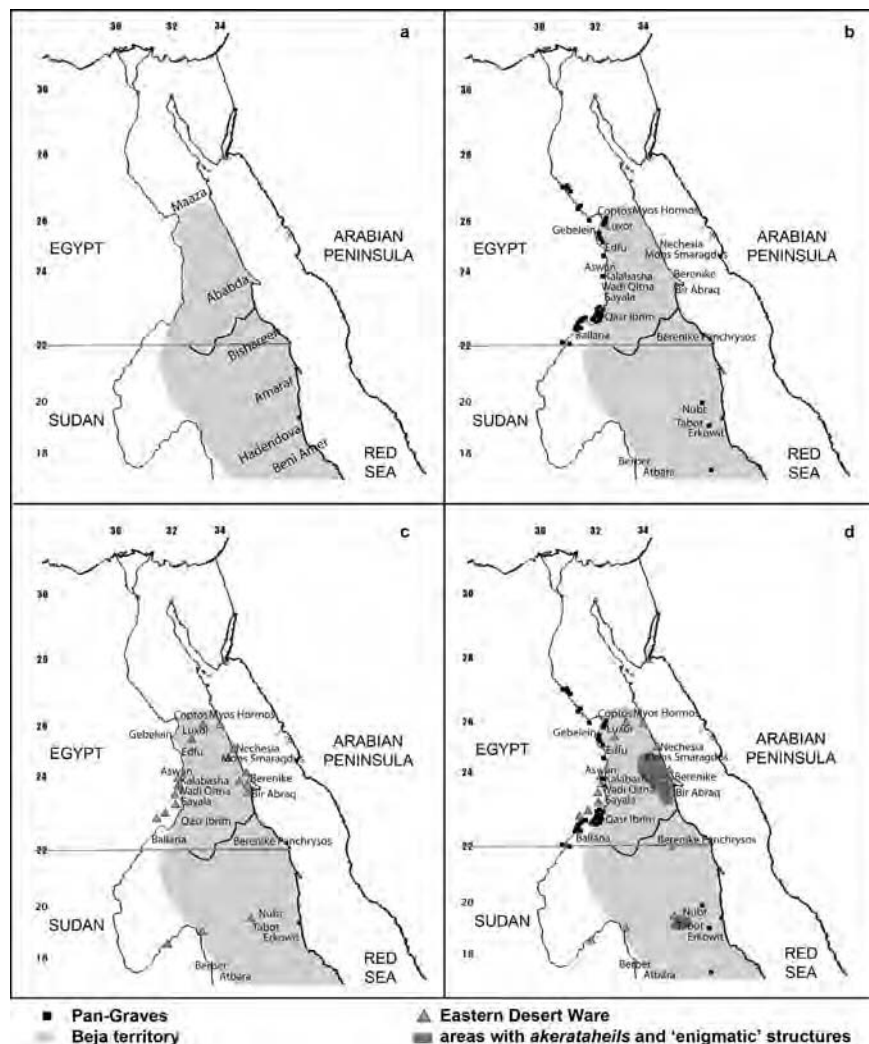
North of the Qift-Quseir road are Ma'aza who migrated from the Arabian Peninsula in the 18th century CE and conquered the northern parts of the Eastern Desert from the Ababda (Hobbs 1989). Presently, the Eastern Desert also houses other groups, such as the Rashaida, who claim rights to traditional Beja land, particularly on the coastal plains along the Red Sea coast

but also in the inland delta of the Gash near Kassala in Sudan. Both indigenous groups and newcomers have a history in the Eastern Desert, but the Beja tribes identify themselves collectively with the history of the land (Figure 10.1). In a long-term historical perspective, therefore, it is only the Beja tribes that are of concern here because, in contrast to the others, they claim that their ancient roots lie in this land.

The Ancient Sources on the Eastern Desert

In the case of the Eastern Desert, archaeological materials excavated and available for study are scarce come mainly from the fringes of the desert. Written sources are few and mainly from outside the society in question; a large part is secondary, based on poorly known or lost primary sources, often written in ethnological traditions very different from that of today. The writers of these ancient sources may themselves have had inadequate information about the societies and their environments

Figure 10.1. The Eastern Desert (Atbai), the arid land between the Nile Valley and the Red Sea coast in Egypt and Sudan, lies within the greater territory of the Beja tribes (a). Pan-Graves, associated with the Medjay (the people in the Eastern Desert during the Middle Kingdom and the Second Intermediate Period, 1975–1520 BCE) are mainly found along the Nile Valley in the northern fringes of Eastern Desert (b). Blemmyes have been archaeologically associated with a type of small, hand-made pottery (Eastern Desert Ware), from the 4th to 6th centuries CE, in southern Egypt and northern Sudan (c). Adapted from Barnard 2008, 2009b. It has been assumed that Eastern Desert Ware was produced and used by the indigenous, nomadic Blemmyes of Eastern Desert in Graeco-Roman times. In recent years surveys and excavations have revealed areas with tombs (*akerataheils*, Krzywinski and Pierce 2001), and 'enigmatic' structures (Sidebotham *et al.* 2002; Lassányi, this volume) within the Eastern Desert proper (d).



that they describe. Furthermore, interpretations based on these written sources are filtered through the minds of researchers who are equally distant from the desert environment and the people for whom the desert is their homeland; and, as in the past, the validity of the ethnographic present is not always a firm platform (Burstein 2008; Pierce, this volume). For the history of the Eastern Desert and its peoples most of the information is not to be found in archives, but hidden in a cultural guise which, as outsiders, we often have problems interpreting. It is found in patterns of livelihood, mobility and land tenure. It is hidden in indigenous resource management, knowledge about resources and affinity to the land. It is found in landscape structure and social organization which must be translated into a general historical discourse. Traces of ancient desert dwellers are, however, found throughout the vast desert and the desert preserves and exposes such remains well. The apparent lack of archaeological data about the Eastern Desert dwellers is mainly due to a lack of research. In studies of the past one should be extremely careful not to interpret lack of evidence as evidence of absence (Smith 2008). The apparent lack of archaeological evidence about its people is rooted in the fact that the area has been poorly surveyed and that the archaeological remains of its people have not been properly searched for.

The most prominent remains of the Eastern Desert people are their graves, which are generously scattered all over the desert. This rich but poorly studied and published material may lift the borderland of the well-known Nile Valley cultures out of its dark archaeological shadow. In the years 1993–1996 Anwar Abdel-Magid, Richard Pierce and I conducted reconnaissance surveys in areas between 18°N 00' and 19°N 20', from 35°E 10' to 38°E 00' (Magid *et al.* 1995; Magid *et al.* 1997). This preliminary survey revealed an area rich in archaeological remains, particularly in stone grave monuments. The survey has later been followed up with new observations throughout the Eastern Desert from Tokar to Wadi Qena (17°N–28°N). The widely distributed monuments are locally referred to as *akerataheils* (Magid *et al.* 1997). The grave monuments display a generally consistent geographical distribution within the larger Beja territory and cover a long period of time. The *akerataheil* types exhibit a number of common features that make it reasonable to consider them as one body of material culture with a varying typology. Stratigraphically and in relation to landforms, substrates

and geological deposits on which they are found one can trace their relative chronology. The Eastern Desert grave monuments can be grouped into four typological groups: ring *akerataheils*, disk-shaped *akerataheils*, fishtail *akerataheils* and Muslim graves, listed according to their relative chronology.

Ring Graves

What appears to be the oldest grave form is a rather small structure in which the deceased is buried in a pit encircled by a ring of stones. The small size and amorphous outline make such graves difficult to trace in the general landscape, unless specifically searched for or when they appear in association with larger, more easily identified structures. Ring graves are, however, common. Their size varies from 1–2 m to over 10 m in diameter (Figure 10.2). Many of the larger circles have a small protuberance that forms a 'handle' on the otherwise circular structure. This handle can point in different directions and varies from one area to the next. This appendix to the circle is marked by orthostates, most often three. The handle gives the ring the outline of a frying pan and is frequently explained by local Beja as a 'chapel,' a place for offerings. Some circles, including the larger ones that encircle an empty surface, have a central subsurface grave pit, while others have a small subsurface grave chamber built of stones. Other ring graves have a grave chamber on the surface covered with a heap of hand-sized stones. The stone circles may be single or double. The space between two concentric rings may be filled with pebbles or small stones to form a low wall or be empty. Both the single rings as well as the outer and inner rings of stones of the double graves are low (0.1–1.0 m).

Flash floods (*sayls*) that have cut through some of the ring graves sometimes provide the observer an opportunity to inspect, without excavation, the pit or the burial chambers with skeletal remains *in situ*. In other cases the size of the chamber can indicate the specific position of a burial. The frequency of ring graves is high in the Sudanese Eastern Desert, from Tokar and Kassala and northwards towards Gebel Elba, on the Sudanese-Egyptian border. Although in the northern Egyptian part of the Beja territory, ring graves are not as frequently seen, the Eastern Desert does seem to be the core area of ring grave distribution and those in the Nile Valley constitute the fringes of such a distribution. Ring grave stone structures have previously been reported from Berenike Panchrysos in Sudan and along Wadi

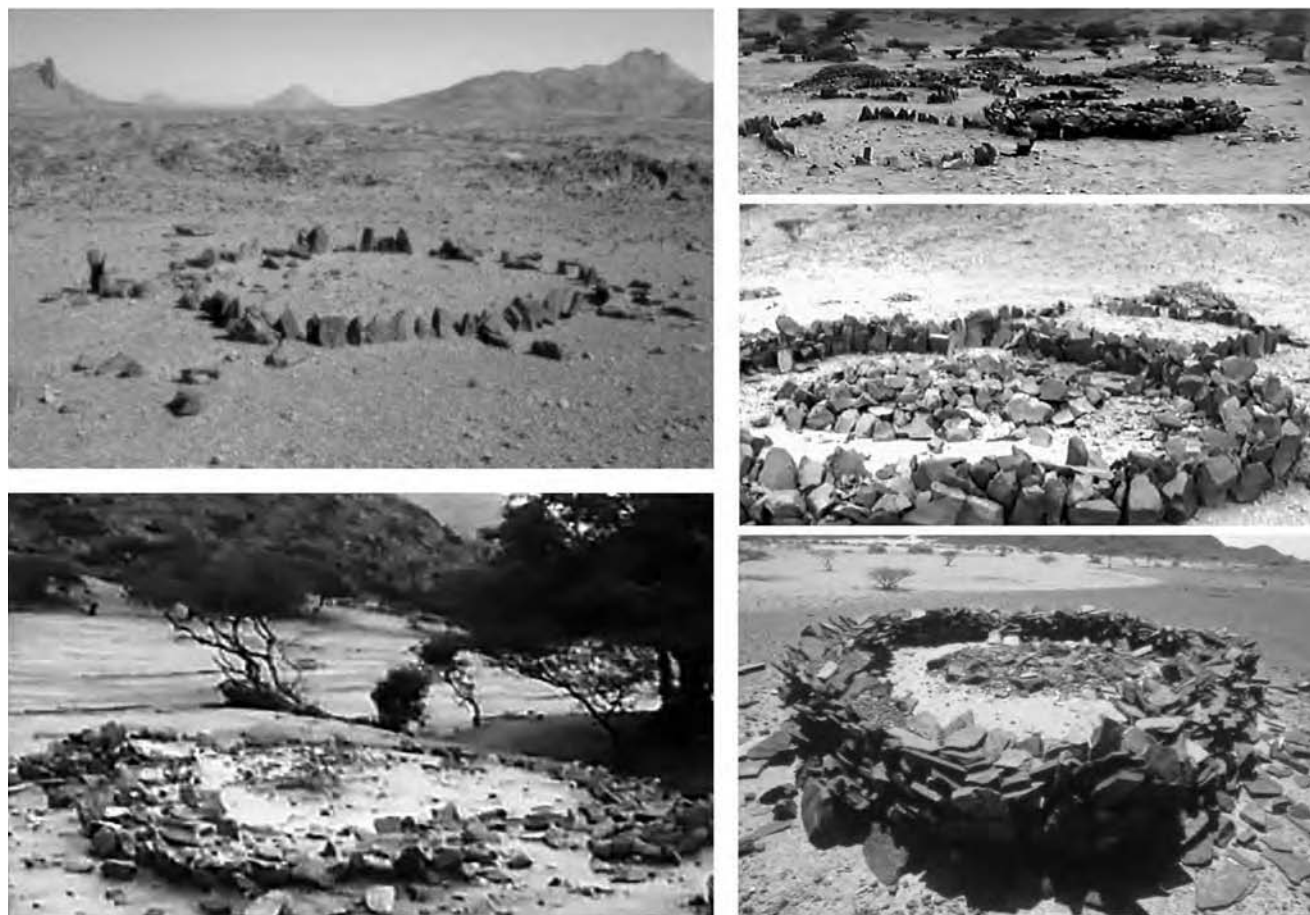


Figure 10.2. Examples of the various ring grave types. Upper left: A single large ring with a 'chapel,' orthostates and a subsurface burial chamber or pit. Lower left: A double ring filled with gravel, preserving a 'chapel' and orthostates. Upper right: A series of ring graves in a graveyard still in use. Middle right: A double-ring grave, not filled, with a 'chapel,' orthostates and a central grave chamber covered with stones (next to this grave there is a single-ring grave with subsurface burial). Lower right: Nearly disk-shaped transitional ring grave. The rings are double but are shaped like a wall, and the area between these walls and the central structure is partly filled with smaller stones and gravel.

Allaqi in Egypt (Castiglioni and Castiglioni 1994; Castiglioni *et al.* 1995). They are also reported from Erkowit, Khor Arbaat and Kassala in Sudan (Arnell 1955). A typologically intermediate form that links the double rings with a central grave superstructure to the disk-shaped *akerataheils* is also found. These have high double rings filled with pebbles, or a ring wall built in dry stone masonry where the space between the ring and the central superstructure is partly filled with smaller stones and gravel. Common features among the ring graves are not only the ring form itself, but also the central position of the burial chamber, be it a pit or chamber below or above the surface. It is a common feature that the dead are buried in a contracted position, lying on one side in a fetal position and oriented with the head either to the east or the north.

Disk-Shaped *Akerataheils*

The most prominent archaeological monument type in the Eastern Desert, all the way from the ancient Coptos-Myos Hormos (Qift-Quseir) road in the north, to Suakin and Tokar in the south, is the disk-shaped *akerataheil* (Figure 10.3). It represents a common grave type and burial tradition specific to the Eastern Desert. They are frequently found all over the Beja territory and from Graeco-Roman times onward. The tombs are round, disk-shaped monuments with a variable diameter and about 1 m high. The sides are in general vertical, but depending on local stone material they may have a slight batter to prevent the edges from collapsing. A characteristic feature is also the ring of flagstones leaning against the outside. The form strikingly resembles the small houses used today by semi-sedentary groups exploiting rain-fed

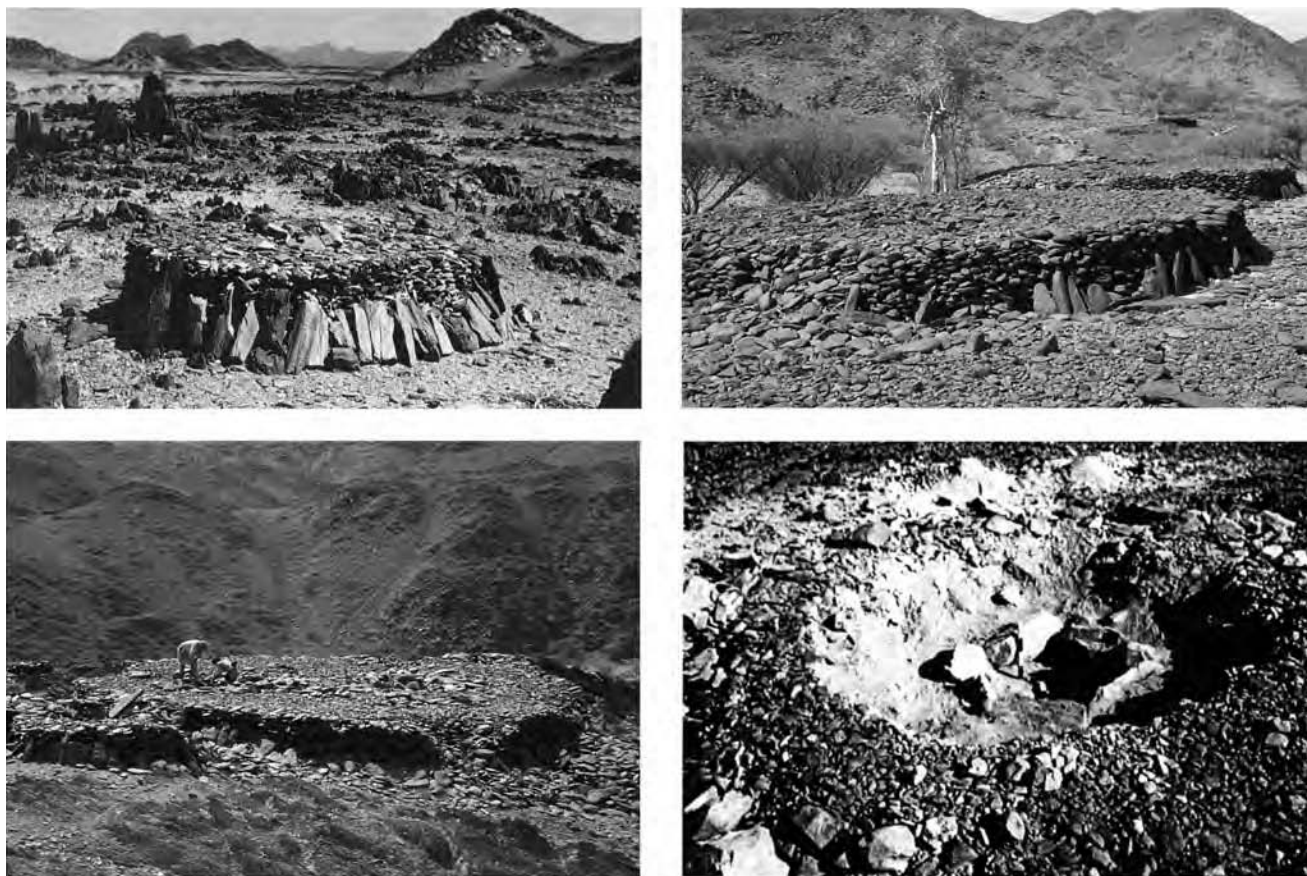


Figure 10.3. Upper left: Medium-sized, disk-shaped akerataheil situated on a rough *hamada* along the tracks and mountain passages east of Wadi Amur Sudan.¹ Upper right: Large akerataheil on the bank of an occasional river (*khor*) in Khor Nubt, Sudan. Lower left: Group of akerataheils of varying size on the ridges between Khor Nubt and Kishya Dirba (Khor Dayob), Sudan. Lower right: grave chamber in an akerataheil at Mendilo, Sudan. Adapted from Magid *et al.* 1997.

durra (*Sorghum* sp.) cultivation or at trading centers in southern Beja areas (Krzywinski and Pierce 2001: 42, 114, 117, 119; Pierce 2001: 167). The dead are, as a rule, similar to the ring grave burials, laid in a contracted position, lying on one side (Figure 10.4). It has been noted in the case of plundered tombs that chambers for extended bodies also occur. Examples of such extended burials in disk-shaped akerataheils occur in Wadi Nugrus, in the Mons Smaragdus area, and are also reported from the Fourth Cataract rescue excavations (Wolf 2004; Welsby 2005; Wolf and Nowotnick 2005; Welsby 2006, 2007; Wolf and Nowotnick 2007).

The burial chamber is either built into the center of the stone superstructure or dug into the ground beneath. Whether the disk-shaped akerataheils are a development

of the ring graves is an unanswered question, but the characteristic ring of large flagstones around and leaning against the outer wall strengthens the visual association with ring graves. The akerataheils are widely distributed within the ancient Beja territory, along the tracks among the mountains, on pediments, plateaus and *hamadas*. Concentrations are sometimes found near other ancient monuments such as the sites of enigmatic buildings. Most Sudanese disk-shaped akerataheils are intact, well preserved and highly respected by the local Beja population. Most of the Egyptian akerataheils have been robbed. When the central grave chamber has been broken open and plundered, the shape of the tomb can appear to be a ring,² as was also observed by several teams working in the area around the Meroe Dam (Welsby 2007).

¹ A hamada (حمادة) is a common desert landform comprising a flat or gently sloping surface covered by stones and gravel; hamadas are formed by the deflation of fine-grained sediments which leaves behind a deposit of coarse stones.

² Kennedy, S. (2001), "Ring cairn graves at Berenike, burials of the Blemmyes?" On-line at <http://www.archbase.org/berenike/UCstudentLA6.html> (accessed November 2008).

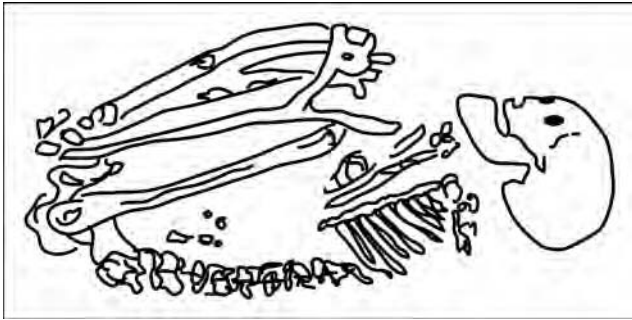


Figure 10.4. Schematic drawing of a skeleton found in Samadi, Sudan, in a typical contracted position. Adapted from Magid *et al.* 1995.

Fishtail Akerataheils

The so-called ‘fishtail akerataheils’ are rare, distinctive and complicated structures found mainly in Sudan from Khor Langeb to the khors inland of Oseif but mostly in the Sinkat-Haya area. This special monument is a type of Eastern Desert tomb and was published with a fairly detailed description by Seligman in 1915 (Magid *et al.*

1997). There are, as far as I know, no counterparts in the Eastern Desert or elsewhere. A fishtail akerataheil consists in plan of seven geometric elements: a square, two circles, two drop-shaped appendages to each of the circles and two connectors, one between the square and the first circle and the other between the circles (Figure 10.5). The square (sometimes somewhat oblong) stone structure has rounded corners and is situated at the southern end of the fishtail complex. Its dimensions differ from complex to complex. The largest one found in the 1993 survey was approximately $8.0 \times 7.0 \times 1.5$ m, while the smallest was about $5.0 \times 3.0 \times 1.0$ m. The size is in proportion to the size of the entire complex. The circular (in a few cases slightly oval or rectangular) disk-shaped structures that in most details resemble a disk-shaped akerataheil, each have two drop-shaped elements (which in plan resemble fish tails, hence the label ‘fishtail’). Regardless of the differences in dimensions between fishtail akerataheils, the lengths and widths of these two round structures are less than those

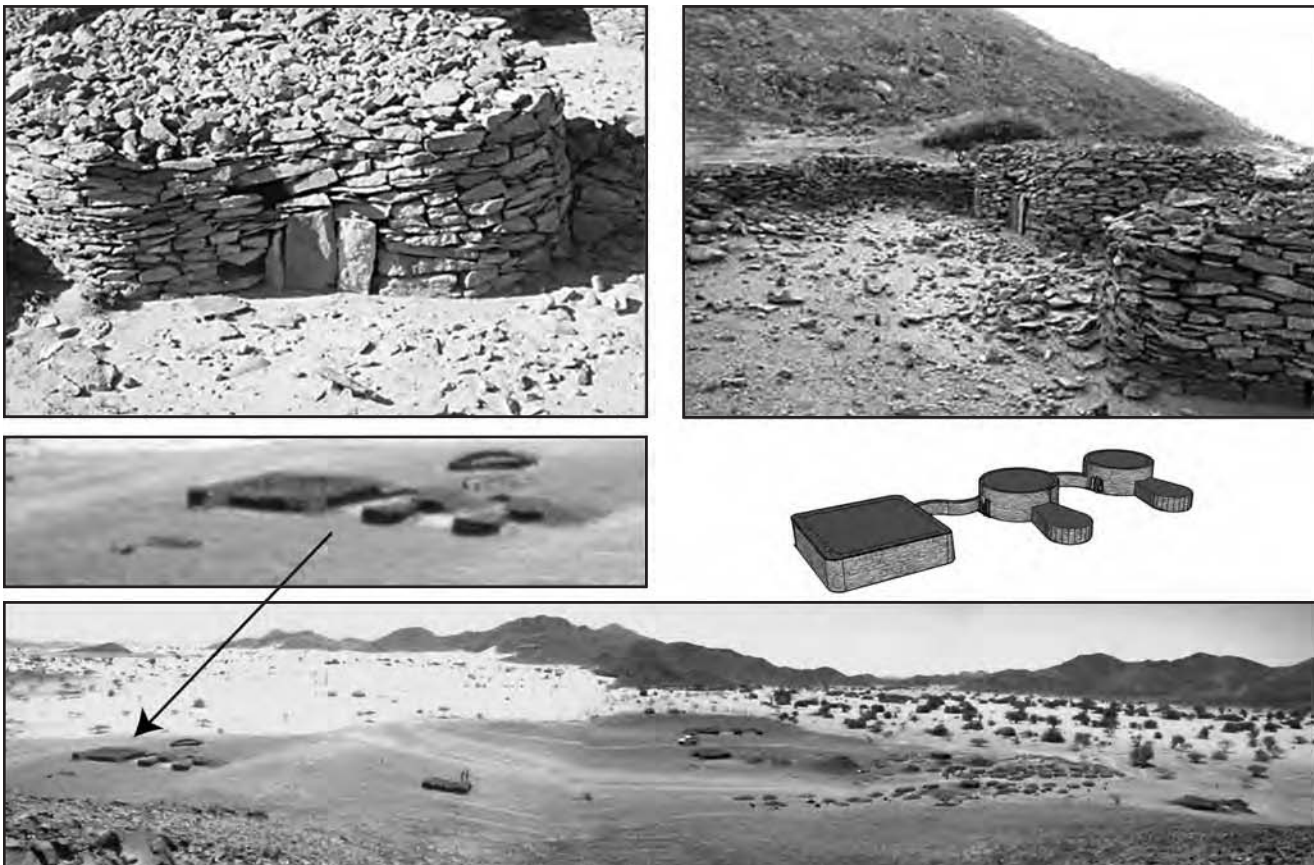


Figure 10.5. Examples of fishtail akerataheils. Orthostates (upper left) and part of fishtail akerataheil (upper right) with sinus connector, ring and fishtail extension (near Erkowit, Sudan). Center left: Enlarged part of southern fishtail akerataheil. Behind this is a large double-wall ring grave. Center right: Three-dimensional model of a typical fishtail akerataheil. Below: Panorama of the graveyard southeast of Haya (Sudan) with two fairly large fishtail akerataheils, two towers, ring graves and disk-shaped akerataheils surrounded by a modern Muslim graveyard.

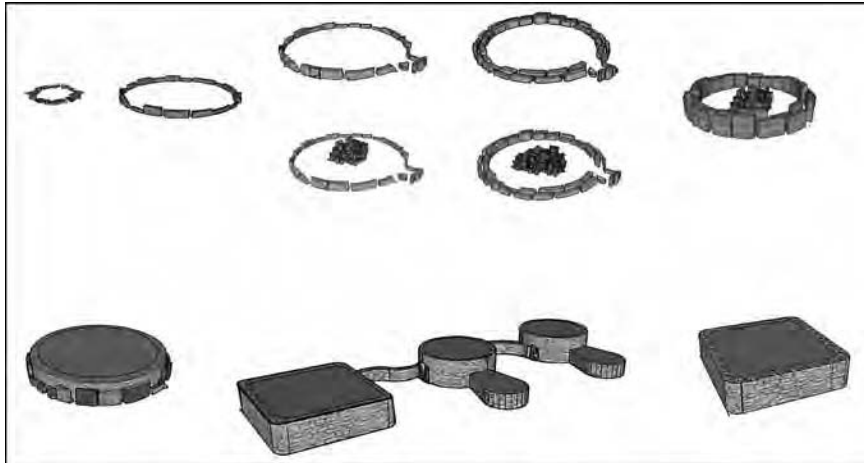


Figure 10.6. A schematic typology for Eastern Desert grave monuments. Upper register from left to right: A small ring grave, a large single-ring grave without a 'chapel,' large ring graves with a 'chapel,' with and without a central structure, double-ring graves with and without a central structure, and a transition-type ring grave. Lower register from left to right: A disk-shaped akerataheil, a fishtail akerataheil and an isolated square structure. This schematic typology indicates a line of continuity through the development of the shape of its elements.

of the square one. The height, however, is the same. The heights of the fishtail extensions are, on the other hand, less. The total length of a circle and its fishtail extension is approximately that of the length of the corresponding square.

The complexes are built of horizontally dry-laid stone slabs. The striking exception to this are three stone orthostates placed side by side and set into the middle of the sides of each of the round structures that face the main square structure. The curved walls connecting the main structures are different. The one between the square and the first round structure is sinus-shaped in plan. The other, between the first and the second round element, is a circle segment. All fishtail akerataheils are built to an exact, fixed standard that is scaled up or down a number of size classes. The fishtail akerataheils appear rather suddenly in the archaeological record as a fully developed tomb monument. The square constituent of the fishtail complex is also found as an independent monument (Figure 10.6).

Muslim Graves

A ring of stones bordering burials is also characteristic of most of the smaller and younger graves dating to the Islamic Period. The stone rings are placed close to the base of the oblong heap of stones covering the burial. Usually there is no space between the stone ring and the stone heap. This is similar to the ring of flagstones of the disk-shaped akerataheils, but different from the ring graves. The older graves are larger than the later. In a few places such graves have concentric rings and several 'chapels' and orthostates. The stone ring element thus seems to be an integral part of Eastern Desert grave monument types from its beginning right up to the

modern ones that still are not affected by desert varnish. The small grave type is large enough to accommodate an extended body, oriented according to Muslim burial practices, and one can assume that the deceased is indeed oriented according to this tradition.

Desert Grave Chronology

Although there are not yet many radiocarbon dates for graves in the Eastern Desert, a few relative commonalities and broad chronological lines can be sketched for the grave monuments there. The fact that the ring graves, in particular the small ones, are often situated on earlier paleo-lake deposits, or on the rims of erosion terraces of such paleo-lake deposits, indicates that they belong to a period following the Middle Holocene Pluvial Period. So far they appear to be the oldest of graves presented here. Larger ring graves are found to cut through small ring graves and are therefore necessarily younger. It is difficult without excavation and absolute dating to establish a detailed chronology of the various ring grave types. That the ring graves become successively more complex in their structure and plan until transitional types to the disk-shaped akerataheils appear remains an assumption. The disk-shaped akerataheils vary in size but not in form and were built between the end of the ring grave period, before the fishtail akerataheils, the towers and the small Muslim graves. The few radiocarbon dates that exist from disk-shaped akerataheils indicate that this burial practice dates mainly to the first millennium CE. Schweinfurth dated such grave monuments at Elkab to the same period (Schweinfurth 1899) and at Deraheib. Sadr *et al.* (1994) dated two such graves to the 6th–7th century CE. The ring cairn graves at Berenike (Barnard

1998),³ on the Red Sea coast, and in Wadi Qitna (Strouhal 1984), in the Nubian Nile Valley, date to roughly the same period. During the rescue excavations around the Fourth Cataract in Sudan, a large number of similar tombs were found and excavated. They date to the Post-Meroitic and Medieval Periods.

The fishtail akerataheils are confined to a limited area and a short period during the transition between the time of the disk-shaped akerataheils and the period of the Muslim graves. The transition to Islam in the region was gradual and took place over a long time, beginning in the 10th century CE but not completed until the 18th–19th century CE.⁴ At Nubt there are some Muslim graves framed with a basal ring and a ring of marble slabs. These stones from a local source bear Koranic inscriptions, indicating that these graves are Early Islamic in date (Oman *et al.* 1998). In some cases the marble tablets have been turned upside down. It has been suggested that these graves belong to an early stage of the first phase of the Islamization of Sudan, around 900–1000 CE (Insoll 2003: 101–102). A relative chronology for these Early Islamic graves and the Nubt fishtail akerataheils can be worked out because fragments of marble slabs from the Islamic graves have been reused in a nearby fishtail akerataheil. Assuming that the dating of the Muslim graves to the 9th–10th centuries CE is correct, this provides a *terminus post quem* for the fishtail akerataheils. The *terminus ante quem* will then be the period of general medieval Islamization. I suggest a date for fishtail akerataheils between 800 and 1200 CE. The sequence of the Eastern Desert grave monument types shows a continuum that applies to the entire Beja territory; ring graves are succeeded by disk-shaped akerataheils and these in turn by Muslim graves. The fishtail akerataheils appear during the transition between the disk-shaped akerataheils and the Muslim graves. To place this relative chronology in more detail into an absolute time frame, it is necessary to rely on data from other sources.

Cultural Continuity in the Grave Monuments

Answers to questions regarding continuity in the Eastern Desert should be sought not only in aspects

³ Kennedy, S. (2001), “Ring cairn graves at Berenike, burials of the Blemmyes?” On-line at <http://www.archbase.org/berenike/UCstudentLA6.html> (accessed November 2008).

⁴ Záhorský, J. (2006): *The Islamization of the Beja until the 19 century*. On-line at http://www.uni-koeln.de/phil-fak/afrikanistik/kant/data/ZJ1_kant1.pdf (accessed September 2009).

of culture, but also in varying natural conditions. The basic resources for life in the desert are water and vegetation. As far back as we can trace the evidence, the North African deserts have been cultural landscapes where available resources have been used, maintained and modified by humans (Andersen, this volume). The climatic shift at the end of the Holocene Pluvial Period (around 5300 BCE) opened the Nile Valley for occupation, and mobile herder-hunter-gatherers inhabiting the formerly dry savanna were able to move into the Nile Valley (Kuper and Kröpelin 2006). The desiccation of North Africa did not, however, make the deserts uninhabitable. In fact, the desert east of the Nile became no less habitable than it is today. The climate, though fluctuating, has been becoming gradually more arid and, along with this desiccation, areas with annual and perennial grass and herb cover have gradually been reduced. Similarly, the desert forests of drought-tolerant tree species contracted to the valleys where regeneration, though infrequent, could occur. The effects of climatic change were neither uniform nor simultaneous all over the Eastern Desert. The Eastern Desert constitutes a transition area between two adjacent but different climates, an ecotone,⁵ the critical ecological parameter being aridity, which decreases southwards. The vegetation belts would therefore move successively southwards in response to a gradually drier climate (Fægri *et al.* 2000: 132). Thus vegetation shifts would not occur simultaneously in the northern and southern Beja territories. In drylands worldwide, mobile herders can rely on ephemeral vegetation only where and when such resources appear after infrequent, scattered rains. More than anything else their pastoral economy is based on perennial arboreal vegetation that sustains their flocks in places and periods when there is no rain.

Wadi vegetation occurs all over the North African drylands.⁶ In mountainous deserts, however, the frequency of wadis and their associated vegetation is

⁵ From ‘ecology’ and ‘tonos’ (tension), a region where different ecologies are in tension, in this case meaning the transition zone between two adjacent but different plant and animal communities.

⁶ In this context, *wadi* (from Arabic وادي) refers to a geomorphological feature consisting of a dry, ephemeral riverbed, or a dry river valley, which contains surface water only after occasional rain events. Wadi deposits comprise poorly sorted sands and gravels that accumulate rapidly and sometimes invert resulting in a ridge rather than a valley. Although surface water is generally absent, in the Eastern Desert subsurface water seepage is constant and ecologically significant for perennial plants and human life and cultures. See also

higher than elsewhere, and the mountainous desert between the Nile Valley and the Red Sea can therefore support a considerably greater number of pastoral inhabitants than similarly arid deserts west of the Nile. Again, there is a substantial difference from north to south. The mountain subsurface moisture is replenished by occasional rainfall and mist in the Red Sea Hills (Krzywinski and Pierce 2001). The period that followed the abrupt end of Holocene Pluvial Period is assumed to be one of generally slow desiccation. As a result rain-fed herbal vegetation and grasses decreased over a long period, while perennial vegetation contracted to the most favorable locations, the wadis, which are the places where, in general, they are also found today. It is worth noting that the names which the local people use for different wadis, “Wadi so-and-so,” frequently reflect their characteristic vegetation (Andersen, this volume). These two effects of desiccation would first appear in the north and later, if at all, in the south. Cattle will, as a rule, feed on lower stratum herbal resources, while goats and camels (*Camelus dromedarius*)⁷ can feed on tree foliage. For cattle herders, who relied mainly on herbal vegetation, the disappearance of the herbal fodder resources may have forced a shift from cattle to animals that could sustain feeding on perennial vegetation. Domesticated animals depicted in rock art in the Eastern Desert indicate such a shift. Cattle appear in the older petroglyphic sequence of such rock art, while in the later sequences camels and to some degree goats are found. Camels have been attested in Qasr Ibrim (Lower Nubia) in the early first millennium BCE and are a dominant feature in Eastern Desert rock art from all later periods (Ripinsky 1985; Rowley-Conwy 1988). A change from cattle to small stock husbandry would have followed a successive southward movement of the climatic belts and with a concomitant adaptation of vegetation to the climatic sequence. Thanks to the climatic gradient, the Beja of the southern parts of the region towards Butana can still keep cattle grazing on perennial grasses and annuals after occasional rains. The use of the main resources in the rest of the region was as it is today: direct browsing, shaking of branches and pollarding to feed small stock and camels. A direct link to the past and a cultural continuity may thus be

expressed through this set of resource management practices that can be traced at least back to the New Kingdom (Andersen, this volume).

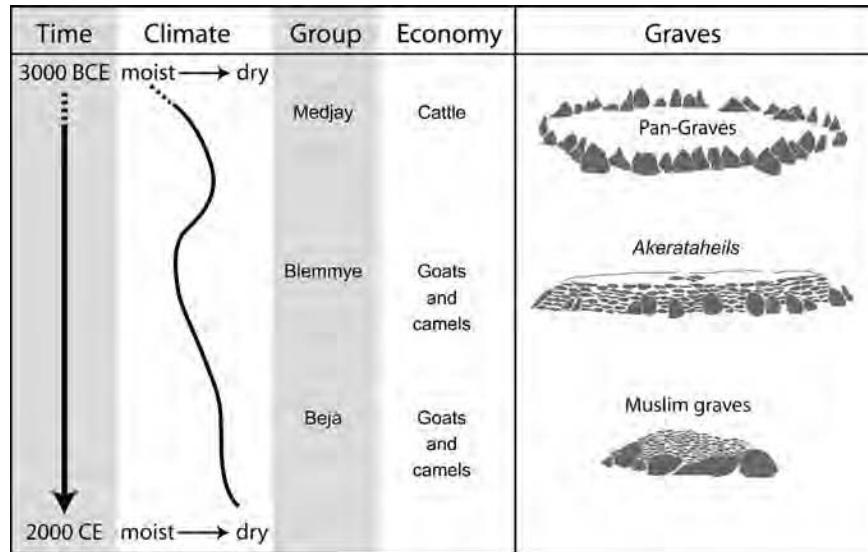
Groups of people mentioned in sources from the Nile Valley, but associated with the Eastern Desert are the Medjay (during the Middle Kingdom, 1975–1640 BCE), the Blemmyes (in Graeco-Roman times, 32 BCE–641 CE) and the Beja (from medieval times until today). In light of the frequent finds of cattle remains in Medjay graves (Bietak 1966; Näser, this volume), the pastoral economy of the early periods has been assumed to have been based on cattle herding. The Blemmyes, on the other hand, based their economy, at least in the northern territories, on small stock and camel that could be fed by leaf foddering and browsing of trees. Before 2000 BCE we have few sources about the Eastern Desert people, but written Egyptian sources from around 2000 BCE refer to desert people who have been linked to the Eastern Desert. Whether there really is a linkage between the people mentioned in these sources, their archaeological remains and an association with the modern Beja inhabitants is a key question for the history of Eastern Desert. The grave monuments and their typology reflect interrelations across widely separated times and places (Williams 1998). The combination of features is unique and points to the existence of a common burial tradition. First of all, the stone ring feature is present in one way or another in all grave types. The fishtail complex may, strictly speaking, be an exception, although it includes two round disk-shaped elements. In the ring grave types, the stone ring is the main feature marking the grave; in the disk-shaped akerataheils the ring of flagstones leaning up against the outer wall of the monument is a non-functional architectural element as it is for the smaller graves and later Muslim graves where a stone ring only serves to delineate the grave.

The contracted body of the deceased is a funeral practice in the Eastern Desert that was discontinued when Christian and Muslim burials started. Contracted burials independently link the ring graves to the disk-shaped akerataheils. The extended (Christian?) burials in disk-shaped akerataheils close to the church in Wadi Nugrus, in the Mons Smaragdus area, occur next to small grave chambers for contracted burials. Similarly, near the Fourth Cataract in Sudan there are ring cairn graves with contracted bodies as well as extended ones. This is taken as an indication that the disk-shaped akerataheil tradition continued even though the religion changed and that the typical grave is linked more to culture than

the editorial remarks at the end of Chapter 1: Introduction to Part 1: From Adam to Alexander (500,000–2500 Years Ago).

⁷ See also the editorial remarks at the end of Chapter 1: Introduction to Part 1: From Adam to Alexander (500,000–2500 Years Ago).

Figure 10.7. Lines of continuity in the Eastern Desert. Different broadly parallel lines of historical development can be drawn for the Eastern Desert. An increasingly arid climate induces a vegetation shift that in turn influences the economy and land-use pattern of the Eastern Desert dwellers. The inventory of grave monuments shifts in the period from ring graves to disk-shaped akerataheils to Muslim graves (fishtail akerataheils at the latter transition are omitted here).



to religion. The orthostates that are found at the head of the offering chapel in ring graves are also found in two places in each of the fishtail monuments and at the heads of prominent older Muslim graves. The flagstones around the disk-shaped akerataheil may provide a parallel to this tradition of standing stones.

The material development in Eastern Desert grave monuments points to a cultural continuity, but it is also noteworthy that all of the older grave types are often located among or associated with Beja tribal graveyards that are still in use (Figure 10.5). The small Beja graveyards are often used commonly by a specific lineage or family group. The presence of grave types that relate to other periods shows a tribal cultural connection among these graves. Local Beja refer to these older graves as the graves of their forefathers from a distant past, and as a rule they continue to use such places for their own burials. The graveyards and the locations of akerataheils often leave the impression of being situated in prominent places overlooking the most used and richest wadis and plains or at their entrance. Graves from all periods are thus found at prominent places where it would be ‘nice to be,’ close to where people lived and still live. The graves play a role for the present Beja population as part of their cultural landscape and are an important element of continuity with the distant past. Both ring and disk-shaped akerataheils are distributed similarly and have functions similar to the modern tribal sheikhs’ tombs. It is an even stronger indication of affinity and cultural continuity that disk-shaped akerataheils dated to 300 BCE–800 CE have rather recently been used as places for intrusive burials. These burials were inserted as new

Table 10.1. Radiocarbon dates of human remains from intrusive burials in disk-shaped akerataheils.

Site	Sample	Material	Date
Wadi Amur	TUa-1592	Juvenile vertebra	1660–1950 CE
Samadi	T-12569	Human skin	1685–1950 CE

grave chambers placed next to the original chamber in the mass of smaller stone filling, on the top of the akerataheil. This use of ancient graves as places for later burials proves a strong cultural relation to the past. Two such secondary burials have produced radiocarbon dates on the ‘wobble plateau’ (1660–1950 CE; Table 10.1).⁸ In the quest for an answer to whether there is a cultural continuity in this area and whether it can be traced back in time from the present Beja to ancient times, the continuum of grave monuments may be seen in light of other time sequences in the Eastern Desert. During the time span following the Holocene desiccation, four parallel lines of continuity can be traced (Figure 10.7). These parallel developments take place during a time span of approximately 5 millennia. It is along these different, but associated lines of continuity within a historical landscape dimension that the history of the peoples of the Eastern Desert must be sought.

Ring Graves and the Medjay Pan-Graves

The numerous ring graves in the Eastern Desert resemble the so-called Pan-Graves that are mainly known from

⁸ The wobble plateau is the period between 1500 and 1950 CE when the radiocarbon calibration curves flatten and single samples cannot be accurately dated (Stuiver *et al.* 1998).

the Nile Valley in Egypt and Lower Nubia. Eastern Desert ring graves have also been identified as typical pan-graves in Kassala, Erkowit and Khor Arbaat (Arkell 1955: 78). Ring graves are very common archaeological structures in the Eastern Desert, in particular in the wadis of the Sudanese Red Sea Hills (Magid *et al.* 1997). The graves in the Egyptian Nile Valley are few compared to those of the desert (Figure 10.1b), but fairly well studied and dated at 1630–1520 BCE. The Pan-Grave culture in the Nile Valley is associated with the Medjay, the people from the Eastern Desert mentioned in textual sources dated mainly to the Middle Kingdom and the Second Intermediate Period (Bietak 1966; Sadr 1990; Hafsaas 2006; Zibelius-Chen 2007, but see Näser, this volume). In the Eastern Desert, ring graves are often found in the sandy or gravel-filled wadis, on gentle slopes and on the plains. They vary in architecture. Also along the Nile the Pan-Grave architecture varies, but in general the grave monuments are small. Of importance for an association of ring and pan-grave monuments is the fact that the dead in both cases are buried in a contracted position, lying on their sides and oriented either with their heads to the east, looking south or with their heads to the north, looking west (Bietak 1966; Sadr 1987, 1990; Hafsaas 2006). Assuming that the ring-grave and pan-grave association is correct and that the two are similar monument types, their frequency in the Sudanese Eastern Desert from Tokar and Kassala northwards to Gebel Elba makes the desert the core area of the pan-graves and thus of the Medjay culture. The sites in the Nile Valley will then constitute the fringes of its distribution. In the northern Egyptian region of the Beja territory, pan-graves are not so frequently seen, and certainly have not been specifically searched for. Ring graves are, however, reported from Berenike Panchrysos and along Wadi Allaqi (Castiglioni and Castiglioni 1994; Castiglioni *et al.* 1995). The ring graves in the desert link the culture even more strongly to the core of the Eastern Desert.

Blemmyes and Disk-Shaped *Akerataheils*

In Graeco-Roman times, written sources refer to Blemmyes as the people of the desert (Pierce, this volume). They have been archaeologically associated with the so-called Eastern Desert Ware, a type of small hand-made pottery, mostly cups and bowls, with a remarkable well-polished surface and incised decorations, dating from the 4th–6th centuries CE. This type of pottery is found in southern Egypt and northern

Sudan between the Nile and the Red Sea (Figure 10.1c). It has been assumed that it was produced and used by the indigenous, nomadic Blemmyes of the desert. From detailed studies of Eastern Desert Ware, that included chemical analyses of the ceramic matrix and organic residues in the vessels (Barnard and Strouhal 2004; Barnard *et al.* 2005; Barnard and Magid 2006; Barnard 2008; Barnard, this volume), it was concluded that Eastern Desert Ware was made and used by the indigenous, nomadic inhabitants of the Eastern Desert in Graeco-Roman times.

The most prominent type of archaeological monuments from Graeco-Roman times in the Eastern Desert, all the way from the ancient Coptos-Myos Hormos road (roughly the modern Qift-Quseir asphalt road) in the north to Suakin and Tokar in the south, however, are not the scattered finds of Eastern Desert Ware, but the disk-shaped *akerataheils* that the Sudanese Beja associate with their forefathers. These tombs have been given different names by different authors, such as tumulus graves, ring cairns, circular platform graves circular table-tombs, truncated cone graves, and so on. The type represents a common burial tradition specific to the Eastern Desert from the end of the pan-grave or ring grave era until they were replaced by Muslim graves in medieval times. The few that have been dated were constructed in the first millennium CE. In a note at the end of this chapter, Pierce draws attention to written sources that show the presence of Blemmyes in the heartland of the Eastern Desert, near the northern extent of the disk-shaped *akerataheils*. At the end of the 19th century CE, Schweinfurth identified various plundered funerary monuments at Elkab which he referred to as *Begagräber* (Beja graves):

The space between the chamber and the wall of the stone ring was filled in with rubble and pebbles and heaped up above to a shallow cupola . . . so that the whole gained the appearance of a round hut with a conical roof (Schweinfurth 1899: 538-541).

He identifies them as ring tombs and dates them to the third–fourth centuries CE. Among the graves he found chambers for extended as well as contracted bodies. He relates the latter to the ancient burial tradition of the Trog(l)odytes in use at Elkab as described by Agatharchides of Cnidus. Agatharchides provides a rather detailed description of such a Troglodyte burial, which has obvious links to *akerataheil* construction.

With withies made from the Christ's thorn plant they bind the neck to the legs. Then, after they place the body on a

mound, they pelt it with stones large enough to be held in a hand while jeering and laughing until they have hidden the corpse. They then place on top [of the cairn] the horn of a goat and depart free of sadness and completely cheerful. In conducting this sort of funeral, he says, they act sensibly since to not cause themselves grief (Burstein 1989).

In most respects this can be seen as an outsider eyewitness description. The first phrase describes how the deceased was buried in a contracted body position similar to pan-grave burials. The tree name referred to here as Christ's thorn plant is probably based on later interpretations. Such identifications should always be treated with caution. The second part describes how the burial chamber is built up into the stone structure of the *akerataheil*. The central burial chamber was built first or simultaneously with the outer ring in dry-stone masonry. The space between the two was finally filled with hand-sized stones. The amount of hand-sized stones required is large and the work required a joint effort to complete. The last phrases should be seen in light of the spatial and social organization of the desert groups. If we assume that Blemmy households, similar to those of the Beja and other modern North African desert pastoralists, lived scattered in the valleys within their tribal area, we may assume that the occasions for which they met were important. Such occasions—circumcisions, weddings, funerals or gatherings to commemorate local sheikhs—are often celebrated today with a *karama*, in which an animal is slaughtered and consumed by all who attend. After a *karama* the head of the slaughtered animal most often remains at the spot. Despite the solemnity of the occasion, the social meetings in themselves are always joyful.

Disk-Shaped *Akerataheils*, Blemmyes and Enigmatic Sites

According to several sources the Blemmyes were at times more centrally organized than one would normally expect of nomadic desert dwellers. A number of permanent settlements in the Eastern Desert are suggested to have been associated with local people. A number of sites are associated with a higher density of disk-shaped *akerataheils* near or among the buildings. Examples of such sites in the northern part of the Red Sea Hills are Sikait, Nugrus, Kab Marfua (Wadi Gamal North) and Geili (Wadi Gamal South). Sikait and Nugrus are emerald (beryl) mining sites, and according to Olympiodorus the Blemmyes were in control of

these mines. Kab Marfua and Geili are sites located in the vicinity of major Graeco-Roman way-stations (*hydreumata*). Shauna Kennedy studied the so-called 'ring cairn graves,' found in and around Berenike and compared them to "more or less accepted" Blemmy tombs in Deraheib in northern Sudan (Sadr *et al.* 1994), and in Wadi Qitna in southern Egypt (Strouhal 1984), regarding their topography, placement, architecture and mortuary practice.⁹ Judging from the published photographs and drawings (Aldsworth and Barnard 1996; Barnard 1998), the ring-cairn graves around Berenike are likely to be the remains of disk-shaped *akerataheils* that, due to rough plundering of the central grave chamber, appear as a ring rather than the original disk shape. Kennedy found that the tombs differ in size and location, as well as in the use of local stone materials and, like disk-shaped *akerataheils* elsewhere, that the burial chamber is found either subsurface or inside the stone structure. She concludes that the ring cairn graves around Berenike may represent local burials because of their loose topographical and architectural similarities to the Blemmy tombs at Deraheib and Wadi Qitna, as well as their chronological and geographic context.

Less is known about the southern, Sudanese part of the Eastern Desert. Tabot, located in Khor Aquamt in Sudan (Magid 1998, 2004), is one of several smaller settlement sites along the major route from Berber, in the Nile Valley, via Khor Aquamt to Suakin, on the Red Sea coast (Figure 10.8). West of Tabot the route branched northwards towards Egypt. Tabot and other more or less similar enigmatic sites, such as Mendilo and Samadi, may well have been way-stations or otherwise associated with that route. A larger settlement, Nubt, is located in a tributary valley to Khor Omek, which enters upper Khor Aquamt. The city of Nubt has not been archaeologically studied, but several scholars have described the large settlement. These earlier scholars with an interest in the early Islamic graves associated Nubt with gold mining (Oman *et al.* 1998). Even though there are gold mining activities around Nubt and place names such as Nubahaweb and Nubt may reflect the ancient Egyptian word for gold,¹⁰ one may doubt that the city

⁹ Kennedy, S. (2001), "Ring cairn graves at Berenike, burials of the Blemmyes?" On-line at <http://www.archbase.org/berenike/UCstudentLA6.html> (accessed November 2008).

¹⁰ The etymology of Nubt is not clear; the ancient Egyptian word *nb* or *nbw*, however, can be translated as 'gold,' which may also explain the name Nubia.

was primarily a mining site. Nubt was a major city, but archaeologically little is known about it. It is, however, the only city that is specifically mentioned by its present local name as a Blemmy city in contemporary ancient sources. It is therefore not as enigmatic as other sites. It consists of at least two parts, each with a surrounding wall and necropolis. It seems likely that it grew and was extended with a new town wall. Publications on Nubt have thus far not focused on the city itself, but rather on a few early Islamic graves from what appears to be its latest period. Its pre-Islamic history and importance have not yet attracted the interest of scholars. The early Islamic presence in Nubt, however, must have been a rather short-lived and minor event. Suggested dates fall between the 9th and 10th centuries CE. Soon thereafter, in the 11th century CE, the Islamic tombstones were reused in a nearby fishtail akerataheil. The radiocarbon date for a piece of charcoal found on top of a midden (sample T-12313) was 820–955 CE (1175 ± 40 BP), indicating a date for a late phase in the life of the city of Nubt.

Remarkable in Nubt in this context, apart from the city itself, are not so much the Islamic graves but those of its earlier inhabitants, the Blemmyes. These are disk-shaped akerataheils, and they are larger here and more prominent than anywhere else in the Eastern Desert. They occur in such numbers that they fill the side valleys and are seen on most mountain ridges around the city. Their size, up to 20 m in diameter, indicates that Nubt was an important seat of high-ranking Blemmy nobility for a long period of time. This is consistent with letters found in Qasr Ibrim,¹¹ where Nubt is referred to as the capital of the Blemmyes and the place of their king. In general, enigmatic Blemmy sites are found near sites of economic activity related to the outside world, such as the mining of beryl or long-distance trade. Nubt is situated on the Berber-Suakin route, at the key point where it enters the mountains after having crossed the vast desert slopes towards the Nile Valley. The route is still in use by smugglers and owes its fame to having been the Suakin-Berber slave route (Churchill 1899). The slave route (*Kishya Dirba* in Tu Bedawie) follows a route that since ancient times crossed the desert as part of a trade network among the Far East, the Nile Valley and

the south. The Kishya Dirba enters Khor Aquamt from the west, passes Tabot and enters Khor Dayob, a side valley of Khor Aquamt also called Kishya Dirba, south of Khor Aquamt and emerges into Nubt in the lower part of its reach (Figure 10.8). Control over this trade route gave the Blemmyes, particularly in times when Nile Valley cultures such as the Kingdom of Meroe and the Nubian Christian Kingdoms flourished, economic and political muscle as reflected in the name of their capital Nubt and in the grandeur of their grave monuments. In this connection the significance of Nubt is that it directly links the disk-shaped akerataheils to the Blemmy people in time and space. The small but significant Islamic graveyard at Nubt, dated to the 10th century CE, places Nubt at the center of early Islam in Sudan, but also links the ancient Blemmy culture to the present Muslim Beja.

Discussion

Herzog gives an elaborate review of the various sources that link the Beja with the Blemmyes and the Medjay and advocates a cultural continuity “von Altertum bis zur Gegenwart” (Herzog 1985). The inventory of grave monuments of the Eastern Desert reflects such continuity and a common culture in the Red Sea Hills proper. The enigmatic building sites and the fishtail akerataheils are elements of the past that await further research. Similar graves found along the Nile indicate that people of the desert at times had connections with kinsmen settled in the Nile Valley (Näser, this volume). The Nile Valley pan-grave cemeteries are usually small and found at some distance from the river, while others are located on the fringes of cemeteries of the C-Group (Bietak 1966; Sadr 1987, 1990; Hafsaas 2006; Barnard 2009b). Similarly, a number of Blemmy akerataheils is known from the banks of the Nile (Schweinfurth 1899). Reconstructing the history of the desert and its people solely on the basis of these satellite communities has given rise to the confusion inherent in the recent discussion of the history of the Eastern Desert (Christides 1980; Dafa’alla 1987; Barnard 2005; Dahl and Hjort-af-Ornas 2006; Barnard 2007; Burstein 2008; Barnard 2009a; Dijkstra, this volume; Pierce, this volume). The apparent lack of data on pan-graves from the Eastern Desert misdirected the discussion to the point that scholars have even doubted that the pan-graves in the Nile Valley belonged to desert people at all, and in its extreme brought about such assertions as that the ancient desert dweller culture, the Blemmy culture, is actually a

¹¹ The Coptic texts from Qasr Ibrim are the subject of research by Joost Hagen and his forthcoming PhD thesis, “Multilingualism and Cultural Change in Medieval Nubia: The Evidence of the Coptic Texts from Qasr Ibrim,” Leiden University, The Netherlands.

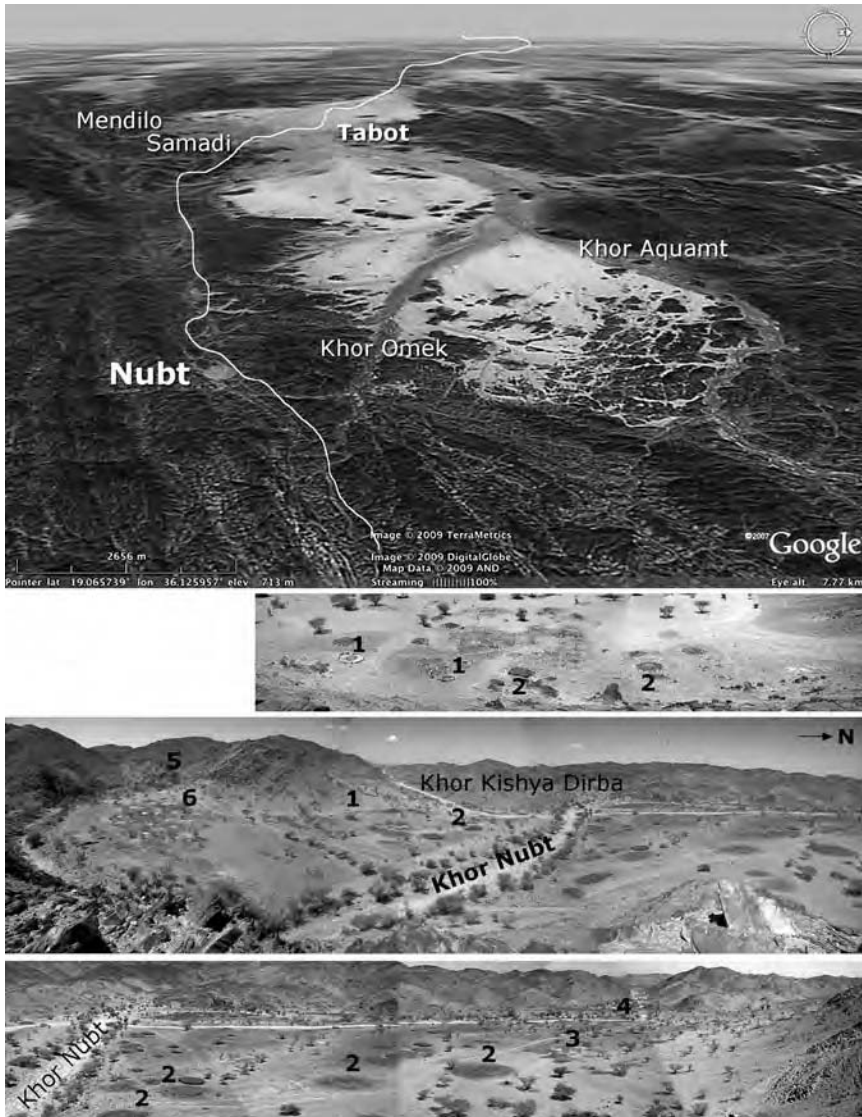


Figure 10.8. The Blemmy city of Nubt and the Berber-Suakin route that enters from the west. The route passes Tabot and enters Khor Kishya Dirba. The sites of Mendilo and Samadi are located in side valleys. The area preserves numerous tumuli, including pan-graves (1), disk-shaped akerataheils (2), brick graves (3), and a small site with early Islamic graves (4). The city of Nubt is located south of Khor Nubt and has at least two phases, Nubt I (5) and Nubt II (6). Adapted from Oman, *et al.* 1998; satellite imagery courtesy of Google Earth.

Graeco-Roman construct (Barnard 2005, 2007; Burstein 2008; Barnard 2009a).

The true nature, significance and history of the region are still a closed book for the transient outsider. Even today in the countries that encompass the area within their national borders, few know the names of their tribes, their language or their places. Similarly historical sources for Eastern Desert people originate from outsider texts and the ethnonyms that the sources give for desert dwellers may be as imprecise as those used for them by outside authorities today (Pierce, this volume). To the outsider the land between the green and fertile banks of the Nile in Egypt and Sudan and the shores of the Red Sea is still an uninhabitable desolate wasteland, but for the peoples to whom this is their homeland, it is the good land, the homeland of their forefathers. Local

Beja histories relate to lineages, representing collective identities, and are not generally combined into any major unified historical narrative (Dahl and Hjort-af-Ornas 2006). In relation to the outside world, however, the Beja are unified and in regard to the past they share a common identity. The Beja consider themselves to be one indigenous people with their roots in the land since “time immemorial.” Beja cultural continuity can be traced at various levels and in varied aspects of their society, but this continuity should not be understood so narrowly that it rejects the social, cultural and historical development of the people. No society is static, or without cultural contact with its neighbors. The coffee pot (*jabanah*), the plastic water container, the mobile phone and the Toyota pick-up trucks are elements that do not contradict this continuity. The description of the

nomadic African by Athenaeus of Naucratis not only reveals continuity of desert life, it also shows that little has changed among the outside observers.

I know too, writes Athenaeus, that Hellanikos, in [his book] *The Names of Peoples*, says that certain of the nomadic Libyans own nothing but a cup and a knife and a water bottle and that they have little shelters for shade made of asphodel stalks which they carry around with them wherever they go (Athenaeus, *Deipnosophists*, XI, 6).

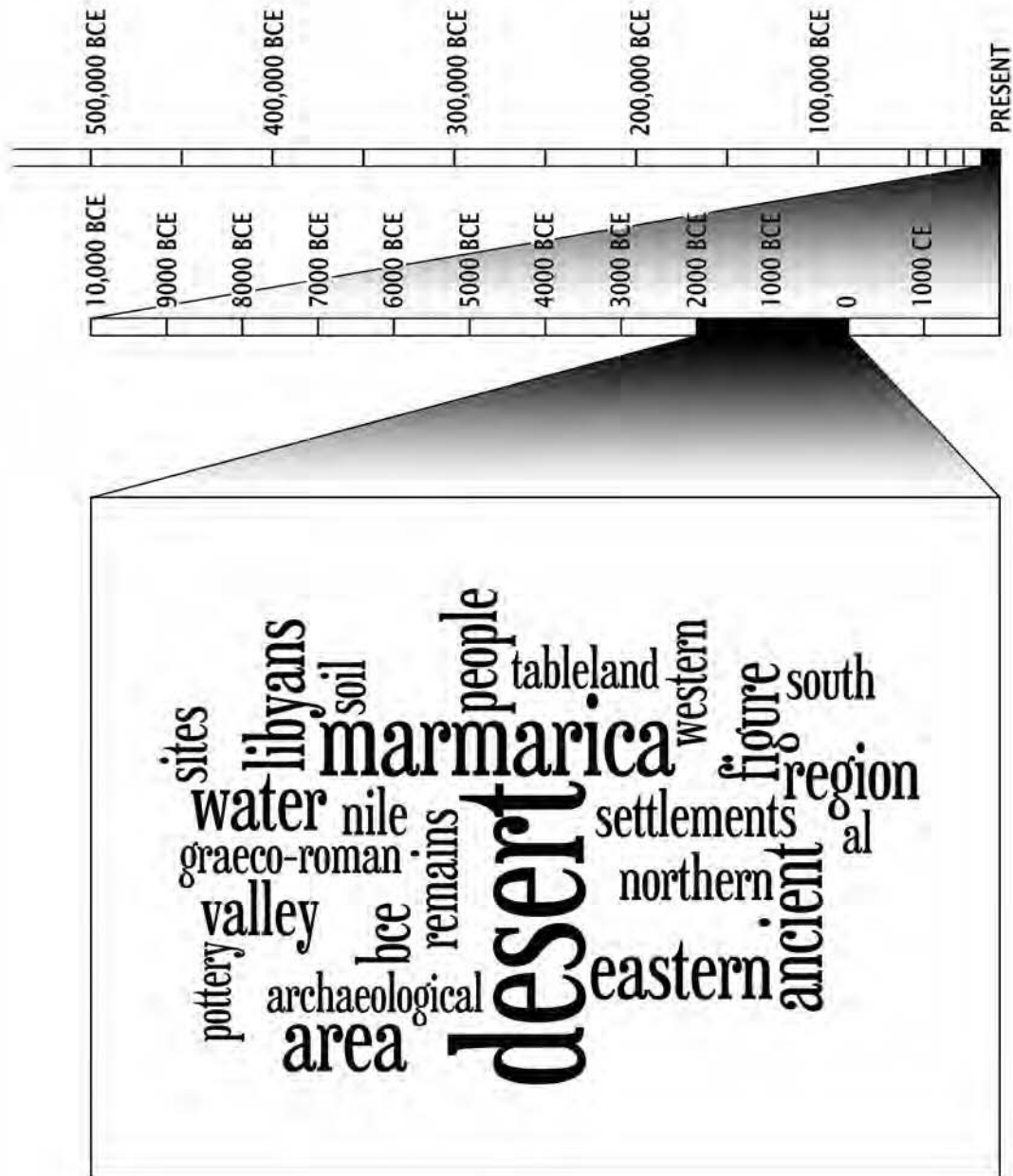
As you meet a Beja today, along the mountain tracks or in a wadi, on his lengthy travels through the desert (Pluskota, this volume), you may be struck by how little he carries. His knife and sword, his coffee pot (*jabanah*), the piece of cloth crossed over his shoulders for shade by day and warmth by night and the water skin or plastic container with some liters of water hanging on his camel are enough to sustain life in the desert. The most important baggage he carries is his knowledge of the land, its routes and resources, its wells and its people. This is his heritage.

A Note on Early Evidence for a Blemmy in the Eastern Desert

(by Richard Holton Pierce)

A preliminary report on the 2006/2007 season of the IFAO fieldwork at Abu Quraya (ancient Iovis-Dios) in the Eastern Desert of Egypt describes the discovery of a poorly preserved letter from one Baratit to some soldiers (inventory number 481, Botte and Brun 2007). The authors note that the same Baratit appears in two late

ostraca from Didymoi (Khashm al-Minayh). In one of these (*Ostraca Didymoi* 858), he is titled hypotyranos of the Barbarians, in the other he writes to the curator of that praesidium. The ostrakon from Abu Quraya was found in a dump in front of the fort, the foundation of which is dated to 114/115 CE. The fort was still functioning in the third century CE, but appears to have ceased to be a military outpost by the end of that century or early in the 4th century CE. Baratit's name and title of hypotyranos are particularly interesting. Previously known examples of this title have been explicitly associated with the Blemmyes, and in contexts that place them on the eastern fringes of or in the Nile Valley at or south of Aswan (Hägg 1990: 147-177). In the Didymoi ostrakon, Baratit is a *hypotyranos* of Barbarians, a broad ethnic designation that was explicitly and interchangeably, though not exclusively, used of the Blemmyes (Eide *et al.* 1998: 1087-1092, 1138-1141, 1153-1158). The name Baratit, in orthography and structure, does not conflict with the little that is known about Blemmy personal names (Satzinger 1992: 313-325). The initial segment 'Bara' is parallel to the 'Bara' in Barakhia, and comparable to the 'Gama' in Gamatiphant and the 'Khara' in Kharafitk, Kharahiet, Kharakhen and Kharapatkhur. The combination of date, location, name and title warrant the suggestion that the ostraca of Baratit are the hitherto earliest evidence of the presence of Blemmyes in the core of Egypt's Eastern Desert.



Time line and word cloud created from Anna-Katharina Rieger, Thomas Vetter and Heike Möller, *The Desert Dwellers of Marmarica, Western Desert: Second Millennium BCE to First Millennium CE*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 11



The Desert Dwellers of Marmarica, Western Desert: Second Millennium BCE to First Millennium CE

ANNA-KATHARINA RIEGER, THOMAS VETTER AND HEIKE MÖLLER¹

THE INITIATIVE ADDRESSING THE “HISTORY OF the Peoples of the Eastern Desert” shifted the focus from ancient forts, quarries, mines, roads and harbors, with users mostly coming from the outside, to the indigenous inhabitants of the area. The questions that arise are who these dwellers of the desert were and how they lived in the arid region between the Nile Valley and the Red Sea before and during the exploitation by ancient political powers. To tackle this issue it is necessary to understand the region as a whole, including the special conditions of the desert environment as a habitat, as well as the relation between different social, cultural and ethnic entities, especially nomadic and sedentary groups. Diachronic aspects are equally relevant, starting with landscape archaeology and the archaeology of mobile peoples to the cultural landscape and the interaction between humans and their environment in the broadest sense of the word. As these aspects are the same

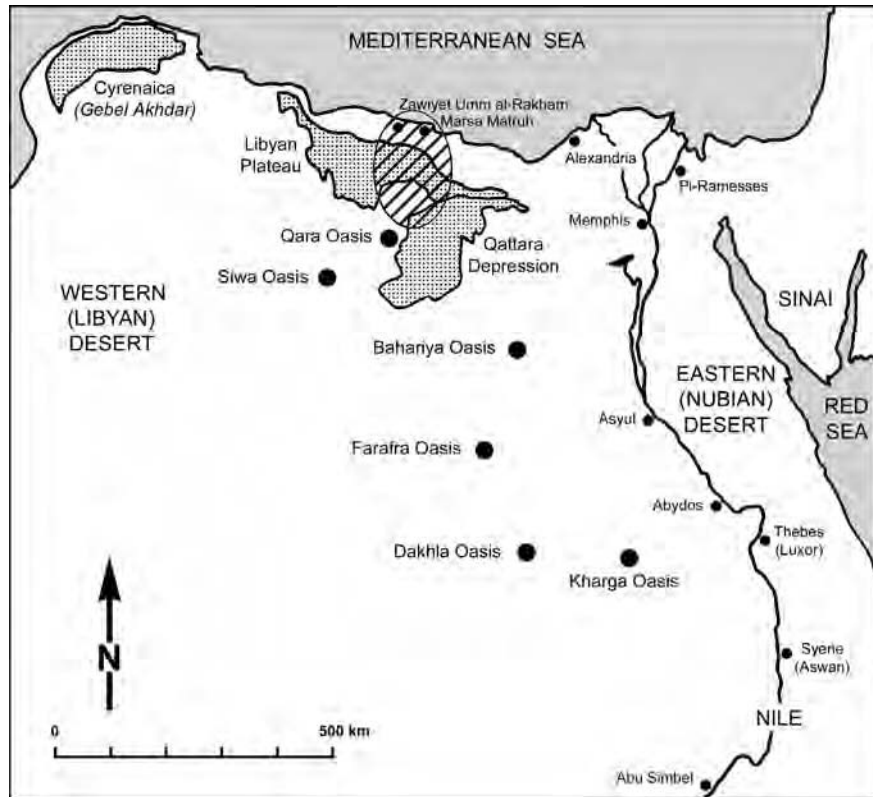
for historical and archaeological research in any desert region, the region of ancient Marmarica, in the Western Desert, will be discussed in this chapter as a case study for the research into the dwellers of Eastern Desert. Ancient Marmarica was located between Lake Mareotis, just south of Alexandria, and Cyrenaica (Gebel Akhdar), on the modern border between Egypt and Libya (Figure 11.1). Some of the geo-ecological and archaeological features in the northern part of the Western Desert, being the environment and habitat of the desert dwellers, will be juxtaposed to Eastern Desert sites to point out methodological and factual similarities as well as differences among the research areas, cultural remains and feasible scholarly approaches.

Egyptian Desert Environments

Any desert constitutes an extreme environment that requires adaptation of every living being and thus emphasizes existing ecological niches. Topography, morphology and geology can create favorable places where harsh conditions are compensated, for instance by moderating temperature or wind, and scarce resources like water or food are present. Such areas with an advantageous microclimate are crucial for all human activities in desert regions. Being part of the Sahara, this characterization is applicable to both the Eastern and the Western Desert of Egypt. But there are geological and morphological differences between different regions that determine human options in how to make use of the

¹ This chapter is based on research conducted 2004-2008 in the framework of the Collaborative Research Centre 586 Difference and Integration (Universities of Halle-Wittenberg and Leipzig) Project A 7, promoted by the German Research Foundation. It continued until 2011 because of a research grant from the same institution. We would like to thank the German Research Foundation for funding, the Gerda Henkel Stiftung for the scholarship of H. Möller, and the Supreme Council of Antiquities of Egypt for work permissions and on-site assistance. G. Brands (Halle), M. Fuchs (Gießen) and S. Marchand (Cairo) have continuously supported the work. Thanks are also due to all team members, especially S. Valtin, B. Emme, O. Klammer and A. Nicolay.

Figure 11.1. Map of northern Egypt, showing the location of the research area in Eastern Marmarica. Adapted from Snape 2003.



desert environment. This results in different human traces and artifacts, as well as different archaeological records.

From north to south, the Egyptian Western Desert consists of the limestone Marmarica Plateau, the Qattara Depression, the Great Sand Sea, and finally a sandstone plateau known as Gilf Kebir (جلف كبير) on the border with Sudan and Libya. The northern part of the Eastern Desert also consists of a limestone plateau (the Ma'aza Plateau), in the east cut by the Precambrian and Paleozoic Red Sea Mountains. In the south, the Mesozoic layers of the Nubian Sandstone are the prevailing geological formation. Large valleys (*wadis*) serve as the drainage system to the Red Sea in the east or the Nile Valley in the west. Besides the similarities, the major difference between the desert areas east and west of the Nile Valley is the presence of the Red Sea Mountains. These contain deposits of mineral and geological resources that have been exploited since prehistoric times. This natural wealth has caused heavy anthropogenic alterations to the Eastern Desert because of the number of users and more or less permanent inhabitants of the region. Except for a few oases, the economic potential of the region west of the Nile Valley is insignificant and offers limited natural resources to those willing to expend the effort to exploit them. Consequently, there has been less presence of what can be

summarized as “political and economic powers” coming into the desert for economic reasons. The exploration of the Western Desert from the Nile Valley started as early as the Old Kingdom (2575–2150 BCE), for political and military reasons (Kuhlmann 2002). Yet the Pharaohs and their successors, the Ptolemies and the Romans, did not leave the same kind of traces as in the Eastern Desert, with its numerous quarries, mines, forts, *hydreumata*,² and the settlements and roads associated with these. The natural dissimilarities of the regions east and west of the Nile Valley lead to a different human impact on the desert environment. Beside the external influences and ‘intruders’ from more fertile zones, native people live in the Eastern as well as in the Western Desert; they are permanent inhabitants who are not mainly interested in exploitation of geological resources or in long-distance trade, but who use the arid regions as their habitat and the source of their livelihood. These desert dwellers have to adapt to the desert environment, with its restricted resources of water, vegetation and cultivable soil, resulting in a (pastoral) nomadic way of life. Their relics are meager and sometimes difficult to recognize, but these permanent

² A *hydreuma* (plural *hydreumata*) is an enclosed, often fortified and usually permanently manned ‘watering station’ of Graeco-Roman date, providing a man-made oasis along a caravan route.

inhabitants shaped the landscape since the beginning of the desiccation of the Sahara.

The Issue of the 'Eastern Libyans'

To address issues of transitions and interactions between sedentary and nomadic ways of life in the Egyptian Western Desert, a research project started in 2005 on the northern fringe of the Western Desert, the strip between Mediterranean coast and the Qattara Depression (Brands *et al.* 2006; Klammer 2009; Rieger 2009; Vetter 2009; Vetter *et al.* 2009a; Vetter *et al.* in press). This is an area where, apart from the urban centers on the coast, Marsa Matruh and Zawiyet Umm al-Rakham (White 2002a, 2002b; Snape and Wilson 2007), and Siwa Oasis (Kuhlmann 1988; Bruhn 2011), no archaeological research has taken place. The questions about the native inhabitants of the desert west of the Egyptian Nile Valley and their material culture and life strategies were raised several times (Carter 1963; Leahy 1985; Barker 1989; O'Connor 1990; White 1994; Barker *et al.* 1996; White 2002a, 2002b; Snape 2003), but archaeologically only addressed by the excavations close to Marsa Matruh concentrating on the 'Eastern Libyans' (Bates 1914, 1915, 1927). Donald White later approached the issue with his analysis of Bates's Island (White 2002a, 2002b), while Frederic Colin focused on *les peuples libyens de la Cyrenaïque à l'Égypte* in the textual sources (Colin 2000). An important part of the present project is to unite the historical records with the material remains in the region, with a focus on the Graeco-Roman Period due to the preservation of the material that appears in many respects similar to Western Marmarica in Libya (Hulin 2009; Hulin *et al.* 2010; Hulin in press).

The common but rather vague term for the non-Egyptian inhabitants of the desert west of the Nile Valley, in ancient as well as scholarly texts, is 'Libyans.' This identification subsumes different tribes, regions and historical periods (Snape 2003). These Libyans are neither a self-defined ethnic group nor are they described as such in the sources. The classical texts, from Herodotus's *λίβυκος λόγος* onward, distinguish names of tribes and other groups, but give no clear culturally distinctive categories and descriptions. Because the topographical range of the area of the Libyan tribes in the historical records is immense and varies ecologically, cultural diversity is highly probable. As a result, the material culture of the groups will also be different. At the same time, however, the diachronic continuity of

cultural objects, texts and activities seems to have been very strong for at least 3500 years, between Pharaonic and medieval times (Smith 2003). On the one hand, this helps the classification of an artifact as indigenous or 'Libyan,' but on the other hand it introduces the problem of archaeological dating.

Historical sources for the dwellers in the Western Desert are scarce and clouded by the usual problems of understanding their content and assessing their reliability (Rosen 2006; Burstein 2008; Barnard 2009). There is no comprehensive source by the dwellers of the Western Desert themselves, even less than for the Blemmyes in the Eastern Desert (Barnard 2008a: 132-143); inscriptions in the Libyan script bear a simple formulaic character. So our point of view is necessarily that of outsiders. Ancient authors come from the Nile Valley, composing panegyric inscriptions for the Pharaoh, or are urban intellectuals who obviously did not originate from a desert environment, such as Herodotus in classical times or the Early Christian 'Desert Fathers.' Our outsider's view is marred by the long chronological distance between the date of origin of the sources and the issues they describe. Beside the ancient texts there are some sources in visual arts, but their interpretation is problematic because of their narrow chronological and spatial distribution. The main sources dating to the Egyptian Old Kingdom, the Libyan Palette and the Tomb of Harkhuf,³ mention people called 'Tjehenu' and 'Tehemu' living west of the Nile Valley (Snape 2003: 97-99). During the New Kingdom, on the Israel Stele,⁴ the Tjehenu and Tehemu are replaced by, or specified as 'Libu' and 'Meshwesh.' These are described

³ The Libyan Palette (also known by various other names) is the lower part (21 × 19 cm) of a schist palette (estimated to have been 21 × 70 cm) decorated with drawings of various animals, trees and very early Hieroglyphs listing different cities. It is believed to be from Abydos and dated to the Naqada III or Protodynastic Period (3200-3000 BCE). The Libyan Palette is kept in the Egyptian Museum, Cairo (JE27434, CG14238). The Tomb of Harkhuf is part of the rock-cut Qubbet al-Hawa necropolis on the west bank of the Nile near Aswan. According to its inscriptions, the owner of the tomb was governor of Upper Egypt under Pharaohs Merenre and Pepy II of the 6th Dynasty (2325-2175 BCE). Harkhuf led at least four major expeditions in his life, believed to have been into Nubia but possibly also farther north.

⁴ The Israel Stele, more accurately known as the Victory Stele of Merneptah, is a granite stele found by Flinders Petrie in 1896 near Thebes. It describes the campaign of Pharaoh Merneptah (1213-1204 BCE) of the 19th Dynasty against the Libyans, although it has gained more fame for apparently preserving the first mention

as organized in clans with some central urban sites in the area west of the Nile Valley as far as Cyrenaica. From the 18th Dynasty (1539–1295 BCE) onward they are often described as a threat for the Nile Valley Egyptians (Snape 2003). After the 21st Dynasty (1075–945 BCE), Libyan tribes entered the Delta and became an influential group, members of which could, at times during the 24th–30th Dynasties (730–343 BCE), claim the throne (Kitchen 1990; Leahy 1990; O’Connor 1990; Barker *et al.* 1996; Broekman *et al.* 2009).

Translating the Egyptian term ‘Libu’ into Greek, Herodotus dedicates a long passage of his *ιστορία* to the Libyans, the *λίβυκος λόγος*, which is the source for many later writers, such as Diodoros, Strabo, Ptolemy, Pliny the Elder, Procopios and Synesios (Smith 2003). Herodotus lists thirteen tribes between Lake Mareotis and the Gulf of Gabes among which were the Adyrmachidai, Giligamai, Makai and Nasamones. More tribes are named between there and the Columns of Heracles (Strait of Gibraltar). The material and social culture of the more eastern tribes is described as nomadic (*λίβυες νομάδες*, Herodotus 4, 186). Only the western tribes are said to be agricultural based societies (*ἀροτῆρες... λίβυες*, Herodotus 4, 191). Thus, according to Herodotus, Libyans combined nomadic and sedentary ways of life, geographically divided between east (modern Egypt, Libya and Tunisia) and west (modern Tunisia, Algeria and Morocco), and were well adapted to the arid or semi-arid environment. The pastoral nomadic livelihood is referred to elsewhere several times, such as Diodoros 3, 49 and *Pseudo-Scylax 109* (Colin 2000: 37-44). But a close reading of Herodotus does not only offer an east–west differentiation, but also a north–south division. The Nasamones, a group of the *λίβυες νομάδες*, use the land in the north for grazing and the oases farther south as an agricultural area. This kind of land use may be called ‘scattered agriculture.’ Other groups, especially in fertile areas like Wadi Khaam in Tripolitania (Herodotus 4, 198), can count on the relatively high agricultural potential of the soil and use that for their livelihood (Strabo 17, 3, 23; Pliny, *Naturalis Historia* 5, 5). Strabo (17, 3, 1) and Diodorus (3, 49) mention the north–south differences among the Libyan tribes even more clearly when they refer to “northern Libyans” and to the “nomads in the south” (Colin 2000: 58-77). This differentiation may correspond to different strategies to cope with the

ecological conditions. The only source originating from Marmarica itself, *pMarmarica*, which refers to a period later than the authors quoted above (190–191 and 215 CE, respectively), gives a notion of the agriculture that an at least part of the Libyan population practiced in the region (Norsa and Vitelli 1931). This taxation document lists products yielded from a dryland-farming system in an area a little to the west of the research area, but with a very similar geo-ecological setting.

Herodotus’s list is the source for all his successors, such as Ptolemy, Strabo, Diodoros and Pliny, obviously with shifts, changes and contradictions of names, areas and behavior of the individual tribes. In later sources and papyri, especially those dating to the third–fifth centuries CE, some of these tribes are mentioned again, like the Nasamones (*Tabula Peutingeriana, Pars IX*), the Mazikes or the Mastitai (Synesios, *epistula 130*; Johannes Antiochenus 313; Roberto 2005) and the Goniotai (*pOxyrinchus 46, 3292, l.12/13*; *pOxyrinchus 33, 2681, l.6, 9*; *Berliner Griechische Urkunden 3, 935*). The latter are held responsible for raiding towns in the Nile Valley or on its western fringes. Like other nomadic or pastoral nomadic societies they appear in the sources, written from a sedentary cultural perspective, mostly in the context of conflicts and only rarely in situations of normal contact for economic or other reasons (Näser, this volume). From an administrative point of view, the Libyans were never a part of one of the neighboring empires, as were the Phoenicians and the Greeks along the coast, the Egyptians and the Persians expanding from the east, or later the Romans trying to get hold of the hinterland of their North African territories. Presumably the Libyans of Eastern Marmarica came under a certain state control when the Ramesside fort at Umm al-Rakham was established. Later they joined the foreign coastal dwellers and became part of an Egyptian *νόμος*,⁵ in Ptolemaic times, and later a Roman province (Brands *et al.* 2006). The level of administrative impact was low and is described a little in some papyri, such as *pOxyrinchus 9, 1221*, Ptolemy 4, 5, 2, and Pliny, *Naturalis Historia* 4, 5, 2 (Mathwich 1974; Youtie 1977). Libyan contacts with the newcomers could result in a mixed population, as is known for Cyrene and Carthage, which is reflected in the names *Libyaegyptii* and *Libyophenicii* in Pliny, *Naturalis Historia* (5, 43) and Diodorus (20, 55, 3), respectively (Colin 2000: 25-27). Apart from short-term treaties, which played a crucial

of Israel (either the people or the region). The stele is kept in the Egyptian Museum, Cairo (JE31408).

⁵ Pharaonic Egypt was divided into *sepat*, or *νόμοι* (*nomoi* = districts), ruled by a feudal ruler now referred to as *nomarch*.

role in the conflicts between Cyrene and Ptolemaic Egypt in the third century BCE (*Polyainos* 2, 28, 2), the Libyans remained mostly independent from the powerful nation-states north and east of their region. Even under the domination of Arab tribes equally familiar with arid environments, from the 7th century CE onward, they remained autonomous to a certain degree (Thiry 1995; Colin 2000: 87-115).

The analysis of Herodotus and a critical assessment of later sources resulted in the following information about the society, culture, economy and political relations of the ancient Libyans; the Libyans apparently lived spread out over North Africa, from the Nile Valley to the Atlantic coast, in a tribal organization with a diversified clan structure. They seemed to have used the semi-arid zone near the coast as well as the more arid areas to the south by combining nomadic and sedentary ways of life. Their economic base was mixed; on the one hand they depended on livestock and pastoralism, and on the other they were experienced in dryland farming, enabling them to practice scattered agriculture. Exploitation of mineral resources or trade relations is not referred to in the historical sources. The Libyans were never a stable part of one of the neighboring empires, but lived in a kind of symbiosis (Sadr 1991: 1-11), which means in well-regulated contact with the fully sedentary societies around them. In comparison to the written sources on the Eastern Desert dwellers (Barnard 2007; Burstein 2008; Barnard 2009), who are often identified as the Blemmyes (Török 1988; Updegraff 1988; Lassányi 2005; Dijkstra, this volume; Pierce, this volume), the descriptions of people of the Western Desert seem to be more detailed in that they list different tribes. This does not result in more detailed knowledge, however, because the cultural characterizations are rather cursory. Thus the ancient Libyans are akin to the Blemmyes in that they are both given an ethnic name that does not necessarily correspond with an ethnic entity with clear features, structures and dimension, but rather with a variety of subgroups, tribal connections, cultural elements or economic and political interests, depending on the context in which these names occur.

Pictorial representations of the Libyans are even more scattered in time and space and also often made by outsiders. The first insight into the Libyan economy is given by the Predynastic Libyan Palette (Quibell 1900; Snape 2003: 97). There is a certain concurrence between the depictions of Libyans (with ostrich eggs, feathers

and cattle products) and the archaeological record in Egypt from the end of the 18th Dynasty onward (Snape 2003), but most of the images appearing to represent Libyans turn out to be the iconographical *topos* for 'foreigner,' 'outsider' or 'defeated' (Cooney 2011). Representations made by the Libyans themselves, like scattered petroglyphs, the cult grotto of Slonta,⁶ several of the reliefs in the tombs at Ghirza (south of Tripoli), and some Graeco-Roman influenced portrait sculpture, are too fragmentary and chronologically unclear to allow further conclusions to be drawn. One avenue towards a better understanding of the ancient Libyans may be the analysis of the natural environment as a base for their livelihood, independent of a chronological assessment. This will enable the search for material remains of the Libyans in a particular area.

The Natural Landscape

The availability of water and vegetation determines life in an arid region and requires special knowledge on how to handle these scarce resources, including how to locate, manage and utilize them in a sustainable manner. With the strategies that the desert dwellers developed and applied, they also structured and shaped the landscape and their environment. Within a historical or archaeological study, therefore, an approach is feasible that starts with the reconstruction of the environmental and ecological situation in former times. Eastern Marmarica is climatically characterized by its lee position behind Gebel Akhdar (Figure 11.1). It receives less rainfall than the surrounding regions, but is still less arid than most of the Eastern Desert. Figure 11.2 shows the ecological gradient, with decreasing rainfalls towards the south, and the geo-ecological zones from Mediterranean to semi-arid and arid conditions. The ecological zones in Eastern Marmarica can be characterized, from north to south, as follows (Vetter 1998; Vetter *et al.* 2009a; Vetter *et al.* in press). The Northern Fringe, Coastal Zone and Northern Tableland, are an approximately 15-km-wide semi-desert with relatively high rainfall (120–150 mm/annum), concentrating as run-off in the valleys and in

⁶ The cult grotto of Slonta (also known as the Pig Grotto) is a cave decorated with carvings of animals, human figures and disembodied heads in the Eocene limestone plateau near al-Bayda in northeast Libya. Architectural features include cylindrical columns and a semicircular entrance. The grotto, restored in 1993, is commonly interpreted as a native Libyan or Berber shrine.

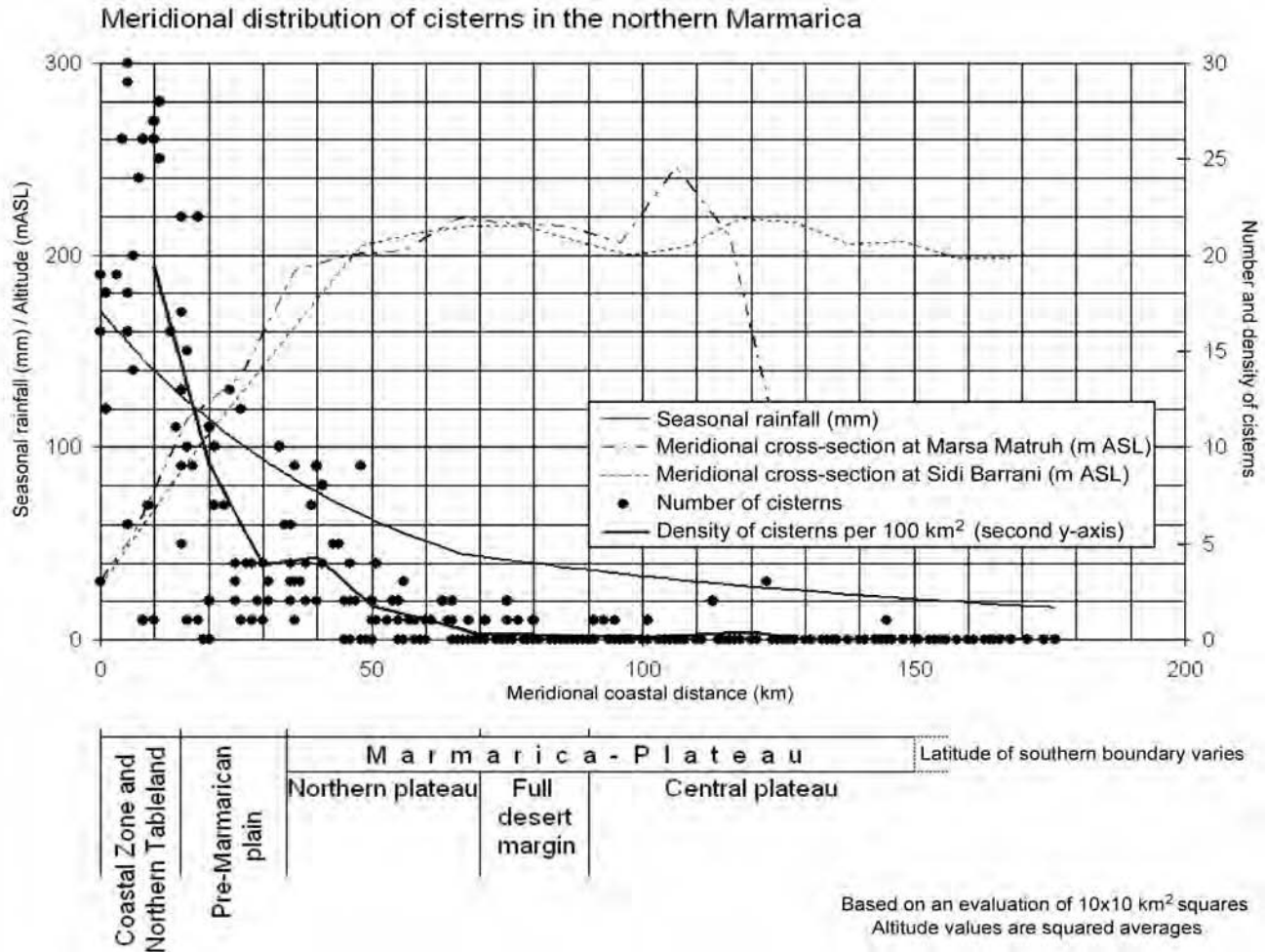


Figure 11.2. The ecological gradient of Eastern Marmarica, Egypt (coastal distances are approximate and may vary between longitudes). Charted by Th. Vetter.

many cisterns (cistern density >20/100 km²). The natural vegetation includes small scattered shrubs; crops such as barley, figs and olives are cultivated in the valleys and in embanked fields on the tableland (كرم, *karm*, plural *kurum*). Sheep and goats can also be raised here. The Pre-Marmarican Plain is a semi-desert 15–35 km from the Mediterranean coast with an annual rainfall of 80–115 mm. The area consists of vast, flat plains without a linear drainage pattern (no valley system, only random shallow depressions). The vegetation is scattered and still suitable for sheep and goats, but crop cultivation is exceptional. The southern boundary of the plain is the Pliocene Marmarican Cliff, which rises to about 200–220 m above sea level. The cistern density in the region is approximately 5/100 km².

The Northern Marmarica (or Libyan) Plateau is the transition zone between the semi-desert north of the Marmarican Cliff and the arid desert farther south. It

comprises the marginal desert area 35–70 km from the Mediterranean coast, which receives 45–80 mm/annum rain. The vegetation pattern changes from scattered to contracted, making sheep and goat grazing insecure and presumably better suited for dromedary husbandry. Water supply is concentrated at single cistern sites (cistern density about 2/100 km²). The Marmarica Plateau is the arid desert area 70–90 km from the Mediterranean coast with an annual rainfall of around 40 mm. The contracted vegetation in the north thins out into a complete absence of plant life. The cistern density drops to below 0.4/100 km². The Central Marmarica Plateau is the arid desert area starting about 90 km from the Mediterranean coast. With an annual rainfall below 35 mm, the region lacks permanent vegetation and the cistern density is far below 0.4/100 km².

This transition from semi-arid to hyper-arid zones was and still is a perfect environment for survival strategies

that oscillate between pastoral nomadic and sedentary ways of life. From an economic point of view, the natural landscape provides areas suitable for agriculture in the north, and rangelands for livestock husbandry in the semi-arid and marginal desert zones in the south, while roaming the desert is made possible by the scattered watering points. On a socioeconomic level, most of the region is suitable for both sedentary and nomadic strategies, combined into seasonal or annual oscillations. Principally mobile groups may have used the rangelands in the south, and sedentary groups, connected to larger ethnic entities, may have lived permanently at favorable spots in the north, or in the oasis, while practicing scattered agriculture. Whether such ethnic groups are to be called pastoralist, agro-pastoralists or multi-resource nomads (Salzman 1972) depends on the emphasis on elements of the internal and external organization of their way of life as well as on the point of view of the researcher. A fluent merging of both lifestyles, however, must be assumed. The natural resources and the ecological conditions that the inhabitants of Marmarica could count on correspond with the characterizations in the historical records. If one takes into account that the climatic and ecological conditions of the Western Desert did not change significantly for the last 5000 years (Kuper and Kröpelin 2006), the environmental and economic situation was the same for the dwellers of the Western Desert in Pharaonic and Graeco-Roman times as they are today.⁷

Archaeological Sources on the Dwellers of Marmarica

To corroborate and extend the information gleaned from historical sources about the dwellers of Marmarica and their ecological and economic environment, the remains of their dwellings, artifacts, routes and rituals need to be considered. The archaeological remains in the Marsa Matruh area are no longer accessible (Bates 1914, 1915, 1927), because of urban, agricultural and touristic development of the Mediterranean coast. In the untouched hinterland, however, there are many sites that may be attributed to the Libyans, the native inhabitants of Marmarica. Our work on the Marmarica Plateau, the region between Marsa Matruh and the Qattara

Depression (Figures 11.1, 11.3) aims to reconstruct the cultural landscape in this arid region and to address at least some of the remaining issues (Bates 1914, 1915, 1927). Although this research area covers only a very small part of the entirety of Marmarica, stretching from Lake Mareotis to Cyrenaica (Gebel Akhdar), it provides valuable data considering how scarce the archaeological and historical information on the region is.

Because an arid environment and a partly nomadic people are focused on, the questions of the character and visibility of material remains have to be addressed (Cribb 1991; Finkelstein 1992; Rosen 1992; Khazanov 1994; Veth *et al.* 2005; Hauser 2006; Barnard and Wendrich 2008). Non-permanent occupation of sites leaves few traces, while low population density results in small numbers of cultural artifacts. The investigated areas covered have to be large and attention very focused. As is true for the Blemmyan tribes and their culture east of the Nile Valley, the attribution of an artifact to an ethnic group is an almost impossible task. The occurrence of objects associated with a settled culture, like the Egyptians, Greeks or Romans, does not necessarily mean the presence of a representative of these groups, but may indicate a person defining himself as Libyan simply using an object from a different cultural or ethnic group. Such considerations, however, are beyond the scope of this chapter. Another problem associated with the material culture of desert dwellers is the chronological analysis of objects such as hand-made pottery or lithic artifacts. These have been in use over long periods of time and criteria for precise dating are not easily defined. Methods to reconstruct the landscape, land use and settlement pattern in antiquity include, besides the usual archaeological survey, excavation and pottery analysis, hydrological surveys (water availability, water distribution) and soil analysis (soil quality, water storage capacity, sedimentation, and dating of anthropogenic and natural sediments). These were mainly implemented with the aid of remote sensing techniques and scientific analysis. The assessment of the historical and cartographic sources, ranging from ancient textual sources to archives concerning the Second World War, ethno-archaeological and ethno-historical research did shed light on issues like lines of communication, pottery production and favorable places for arid agriculture and animal husbandry.

⁷ For analyses of modern life strategies in the Marmarica and Cyrenaica, which are partly applicable to the situation in antiquity, see Johnson and al-Akhdar 1973; Behnke 1980; Cole and Altorki 1998; Hüsken and Roenpae 1998.

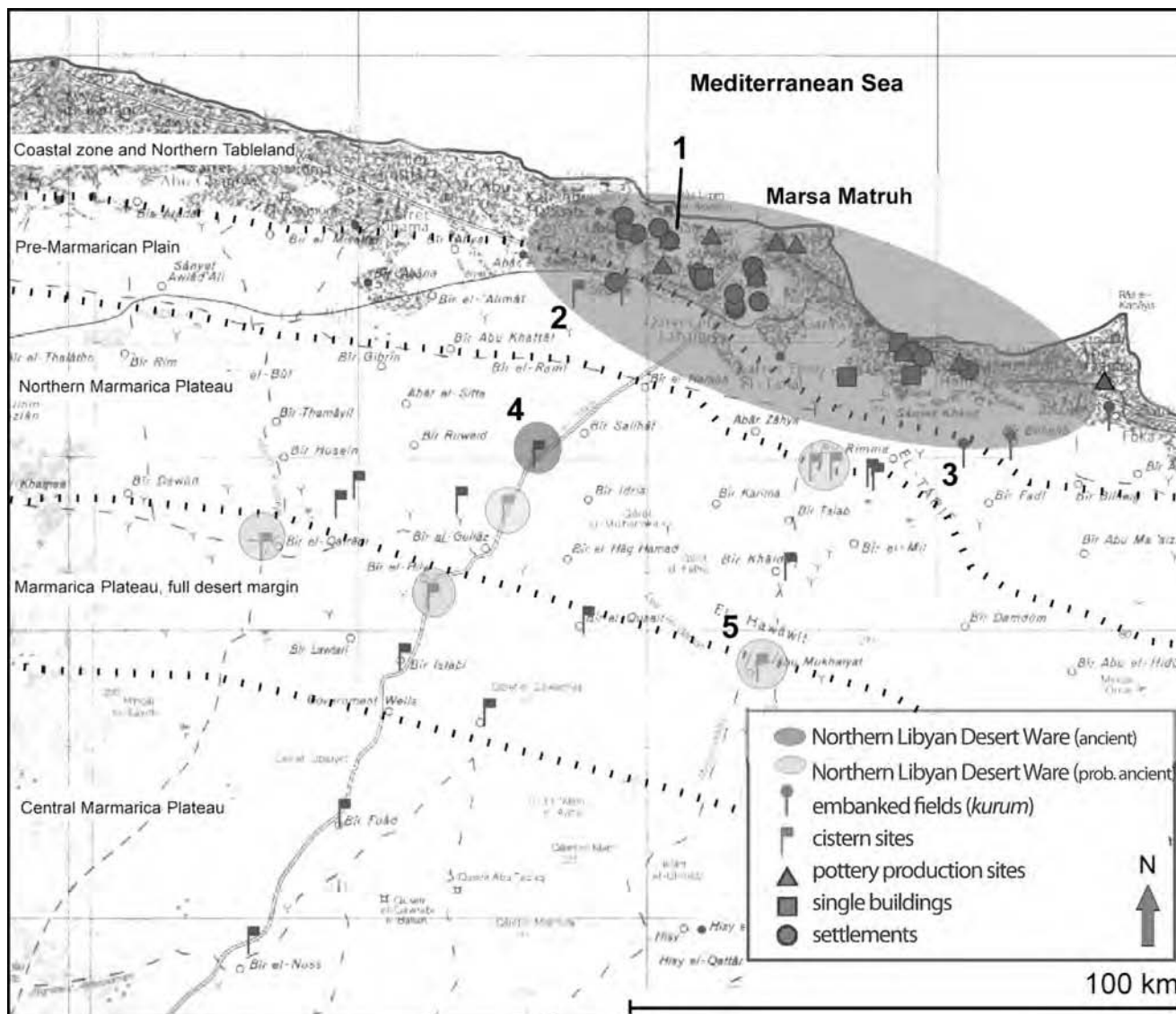


Figure 11.3. Ancient sites in Eastern Marmarica. 1: Wadi Umm al-Ashtan. 2: Abar Abu Imama. 3: Hâggag al-Qasaba. 4: Abar al-Kanayis. 5: Bir Abu Mukhayat. Adapted from the 1:1,000,000 map of North Africa, Sheet NH 35: Alexandria, of the Technische Fachhochschule, Berlin, 1985.

The Cultural Landscape

The visibility of mobile people in the archaeological record is generally low and has regionally differing aspects. The mobility of people always includes, however, extensive land use. Their activities cover large areas and leave only few large sites. As the ancient Libyan tribes were partly nomadic, different traces are to be expected in locations where they moved and where they rested. Following this behavioral pattern one can look for specific kinds of archaeological remains in places of interaction with sedentary people (settlements, harbors), permanent settlements, temporary campsites, rangelands, agricultural areas (including water and soil management systems), water supply points (cisterns), tracks with route

markers (علم , *alam*, plural *alaam*), ‘drop-sites’ (Hulin 1999: 15)⁸ and burial grounds. Parallel to the ecological zones, the archaeological record changes from finds that can be assigned to sedentary groups to finds that belong to mostly mobile groups (Klammer 2009; Rieger 2009). The spatial relation and context as well as the layout of the sites themselves is a crucial part of any kind of landscape archaeology, but when dealing with nomadic people and covering large areas with a variety of ecological and economic conditions, these issues become even more important (Näser 2005). Remains of the above categories

⁸ Drop-sites are small isolated areas with crushed vessels or a fire place with the remains of pottery, sometimes with associated lithic artifacts (Rieger and Möller in press).

are recognizable with varying success, but allow the reconstruction of the interaction between humans and nature in the northern part of the Western Desert.

Ancient Water and Soil Management in Agricultural Areas and Settlements

In the Coastal Zone and the Northern Tableland the most widespread and visible impact of men are rainwater harvesting structures, constructed to supply water to humans, animals and plants. To collect water and soil, former inhabitants of the region installed many simple, but effective structures in the valleys and on the Northern

Tableland to manage the run-off of rain, which falls mostly in the winter. Water was collected in cisterns as well as stored in the soil for irrigation while swept-in sediments increased soil depth, and with that its water storage capacity, and at the same time acts as *solum* for cultivation. By controlling the run-off and run-in, the inhabitants of the area optimized the utilization of water and minimized the risk of flash floods (سيل, *sayl*, plural *suyul*). Large agricultural areas, terraces in the valleys and—as a distinctive feature in Marmarica—embanked fields on the tableland were created by simple stone constructions (Figures 11.4–11.6; for details of the



Figure 11.4. Water and soil harvesting installation (cross-sectional terracing) in Wadi Umm al-Ashtan on the Northern Tableland. Marmarica, Egypt. Photograph by A.-K. Rieger.

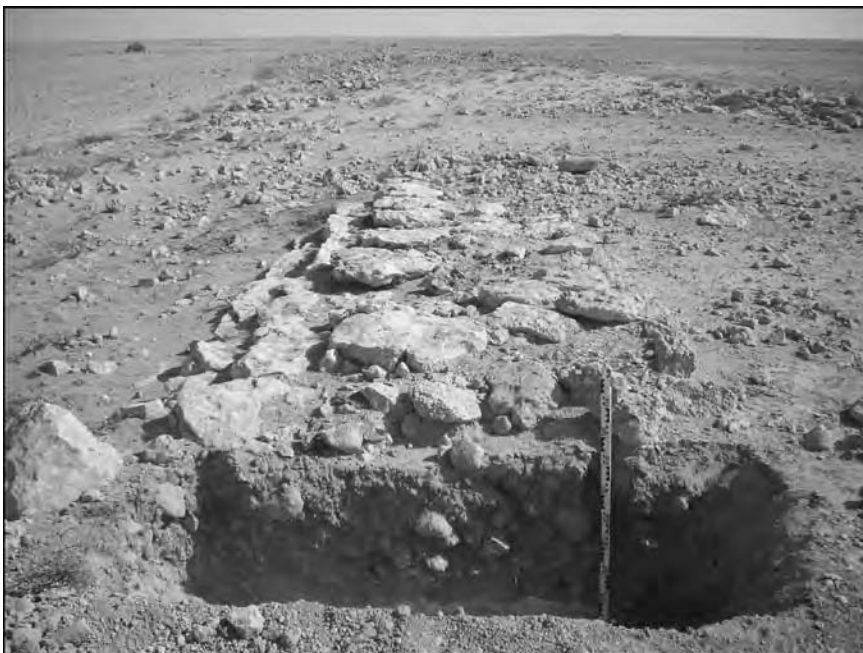


Figure 11.5. Water and soil harvesting installation (embanked field or *karm*) in Wadi Umm al-Ashtan on the Northern Tableland. Marmarica, Egypt. Photograph by Th. Vetter.

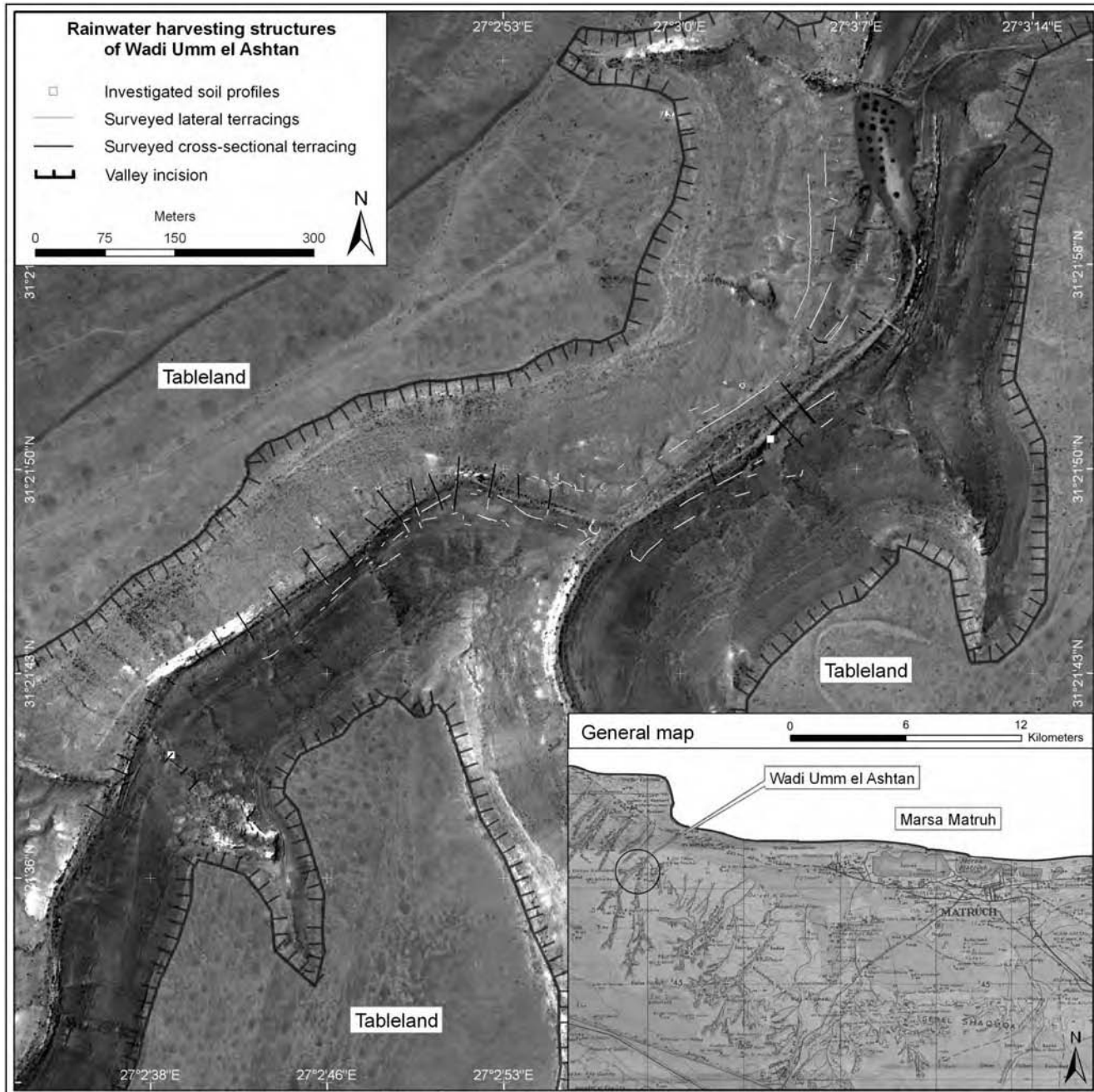


Figure 11.6. Remains of water and soil harvesting structures in Wadi Umm al-Ashtan, Marmarica, Egypt. Image prepared by A.-K. Rieger and A. Nicolay on the basis of Quickbird satellite imagery.

system in the Marmarica, see Vetter *et al.* 2009b, and for comparable systems in the Negev, in Jordan or Tripolitania, see Evenari *et al.* 1971; Evenari 1985; Barker 1989; Barker *et al.* 2007). The ancient origin of the installations for water and soil management is supported by potsherds of Graeco-Roman date scattered in the banks, and corroborated by the dates obtained by optically stimulated luminescence (OSL) of selected soil layers (Table 11.1).

Nearby settlements with stable structures yielded chronologically comparable pottery, mainly common

ware and amphorae of Graeco-Roman to Byzantine dates (Figures 11.7 and 11.8). Such settlements are usually situated in the upper parts of the valleys in a favorable position between the valleys of the Northern Tableland and utilized for agriculture, and to rangelands farther south. Most settlements are about 5–10 km from the Mediterranean coast (Figure 11.3). The preserved stone foundations of the mud brick walls belong to rectangular houses with large courtyards measuring 500–1000 m². Around this courtyard several rooms

Table 11.1. Overview of the dates established by optically stimulated luminescence (OSL) of soil samples from Wadi Umm al-Ashtan and Wadi Magid, west of Marsa Matruh, Marmarica, Egypt.⁹

Site and sample	OSL age ±1σ (ka)	Absolute date	Historical period
Wadi Umm al-Ashtan, terrace SPU-1	2.06 ± 0.17	53 BCE (222 BCE–118 CE)	Ptolemaic Dynasty with error: Graeco-Roman Period
Wadi Umm al-Ashtan, embanked field BP7-3	2.63 ± 0.29	623 BCE (913–333 BCE)	Late Period (26th–30th Dynasty) with error: Third Intermediate Period
Wadi Umm al-Ashtan, embanked field BP7-6	4.04 ± 0.43	2033 BCE (2463–1603 BCE)	First Intermediate Period (7th–11th Dynasty) with error: Old and Middle Kingdom
Wadi Megid, lateral terrace PGM1L4	3.16 ± 0.26	1153 BCE (1413–893 BCE)	New Kingdom (18th–20th Dynasty) with error: Third Intermediate Period
Wadi Megid, lateral terrace PGM1L12	3.20 ± 0.29	1193 BCE (1483–903 BCE)	New Kingdom (18th–20th Dynasty) with error: Third Intermediate Period

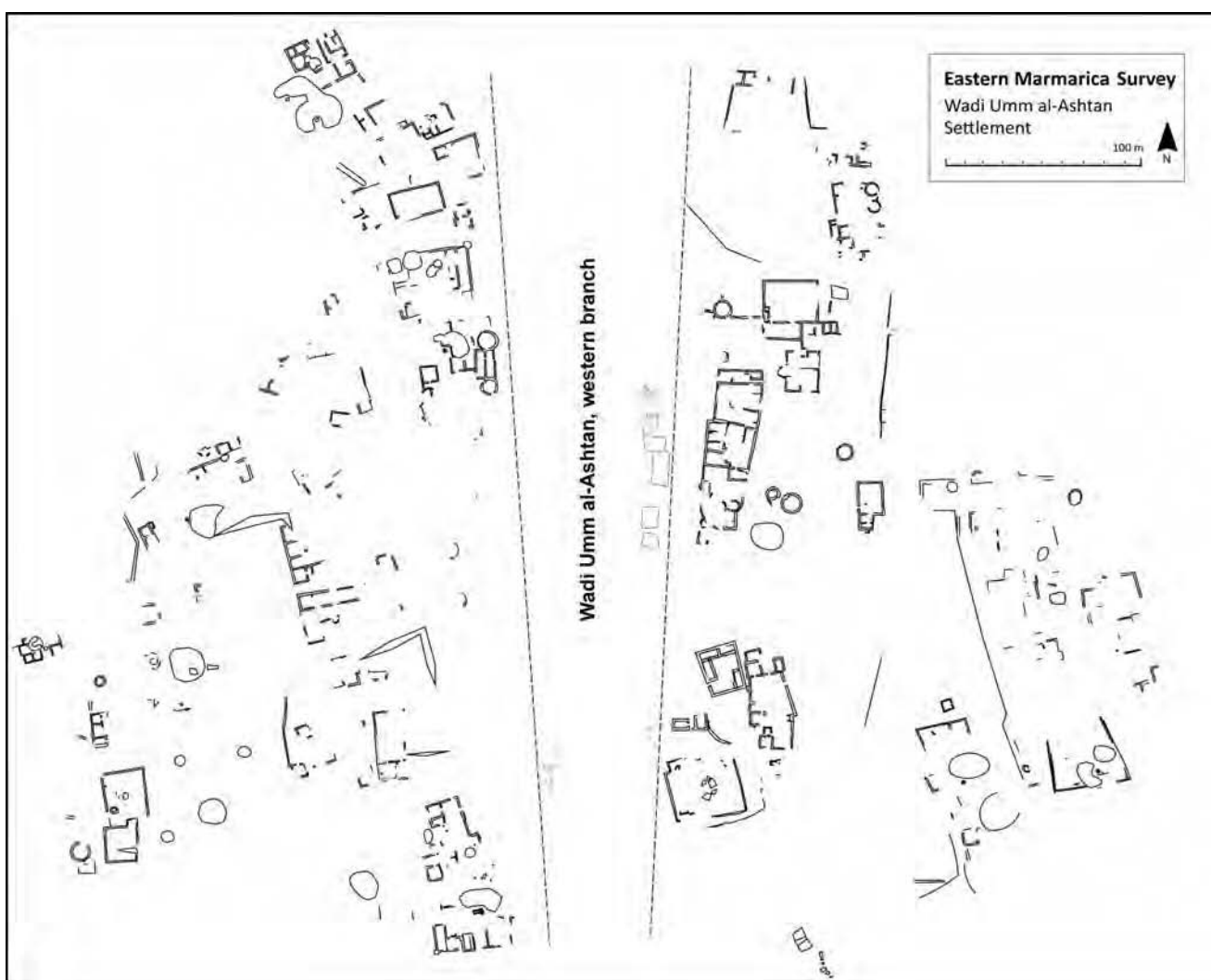


Figure 11.7. Plan of the ancient settlement in Wadi Umm al-Ashtan, Marmarica, Egypt. Drawing by A.-K. Rieger and S. Valtin.

⁹ In this context, ka (kilo-annum) stands for “1000 years ago” (formerly kya) and Ma (mega-annum) for “1,000,000 years ago” (formerly mya).

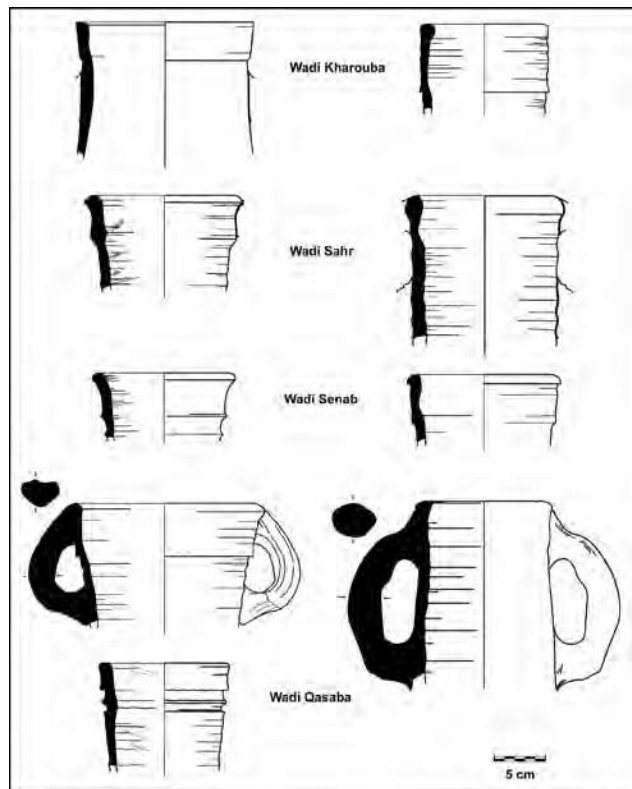


Figure 11.8. Locally produced amphorae from coastal production sites, Marmarica, Egypt. Drawings by H. Möller.

are located. A differentiation in dimension, layout and function of these structures, as performed on some villages in the Eastern Desert (Sidebotham *et al.* 2001; Sidebotham *et al.* 2002), did not appear feasible. Larger settlements consist of 20–30 complexes covering an area of 500 × 500 m on average. Some villages situated farther south were smaller, due to agricultural limitations, and consisted of approximately 10 houses covering an area of 200 × 200 m. Hamlets of less than five structures were also seen in areas with a very limited amount of suitable soil. Finds cover a small spectrum of materials, mostly ceramics and faunal debris; rarely coins or valuable objects (glass, metal) were rarely recovered. These observations are concurrent with rural life in villages in a region with restricted economic potential. Developments during the Graeco-Roman Period gave rise to expanded use of the soil for cultivation, leading to the pinnacle of sedentary life in the region. There is no evidence of the settlement pattern dating to earlier periods, despite remarks concerning the settlements of the Meshwesh on the Israel Stele and the Great War Inscription of Pharaoh Merenptah in the Temple of Karnak. Many traces of Bronze Age agricultural land-use

patterns (third–second millennium BCE), however, are preserved in the landscape.

That people used the land around the settlements long before the Graeco-Roman Period is evident from soil layers that are definitely the result of human activity. Such soil layers from an embanked field as well as in a valley-terrace behind a dam were dated by OSL (Table 11.1; Vetter *et al.* 2009a). People are known to have been constructing and using soil and water harvesting facilities on the Northern Tableland as early as the Middle Kingdom (1975–1640 BCE). There are also layers deposited during the New Kingdom (1539–1075 BCE), concurrent with the known presence of Egyptians in Umm al-Rakham. Agriculture may have become more economically viable at times because of growing demand on the coast. Activity in the first millennium BCE is indicated by a layer dating to the Late Period and testifies the continuity of agriculture during the time of Libyan dominance in the Delta. This supports the use of the semi-arid lands in Marmarica from the second millennium BCE onward. Cultivation of the area requires a certain degree of knowledge about and experience with the hydrological conditions. Egyptians from the Nile Valley, or indeed any other newcomers to the area, would not have been able to install a system for dryland farming as efficient as the one prevailing in ancient Marmarica. Agricultural activities also require a certain degree of sedentation. This introduces the question of the lack of settlements or camps dating to the Bronze Age. One possible explanation is that less stable constructions, built during the second and first millennium BCE, are now covered by later settlements. Concentrations of microlithic artifacts, made of white to brownish flint, are found scattered on the Northern Tableland, often close to embanked fields and later settlements (Figure 11.9). Whether such sites, which are difficult to interpret and date, represent relics of Bronze Age people remains an open question until more detailed studies have been concluded.

Temporary Settlements, Water Supply Points and Rangelands

Remains of non-sedentary groups and of pastoral nomadic activity are traceable on the Pre-Marmarican Plain (Figure 11.10). These are situated near cisterns, necessary for the water supply, or near small embanked fields. An example of such a temporary site was found near the cistern at Abar Abu Imama, some 20 km south of the coast. The most striking surface feature is a *bund*

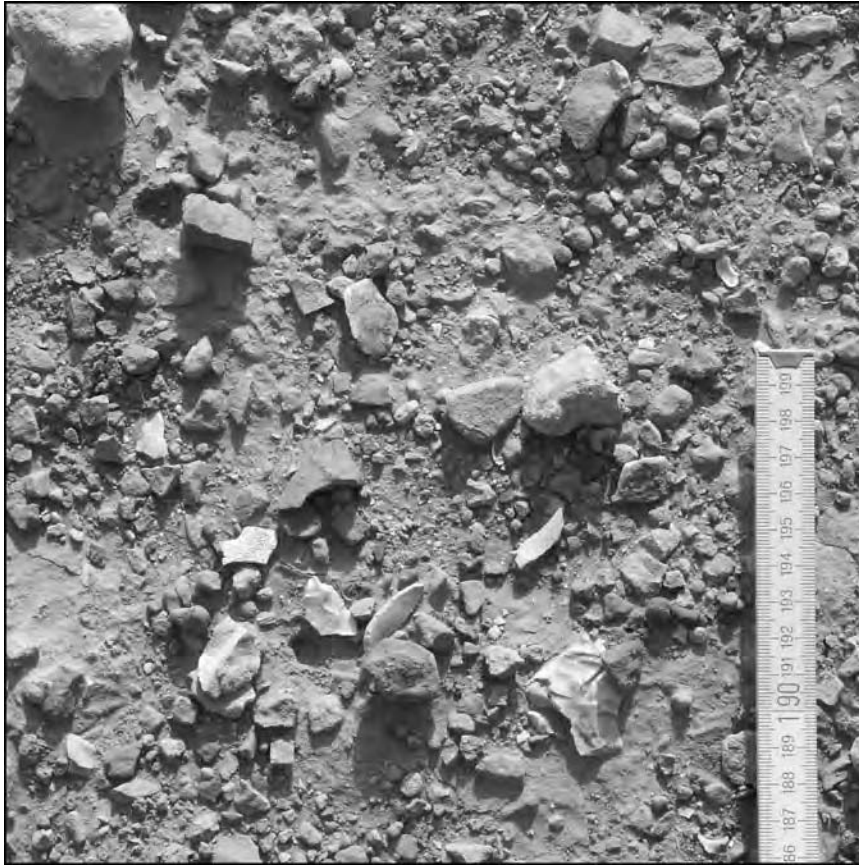


Figure 11.9. Site near an embanked field (*karm*) and settlement in Wadi Umm al-Ashtan with the remains of microlithic flint knapping. Photograph by A.-K.Rieger.

forming an oval south of the cistern.¹⁰ This apparently marked a rest area, either for people (in tents or huts) or for animals. The bund is constructed of limestone boulders from the area. Proof of human activity is also apparent from the accumulation of pottery sherds around the spoil heap near the cistern. The area as a whole is suitable as rangeland for sheep and goats. The site may thus have been temporarily visited by herders and their livestock. The chronological range of the pottery is between Graeco-Roman and Byzantine times (second century BCE to sixth century CE). Another area where people were temporarily present is in the region of Hâggag al-Qasaba on the Northern Tableland, about the same distance from the coast as Abar Abu Imama, but around 2 km from the nearest cistern with ancient traces. There are no special features visible, like the bund at Abar Abu Imama, but close to an embanked field the remains of recent camps (tent-weighting stones) and some undatable tomb-like structures were found associated with Ptolemaic and Roman pottery sherds.

¹⁰ *Bund* is used here to identify the embankment around a cistern in order to separate these from the embankment around a *karm*, which has a different construction.

Thus the use of the area, and most likely also the small agricultural area, in Graeco-Roman times seems proven, even if the age of the embanked field itself remains to be established independently. The sites at Abar Abu Imama and Hâggag al-Qasaba can be identified as temporarily used settlements of herders and opportunistic farmers.

The stations on the Marmarica Plateau are different kinds of sites, always found in association with cisterns that are still in use and fed by the winter rains. The structures vary from a simple campsite around the rock-cut cistern to well-built and stable facilities for migrant people. The *longue durée* of these places is best reflected by the site of Abar al-Kanayis. There, two cisterns are located in a depression south of a passage, crossed by the modern asphalt road to Siwa Oasis (Masrab al-Ista'bl), marked by two hills. These cisterns and the structures around them provided water and forage for anyone on the way to or from Siwa Oasis, and for pastoralists roaming in the area with their livestock (Figure 11.3). Survey and excavation of the site revealed a broad array of human activities, with remains dating to the Second World War; Bedouin tombs, shelters and campsites of yet undetermined date; and traces of Byzantine and Graeco-Roman occupation,

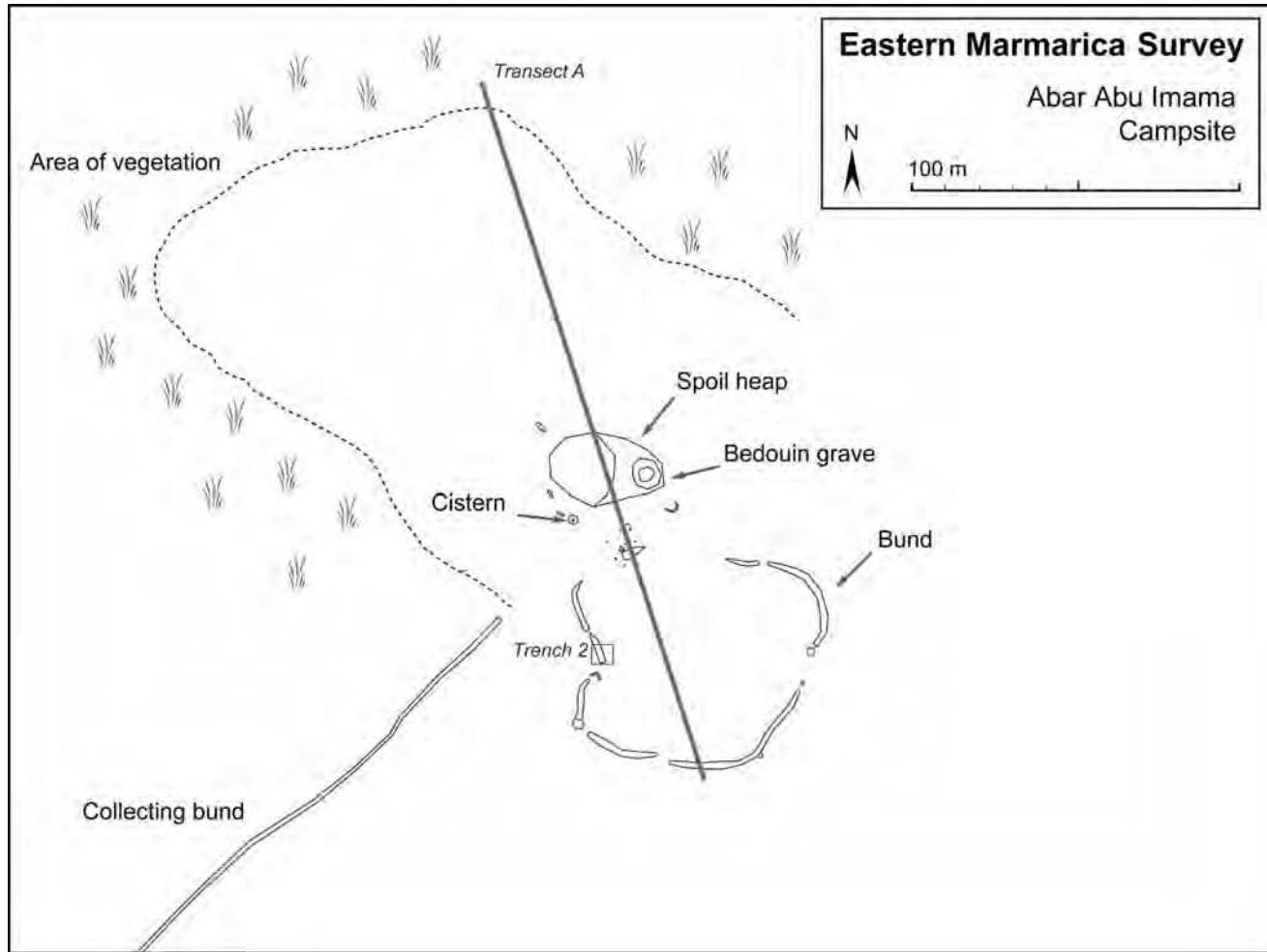


Figure 11.10. The campsite near the cistern at Abar Abu Imama, Marmarica, Egypt. Drawing by A.-K. Rieger and S. Valtin.

apparent from two large buildings that are not the oldest traces of people utilizing the site. Several lithic artifacts from the surface of the *sabkha* are testimony to human presence at Abar al-Kanayis since Pre-Pharaonic times, showing the longevity of the favorable spot on the Marmarica Plateau (Figure 11.11).¹¹ During the excavation of one of the Graeco-Roman structures a courtyard surrounded by rooms appeared. This building was identified as a caravanserai (partly comparable to a *hydreuma*), providing water and protection to traders and other people traveling through the area. The cistern site of Bir Abu Mukhayat, without preserved structures, looks quite different from Abar al-Kanayis (Figure 11.12), but the finds reflect its importance. Situated around 80 km

¹¹ A *sabkha* (from سبخة, سبخ) is a supratidal salt flat formed subaerially along an arid coastline. Sabkhas are characterized by evaporite carbonate deposits with siliciclastics and are usually less than a meter thick.

south of the Mediterranean coast as a stop-over on the Masrab Khalda, the site is characterized by numerous drop-sites in a large depression measuring more than 2 km². Again, the main period of utilization of this site, according to the recovered pottery, is the Graeco-Roman Period, but the still pending dating of other remains, like charcoal and flint tools, may still prove the use of the Bir Abu Mukhayat region in earlier times.

Routes, Tracks, *Alaam* and Burials

The extensive use of the land in Eastern Marmarica and the mobility of the people familiar to its topography and ecology are also evident from the system of ancient routes, partly still in use today. This ancient network could be reconstructed by the survey of cistern sites and stations, which are the essential stop-overs during any kind of intra- and inter-regional mobility. Less sophisticated structures than cisterns and stations, but

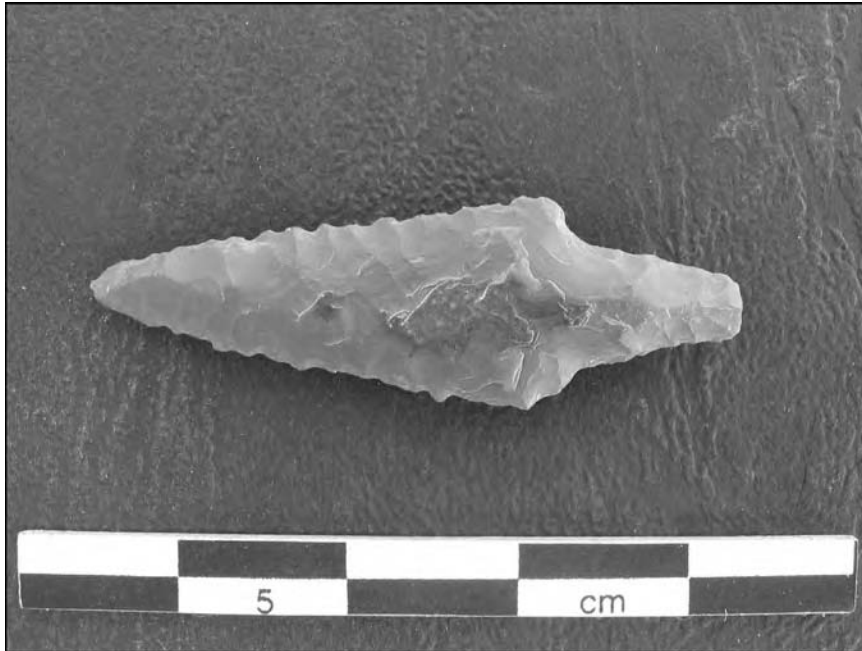


Figure 11.11. Stone arrowhead, found on the surface at Abar al-Kanayis, Marmarica, Egypt. Photograph by H. Möller.

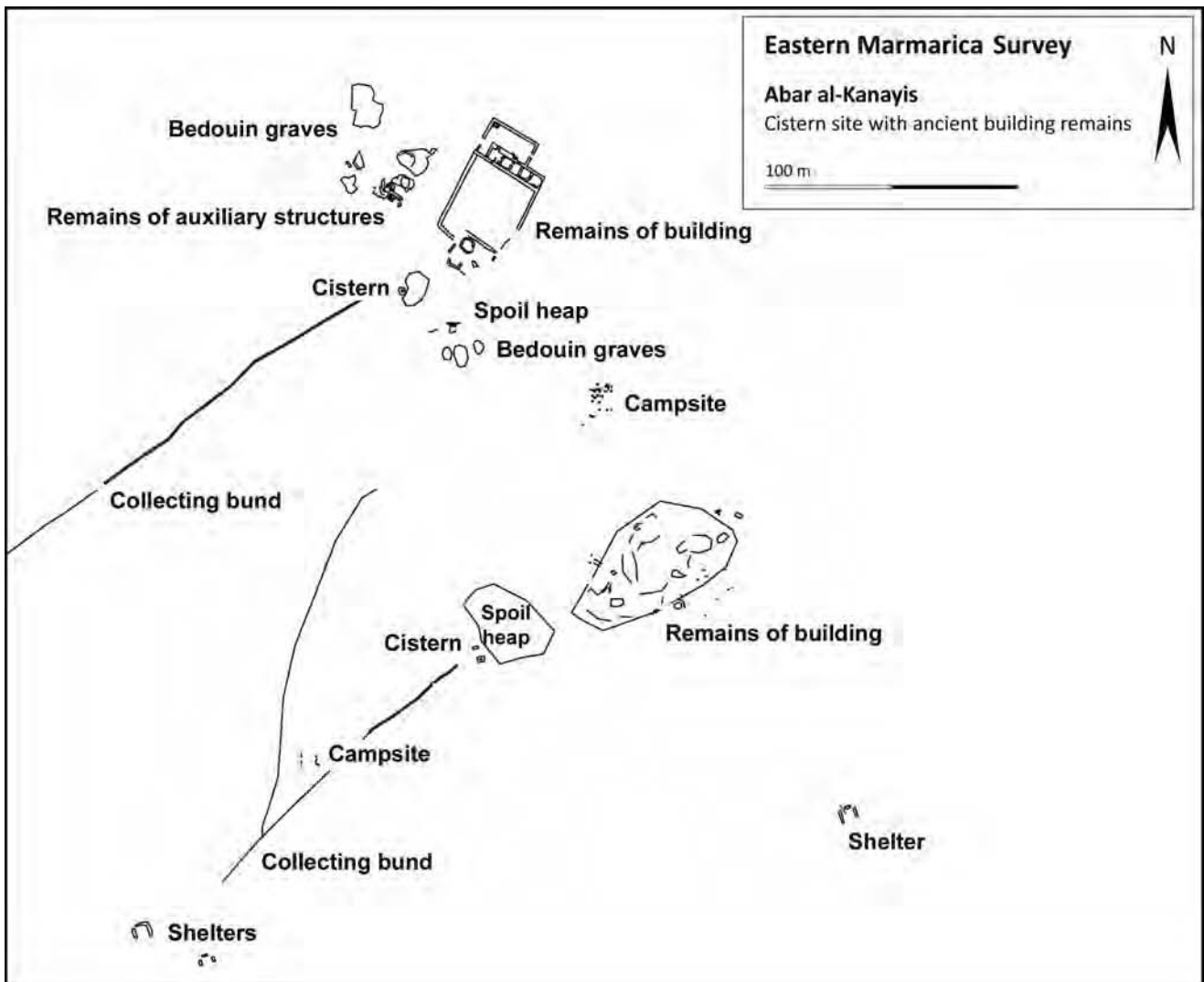


Figure 11.12. The cistern site at Abar al-Kanayis, Marmarica, Egypt. Drawing by A.-K. Rieger, S. Valtin and B. Emme.

of almost the same importance, are *alaam*, markers of routes. These help people to orientate themselves and find their way to the next water supply point. *Alaam* are documented on early 20th century CE maps, but remain to be investigated to define their exact position, character and age. As the hit rate among the cisterns to be ancient was 100%, and the more recent Bedouin system of land use shows considerable continuity over time (Norsa and Vitelli 1931), there is a high probability for many of the *alaam* date back to antiquity as well. Apart from their primary function, tombs also serve as *alaam* and the row of graves along the roads seems to be markers for their course. At the same time, the graves are easily visible and reached, allowing passers-by to perform rituals, as has been documented among the Ma'aza in the Eastern Desert (Hobbs 1989: 65). In contrast to the heaps of stones of later Bedouin graves, ancient tombs consist of more or less neatly arranged rings of stones, or are marked by some scattered stones on the surface. The ethnic attribution of the owners remains an open question. Only a small number of ancient tombs are known so far (Bates 1915; Carter 1963), and defining their typology and chronology is not yet possible.

Drop-Sites and Northern Libyan Desert Ware

The prevailing material, and archaeologically diagnostic record at most of the sites, is pottery. The forms are mainly Graeco-Roman, often produced in local kilns (Figure 11.8), while a relatively low amount of imported vessels is found (Rieger and Möller 2011). The questions remain of who were the people producing and using these vessels between Ras al-Hekma and Ras Abu Laho; who lived in the settlements on the Northern Tableland; and who transported the pottery produced at coastal sites across the Marmarica Plateau to the cistern sites or even to Siwa Oasis. As mentioned, no ethnic attribution and even less a self-defined identity can be inferred from the archaeological remains in a region of close contact between newcomers on the coast, and indigenous people in the hinterland. Pottery, one of the most common materials of antiquity and relatively easy to produce and transport, offers only tentative indications in these matters. The compatibility of pottery use and production with a nomadic lifestyle is attested in different regions (Barnard 2008b; Eerkens 2008). Sedentary traders, from the oases or coastal towns, or pastoral nomads of local origin may have transported the pottery. For settlements

that on first sight seem to be closer to the Graeco-Roman cultural sphere, the same mix of agents is probable. *pMarmarica* lists at least 10% Libyan names, another 20% are Egyptian, and 50% are Greek (Masson 1976; Colin 2000: 121, 127-159). Because the acculturation of the Libyans with neighboring peoples, such as Egyptians, Phoenicians and Greeks, was advanced (*Naturalis Historia* 5,43; Chamoux 1953: 129, 223; Laronde 1990: 173-180), Egyptian and Greek names may well hide indigenous Libyan individuals.

Evidence for a mixed population and the close links among different cultural materials can be inferred from the finds at Abar al-Kanayis. Here, for the first time handmade pottery with properties that appear to be diagnostic for the presence of native nomadically living people (Hulin 2002; Rieger and Möller in press) was found in stratified contexts, associated with Graeco-Roman pottery dated mainly to the 5th–6th century CE (Figure 11.13). The paste for this pottery is available on the Northern Tableland and farther south on the Marmarica Plateau and was sometimes mixed (tempered) with snail shells (Hulin 1999, 2002; Rieger and Möller in press-b). Drop-sites, small isolated sites with crushed vessels or a fire place with remains of pottery, sometimes with associated lithic artifacts, with this type of handmade pottery, the Northern Libyan Desert Ware, are found scattered all over the region (Figure 11.3). As some surface sherds were found associated with New Kingdom pottery, it may even be that Libyans were living in the Eastern Marmarica since Bronze Age times. The latest vessels of Northern Libyan Desert Ware date to the 20th century CE (Hulin 1999, 2001; White 2002a, 2002b); with the stratified finds the production and use of Northern Libyan Desert Ware, formerly only known from surface finds, can now be assigned with certainty to the Graeco-Roman Period. This pottery still has to be studied archaeometrically and in relation to the composition of the sites and the associated finds for its functional, spatial and chronological range based on large samples, but it appears to be an autochthonous element in the material remains of the ancient Marmarica (Hulin 2009; Rieger and Möller in press-b; Hulin in press).

Comparison between Research in the Western and the Eastern Deserts

Recent research in the north of the Western Desert of Egypt, the archaeologically almost unknown area between the Mediterranean coast and Siwa Oasis, sheds new light on the desert dwellers in ancient Marmarica

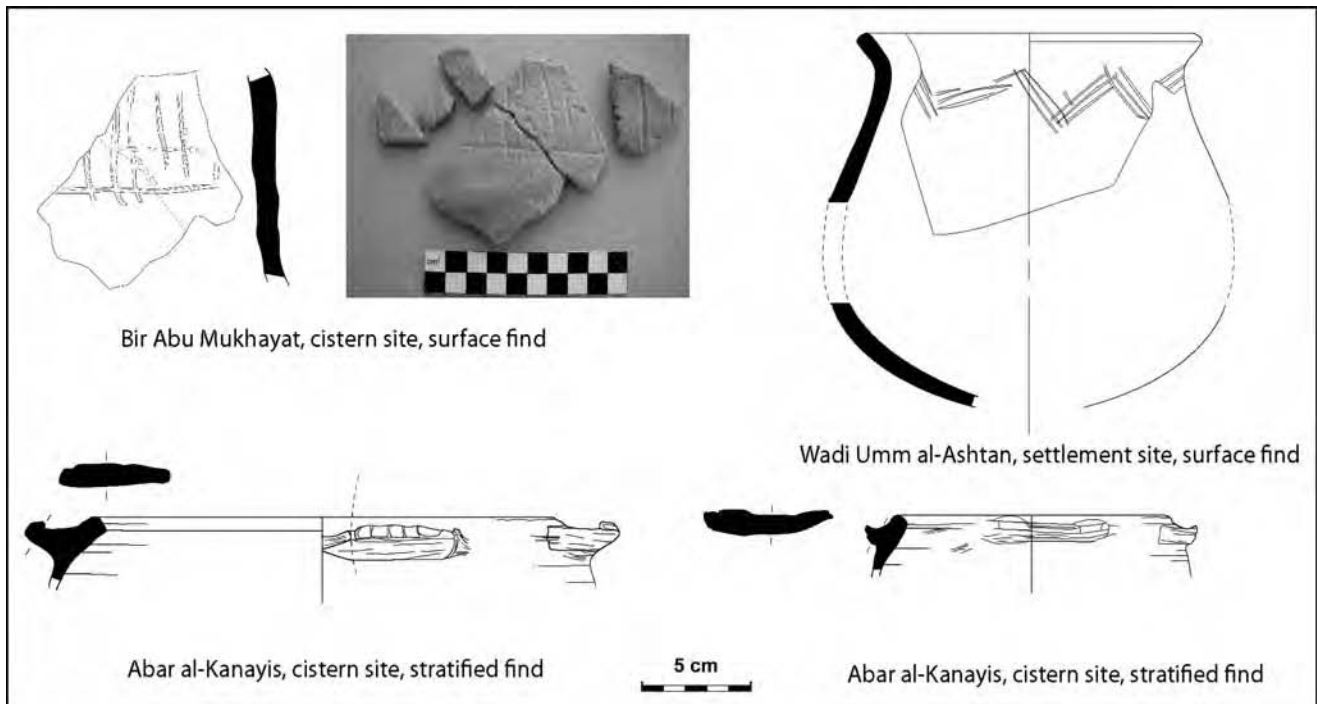


Figure 11.13. Examples of Northern Libyan Desert Ware. Illustration prepared by B. Böhm and H. Möller.

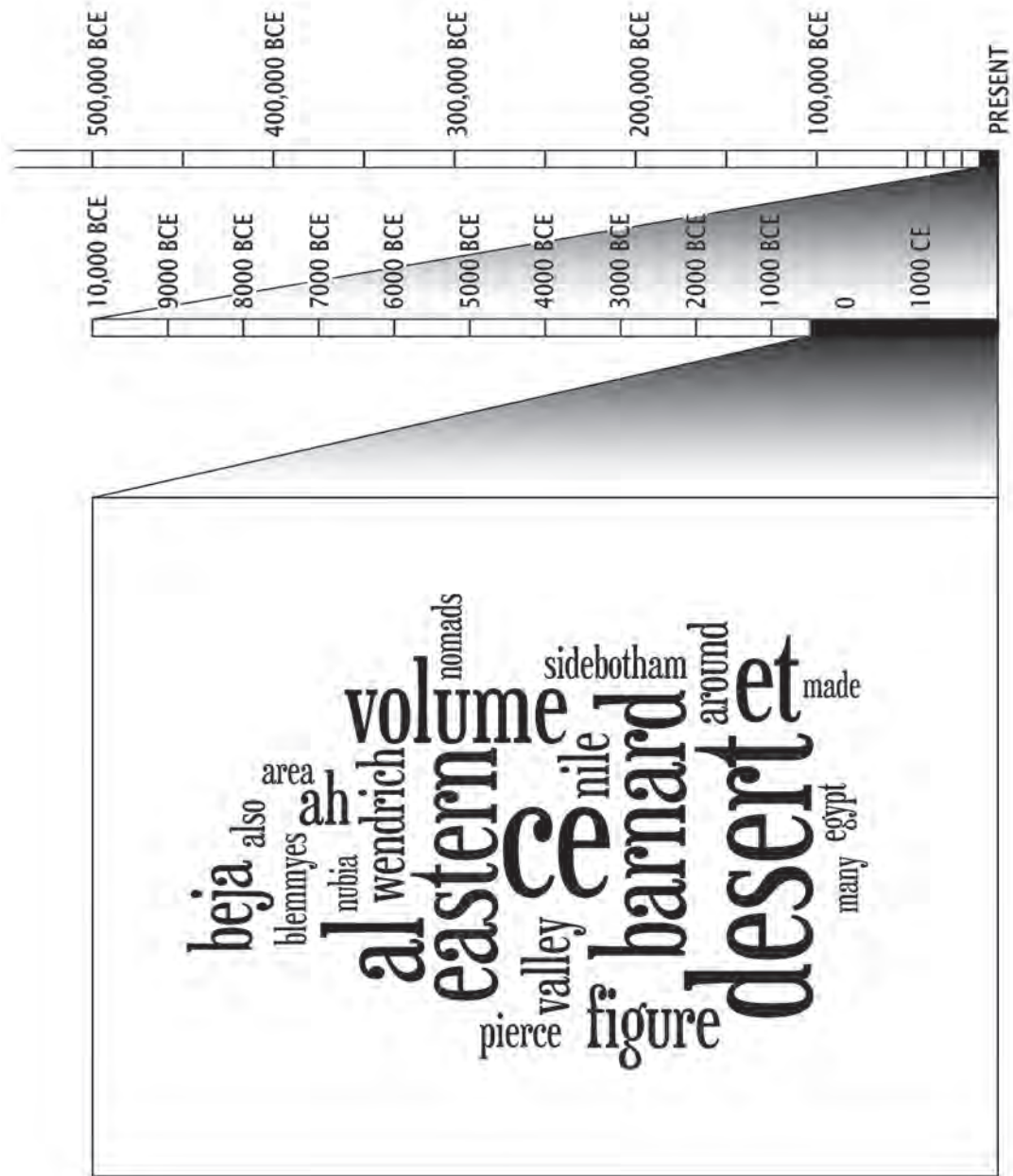
who were identified as ‘Eastern Libyans’ (Bates 1914). The variability in ways of life adapted to the ecological conditions of the semi-arid and arid region is reflected in the archaeological record. The agricultural use of the land started in the second millennium BCE in the northern parts of the semi-arid region, where the inhabitants built dams and terraces to create agricultural fields. The pinnacle of settled life was during the Graeco-Roman Period when many of the settlements on the Northern Tableland were flourishing. The end of intensive utilization of the area can be dated to the 7th century CE. Due to the deteriorating ecological situation towards the south, there appears to have been a transition on the Northern Tableland from a settled way of life to a nomadic one. This is reflected by an increase in campsites in the rangelands, sometimes associated with embanked fields, on the Pre-Marmarican Plain and single stop-over sites near cisterns in the desert proper. It may be concluded that some of their users were sedentary groups with knowledge of dryland farming, and others were pastoral nomads roaming the area with herds of small ruminants, and since Roman times dromedaries as well. What livelihood prevailed cannot be distinguished, whether in the material record or in texts.

As was true for the Blemmyes, the ancient Libyans were more an exogenous construction than a self-defined ethnic entity. Ancient sources say little about daily life;

mutual contact between the outsiders, like Egyptians from the Nile Valley, Greeks, Romans and even Arabs; or the social and economic flexibility of the native groups. The archaeological record is now starting to provide insights in the culture and life-strategies of the desert dwellers, both east and west of the Nile Valley. By understanding the landscape and looking for areas with a favorable microclimate (Krzywinski, this volume; Lassányi, this volume), the ancient land-use patterns and types of settlements can be reconstructed within their spatial relations. In some areas in the Eastern Desert there may have prevailed a similar organization of space and land use as in Marmarica, possibly with different topographical relations and densities due to ecological circumstances. Looking at the so-called ‘enigmatic settlements’ (Sidebotham *et al.* 2002; Sidebotham *et al.* 2008), or to sites closer to the Nile Valley (Lassányi, this volume), the advantages these places offered are not striking, but some economic activity must have provided an incentive for people to construct these stable structures in the desert. Basic needs for water, food and fodder are the main reason for any activity in both the Eastern and the Western Desert. The knowledge to use and exploit the natural environment and its resources in a sustainable manner is the life-securing advantage of all desert dwellers, whether they roam east or west of the Nile Valley.

PART 2





Time line and word cloud created from Hans Barnard, *Introduction to Part 2: The Last 2500 Years*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 12



Introduction to Part 2: The Last 2500 Years

HANS BARNARD

THE INTRODUCTION BELOW AND IN CHAPTER 1 of this volume serves to provide a background for the chapters by the participants of this project who discuss the controversies concerning specific aspects of the history of the peoples of the Eastern Desert in greater detail. The introduction is presented in two chapters to follow the structure of the volume as a whole. As with many chapters in this volume, the separation in two periods—before and after Alexander the Great—is not always rigorously applied to facilitate the flow of the argument. In 332 BCE Alexander the Great conquered Egypt, leaving the country to the Ptolemies after his untimely death in 323 BCE. Their continuous conflict with the Seleucids (Alexander’s successors in Anatolia, the Levant and southwest Asia) forced the rulers of Egypt to intensify the gold mining operations in the Eastern Desert and to look for alternative sources of supplies, most importantly of elephants to be used in warfare. Around 275 BCE, Ptolemy II Philadelphus initiated a program to bring African elephants by boat from modern Sudan and Eritrea to southern Egypt, walk them across the Eastern Desert and train them in Edfu or elsewhere (Murray 1967; Murray and Warmington 1967; Scullard 1974; Sidebotham and Wendrich 1995). This program was not very successful and soon abandoned, but its related infrastructure of harbors, desert routes and way-stations was used for mining and trade with sub-Saharan Africa, Arabia Felix and India long afterwards (Meredith 1958; Murray 1967; Bernard 1977; Bell *et*

al. 1984; Zitterkopf and Sidebotham 1989; Sidebotham and Wendrich 1996b, 1998, 1999, 2000; Sidebotham *et al.* 2008; Gates-Foster, this volume; Lassányi, this volume).

In Roman times (30–330 CE), the Nile Valley south of the First Cataract saw a dramatic increase in population and wealth. The exact reasons for this are unclear, but a major factor seems to have been the integration of Egypt into the Roman Empire with all the associated socio-economic changes including the replacement of the man-powered water lifts (شادوف, *shaduf*) with animal-driven water wheels (ساقية, *saqia*). This both necessitated and allowed for more arable land to be better irrigated, dramatically increasing the agricultural potential of the Lower Nubian Nile Valley. This potential was limited by a shortage of labor that was partly alleviated by employing pastoral nomads from the Wadi Allaqi region (Adams 1977; Sadr 1987, 1988), and probably elsewhere. Another development that had profound effects was the introduction and spread of the dromedary (Figure 1.8). This empowered the pastoral nomads and caravaners accustomed to surviving in the Eastern Desert. Their influx, triggered by the new wealth and the need for additional labor in the region combined with political and military pressure from the Axumite Kingdom to the south, seems to have been a major factor in the collapse of the Meroitic Kingdom and the rise of the Ballana Culture (also referred to as the X-Group). Around 295 CE the border of the Roman Empire was moved from Hieria Sycaminos (near Sayala) to Aswan,

with a request to the Nobatai (Noba?) to move from around the city of Oasis (Kharga in the Western Desert?) into the Nile Valley in order to prevent attacks from marauding Blemmyes (Adams 1977; Updegraff 1988; Eide *et al.* 1998; Lassányi 2005; Burstein 2008; Dijkstra 2008, Dijkstra, this volume; Pierce, this volume). Precious little historical and archaeological information is available about this “Post-Meroitic Dark Age” (Adams 1977) that lasted until Christianity came to Nubia around 550 CE (Table 1.2).

In Roman and Byzantine times (30–641 CE), the long-distance trade and mining in the Eastern Desert continued on a large scale (Figures 12.1 and 12.2, Lassányi, this volume; Tratsaert, this volume), and large new stone quarries were opened at Mons Claudianus and Mons Porphyrites to provide Rome with ornamental building stone (Peacock 1992; Peacock and Maxfield 1997, 2001a, 2001b, 2007). Next to the traders and miners, another group started to compete with the pastoral nomads for the resources of the desert. Early Christian hermits came into the desert to live in solitude, but also in *laura* or *lavra* (λαύρα) communities and monasteries (Chitty 1966; Sidebotham *et al.* 2002; Jones, this volume; Klein, this volume; Starkey, this volume). It is evident from the archaeological finds at the harbors, mines, quarries and way-stations that locally obtained water, food and fuel were supplemented with imports from outside the desert. This was less an option for the pastoral nomads and the hermits, which may partly explain their sometimes violent clashes over water and other resources (Eide *et al.* 1998). Christianity was made the official religion of the Roman Empire, including Egypt, in 391 CE by Emperor Flavius Theodosius (379–395 CE) who ordered all temples of other faiths closed. An exception was made for the temple of Isis at Philae (two adjoining islands in the Nile at the First Cataract), just south of Aswan. This temple was used and maintained by visitors from Nubia and probably also the Eastern Desert (Adams 1977; Eide *et al.* 1998; Dijkstra 2008). In 453 CE a treaty was negotiated for the yearly procession from this temple to be allowed for another hundred years. The temple was finally closed and converted into a church dedicated to Saint Stephan around 540 CE by Emperor Justinian (527–565 CE). At that time most of Nubia had accepted Christianity, after both Melkite (Dyophysite) and Monophysite (Coptic) proselytization campaigns. As early as 524 CE Emperor Justin (518–527 CE) tried to organize a campaign from the middle Nile region

to rescue the Christians prosecuted in Himyar, on the Arabian Peninsula (Eide *et al.* 1998; Barnard 2005). Christian Nubia consisted of a series of fiefdoms within three larger states, from north to south: Nobatia (with its capital at Faras), Makuria (with its capital at Dongola) and Alodia (with its capital at Soba on the Blue Nile). Around 700 CE Makuria and Nobatia appear to have merged into a single country (Table 1.2).

In 640 CE the area was invaded from the north by Arab forces, bringing Islam into the region (Table 12.1), but two military expeditions to Dongola failed to secure the area south of Aswan. The resulting stalemate was resolved by an unprecedented treaty, referred to as the *baqt* (from *πακτου* ?), which came into effect around 652 CE (Adams 1977; Friedman 2002; Edwards 2004). Under its terms, the (Christian) Nubian kingdoms and (Islamic) Egypt promised not to attack each other and to allow free trade and travel. Immigration between the two states was forbidden, but visitors would be free to practice their own religion. Yearly payments were agreed upon, 360 slaves going north and an equal value in wheat, barley, wine and other goods going south. Although it can be debated whether this outcome favored the defenders or the invaders, it certainly gave Nubia a unique position that would last until the arrival of the Banu Kanz around 1300 CE.

Table 12.1. The correlation between selected years in the Islamic lunar calendar (AH) and the Western solar calendar (CE); note the decreasing difference of about 30 years per millennium.

Anno Hegirae (Islamic)	Gregorian (Western)	Gregorian (Western)	Anno Hegirae (Islamic)
1 AH	622–623	701 CE	81–82
101 AH	719–720	801 CE	184–185
201 AH	816–817	901 CE	288–289
301 AH	913–914	1001 CE	391–392
401 AH	1010–1011	1101 CE	494–495
501 AH	1107–1108	1201 CE	597–598
601 AH	1204–1205	1301 CE	700–701
701 AH	1301–1302	1401 CE	803–804
801 AH	1398–1399	1501 CE	906–907
901 AH	1495–1496	1601 CE	1009–1010
1001 AH	1592–1593	1701 CE	1112–1113
1101 AH	1689–1690	1801 CE	1215–1216
1201 AH	1786–1787	1901 CE	1318–1319
1301 AH	1883–1884	2001 CE	1421–1422
1401 AH	1980–1981	2101 CE	1524–1525
1501 AH	2077–2078	2201 CE	1627–1628
1601 AH	2174–2175	2301 CE	1730–1731
1701 AH	2271–2272	2401 CE	1834–1835
1801 AH	2368–2369	2501 CE	1937–1938
1901 AH	2465–2466	2601 CE	2040–2041



Figure 12.1. Graeco-Roman *hydreuma* (way-station) associated with the quarries in Wadi Umm Wikala (near Mons Claudianus) in August 1997, now almost entirely destroyed. Adapted from Sidebotham *et al.* 2001; Tregenza 2004.

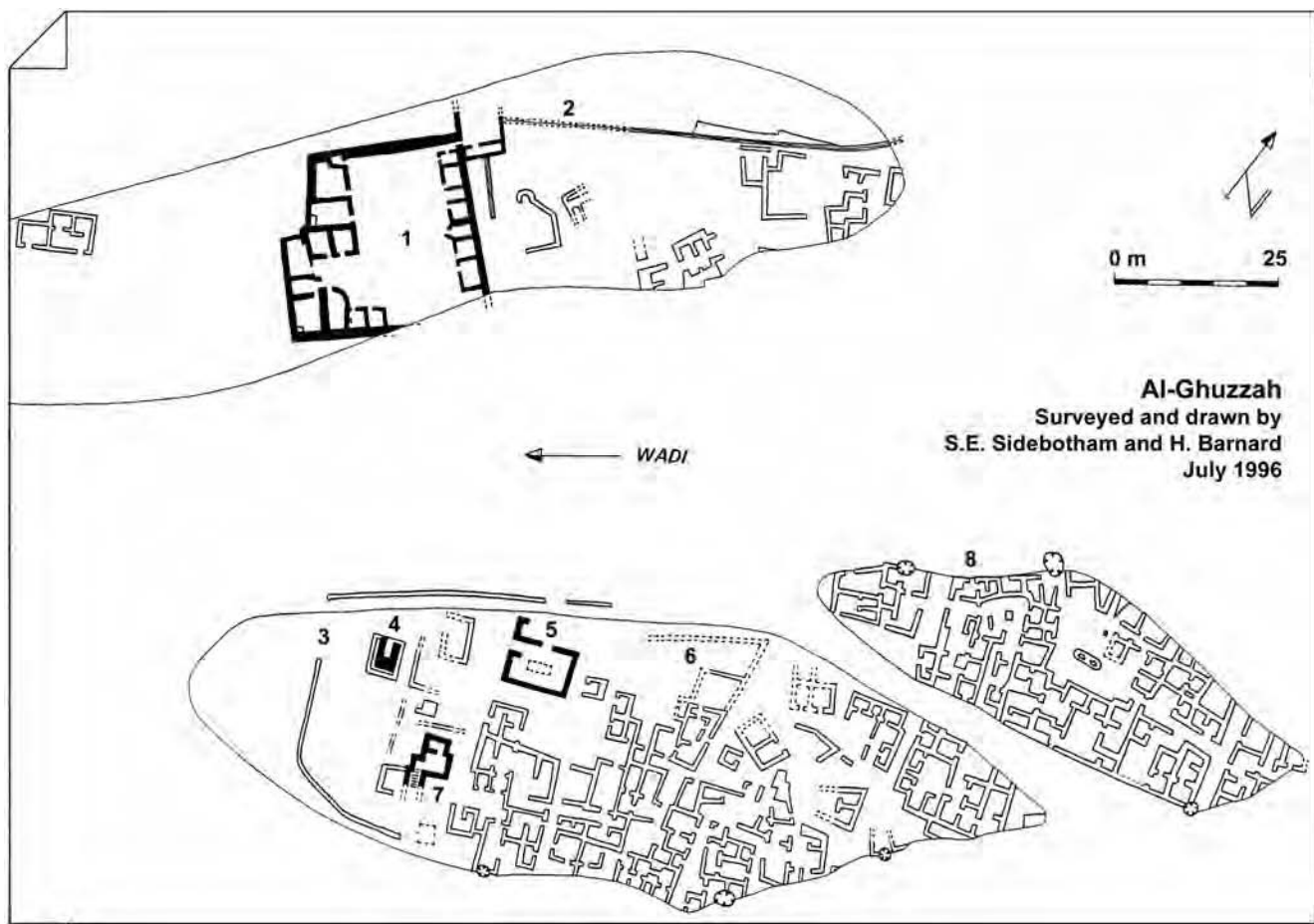
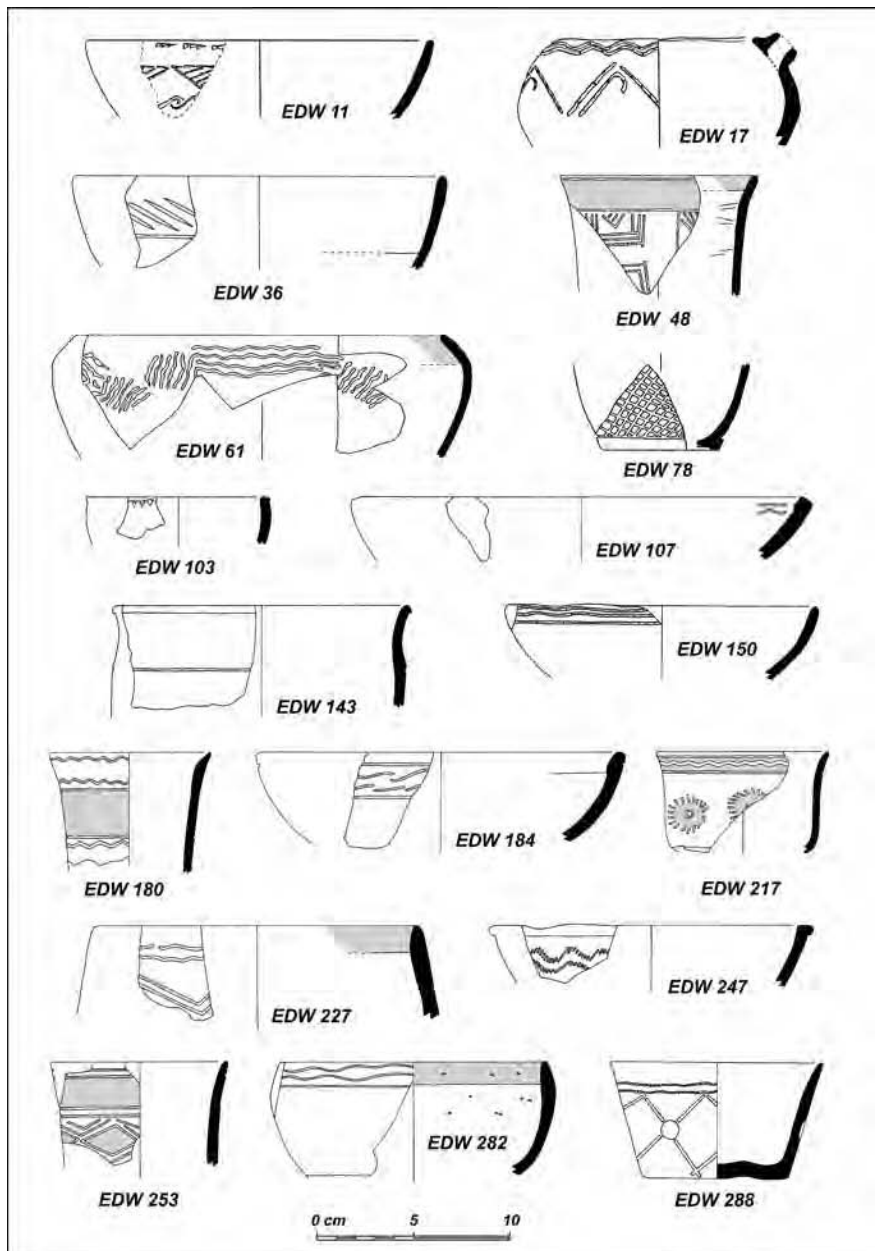


Figure 12.2. Graeco-Roman gold mining settlement at al-Ghuzzah (near Mons Claudianus). 1. Administrative center. 2. Gold washing installation. 3: Wall-enclosing part of the settlement. 4. Disturbed cemetery preserving about a dozen graves. 5. Earthwork bank. 6. Well (remains of a much larger well are towards the southeast). 7. Row of cairns. 8. Two additional graves.

In the archaeology record of the Eastern Desert around that time a small but characteristic corpus of ceramic vessels appear, identified as Eastern Desert Ware (EDW). These are handmade cups and bowls that are usually smoothed or burnished and frequently decorated with impressed or incised decorations. Their remains are found in 4th–6th century CE contexts in the Nile Valley between the First and the Fifth Cataract, as well as in the Eastern Desert between there and the Red Sea coast (Figure 12.3). Eastern Desert Ware invariably forms only a small percentage of the ceramic finds, the majority being the remains of Cream Ware and Red Ware, associated with the Late Meroitic Nubia (Strouhal

1984; Barnard and Strouhal 2004; Barnard 2006), or with Egyptian Red Slip A and B, associated with Late Roman Egypt (Tomber 1998, 1999; Barnard 2007; Barnard and Rose 2007; Luft 2010). Eastern Desert Ware has now been studied in some detail (Barnard 2008a), including chemical analysis of the ceramic matrix and the organic residues in the vessels (Barnard and Strouhal 2004; Barnard *et al.* 2005; Barnard and Magid 2006), as well as ethnographic and experimental archaeology (Barnard 2005–2006, 2008a, 2008b). This showed that Eastern Desert Ware was most likely made and used by one of the indigenous groups of pastoral nomads in the Eastern Desert at the time, which is concurrent with

Figure 12.3. Examples of Eastern Desert Ware from various sites in the Nile Valley and the Eastern Desert. Adapted from Barnard 2008a.



earlier assumptions based on more cursory studies of the material (Ricke 1967; Rose 1995; Sidebotham and Wendrich 1996a, 2001; Luft *et al.* 2002).

This group is often identified as the Blemmyes (Βλέμμυες or Βλέμυες) of the historical sources in which they appear between approximately 600 BCE, on the enthronement stele of King Anlamani, and 600 CE, in the so-called Blemmyan documents (Krall 1900; Vycichl 1958; Christides 1980; Dafa'alla 1987; Updegraff 1988; Zaborski 1989; Eide *et al.* 1996, 1998; Barnard 2005; Lassányi 2005; Burstein 2008; Dijkstra 2008; Barnard 2009; Dijkstra, this volume; Pierce, this volume). They are depicted as “nomads and neither many nor warlike” (Strabo 17.1.53-54) and are “reported to have no heads, their mouths and eyes attached to their chests” (Pliny the Elder, *Natural History* 5, 46). More comprehensive sources, such as Procopius (*De Bellis*), Priscus (fragment 21) and Olympiodorus (quoted in Photius, *Bibliotheca* 80, 62a9-26), describe the Blemmyes as living in a kingdom (or chiefdom) in Lower Nubia, but somehow controlling the Mons Smaragdus region (Figure 1.11), or as brigands raiding Egypt and Lower Nubia (presumably from the surrounding desert). Many more names of people that appear to live a nomadic life in the Eastern Desert are mentioned in the written sources of the time, including Adulites, *Akridophagoi* (Locust-eaters), Annoubades, Balahau, Bougaites, Catadupians, *Elephantophagoi* (Elephant-eaters), *Ichthyophagoi* (Fish-eaters), *Kreophagoi* (Meat-eaters), *Kynamolgoi* (Dog-milkers), Nobatai, Noubades, Noubai, *Rhizophagoi* (Root-eaters), *Spermaphagoi* (Seed-eaters), *Strouthophagoi* (Ostrich-eaters), *Troglodytes* (Cave-dwellers), and Trogodytes (Murray and Warmington 1967; Eide *et al.* 1996, 1998; Burstein 2008; Pierce, this volume).

Two of the more credible historical sources on the Blemmyes are the Inscription of Silko and the Letter of Phonen, both dated to around 450 CE. The Inscription of Silko is incised in the west wall of the forecourt of the temple of Mandulis at Kalabsha (ancient Talmis near Aswan). It celebrates the victories of Silko, “Little King (βασιλίσκος) of all Aithiopians,” over the Blemmyes and the Noubades, allowing him to occupy their cities (Eide *et al.* 1998; Dijkstra, this volume). The Letter of Phonen, found in 1976 in Qasr Ibrim (Figure 1.11), is written on papyrus in poor Greek, which makes it rather difficult to interpret (Eide *et al.* 1998; Dijkstra, this volume). It was written by Phonen, who identifies himself as king (βασιλεύς) of the Blemmyes, and is addressed to

Abourni, king of the Noubades, and his sons. Phonen acknowledges the conquering of Talmis (Kalabsha) by Silko and Abourni, respectively, and claims this city back, together with its temple and surrounding lands, in exchange for a ransom of silver, sheep and dromedaries (part of which had apparently already been paid). This letter is a rare instance of self-definition as Blemmyes, possibly because Phonen, writing in a language that was obviously not his own, chose this convenient term to classify himself when addressing outsiders. It is remarkable that Phonen claims to be king, with all the implications associated with such a title, and demands his belongings back, notably a city in the Nile Valley. This is hardly concurrent with the notion of the Blemmyes as pastoral nomads and marauders roaming the Eastern Desert and it certainly provides no basis for the proposed link between the Blemmyes and Eastern Desert Ware. Furthermore, like in the case of the Medjay discussed in Chapter 1, the Blemmyes feature in the historical sources well before and after Eastern Desert Ware appears in the archaeological record (Barnard 2005, 2007, 2009). On the other hand, Eastern Desert Ware was found far outside the area in which the written sources seem to place the Blemmyes, near or in the Nile Valley between the First and Second Cataracts (Barnard and Rose 2007; Burstein 2008; Dijkstra 2008).

Around 800–1000 CE members of the Ra'iba tribe, originally from Mesopotamia, migrated from the Arabian Peninsula to the Red Sea Mountains where they intermarried with the local Hadariba tribe (Adams 1977; Dahl and Hjort-af-Ornas 2006). In 1006 CE the eccentric Fatimid caliph al-Mansour al-Hakim rewarded the leader of this confederation the hereditary title “Treasure of the State” (كنز الدولة, *kanz al-dawlah*) after which the tribe adopted the name Banu Kanz (Sons of the Treasure, بنو الكنز). Over time the Banu Kanz grew in number and influence, challenging the traffic through the Eastern Desert. After several military campaigns during the 12th century CE to pacify the Eastern Desert, many Banu Kanz settled in Lower Nubia where they mixed with the local population, but kept their Muslim faith. Their descendants are now the Kenzi Nubians in Egypt and Sudan. In the 14th century CE the first Islamic king ascended the throne in Dongola and the subsequent struggle for power between the king and the Kanz al-Dawlah (perceived to be the legitimate leader of the Muslim community) led to the disintegration of Makuria (Adams 1977; Friedman 2002; Edwards 2004). The

confusing situation that followed was brought to an end around 1517 CE by the Ottoman Turks, who ultimately controlled the Nile Valley as far south as the Third Cataract (Table 1.2). There are remarkable similarities between the history of the Benu Kanz and the Exodus story as described in the final chapters of Genesis and the beginning of Exodus (Cassuto 1951; Perevolotsky and Finkelstein 1985; LaMoreaux and Hussein 1996; Hoffmeier 1999), including leaving a settled society for a nomadic life in the wilderness, followed by settling down again within another society and eventually seizing power there (Russell 2009). The interest of European scholars in the area was initially mostly fueled by interest in the Christian monasteries of Saint Anthony, Saint Paul and Saint Catherine (Klein, this volume; Starkey, this volume), and greatly intensified after the invasion of Napoleon (July 1798–June 1802) and the subsequent publication of the *Description de l'Égypte* (most significantly Belzoni 1820; Burckhardt 1822; Burton 1822; English 1822; Rifaud 1830; Burckhardt 1831; Wilkinson 1832; Bouchier 1834; Wilkinson 1835; Wellsted 1836; Robinson 1841; Tattam and Miss Platt 1841-1842; British Museum 1845-1846; Combes 1846; Lepsius 1852; Barth 1859; Lejean 1865; Schweinfurth 1865; Linant de Bellefonds 1868; Palmer 1871, 1872; Chester 1873; Von Heuglin 1877; Klunzinger 1878a, 1878b, 1878c; Colston 1879; Purdy 1886; Colston 1887; Golénischeff 1890; Schiaparelli 1890; Cora 1891; Floyer 1891; Chester 1892; Floyer 1892; Palmer 1892; Pretyman 1892; Schneider 1892; Floyer 1893a, 1893b; Bent 1896; Schweinfurth 1897; Butler 1898; Schweinfurth 1899; Krall 1900; MacAlister 1900).

The Desert Today

As briefly described in Chapter 1, the modern landscape of the Eastern Desert came into being around 7000 years ago (5000 BCE) with the end of the Holocene pluvial periods (Figure 1.3), which were characterized by a relatively wet climate in North Africa. Since that time the Eastern Desert has become increasingly arid, leading to ecological degradation that was at times accelerated by human actions such as the grazing of sheep and goats or the production of charcoal beyond the carrying capacity of the area (Andersen, this volume). Giraffes and ostriches disappeared from southern Egypt around the beginning of the Pharaonic period (ca. 2500 BCE) and the beginning of the 20th century CE, respectively (Figure 12.4; Reed 1970; Williams and Faure 1980;

Arnold 1995; Butzer 1997; Manlius 2001; Nicoll 2004). Relative newcomers in the area include domesticated ovicaprids (sheep and goats), donkeys and dromedaries (Figure 1.8), which were introduced by humans around 5000 BCE, 4000 BCE and 100 CE, respectively (Bulliet 1975; Williams and Faure 1980; Wilson 1984; Köhler-Rollefson 1993; Butzer 1997; Zeder and Hesse 2000; Hassan 2002; Beja-Pereira *et al.* 2004; Nicoll 2004; Pedrosa *et al.* 2005; Beja-Pereira *et al.* 2006; Rossel *et al.* 2008). Elephants were last reported in northern Sudan in the first centuries CE (Figure 12.5, Scullard 1974; Eide *et al.* 1996, 1998), while Medieval Arab and early modern European travelers mention tree and plant species that are now rare or absent in the Eastern Desert (Burckhardt 1822; Linant de Bellefonds 1868; Colston 1879; Floyer 1893a; Schweinfurth 1922, 1984;



Figure 12.4. One of many prehistoric petroglyphs of giraffes at al-Hosh, near the Nile Valley between Kom Ombo and Edfu.



Figure 12.5. One of several prehistoric petroglyphs of elephants at Abu Tanqara, near the Nile Valley between Kom Ombo and Edfu.

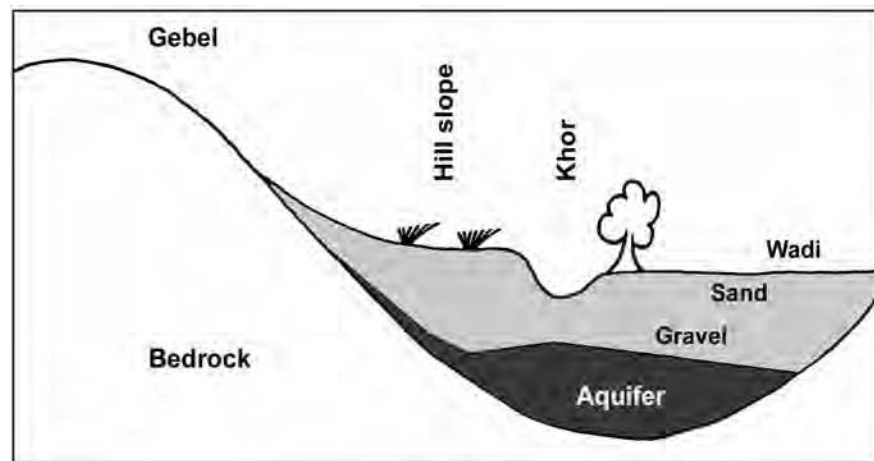


Figure 12.6. Schematic section through the Eastern Desert showing a gravel- and sand-filled valley containing a relatively shallow aquifer. *Gebel* (جبل): mountain; *khor* (خور): streambed; *wadi* (وادي): valley. Adapted from Aldsworth and Barnard 1996; Krzywinski and Pierce 2001; Barnard 2008a.

Vermeeren 1999, 2000; Krzywinski and Pierce 2001; Cappers 2006; Magid 2008). In the Nile Valley, the combination of climate change and human intervention has led to a dramatic increase in the abundance of date palms (*Phoenix dactylifera*, نخل), at the expense of doam palms (*Hyphaene thebaica*, دوم), and a decrease in the number of crocodiles and hippopotami, in many places up to the point of extinction.

In the Eastern Desert, a precarious and ever changing equilibrium developed between humans, pastoral nomads and other occupations, and the environment determined by occasional rains and sparse vegetation (Andersen, this volume). The relatively shallow aquifers allow the growth of the trees and the shrubs, which in turn allow the grazing animals and their keepers to survive, while the bedrock rising out of the desert has attracted miners and quarrymen from prehistoric times to the present (Figure 12.6). Around 1350 CE, the famous Egyptian historian Taqy al-Din Mohamed al-Maqrizi described the Eastern Desert as inhabited by nomadic people living in tents made of leather. According to al-Maqrizi, these nomads roamed the area in search of good pasture for their animals, which included large numbers of well-bred long-horned cattle, as well as dromedaries, goats and sheep. The accounts of al-Maqrizi also contain detailed descriptions of the plants in the region, describing a flora concurrent with a savannah rather than a desert environment (Barnard 2008a; Magid 2008). Early European travelers, visiting the region in the 19th century CE, mention large numbers of trees and comment on the recent deforestation that they attributed to the production of charcoal, but which may have been partly due to the changing climate (Burckhardt 1822; Linant de Bellefonds 1868; Colston 1879; Floyer 1893a;

Schweinfurth 1922, 1984; Krzywinski and Pierce 2001; Cappers 2006; Magid 2008).

Beja Clans and Tribes

At present most of the Eastern Desert is inhabited by a loose conglomerate of different tribes and clans of pastoral nomads, herding sheep and goats, collectively referred to as Beja (Table 12.2, Murray 1935; Newbold 1935; Paul 1954; Hobbs 1989; Krzywinski and Pierce 2001; De Jong 2002; Magid 2008; Wendrich 2008; Barnard 2009; Abdel-Qadr *et al.*, this volume; Roe, this volume; Weschenfelder, this volume). Many Beja have recently settled along the new roads in the area, on the outskirts of the cities on the Red Sea coast or on the fringes of the Nile Valley. Others, in the south, have long been semi-nomadic cattle herders or settled agriculturalists. Many Beja speak Arabic, as their first or second language, next to the Cushitic (Afro-Asiatic) Beja (To-Badawi) or Tigre (Xasa), a Semitic language. Other inhabitants of the Eastern Desert include Ma'aza and Rashaida Bedouin that entered the area from the Arabian Peninsula during the 19th century CE (Figure 1.10).¹ The material culture of the Beja is characterized by objects of perishable materials, such as wood, leather and palm leaf; and by objects necessary for the outfitting of dromedaries (جمال, *gamal*, Figure 12.7) and the preparation of coffee

¹ In Quranic Arabic, 'arab (عرب), probably from *gharb* (غرب, to depart, to leave, sunset, west), seems to refer to sedentary Arabs and *a'rāb* (اعراب) to Arabs with a pastoral nomadic way of life. Bedouin, from the Arabic *badu* (بدو, singular بدوي), originally also referred to nomadic Arab tribes. This word came to Europe with the Crusaders, while its meaning in Arabic shifted to mean all those living a pastoral nomadic life in a desert region.

Table 12.2. Overview of the Beja clans and tribes. Adapted from Murray 1935; Paul 1954; Wendrich 2008; Barnard 2009.

Clan <i>(aila, wasm)</i>		Tribe <i>(qabila, bayt)</i>	
Ababda?	Bilalab	'Amirab	
		Batranab	
		Firhanab	
		Jahadab	
		Jidalab	
		Kiriab	
		Rajabab	
		Saadallab	
		Selimab	
		Tamanab	
		Zeidab	
	Haranaab		
	Hareinab	Hareinab	
		Nafaiab	
	'lbudiyeen		
	Jileiliyeen		
	Meleikab	Meleikab	
		Fuqara	
	Muhammedab	'Abdeinab	
		'Amranab	
		'Atiyaiab	
		'Adwallaiab	
		Edidanab	
		Faraiaab	
		Fishaiab	
		Hameidab	
		Jaralab	
		Jubranab	
		Malakab	
		Rahalab	
		Siedanab	
		Shafab	
		Sheinab	
		Shuweimab	
	Shanatir		
	"Broken tribes"	Anqaraiab	
		Hamei	
		Heteimiyah	
		Hukm	
		Kimeilab	
		Qireiab	
Amarar	Amarar	Esheibab	
		Fadlab	
	Otman	Ailaib	Arfoiab
			Keilab
			Manfolab
			Minniab
		Gwilai	Abdel-Rahimab
			Abdel-Rahmanab
			Musiab
			Omar Hassanaiab
			Sindereit
		Kurbab	
		Nurab	
Arteiga			
Ashraf			
Beni Amer	Egeilab		
	Hadareb	Ad al-Khasa	
		Ad Kokoi	

Clan <i>(aila, wasm)</i>	Tribe <i>(qabila, bayt)</i>
	Beit Awat
	Beit Goreish
	Beit Musa
	Hadoigoboiab
	Labat
	Libis
	Sinkatkinab
	Sogalet
Nabtab	
Tigré	Abhasheila
	Ad Fadil
	Aflanda
	Almada
	Asfada
	Hamasein
	Meikal
	Rigbat
	Targeila
	Wilinnoho
Bishareen	Umm Ali
	Alaib
	Amrab
	Hamadorab
	Shinterab
	Umm Nagi
	Adloiab
	Batran
	Eiraiab
	Garab
	Hammadab
	Madakir
	Mansurab
	Mashbolab
	Nafi'ab
	Wailaliab
Fellata Melle?	
Hadendowa	Beiranab
	Buglinai
	Bushariab
	Emirab
	Gemilab
	Ger'ib
	Gurhabab
	Hakolab
	Hamdab
	Kalolai
	Meishab
	Rabamak
	Samarandowab
	Samarar
	Shaboidinab
	Shara'ab
	Tirik
	Wailaliab
Halenga	
Hamran	
Hassanab	
Kammalab	
Kimmeilab	
Melhitkinab	
Morghumab	
Shaiab	
Sigolab	

Figure 12.7. Drawing by Ababda Bedouin Sa'ad Mansour, showing mounted nomads in full regalia. Adapted from Sidebotham *et al.* 2008; Wendrich 2008, courtesy of EDAPP and the Royal Netherlands Embassy in Cairo, Abdel-Qadr *et al.*, this volume.



Figure 12.8. A Beja *jabanah* (coffee maker) and its basketry container. Adapted from Krzywinski and Pierce 2001; Barnard 2008a; Sidebotham *et al.* 2008; Wendrich 2008. Photographs courtesy of the Bayt al-Ababda Museum, Wadi Gamal, Abdel-Qadr *et al.*, this volume.



(جبنة, *jabanah*, Figure 12.8). Only some of these objects are manufactured in the desert, such as leather bags and steatite cooking pots (Harrell and Brown 2008); others are imported from as far as China, as is the case with porcelain coffee cups and plastic ‘afro-style’ combs (Keimer 1951, 1952a, 1952b, 1953a, 1953b, 1954a, 1954b; Hobbs 1989; Krzywinski and Pierce 2001; Cappers 2006; Barnard 2008a; Magid 2008; Sidebotham *et al.* 2008; Wendrich 2008; Abdel-Qadr *et al.*, this volume).

Despite the fact that the Beja are usually described as pastoral nomads, much of their activities should perhaps better be described as herding-gathering or

multi-resource nomadism (Salzman 1972; Rosen 2003; Wendrich 2008; Wendrich and Barnard 2008; Roe, this volume; Weschenfelder, this volume). Furthermore, most Beja will go back and forth between a settled and a mobile lifestyle depending on their changing circumstances. Of those who adhere to a nomadic way of life, the women and children ‘follow the rain,’ looking for areas that will provide sufficient grazing for their flocks. Some of the men go into the desert to hunt, to burn charcoal or to collect medicinal plants (Barnard *et al.* 1996; Krzywinski and Pierce 2001; Sidebotham *et al.* 2002; Cappers 2006; Abdel-Qadr *et al.*, this volume), commodities that are highly valued at markets in the Nile

Valley. Other men travel to the Nile Valley to sell these products or to assist with the harvest, which used to be especially important in Lower Nubia where many men had left to work in Cairo as cooks, servants and guards. This arrangement came to an abrupt end in the 1960s with the closing of the High Dam at Aswan, drowning Lower Nubia under the water of Lake Nasser. Men also seek employment in road construction and building or as drivers and guides (primarily for tourists, geologists and archaeologists). Alternatively, they can use their knowledge of the border area between Egypt and Sudan to engage in smuggling.

In wet years, Beja may try to grow sorghum (*Sorghum bicolor*, درة) or barley (*Hordeum vulgare*, شعير); the environment never allows for the cultivation of wheat (Cappers 2006; Araus *et al.* 2007). Wheat, and in dry years also sorghum, has to be purchased on the market. On the Red Sea coast, fishing for reef fish and molluscs supplements the Beja diet that mainly consists of cereals, milk and cheese, sugar and coffee (Hobbs 1989; Krzywinski and Pierce 2001; Cappers 2006; Barnard 2008a; Wendrich 2008). Meat and vegetables are not regularly added to the meal, although onions, tomatoes, fish or game will be consumed when available. Slaughtering sheep, goats or dromedaries from the flock is limited to special occasions, such as religious holidays and weddings. A similar diet, high in starches and sugars, low in proteins and vitamins, is common among nomadic groups throughout the Middle East and North Africa (Hobbs 1989; Baba *et al.* 1994; Cole and Altorki 1998; Stene *et al.* 1999; Fraser *et al.* 2001; Roe 2008; Saidel 2008).

The staple dish of the Beja is *aseedah* (عصيدة), a thick porridge made of flour, water and salt, cooked over an open fire in a stone or metal pot (برمة, *burmah*). Sorghum or wheat flour can be used and butter or milk is sometimes added. *Aseedah* is eaten from a communal bowl (قدح, *qudah*) traditionally made of wood, but now often metal or ceramic. Another dish is *ridaaf* (رداف), bread of sorghum flour baked on heated stones. First, a fire is built on a layer of stones placed in a shallow depression. After a while, the fire is brushed aside and the dough poured on the stones. The fire is brushed back over the dough, which will bake into bread in 20–30 min. Dough made of wheat flour can be baked directly in the sand into bread named *qaburi* (قبوري). A third type of bread is *ruqaaq* (رقاق), for which the dough is rolled out into very thin layers that are baked on a sheet

of metal—often the lid of an oil drum—balanced over a fire. *Ruqaaq* is made when only dung is available for fuel as its preparation requires no contact between the food and the fuel (Hobbs 1989; Krzywinski and Pierce 2001; Cappers 2006; Barnard 2008a; Wendrich 2008). The bread is usually eaten warm, with cheese and as a staple with the meal.

Of major importance in the daily life of the Beja is the preparation, serving and consumption of *jabanah*, freshly roasted coffee prepared with sugar and spices (Krzywinski and Pierce 2001; Cappers 2006; Sidebotham *et al.* 2008; Wendrich 2008; Abdel-Qadr *et al.*, this volume). This is prepared, with sugar and often also ginger or other spices, on a charcoal fire in a special globular ceramic vessel also referred to as *jabanah* (Figure 12.8). Coffee (*Coffea arabica*; in Arabic the drink is referred to as قهوة, *qahwah*, while the beans are called بِنّ, *bunn*) is served as part of a ritual of recreation and hospitality throughout the Middle East (Birnbaum 1956; Racy 1996; Baram 1999; Saidel 2008). Coffee spread through the area in the 15th–16th centuries CE, from Ethiopia (where it was domesticated before the 9th century CE), after the introduction of sugar in the 10th century CE (Watson 1983). The importance attached to this ceremony, and the related commodities and paraphernalia, beyond their everyday use is illustrated by the care given to the vessels and their containers (Figure 12.8), by their representation in effigy to be found along the roads throughout the region (Barnard 2008a), and by the fact that they are often dedicated in graves (Barnard 1998; Cappers 2006). It is unclear when coffee was first used in the Eastern Desert (Barnard 2008a).

When traveling, the Beja live in huts made of rugs and mats on a frame of roots (بيت البرش, *bayt al-bursh*) rather than in the iconic Bedouin ‘black tent’ (بيت الشعر, *bayt al-sha‘ar*) known from Sinai and the Levant (Barnard 2008a; Magid 2008; Sidebotham *et al.* 2008; Wendrich 2008, Figure 12.9). Such ‘mat houses’ appear to be mentioned in ancient historical sources, from the Middle Kingdom to Strabo in the first century CE, although the covering may previously have been made of animal hair rather than palm leaf strips. Medieval Arabic sources, such as al-Istakhari, Ibn Haugal and al-Hamadhani, mention that the Beja live in dwellings made of animal hair, an observation confirmed by early European travelers, or animal skins, as stated by al-Maqrizi (Magid 2008). Where they plan to settle more permanently, the

Figure 12.9. Typical *bayt al-bursh* (mat-house) in northern Sudan. Adapted from Magid 2008.



Beja build houses of scraps of wood and metal or, when available, the stems of *Euphorbia abyssinica*, a cactus-like plant growing in northeast Sudan (Barnard 2008a; Magid 2008). Such permanent structures are often only used intermittently when the owners have adopted a semi-nomadic way of life.

Another item characteristic of the Beja material culture that suggests a link to the past, next to the mat house, is the head rest (Barnard 2008a; Wendrich 2008), which is also known from Ancient Egyptian funerary contexts.² These similarities have led some to suggest continuity of the Beja culture for several thousand years and many see the modern Beja as a valid parallel for the ancient inhabitants of the Eastern Desert (Keimer 1951, 1952a, 1952b, 1953a, 1953b, 1954a, 1954b; Updegraff 1988; Zaborski 1989; Dahl and Hjort-af-Ornas 2006; Zibeli-Chen 2007). Mat houses, however, were probably different in the past and head rests were and still are used by many other African peoples (Nettleton 2008). Furthermore, over the course of three millennia the inhabitants of the Eastern Desert have adapted to the changing climate and a continuous ecological degradation of their environment, to the introduction of the dromedary, to the ‘coffee ceremony’ that is so important to their modern way of life, to Islam and the Arabic language and, more recently, also

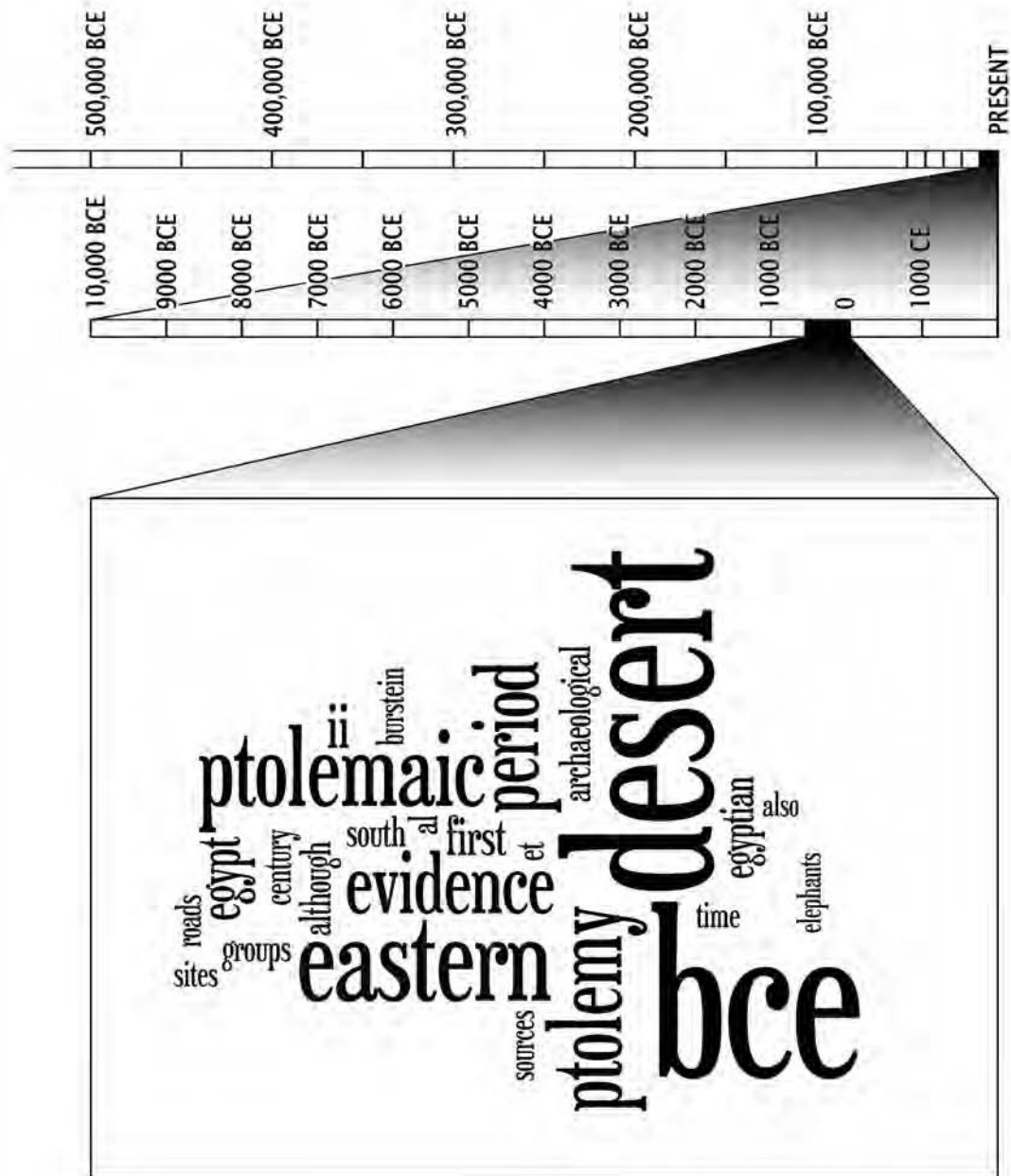
to cars, radio, television, plastic containers, mobile telephones and an increasing number of tourists (Cole and Altorki 1998; Cole 2003). Contacts with Pharaonic, Nubian and Graeco-Roman miners and quarrymen, Axumites, Funj, Ma‘aza and Rashaida Arabs, and especially with the Banu Kanz, will have had profound effects on those living in the region. The successive Kushite, Pharaonic, Christian (the Nubian Kingdoms of Nobatia and Makuria), Islamic (the Funj Sultanate of Sinnar), Ottoman, British, Egyptian and Sudanese overlords, although relatively distant, also left their traces in past and present desert societies and cultures. Even if the modern dwellers of the Eastern Desert have preserved remnants of the past, these are appreciated very differently now than they were during a previous era, like our Christmas trees and Easter eggs. Some see in the historical, cultural and ethnic development of all people over time, whether they are mobile, sedentary or otherwise, a reason to abandon ethnoarchaeology altogether (Wobst 1978; Khazanov 1984; Bernbeck 2008; Barnard 2009). This is an extreme point of view, but it is obvious that both ancient ethnographies and modern ethno-archaeological research must be approached with the appropriate scholarly care (Bietak 1979; Abu-Lughod 1989; Rosen 2006; Wendrich *et al.* 2006; Barnard 2007; Burstein 2008; Barnard 2009; Pierce, this volume).

The archaeology of Egypt has long been overshadowed by the wealth of textual sources, from monumental to informal, and the abundance of objects of museum quality. Archaeology was long perceived as a technique to find more such texts and objects, while

² For instance in the tombs of Old Kingdom Queen Hetepheres I (4th Dynasty, *ca.* 2610–2590 BCE), Middle Kingdom Mayor Mesehti (11th–12th Dynasty, *ca.* 2040–1940 BCE) and New Kingdom Pharaoh Tutankhamun (18th Dynasty, *ca.* 1340–1320 BCE).

archaeological observations were readily explained from the textual data. Only slowly has the archaeology of Egypt become a specialization in its own right and was recognized to generate its own specific data sets (Bietak 1979; Wendrich *et al.* 2006), although it is often still haunted by legacies of the past. Based on misinterpreted evolutionary theories and racially prejudiced views, early Egyptian archaeologists assumed that cultural changes were the result of migration rather than local developments (Wendrich 2010). Remarkably, in contrast with the situation in the Nile Valley, the interpretation of the historical and archaeological material relevant to the Eastern Desert tends toward an emphasis on the continuity of the population and culture in the desert rather than a series of migrations (Barnard 2009, *in press*). One thing that may be inferred from comparing the present and the past is that the ethnic and cultural landscape of the Eastern Desert was always a patchwork

of interlinking groups and that the history of the region is far more complex than that of the three static groups now usually associated with the area. It is often maintained that the typical Beja culture is disappearing because of the increasing influence of the outside world. This implicitly denies the Beja access to cars and telephones, but also modern education and healthcare. The fact that the culture of the Beja can disappear or, in more positive terms, adapt and develop illustrates how similar changes must have happened in the past and will continue to do so in the future. The society of the dwellers of the Eastern Desert was never frozen in time or more rigid than that of the inhabitants of the Nile Valley. Like the Medjay and the Blemmyes, the Beja deserve the recording and study of their culture and history, but they also deserve to be the principal agents of their own past and future. With this conference and volume we hope to have contributed to these objectives.



Time line and word cloud created from Jennifer Gates-Foster, *The Eastern Desert during the Ptolemaic Period: An Emerging Picture*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 13



The Eastern Desert during the Ptolemaic Period: An Emerging Picture

JENNIFER GATES-FOSTER¹

THIS CHAPTER SYNTHESIZES ARCHAEOLOGICAL and textual evidence for the presence of various groups in the Eastern Desert during the Ptolemaic Period (332 BCE–30 CE). During this time, Egypt was governed by a dynasty of resident Greek foreigners from the relative remove of Alexandria, a new capital on the Mediterranean Sea established by Alexander the Great during his brief stay in Egypt. While the Ptolemaic Period has traditionally been seen as a time of profound transformation of Egyptian institutions and economy, recent work has emphasized the continuity between Ptolemaic practices and those of the Pharaonic Periods (Manning 2010), particularly when compared to the alterations during the following Roman Period (30–330 CE). The evidence for both internal and external groups in the Eastern Desert during this time is very limited, particularly in comparison with the multiplicity of documents and archaeological remains from the Roman Period (Dijkstra, this volume; Lassányi, this volume). Nevertheless, it is possible to draw out a relatively well-developed sense of the role played by both ‘outsiders’ from the Nile Valley, and

to a lesser extent, other (certainly pastoral nomadic) groups whose perspective on the region’s resources, environment and topography were likely profoundly different. Much of our evidence for these groups, when available, is indirect and only suggests the involvement of nomadic groups, whose presence is confirmed in later sources and suggested by certain categories in the archaeological record. Nevertheless, the possibility—and as I argue, probability—of their presence and its value as an explanatory factor for certain trends in the interpretation of the evidence from the Ptolemaic Period makes this discussion crucial. Accordingly, this chapter will briefly discuss the range of evidence for Ptolemaic activity in the Eastern Desert, considering in each case how these textual sources and archaeological remains illuminate both the objectives of outsiders, for whom the Eastern Desert was both a valuable resource and an intimidating barrier, and the likely role of other groups.

The Ptolemaic Eastern Desert: Precedents, Sources and Evidence

It is becoming increasingly clear that political, economic and social aspects of the Hellenistic kingdoms around the Mediterranean Sea and in the Near East are intertwined with the legacy of the Achaemenid Kingdom. In Egypt the so-called ‘Late Period,’ a term used by Egyptologists to describe the era between 664–332 BCE (Lloyd 1999; Perdu

¹ Thanks are due to Steven Sidebotham, Henry Wright, Sharon Herbert and Willeke Wendrich for the opportunity to work with the archaeological evidence on which some of the observations in this paper are based. For a full catalogue of the Ptolemaic archaeological material from the Delaware-Leiden-University of Michigan Eastern Desert surveys, see Gates 2005.

2010),² encompasses a period when Egypt was alternately governed by native monarchs, ruling from Sais in the Nile Delta, and Achaemenid kings ruling from Persia (Table 13.1). The Saite, the last native dynasts, consolidated the state of Egypt through the cultivation of relationships with Mediterranean trading partners (especially Greece) and the establishment of royal authority throughout Egypt. Their independence was, however, short-lived and Egypt was conquered by the Persian King Cambyses in 525 BCE. The first Persian Period lasted until 404 BCE, when Egyptians again reasserted local independence. This period of self-government ended in 343 BCE with the second Persian invasion and occupation, which ended with the conquest of Alexander the Great in 332 BCE. The Late Period was shaped by these dramatic political developments, but it was also an episode during which Egyptian institutions, ideology and technology developed in response to the intense pressure from external cultural sources (Lloyd 1999). As Rathbone states:

Attempts to determine the balance between Greek innovation and native tradition will always be controversial, but in general it would seem that the economic centralisation and development which we associate with early Ptolemaic Egypt owed far more to the Achaemenids and the Saite pharaohs than is commonly recognised by classical scholars (Rathbone 1989: 164).

Although this remark was made in consideration of the Ptolemaic Fayum, it is part of a general trend in the study of the Ptolemaic era (Samuel 1989; Manning 2003b: 8-9). It follows, then, that the patterns observed in the administration and practice of Ptolemaic mining and trade in the Eastern Desert may bear some relation to the patterns evident in the limited data from earlier periods. There is, indeed, evidence both for an active interest in Red Sea trade and the acquisition of mineral wealth from the Eastern Desert during the Late Period, although these things are not necessarily related economic phenomena. In the northern half of the Eastern Desert, north of Wadi Hammamat (Figure 13.1), there was continuous activity in the Late Period. Official expeditions were sent to Wadi Hammamat under the Pharaohs Psammetichus I, Necho II, Psammetichus II and Amasis of the 26th Dynasty, as well as by agents of the Persian overseers of Egypt and later Egyptian rulers (Tuplin 1998; Lloyd 1999; Meyer 1999).

² These dates, taken from Hölbl 2001, differ slightly from those provided by Baines and Malek 2000: 36-37 (who have 715–332 BCE) that are used throughout this volume. They are maintained here for consistency.

Table 13.1. Chronology of rulers and periods mentioned in the text.

New Kingdom	1537–1075 BCE
Third Intermediate Period	1075–664 BCE
Late Period	664–332 BCE
26th Dynasty (Saite)	664–525 BCE
27th Dynasty (Persian)	525–404 BCE
28th Dynasty (Pharaoh Amyrtaios)	404–399 BCE
29th Dynasty (Saite)	339–380 BCE
30th Dynasty (Saite)	380–343 BCE
31st Dynasty (Persian)	343–332 BCE
Ptolemaic period	332–30 BCE
Alexander the Great	332–323 BCE
Ptolemy as satrap	323–305 BCE
Ptolemy I Soter as king	305–282 BCE
Ptolemy II Philadelphos	282–246 BCE
Ptolemy III Euergetes	246–221 BCE
Ptolemy IV Philopator	221–204 BCE
Ptolemy V Epiphanes	204–180 BCE
Ptolemy VI Philometor	180–170 BCE
Joint reign of Ptolemy VI Philometor, Cleopatra II and Ptolemy VIII	170–163 BCE
Ptolemy VIII Euergetes II	163 BCE
Joint reign of Ptolemy VI Philometor and Cleopatra II	163–145 BCE
Ptolemy VIII Euergetes II	145–116 BCE
Joint rule of Cleopatra II, III and Ptolemy IX Soter II	116 BCE
Joint rule of Cleopatra III and Ptolemy IX Soter II	116–107 BCE
Joint rule of Cleopatra III and Ptolemy X Alexander I	107–101 BCE
Ptolemy X Alexander I	101–88 BCE
Ptolemy IX Soter II	88–81 BCE
Joint rule of Cleopatra Berenike III and Ptolemy XI Alexander II	80 BCE
Cleopatra Berenike III	Beginning of 80 BCE
Ptolemy XI Alexander II	Summer 80 BCE
Division of the kingdom between Egypt and Cyprus	80 BCE
Ptolemy XII Neos Dionysos	80–58 BCE
Joint rule of Berenike IV and Cleopatra VI Tryphaina	58–55 BCE
Berenike IV and Archelaos	55 BCE
Ptolemy XII Neos Dionysos	55–52 BCE
Joint rule of Ptolemy XII Neos Dionysos and Cleopatra VII	52 BCE
Cleopatra VII Philopator and Ptolemy XIII	51–47 BCE
Cleopatra VII Philopator and Ptolemy XIV	47–44 BCE
Cleopatra VII Philopator and Ptolemy XV Caesarion	44–30 BCE
Roman-Byzantine Period	30 BCE–641 CE

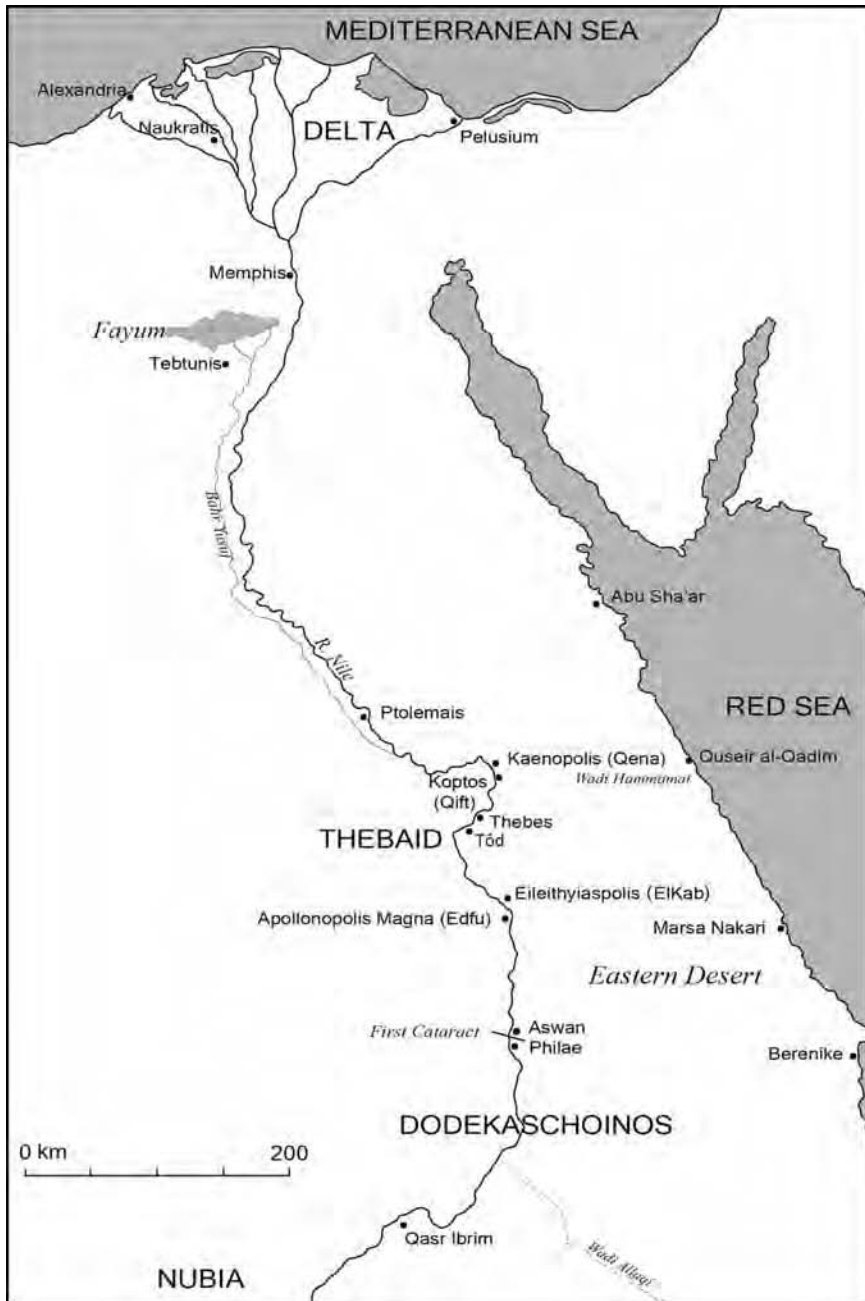


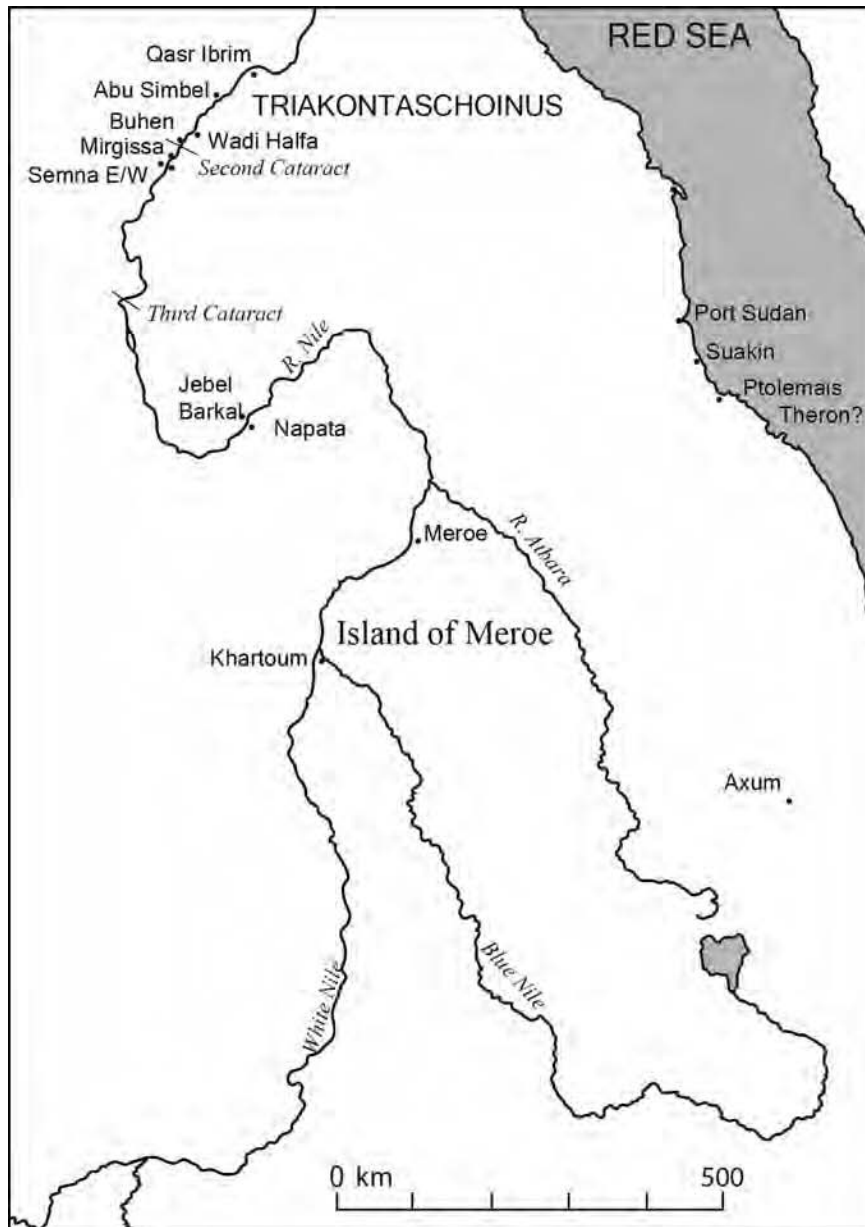
Figure 13.1. The Eastern Desert in its Egyptian context. Adapted from Bailey 1996: 6.

These expeditions, attested by epigraphic evidence in Wadi Hammamat and by temple inscriptions, were a continuation of a Pharaonic tradition of dispatching royal missions to extract stone and other mineral resources from the desert (Porter and Moss 1952; Klemm and Klemm 1994; Hikade 2001; Rothe *et al.* 2008). There is, however, little comparable Late Period epigraphic evidence for the area farther south and discussed in this chapter, which suggests that Persian and Saite rulers either did not exploit the southern gold mines, or did so in ways that left no obvious epigraphic markers. The expansion of the Nubian Kingdom of Kush (Figure 13.2)

in the 5th–6th centuries BCE, however, was probably partially driven by a desire for the acquisition of these resources (Eide *et al.* 1996: 398–399, 437–439, 468–471). In addition to the epigraphic attestations of Late Period Egyptian interest in the Eastern Desert, there is also a tradition of close connections between the Saite rulers and Upper Egypt more generally.

Diodorus Siculus, drawing on a lost work by Ephorus of Cyme dated 340 BCE, provides an account of the conquest of Egypt by Artaxerxes III in 343 BCE (Diodorus Siculus 16.51.1). Nectanebo, the Saite king, flees from the Pharaonic capital at Memphis and

Figure 13.2. Map showing the location of Meroe and the *Triakontaschoinus*. Adapted from Burstein 1993: 39.



escaped to Αἰθιοπία (Eide *et al.* 1996: 501-503). Grimal mentions a document from Edfu dating to Year 18 of the rule of Nectanebo, which suggests that he was successful in establishing an independent kingdom in Upper Egypt for a time following the conquest of the Persians and immediately preceding the incursion of the Greeks (Grimal 1992; Eide *et al.* 1996: 470-471). Its date and the fact that this document was found in Edfu are potentially significant for the Eastern Desert because one of the routes into the region at this time began in Edfu (Figure 13.3). The installation of a transient, but separate Upper Egyptian kingdom raises the possibility that the Eastern Desert and its resources were impacted by the political dynamic of the region upon which it was

most dependent. The establishment of a separate Upper Egyptian kingdom under the protection of the Meroitic kings in Nubia foreshadowed a testing of the strength of Egyptian and later, Greek rule in the south.

The Persian and Saite expeditions to Wadi Hammamat brought them into the Eastern Desert, but it is not until the transfer of power to the Ptolemies in the late 4th century BCE that written evidence for the exploitation of mineral resources in the Eastern Desert and the establishment of the desert routes first appears. The story of the Eastern Desert in Ptolemaic times is largely one of administrative practices and of the institution and propagation of the trade routes related to the Ptolemaic interest in specific commodities, such as gold, spices,

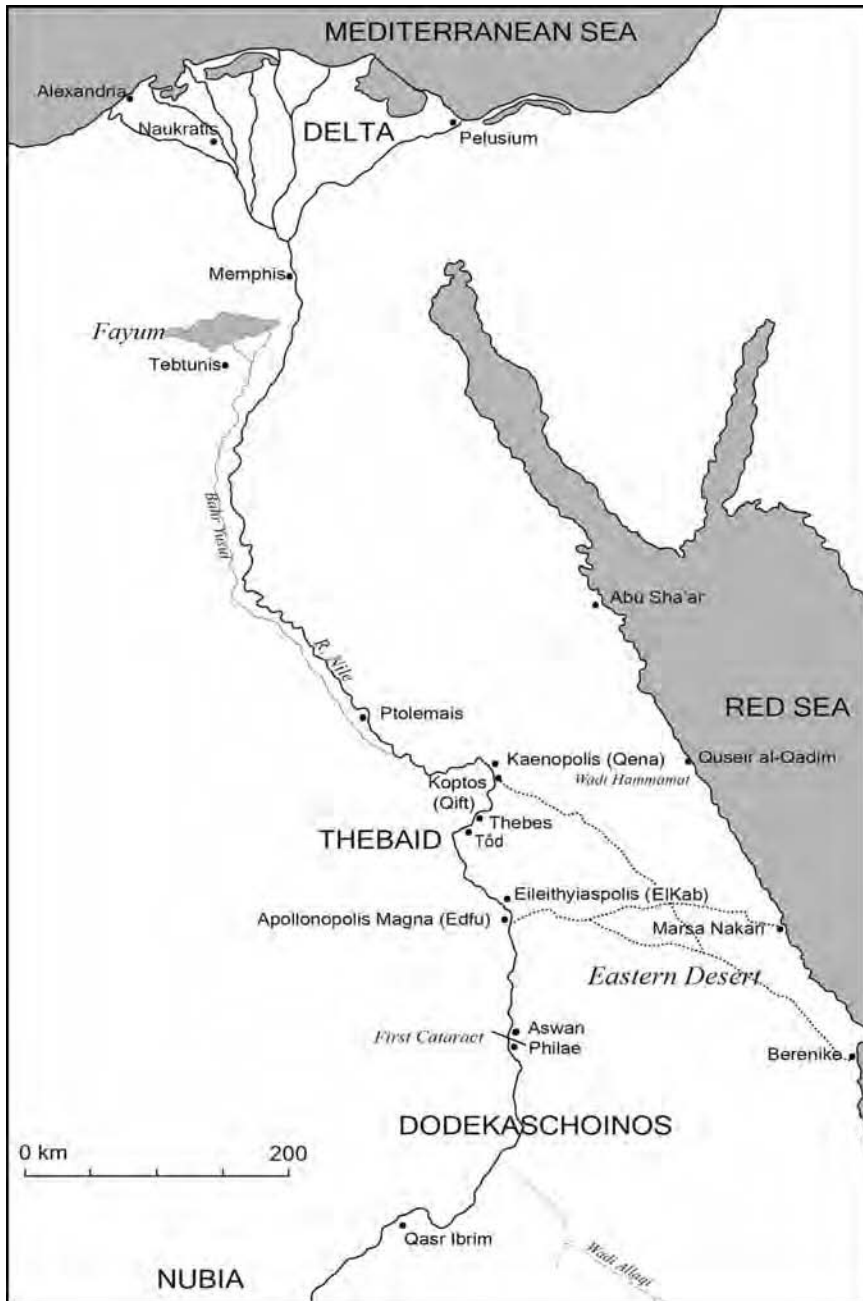


Figure 13.3. Map showing the Ptolemaic and Roman routes through the Eastern Desert. Adapted from Bailey 1996: 6.

incense, wood, precious stones and especially African elephants, over the roughly three centuries of the dynasty's supervision of Egyptian affairs. It is also largely a story told by inference, related obliquely to evidence from the Nile Valley, and comprised chiefly of a few epigraphic and papyrological documents that directly attest officials and offices involved in the administration of the ports, the desert roads and the resources mentioned above. These references offer some specific facts (names, places and practices) that help to fill in the blank spaces in the more general picture provided by ancient authors

who mention Upper Egypt, the Red Sea trade and the Eastern Desert roads.

The two most important historical works relevant to these areas in the Ptolemaic period are *On the Erythrean Sea* by Agatharchides (Burstein 1989), written during the reign of Ptolemy VIII Euergetes II (145–116 BCE), and the anonymous *Periplus Maris Erythraei*, which should probably be dated to the first century CE (Casson 1989). There are also sources that shed light on the incorporation of Red Sea goods into the public life of the monarchy, such as the account of the procession of

Ptolemy II in 278 or 277 BCE, described by Kallixeinos (Rice 1983; Foertmeyer 1988; Walbank 1996; Thompson 1997, 2000). Each of these sources has something to contribute to our understanding of the Red Sea trade and the Eastern Desert routes.

The Third Century BCE

Alexander the Great, who ruled 332–323 BCE, installed a garrison at Elephantine to counteract the incursions of opportunistic Meroitic rulers to the south (Arrian, *Anabasis* 3.2.7, Eide *et al.* 1996: 536-538), but there is no evidence for an Eastern Desert component to the fortification of the First Cataract (Burstein 1993), perhaps due to modern construction on the east bank of the Nile. Ptolemy I Soter (323–282 BCE) had no Red Sea policy, except perhaps for the continued import of aromatics and plants from South Arabia via the land route through the Sinai Peninsula in the late fourth-early third centuries BCE (Desanges 1978: 245-246; Sidebotham 1986: 2). In the south there are vague hints of an expedition by Philon (an early Greek explorer) to Meroe and to the *Insula Topazus* in the Red Sea, the account of which became a source for Eratosthenes, Strabo and Pliny the Elder (Fraser 1972: 176; Desanges 1978: 248-251). These indirect accounts shed little light on the Eastern Desert itself and only attest to a developing interest in, and awareness of, the political powers to the south that posed a threat to the fledgling Greek monarchy. During the reign of Ptolemy II Philadelphus (282–246 BCE) the first evidence of a coherent policy of settlement and exploration in the Red Sea region appears in the historical and material record. In the 270s BCE, Philadelphus cleaned and repaired the canal constructed in the Late Period connecting the Red Sea and the River Nile and founded the city of Arsinoe near the Gulf of Suez (Navelle 1902: 3; Burstein 1989). He also established ports farther south at Philotera (possibly near the Pharaonic ports at Marsa Gawasis), Myos Hormos (Quseir al-Qadim) and Berenike Troglodytica near the modern border between Egypt and Sudan (Figure 13.3, Barth 1859; Whitcomb and Johnson 1979; Sidebotham and Wendrich 1995, 1996a, 1996b; Sidebotham 1997; Sidebotham and Wendrich 1998a, 1998b, 1999, 2000, 2001; Sidebotham 2002; Peacock and Blue 2006; Wendrich *et al.* 2006; Sidebotham and Wendrich 2007).

According to the same ancient sources that detail the founding of these port cities, Philadelphus concomitantly established a series of roads to connect

them to Apollonopolis Magna (Edfu) in the south and Coptos (Qift) in the north (Strabo 17.1.45, Jones 1932; Radt 2005; Pliny *Natural History* 6.103, 6.168, 6.171, Rackham 1942). A Ptolemaic date for these road foundations is supported by epigraphic evidence from the Paneion at al-Kanais on the Berenike-Edfu road, where many Ptolemaic inscriptions have been recorded (Bernard 1972a, 1972b, 1977, 1984, 1992; Espinel, this volume). Archaeological research in the region confirms this date, although there is some limited evidence for earlier activity, particularly at gold mining sites such as Samut (Gates 2005, 2006). In addition to the route connecting the harbor of Berenike to the Nile Valley, there is archaeological evidence for a Ptolemaic route running from the coast at modern Marsa Nakari and connecting with the Berenike-Edfu road near Abu Rahal (Figure 13.3, Seeger 2001; Seeger and Sidebotham 2005). These foundations were a material consolidation of the Egyptian hold on the Eastern Desert that, according to Strabo, was largely achieved by diplomatic means, “εἴτ’ ἐκθεραπεύσαντος τοὺς κωλύοντας καὶ κατεσκευασμένου φίλου ἀντὶ δυσμενῶν” (Strabo 16.4.7).³ Sometime in the 270s BCE, Ptolemy II organized a military campaign in an attempt to stymie Meroitic ambitions in the region south of Aswan (Agatharchides F20, Burstein 1989: 52) and to open a route for the acquisition of war elephants, which were needed to counteract the Indian elephants of the Seleucids (Scullard 1974: 123-133). Commemorated on the Pithom Stele (Navelle 1902),⁴ this campaign brought the area from Aswan to Wadi Halfa under Egyptian control (Haycock 1972; Desanges 1978: 257; Burstein 1986, 1989: 42-43). The Dodekaschoinos, the area south of the First Cataract near Aswan, was annexed, opening a conduit for Egyptian interests in the south (Burstein 1989: 7-8). The Nubian Nome List, erected at Philae in the temple of Isis, offers a list of the *nomes* (administrative divisions) conquered and therefore subject to the Egyptian Crown.⁵ This catalog of Nubian

³ In English: “Then, by winning over of those who tried to hinder the work, they [the Nubians] were made into friends instead of enemies.”

⁴ The Pithom Stele is a large stone slab, 1.0–1.3 m, with an inscription commemorating some of the achievements of Ptolemy II. It was unearthed in 1883 by H.É. Navelle in the eastern Nile Delta at Tell al-Maskhuta, which he identified as Biblical Pithom. The text on the stele is problematic and has not yet been satisfactorily interpreted.

⁵ Pharaonic Egypt was divided into *sepat*, or νόμοι (*nomoi* = districts), ruled by a feudal ruler now referred to as *nomarch*.

toponyms, although incompletely preserved, is evidence of the deep penetration of Ptolemaic interests in the far south sometime after the Nubian campaigns of Ptolemy II (Eide *et al.* 1996: 564-566). Evidence from Qasr Ibrim for a Ptolemaic presence likewise attests Ptolemaic interests in this area (Rose 1996, 2008).

It is at about this time that the ‘Blemmyes,’ a nomadic tribe attested in many Meroitic sources, is first mentioned by Greek authors, including Theocritus (*Idyll* 7.111-114) and by Eratosthenes (via Strabo 17.1.2). The Blemmyes were one of several nomadic tribes present in Nubia during the Ptolemaic period, but they are referred to as early as the Middle Kingdom (1775–1640 BCE, but see Zaborski 1989; Barnard 2005, 2007; Burstein 2008; Barnard 2009a, 2009b; Bintliff and Barnard, this volume; Pierce, this volume). These tribes are said to have served as sources of labor in the Nile Valley and likely functioned, as they did in Pharaonic times, as herdsmen and possibly also as police and guides in the desert, although there is no direct evidence for this in the Ptolemaic period (Manning 2003a: 62; Barnard 2009a, 2009b). Two of the marriage contracts in the Hauswaldt archive included men with ethnics that are Nubian, specifically Blemmye and Megabarian (Manning 2003b; Barnard 2005). These texts (*p.Hauswaldt* 6 and *p.Hauswaldt* 15) date to 219 and 217 or 216 BCE, respectively, and give these men the title “herdsmen of Horus.” It has been postulated that these desert-dwelling peoples received land from the temple in payment for services (Eide *et al.* 1996: 579-580; Manning 2003a). The supervisor of the roads mentioned in the Bir ‘Iayyan inscription (discussed below) and other administrators may have also overseen the employment of these individuals, who enter the Greek consciousness demonstrably at the same time that Ptolemy II is conquering their homeland in Nubia.⁶ There is also evidence that these nomadic tribes were present in the Eastern Desert during the Late Period, but this evidence is entirely from Meroitic sources (Eide *et al.* 1994: 296-298).

The conquest of Lower Nubia was followed swiftly by the foundation of additional garrisons that acted as bases for the hunting of elephants (but see Mueller 2006:

⁶ Greek awareness of Nubia and its landscape and peoples is a phenomenon that begins in the Late Period (664–332 BCE) and has its own distinct profile as part of the Greek literary and cultural landscape. An excellent study by Phiroze Vasunia provides an introduction to Greek views of Egypt and its bordering lands in the 6th–5th centuries BCE (Vasunia 2001).

151-157). The aptly named ‘Ptolemais-of-the-Hunts’ was founded near Aqiq in modern Sudan during this time and the first shipment of elephants arrived in Egypt shortly afterwards (Naville 1902; Crowfoot 1911; Hibbert 1936; Seeger *et al.* 2006). According to Agatharchides (Burstein 1989: 140-142), the elephants were transported from Ptolemais-of-the-Hunts on specially designed ships called *elephantagoi* and disembarked at Berenike, from where they were then walked across the desert to the Thebaid for transport up the Nile (Scullard 1974; Casson 1993).⁷ The prominent inclusion of elephant *quadrigae* in the procession celebrating the Ptolemaieia at Alexandria, sometime during the reign of Ptolemy II, indicates that they were both an integral element of royal self-presentation and that their acquisition and deployment were worthy of religious and martial celebration (Rice 1983: 92; Walbank 1996; Hazzard 2000; Thompson 2000). Archaeological surveys conducted in the Eastern Desert between 1993 and 2003 have demonstrated considerable investment in desert infrastructure during the Ptolemaic Period (Sidebotham and Zitterkopf 1995; Sidebotham 1996; Sidebotham and Zitterkopf 1996; Sidebotham 2002; Wright 2003).⁸ These surveys have identified over 24 sites in the area south of the Coptos-Myos Hormos road and north of Berenike with third–second century BCE pottery on the surface (Gates 2005, 2006). These sites vary considerably in size, form and placement in the terrain. In many cases, the Ptolemaic evidence consists of a small surface deposit with no visible architecture, while at some sites, the pottery is mixed with later Roman material at a site with a large installation that is likely of Roman date, although the architecture is very difficult to date precisely and almost certainly had a long use-life. Excavations at Berenike have revealed a substantial Ptolemaic phase of similar date, although no housing of Ptolemaic date has as yet been identified.

In addition to the elephants, gold was featured prominently in the Grand Procession of Ptolemy II (Rice 1983). The inclusion of gold may indicate the

⁷ The Thebaid (Θηβαίς or Θηβαΐδα) is the region between Aswan and Abydos, the 13 southern nomes of Ancient Egypt. In Graeco-Roman times, the Thebaid became a single administrative district with its capital at Thebes (modern Luxor). In Roman times, this area was split into two provinces, Upper Thebaid, with its capital at Thebes, and Lower Thebaid, with its capital at Ptolemais (modern al-Mansha, near Sohag).

⁸ Personal communications by Dr S.C. Herbert, Dr S.E. Sidebotham and Dr H. Wright.

florescence of another Eastern Desert industry unrelated to elephants. Agatharchides describes a series of gold mines in the Eastern Desert and the great suffering of the criminals and their families condemned to hard labor in them (Burstein 1989: 58-68):

οἱ γὰρ Βασιλεῖς τῆς Αἰγύπτου τοὺς ἐπὶ κακουργία καταδικασθέντας καὶ τοὺς κατὰ πόλεμον αἰχμαλωτισθέντας, ἔτι δὲ τοὺς ἀδίκους διαβολαῖς περιπεσόντας καὶ διὰ θυμὸν εἰς φυλακὰς παραδεδομένους, ποτὲ μὲν αὐτούς, ποτὲ δὲ καὶ μετὰ πάσης συγγενείας, ἀθροίσαντες παραδίδοσιν πρὸς τὴν τοῦ χρυσοῦ μεταλλείαν, ἅμα μὲν τιμωρίαν λαμβάνοντες παρὰ τῶν καταγνωσθέντων, ἅμα δὲ διὰ τῶν ἐργαζομένων μεγάλας προσόδους λαμβάνοντες. οἱ δὲ παραδοθέντες, πολλοὶ μὲν τὸ πλῆθος ὄντες, πάντες δὲ πέδαις δεδεμένοι, προσκαρτεροῦσι τοῖς ἔργοις συνεχῶς καὶ μεθ’ ἡμέραν καὶ δι’ ὅλης τῆς νυκτός, ἀνάπαισιν μὲν οὐδεμίαν λαμβάνοντες, δρασμοῦ δὲ παντός φιλοτίμως εἰργόμενοι (Agatharchides 24b and Diodorus Siculus 3.12.2-3).⁹

Although Agatharchides is probably recounting methods employed at mines farther south in Wadi Allaqi (Figure 13.1), his description may also have been influenced by observations of gold mining in the more central Eastern Desert as well, where mines are equally plentiful. Interestingly, Agatharchides, in his description of the mining also mentions “barbarian soldiers who speak different languages” (Agatharchides 24b) acting as guards overseeing the mining. Some contend that these ‘barbarians’ were likely Nubian mercenaries (Burstein 1989); others maintain that they were Eastern Desert nomads who served as guides, guards and scouts (Manning 2003b).

The evidence on the administration of the Eastern Desert in this period consists of two documents, an inscription and a papyrus. The inscription (Figure 13.4) was discovered at Bir ‘Iayyan on desert road from Edfu to the gold mines in Wadi Barammiya (Bagnall *et al.* 1996; Manning 2003a, 2003b). It offers evidence for an official whose duty it was to oversee the desert roads around 257 BCE:

⁹ In English: “The kings of Egypt gather together and give over to the mining of gold such as have been convicted of some crime and prisoners of war, as well as those who have been wrongly accused and sent to prison on account of their wrath not only these persons, but often also all their relatives, in this way, taking vengeance those who have been condemned, but also taking great returns from their labors. And those thus condemned—for there are a great many of them all bound with shackles—work constantly by day and all through the night, taking no rest and being vigilantly cut off from all means of escape.”



Figure 13.4. The inscription found at Bir ‘Iayyan. Adapted from Bagnall *et al.* 1996: 321.

Ἀπὸ ποταμοῦ ἕως τοῦ
του στάδιοι τετρα
κόσιοι ἑξήκοντα εἰς
Βασιλεύοντος Πτο
λεμαίου τοῦ Πτολε
μαίου Σωτήρος ἔτους
κη, μηνὸς Ἐπειφ
ἔστησεν Ῥόδων
Δυσιμάχου Πτολε
μαιεὺς τοπαρχῶν
τὸν τρεῖς.¹⁰

The inscription attests the existence of an official in residence, or from the Ptolemaic city of Ptolemais in the Thebaid, who was probably a “toparch of the three.” The publishers of the inscription take this to refer either to the three southern nomes of the Thebaid (Bagnall *et al.* 1996), or the area immediately surrounding Edfu (Thompson 2001; Manning 2003b: 66). The placement

¹⁰ In English: “From the river to this point, four hundred sixty-one stadii. In the reign of Ptolemy, son of Ptolemy Soter, year 28, month of Epeiph, Rhodon, son of Lysimachos, from Ptolemais, toparch of the three [nomes?], set up [this stone].” The proposed translation of line 11, τὸν τρεῖς, by Manning as “the three” reflects the difficulty of this line. Bagnall *et al.* (1996) propose that τὸνς (the Doric form of the accusative plural in the o-declension) was written in error for τοὺς. They also postulate that the inclusion of the nu for upsilon may have been an error of the carver, “with no diacritical significance.” At any rate, the line is a difficult one and is taken by the publishers to refer to νομοῦς = nomes.

of the stone at a desert station about 100 km from Edfu suggests that Rhodon was also responsible for the oversight of the desert road and these administrative responsibilities were, at this time, linked together.

A contemporary papyrus offers another perspective on the functionaries at work in this region. A communications log dated to 255 BCE mentions the existence of an official charged with τῶ πρὸς τῆ χορηγία[ι τ]ῶν ἐλφάντων[v] εἰς τὴν θηβαίδα χυ(λιστὸν) α (p.*Hibeh I 110*).¹¹ The presence of an official, whose duty it was to lead elephants across the desert, suggests a degree of specialization in the administrative oversight of the Eastern Desert. After the death of Ptolemy II in 246 BCE, the historical chronology for the Eastern Desert becomes more obscure. The Adulis Inscription (*Orientalis Graeci Inscriptiones Selectae 54*) erected around 246 BCE by Ptolemy III Euergetes in commemoration of the Third Syrian War, makes prominent mention of his use of “Troglodytic and Ethiopian elephants, which he and his father were the first to hunt from these lands, bringing them back into Egypt, to fit out for military service.” Papyri dating to the reign of his successor, Ptolemy IV Philopator (221–204 BCE), attest the continuation and even expansion of the elephant-hunting stations into areas farther south (Scullard 1974: 135–136; Burstein 1989: 9). These expeditions were substantial; p.*Elephantine 28* mentions an expedition of 231 men. The hunters referred to in these texts relied on supplies of Egyptian grain and other foodstuffs, as is apparent from a particularly pathetic letter (p.*Petrie II 40a*), found in the Fayum, which details the problems of a group of elephant hunters whose grain shipment was delayed in 224 BCE (p.*Petrie II 40a*; see also Mueller 2006). This clearly engendered hard times and offers a revealing insight into the dependency of the hunting stations on Egyptian supplies and support. There is also evidence for the existence of an official, called *strategos*, who led the elephant-hunting expeditions. Two dedicatory inscriptions of similar date and formulation record the pious acts of these officials and their subordinates between 215 or 214 and 205 BCE (*Orientalis Graeci Inscriptiones Selectae 1.82, 1.86*; see also Bernard 1972a).

¹¹ In English: “to the person in charge of looking after the leading of the Elephants to the Thebaid. . .”

The Second and First Centuries BCE

Around the time of the reign of Ptolemy V Epiphanes (204–180 BCE), epigraphic and papyrological evidence for the administration of the Eastern Desert roads and for the continued functioning of the elephant-hunting stations farther south disappears. Although it can hardly be argued that there was ever a constant stream of activity, a marked shift seems undeniable and there are several possible reasons for this change. The impetus to cease the elephant hunts may have come from abroad; the rival Seleucids were no longer able to obtain elephants, because the Parthians disrupted their communications with India in the second half of the third century BCE (Scullard 1974: 135; Sidebotham 1986). Alternatively, the increased organization of the elephant hunts under Ptolemy IV could have led to a sustainable herd in captivity that would make it unnecessary to continue the expensive and dangerous matter of hunting in the south (Sidebotham 1986: 4). Another explanation could be that the Battle of Raphia in 217 BCE (Polybius 5.84.3–7) was a victory for the Ptolemaic army, but one in which their elephant corps was proved to be not only ineffective, but also dangerous when it turned and fled into the Ptolemaic lines (Scullard 1974: 137–139; Burstein 1989: 10–11). A revolt in the Thebaid followed in 206 BCE. This revolt interrupted tax records in Edfu, suggesting a substantial disruption to the infrastructure that would have been necessary to maintain the elephant trade (Vandorpe 2003).

The revolt in Upper Egypt lasted until 186 BCE (Hölbl 2001: 153–157). Thebes, as usual, was the center of the rebellion and two native kings, Her-wennefer (206–200 BCE) and Ankh-wennefer (200–186 BCE), ruled from Thebes to Aswan and the First Cataract. Edfu was under the control of the rebels from the first year of the rebellion (Préaux 1939). The Dodekaschoinos was taken by the Meroitic King Ergamenes II, who tacitly supported the Egyptian rebels, effectively cutting off access to the hunting stations (Burstein 1989: 10; Manning 2003b), which may offer another reason for their abandonment (Eide *et al.* 1996: 596–612). It is unclear, however, how developments in the Nile Valley and the Thebaid would have affected the gold mines in the Eastern Desert, which were presumably in use by this time, or the desert routes themselves. The resurgence of Meroitic rule may have had an impact on the desert roads that lay at the doorstep of the Egyptian border. The revolt was put down in 186 BCE and the Thebaid was subsequently heavily garrisoned (Dietze 2000; Manning 2003b: 169). Ptolemy VI Philometor (180–145 BCE)

reclaimed the area down to the Second Cataract (*Orientalis Graeci Inscriptiones Selectae III*), although his conquests were short-lived (Dietze 2000). Despite the fact that his reassertion of Ptolemaic power in the south would not last, Ptolemy VI nevertheless installed a nome list (Eide *et al.* 1996: 614-630) at the temple of Isis at Philae that echoed the one erected by his predecessor almost a century earlier in the same location. The nome list, which depicts the conquered Ptolemy VI and Cleopatra II leading the personifications of the conquered nomes to Isis asserts, but does not prove, Ptolemaic control of Upper Egypt and its resources. The conquered lands were donated to the temple of Isis at Philae, a location that would become an important venue for local elites who wished to claim oversight of the Eastern Desert and its resources in the following century.

A second revolt in 165 BCE spread from Alexandria to the Thebaid and was followed by a third in 130 BCE, which deeply affected agricultural production throughout Egypt and caused a major state crisis (Manning 2003b: 170-171; Vandorpe 2003). During the period after the first revolt and in the wake of these later uprisings, the administration of the Eastern Desert remained tied to the Thebaid, which was itself joined with the Triakontaschoinos, the reach of the Nile Valley between the First and Second Cataracts, into a single administrative entity. In fact, continuing with some regularity until the end of the Ptolemaic Period, there is a veritable flood of references to officials in the Thebaid, who either by direct statement or inference can be associated with the administration of the Eastern Desert and this new organizational unit (Gates 2005, 2006). Thus it seems that, on some level, the functioning of the desert roads continued, although how it differed from the previous period when Ptolemaic state control was ascendant is not at all apparent in the historical sources.

The archaeological evidence for this period presents a complex picture. From the mid-second century BCE, the number of sites in active use along the desert roads declines steadily, so that by the middle of the first century BCE, only a handful are still being visited (Gates 2005). This suggests a substantial downturn in the kinds of activity that resulted in the deposition of pottery at the desert stations during the third–second centuries BCE. A slight resurgence in the number of sites being used occurs during the last quarter of the first century BCE and seems to be associated with the early phases of the Roman occupation. The period after the revolt in 206–186 BCE seems to be a major

turning point in the administration of Upper Egypt. During this time, powerful local officials begin to assert a degree of regional authority, although their power is derived nominally through their relationship with the royal court in Alexandria, through the erection of inscriptions cataloging their responsibilities and titles. These attestations differ from the preceding documents in that they make a general claim to power through the official position of the strategos, whereas previous dedications, such as those made by generals in charge of the elephant hunts, were linked to a high-status but functionally limited position. Boethos is the first official whose name appears with some regularity in documents and inscriptions from the Thebaid; his name turns up once between 151–154 BCE as the founder of two cities and then eight times between 136 and 134 BCE (Heinen 2000; Mueller 2006). Interestingly, Boethos is the first local official to employ ‘*epistrategos*’ in his titlature (strategos and epistrategos of the Thebaid) and in all his inscriptions and documentary citations, except *Orientalis Graeci Inscriptiones Selectae I.III*. The development of this titlature and the change in administrative functionality has implications for the Eastern Desert and the Red Sea, even though Boethos never explicitly claims to be involved with either location.

The connections between the Desert and Thebaid were attested by earlier inscriptions, such as the Bir ‘Iayyan stele, which demonstrated the connection between the centers in the Nile Valley and the desert roads. That this link continues, at least nominally, is supported by a stele now in the Alexandria Museum that records the extraordinarily descriptive dedication of an official, Soterichos, who served under Boethos’s successor or contemporary sometime around 130 BCE.

Ἐπερ βασιλέως Πτολεμαίου κα[ι]
 Βασιλίσης Κλεοπάτρας τῆς γυναι[κός]
 θεῶν Εὐεργετῶν, καὶ τῶν τέκνων α[ὐτῶν]
 Σωτήριχος Ἰκαδίωνος Γορτύνιος τῶ[ν]
 ἀρχισωματοφυλάκων, ὁ ἀπεσταλ
 μένος ὑπὸ Παῶτος, τοῦ συγγενοῦς κα[ι]
 στρατηγοῦ τῆς Θηβαΐδος, ἐπὶ τὴν συναγ[ω]
 γὴν τῆς πολυτ[ε]λοῦς λιθείας καὶ ἐπὶ τῶν
 πλῶν καὶ παρεξόμενος τὴν ἀσφάλειαν το[ῖς]
 κατακομίζουσι ἀπὸ τοῦ κατὰ Κόπτον ὄρου[ς]
 τὰ λιβανωτικὰ φορτία καὶ τᾶλλα ξένια
 Πανὶ Εὐόδῳ καὶ τοῖς ἄλλοις θεοῖς

πᾶσι καὶ πάσαις, (ἔτους) μα, Θῶθ ἰ
 (*Orientis Graeci Inscriptiones Selectae 132*).¹²

This important document is our first direct reference since the mid-third century BCE to the administration of the Eastern Desert and it appears as a full-fledged catalogue of responsibilities. Present are references to mining, to the watching of maritime shipping, and to the existence of caravans bound for Coptos bearing incense and other “strange things.” These responsibilities are tied to the office of strategos. Although none of the inscriptions or documents from the Boethos corpus mention the Eastern Desert specifically, it seems unlikely that the responsibilities listed by Soterichos are cut from new cloth, especially given the infrastructure required for the activities that he oversees and the seemingly developed state of the caravan traffic.

Soterichos’s role in the Eastern Desert may either be a continuation of responsibilities that were administered by previous strategoi, epistrategoi or other officials for whom we have no record or, conversely, the extension of governmental oversight into a new arena. Both of these possibilities are plausible since very few inscriptions or papyri mention the Eastern Desert directly, although it is reasonable to suspect that an elaborate and continual administrative system would at least have produced documentation in the form of receipts or payments, or that officials would have been quick to proclaim such a position. Instead, it may be that the inscription of Soterichos, and those that follow making reference to the Indian and Erythraean Seas, may simply be claiming a supervisory role over trade and activities that operated independently and continuously without much governmental supervision or intervention. This scenario would explain how it is possible to have fully developed references to desert mining, caravans and trade that appear without precedent. The line of strategoi and epistrategoi, without the attendant mention of the Eastern Desert mines and caravans, continues after 130 BCE until the Roman Period.

¹² In English: “On behalf of Ptolemy and his consort Queen Cleopatra, the benevolent gods and for their children; Soterichos, son of Ikadio, the Gortyian, one of the high-guard of the army, and envoy for Paos, who is representative of the king and strategos of the Thebaid, responsible for the collecting of the precious stones, the watching of the shipping and the protecting of the caravans bearing incense and other strange things that come from the mountains bound for Coptos, [dedicates this stele] to Pan of the good road and to the other gods, the 41st year [of the reign] the 10th [of the month] of Thoth.”

The Probable Role of Nomadic Groups in the Ptolemaic Eastern Desert

This chapter has out of necessity focused primarily on the textual and documentary sources that illuminate, to some degree at least, the chronological variations of activities taking place in the Eastern Desert during the Ptolemaic Period. These sources are, however, emphatically, the records left of activities deemed important and culturally visible to ‘outsiders’ whose interest in the desert and its landscape was shaped by this perspective. There is little in this database, or indeed in the archaeological information thus far collected, to complement this picture by offering a view by ‘insiders,’ that is, the view from the desert rather than into the desert. The mention of other groups, nomadic tribes of ‘barbarians,’ is limited to a few asides and to the rare instance where they appear in the official records of temples in centers within the Nile Valley, such as Edfu. The only possibility, given the limitations of the evidence, is to consider an explanation that takes into account the role played by nomadic groups in the narrative revealed by these textual sources and the archaeological materials.

The archaeological evidence does support claims for a substantial increase in traffic at the same mining sites and the foundation of a number of additional sites along the two routes connecting Edfu to the coast at Marsa Nakari and Berenike during the early third century BCE. This increase in activity is usually associated with the Nubian campaigns of Ptolemy II Philadelphus. The increased number of sites, and the first documented existence of stations for travelers, suggests that activity in the desert was diverse. Traffic began to move to destinations other than the gold mining sites at Baramiya, Sukkari and Samut, although these mines saw continued activity. The roads functioned as a way of procuring the materials that the central administration needed, especially elephants and gold, but the archaeological remains, which span the entire third and second centuries BCE (not just Ptolemy II’s reign) remind us that this explanation collapses the entire motivation for the roads into a single impulse and overemphasizes the role of the Ptolemaic monarchs as a constant source of motivation and supervision for all activities in the Eastern Desert. The desert roads were in use at a time when the need for elephants was waning, after the Battle of Raphia in 216 BCE, and when the Ptolemies effectively lost control of Upper Egypt during the revolts of 206–186 BCE and 165 BCE.

Although the archaeological material does not allow further refinement of the chronology of use at these sites during the third and second centuries BCE, it seems reasonable to expect that such a drastic political change in this part of Egypt would have had a negative effect on the activities taking place in the Eastern Desert if the system were totally dependent on central supervision and logistical support. Instead, the archaeological data show evidence for late second century BCE activity at many desert locations (Gates 2005). Based on the dates assigned to morphological changes in the amphorae from Coptos (Lawall 2003), many desert sites appear to have evidence for a mid- to late-second century BCE phase. Whether this component represents a renewal, following a period of abandonment during the first revolt in Upper Egypt is unclear but, based on the continuity demonstrated by the archaeological evidence during Upper Egyptian rebellions in the following centuries, this seems unlikely and sites were probably in use continuously. In other words, rebellions in Upper Egypt, generally, seemed not to have affected the use of the desert stations, something that is quite surprising given how much they seem to have disrupted administrative functions in general (Manning 2003b).

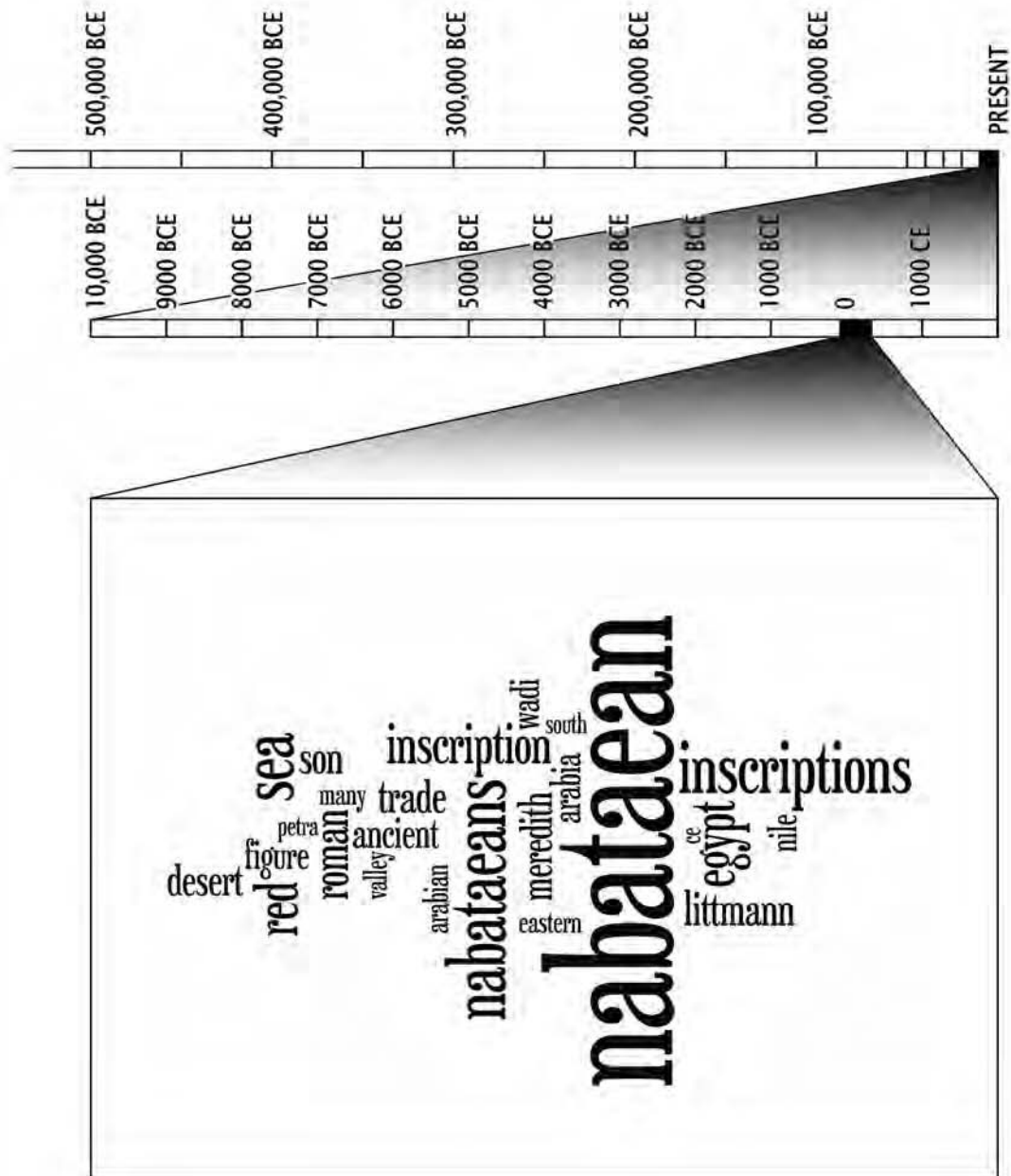
The desert stations and mines continued to be used in periods when the administration of the Ptolemies was cut off from the Thebaid and the normal functioning of the Ptolemaic state ceased entirely. In what capacity they operated is not clear. What is clear is that the desert roads were neither solely dependent on the Ptolemaic elephant trade for their existence nor on state oversight and support. Rather, they seem to have been sustained by other activities after the collapse of the elephant hunts. One possibility is the agency of local Upper Egyptian officials, who filled the void left by the state after the mid second century BCE. Boethos, Soterichos and others like them, claimed to control and supervise the commerce of the Eastern Desert, although to what degree they were actively doing so is hard to estimate. In any case, the mechanisms they employed are not likely to have included large-scale incorporation of the desert landscape into the Theban realm; rather, their claims of control and supervision are best read as rhetorical flourishes that might instead refer to arrangements made with other groups, probably nomadic inhabitants, who likely filled the void left in the Eastern Desert by the withdrawal of state interests.

The participation of this textually almost invisible cultural group or groups may be a factor in the shape that the Eastern Desert trade took during the Ptolemaic Period. The relatively small size of sites in the Eastern Desert, as well as the lack of fortifications and well-defined road tracks suggests that local Bedouin groups may have been involved in the transport of goods across the desert roads or, at the very least, that the establishment of a large, permanent, and defensive ‘Greek’ presence was unnecessary or impractical in the Ptolemaic Period (Gates 2006). The precedent for working with local groups, who had a detailed knowledge of the difficult desert environment, was well established and there is no reason to assume that this was not also the case in the Ptolemaic Period (Barnard 2009a, 2009b). In fact, one might consider the archaeological evidence for decline of desert traffic during the first century BCE as the result of a shift in the kinds of materials utilized by the individuals traveling through the region. At the same time epigraphic evidence attests to a succession of local thebarchs and epistrategoï who claim to oversee the “Indian and Erythrean Seas” (Bingen 1970). It is possible that the caravans which carried the goods from these regions across the Eastern Desert, which these officials claim to supervise, were populated by individuals whose material culture did not include the same large quantity of pottery, but a mix of pottery and the kinds of perishable containers that are known to be utilized by nomadic groups. This might explain a decline in the number and size of surface deposits. It is, of course, mere speculation, but given the nature of the evidence, it seems wise not to leap to conclusions about the intensity and character of Ptolemaic activity in the region outside the straightforward observations summarized in this chapter and elsewhere (Gates 2005; Sidebotham *et al.* 2008).

The archaeological material examined as part of the desert surveys does not offer material ‘proof’ of the involvement of Bedouin or Nubians in the desert mines or caravans during the Ptolemaic period, and we are no closer to understanding what the material profile of these groups might look like. While this is discouraging, this has much more, I believe, to do with the biases inherent in past research projects, which have focused on the collections of surface materials from sites with architectural components or those perceived to lie along pathways near such installations. As is now well-known, the material culture left by nomadic groups is unlikely

to be recovered by such an approach (Irons and Dyson-Hudson 1972; Bar-Yosef and Khazanov 1991; Cribb 1991; Rosen 1992; Khazanov 1994; Veth *et al.* 2005; Chatty 2006; Wendrich and Barnard 2008; Barnard 2009b, 2009a; Bintliff and Barnard, this volume). Future work in the desert should be designed in such a way as to maximize the recovery of more ephemeral sites and artifact types than have yet been documented

by archaeologists. For example, targeted intensive surveying, rather than the extensive surveying currently practiced in the Eastern Desert, might yield evidence for nomadic presence during the Ptolemaic Period. Until such a project is undertaken, our understanding of the Eastern Desert, despite the catalog of Ptolemaic textual sources, will remain frustratingly incomplete.



Time line and word cloud for Rageh Z. Mohamed, *Nabataeans in the Eastern Desert during the Roman Period*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 14



Nabataeans in the Eastern Desert during the Roman Period

RAGEH Z. MOHAMED

HISTORICAL TEXTS AND INSCRIPTIONS ON MANY cliffs along desert valleys leading to the ancient ports both on the eastern and western littoral of the Red Sea provide proof of Nabataean activities and commerce in the region between the 4th century BCE and the second century CE. The Nabataeans are believed to have originally been a group of pastoral nomads in the Arabian Desert, who banded together and took control of a large area. They are mentioned in the written sources since the 4th century BCE (Politis 2007: 26) and became increasingly engaged in long-distance trading. The Nabataeans were skilled in water management, storing this precious resource in rock-cut cisterns, or channeling the natural supply from its source to where it was needed (Glueck 1965). They established small colonies on the edges of the desert and in tent communities on the outskirts of many of the urban centers of Arabia, Mesopotamia, Egypt and the Levant. At times, the Nabataeans controlled parts of the Sinai Peninsula, including the turquoise mines long controlled by the Egyptian (Hitti 1951: 375). There was Nabataean commercial activity in Italy, in Puteoli and Ostia, and the Nabataeans engaged in the lucrative caravan trade with South Arabia (modern Yemen) and Sinai—traffic that continued after the Roman occupation of Egypt and later also of Petra itself (Sidebotham 1986: 93).

As the Nabataeans colonized regions in northern Arabia and the Middle East they established themselves as merchants and seamen. The Nabataeans were in a good

position geographically to set up an efficient trade system (Figure 14.1). Being centrally located, the Nabataeans were able to get commodities from the Mediterranean region and as far away as India and (Gogte 1999). Their capital Petra, the City of the Nabataeans, was at the crossroads of two major ancient routes, the incense route and the King's Highway between Egypt and Mesopotamia. It was thus in a perfect location to control the lucrative incense route from South Arabia to the Mediterranean region (Groom 1981: 126; Taylor 2001: 10). From a small fortified settlement, Petra developed into a wealthy city between the Assyrian, Egyptian, Greek and Roman Empires. Their control over the trade caravans formed the lifeblood of the Nabataean State. The inhabitants of Petra grew wealthy by imposing taxes on goods passing through their town, offering protection from marauding tribes in return. Archaeological evidence demonstrates that the Nabataeans lived predominantly in tents, and possibly in rock-cut caves, until the Augustan period when they started to build houses. Petra should be seen as a great camp site during the earlier periods. A royal court was established at Petra, and became known as the capital of the Nabataeans in the Greek world. Among the earliest evidence for it is an inscription from Priene. The city of Priene in Asia Minor sent an embassy to Petra around 130 BCE. Petra also seems to be mentioned in Chinese sources in 126 BCE (Politis 2007: 29-30). Once settled, the Nabataeans realized that trade required peace and security, so they adopted a policy of avoiding confrontation with their neighbors



Figure 14.1. Map of the southwestern Levant, showing the Nabataean heartland (first century BCE–first century CE). Adapted from McKenzie 2005; drawing by H. Barnard.

wherever possible (Glueck 1970; El Gowhary 1972). Nabataean ships sailed the Red Sea from a very early period onward, transporting incense from South Arabia, East Africa and India. The best frankincense (resin from *Boswellia sacra*) still comes from Dhofar, on the present-day border between Yemen and Oman. In the past, trade routes along the Arabian shore as well as over the sea connected Southern Arabia with the northern Red Sea littoral and the Mediterranean region (Charlesworth 1924: 59). Later, the Nabataeans became traders in many exotic goods all over the ancient world.

Nabataean Maritime Routes on the Red Sea

The historical sources and archaeological evidence reveal precious little about the geographic origin and organization of those engaged in the ancient Red Sea trade. The evidence on Nabataean, Palmyrene, South Arabian and Indian traders is similarly sketchy and mostly concerns sites in Egypt. The Nabataean apparently had a far greater maritime capability than is generally known and “the Nabataeans ventured far overseas and over distant lands in their mercantile undertakings, and were much influenced in their course by the phenomenon of dolphins and of the extremely

important even though subsidiary dolphin attribute of some gods and goddesses” (Glueck 1970: 177). Merchandise from the Orient and from Southern Arabia passed through their hands, bringing great revenues and making them the envy of the Greeks and other contemporary peoples (Groom 1981: 30). In addition to their own ports at Aila (modern Aqaba) and Leuce Come (on Arabian Red Sea coast), the Nabataeans were welcome in many ports and cities, after diplomatic efforts or military force. The Nabataean seafarers were frequent visitors in Alexandria (Egypt), Miletus (Asia Minor), Puteoli (near modern Naples) and perhaps also Rhodes. The oldest reference for Petra is probably an inscription from Miletus from the middle of the third century BCE (Politis 2007: 29), Wherever they ventured they created Nabataean settlements, for instance Selah, just outside the Edomite capital of Busheira (south of the Dead Sea); Medina Saleh, 12 km from Dedan (modern al-Ula, north of Medina); Jenysos, a few kilometers south of the ancient port city of Gaza; and Bostra, near Damascus. They also developed settlements along the overland caravan routes between Aila, Gaza and Damascus (Negev 1966; Isaac 1979). Unnamed Arab tribes also founded settlements in India, Sri Lanka and even China (Doe 1971; Raschke 1978). For centuries, incense moved from Southern Arabia to the temples of Europe via the overland Incense Route. During the last century BCE, the Himyarite people in South Arabia began to secretly export incense from an island off their coast onto Nabataean ships that would carry their cargo across the Red Sea to Egyptian ports.

In 25 BCE the Himyarites overthrew the other south Arabian kingdoms. From that time, the maritime incense trade flourished (Von Wissmann 1964). An ancient shipping manual, the *Periplus of the Erythrean Sea*, written by an unknown author in the first century CE, mentions Cane, Aden and Muza as the principal ports in Southern Arabia for the export of incense, and Berenike, Philoteras, Myos Hormos, Leuce Come and Aila as the principal ports of import into Egypt. From there, the incense was transported overland to Gaza or Alexandria (Miller 1969). The Nabataeans moved trade from Southern Arabia to Leuce Come by boat, and then farther overland to Alexandria. The merchants also brought Indian and Asian goods to the ports on the Egyptian Red Sea coast. The commerce between Egypt and India could increase to great extents because of diligent Roman administration between 30 and 395

CE. In earlier times, only few vessels would have dared to traverse the Red Sea towards and beyond the Bab al-Mandab (the strait between the Arabian Peninsula and the Horn of Africa connecting the Red Sea with the Indian Ocean). In Roman times, on the other hand, large fleets were dispatched from Egypt to Southern Arabia, Ethiopia and as far as India, from where valuable cargo was brought back to Egypt and sent forth into the Mediterranean region (Jones 1932: 13). The ancient geographer Strabo himself witnessed the wealth of Alexandria only five years after the Roman conquest and observed the active trade that went through its harbors:

Among the happy advantages of the city, the greatest is the fact that this is the only place in all Egypt which is by nature well situated with reference to both things, both to commerce by sea, on account of the good harbors, and to commerce by land, because the river easily conveys and brings together everything into a place so situated, the greatest emporium in the inhabited world (Jones 1932: 13).

Soon after the annexation of Egypt by the Roman Empire, in 23 BCE, Emperor Augustus commissioned prefect Aelius Gallus to invade Southern Arabia by land (Jones 1930: 23-24). This caused considerable damage to the South Arabian Kingdom of the Sabaeans and allowed the Himyarites to take control of most of Southern Arabia. Some authors mention another campaign by Augustus around 1 CE, this time by sea, which resulted in “sacking Eudaemon Arabia (Aden)” and reducing that settlement to “a mere village after having been a fully fledged city” (Casson 1989: 26). The total harvest of frankincense is said to have been 3000 metric tons and as many vessels would have been necessary to transport the entire harvest across the Red Sea (Jones 1932: 13). Other commodities included cardamom, cotton, dates, diamonds, indigo, ivory, myrrh (from *Commiphora* sp.), pepper, sapphires and wine (Casson 1989; Wendrich *et al.* 2006). In Roman times, dromedary caravans through the deserts of the Arabian Peninsula had apparently become a thing of the past (Jones 1930: 23-24). While many ancient ports are known on the Arabian coast, only Cane, Mocha and Leuce Come are mentioned in the ancient sources as handling Asian goods (Casson 1989: 26). Once the Nabataean state was incorporated into the Roman Empire, many Nabataean merchants relocated to Mocha to continue their trade with Asia from there (Bowersock 1983: 26).

The identification of Quseir al-Qadim as ancient Myos Hormos is now generally accepted, correcting the



Figure 14.2. Nabataean potsherd with Nabataean inscription, excavated at Quseir al-Qadim.

previous assumption that this port was located at Abu Sha‘ar, north of Hurghada (Whitcomb and Johnson 1979; Sidebotham *et al.* 1989; Sidebotham 1994a; Peacock and Blue 2006). Myos Hormos was a hub for trade during the Ptolemaic and Roman periods and was engaged in trade with Asia. It was one of the great emporia of the ancient world and the remains of hundreds of amphorae and other ceramic vessels were found here, among which Nabataean pottery (Figure 14.2). As the Nabataeans were known to prey on Red Sea shipping, it was desirable to have a safe port as far to the south as possible. From Berenike (23°N 54' 37.1" / 35°E 28' 25.1"), there were overland routes through the Eastern Desert to the Nile Valley. Along these routes was a string of *hydreumata* that provided the caravans with water, shelter and protection (Bell *et al.* 1984; Sidebotham and Zitterkopf 1989; Zitterkopf and Sidebotham 1989; Sidebotham 2002).¹ When the Nabataeans began to export incense

¹ A *hydreuma* (plural *hydreumata*) is an enclosed, often fortified and usually permanently manned ‘watering station’ of Graeco-Roman date, providing a man-made oasis along a caravan route.

via the maritime route on the Red Sea, Berenike revived into a large emporium (Sidebotham and Wendrich 1996a, 1996b, 1998, 1999, 2000, 2001; Wendrich *et al.* 2006; Sidebotham and Wendrich 2007).

Nabataeans in Egypt

At least 84 Nabataean inscriptions have been founded in Egypt, mostly in the valleys between the Red Sea and the Nile Valley, along the ancient routes through the desert connecting mines, quarries and harbors with the Nile Valley (Figure 14.3). Although many Nabataean inscriptions have been found, usually marking the passage of a shepherd or invoking a god, not only the Eastern Desert and in Petra but throughout the Nabataean state, so far no archives have been discovered, leaving the Nabataeans somewhat of an enigma to scholars. What is known is that they spoke a Semitic language and that their culture probably originated in the north of the Arabian Peninsula (Littmann 1914). It might be that the Nabataeans lived on Arabian Peninsula, or southern Jordan, and were therefore chosen by the Minaeans or the Persians to become their middlemen and because of this rose to influence and power in the area. Egypt was likely the most important trading partner of the Nabataeans. (Politis 2007: 26). There was a Nabataean settlement in Wadi Tumilat, east of the Nile Delta; Nabataean ships crossed the Red Sea to transport goods to and from the harbors on the Egyptian Red Sea coast; and Egyptian religious elements have identified in the Nabataean pantheon (Littmann and Meredith 1953, 1954). The graffiti and inscriptions indicate that the Nabataeans were active in the Eastern Desert in Roman times, and perhaps also earlier (Taylor 2001). Few inscriptions in Egypt, however, reveal occupations or dates and none can be securely dated. Based on comparing letter forms with a dated inscription in Petra, the earliest Nabataean inscription in Egypt is believed to date around 48–30 BCE. On similar paleographic grounds, most of the Nabataean inscriptions in the Eastern Desert appear to have been written after 110 CE, the latest bearing the date 266 CE (Littmann and Meredith 1953).

In the Nabataean inscriptions in Egypt, only four occupations are mentioned: dromedary driver, plasterer, priest and repair man of clothes or shoes. The mentioning of Nabataean dromedary drivers suggests their involvement in transporting goods between the Nile Valley and the settlements in the Eastern Desert,

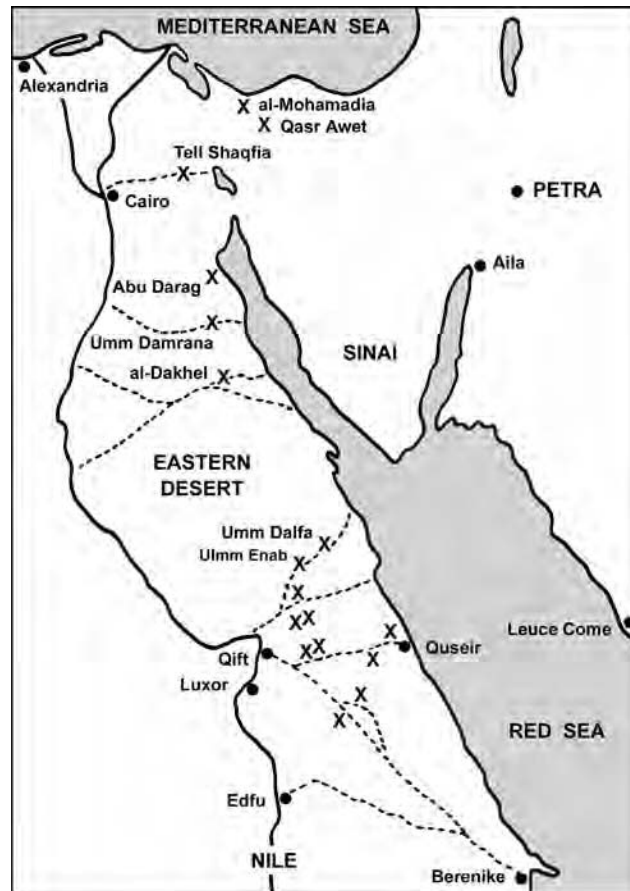


Figure 14.3. Map of the northern Eastern Desert, showing the location of Nabataean inscriptions, mostly found along ancient trade routes. Adapted from Littmann and Meredith 1953; drawing by H. Barnard. X = Nabataean inscription. A detailed map of the Central Eastern Desert is shown in Figure 14.6.

associated with mines and quarries, and to the harbors on the Red Sea coast. Perhaps the entrepreneurs trading between the Nile Valley and the Red Sea littoral employed Nabataean dromedary drivers because of their extensive desert experience in the Arabian Peninsula. These graffiti shed no light on the existence of Nabataean guilds or firms. The appearance of a priest, a plasterer and a repair man of clothes or shoes suggests that there were one or more communities in Egypt serving as a base for the Nabataean dromedary drivers. Although there is no archaeological evidence, it seems that the Nabataeans, like the Palmyrenes, probably resided in separate quarters of the major emporia in the Nile Valley, such as Coptos (Qift), Antioe and perhaps Denderah, from which most of the long-distance trade was organized. There is no evidence that wealthy Nabataean entrepreneurs participated in organizing and financing the Red Sea trade, but rather that they worked

for non-Nabataean employers (Sidebotham 1986; Hobbs 2002). It seems that the Nabataeans imported their cult of al-Kutba, a scribal god who can be equated with the Egyptian god Thoth,² to Tell Shaqfia and the northern Sinai. The western temple at Qasrawet, in the Sinai, dates to the first century BCE and is typically Egyptian, in both its ground plan and architectural elements. Yet an altar base found in this temple is inscribed with a Nabataean dedication and the plan of the sanctuary has parallels with the temples of the Winged Lion at Petra.

Nabataean Inscriptions from the Late Ptolemaic Period

One of the more important early Nabataean inscriptions is in Tell al-Shaqfia, west of Ismailia at the edge of the Nile Delta, on the ancient canal through Wadi Tumilat (Clermont-Ganneau 1919; Littmann and Meredith 1954; Strugnell 1959). The site is about 3 km from the village Tell al-Kebir and gets its name from the carpet of Graeco-Roman pottery sherds (شقف, *shaqaf* means potsherds). The oldest Nabataean inscriptions here date from the time of Queen Cleopatra VII (51–30 BCE). One mentions a Nabataean called Wahb'allahi who erected a shrine to the great god Dushara. According to the dedicatory inscription (now in the Zagazig Museum, Egypt), this took place in the “year 18 of Queen Cleopatra [VII], which is year 26 of Malichus [I], King of the Nabataeans . . . in the month of Nissan,” which can be interpreted as April 34 BCE. Dushares was also known as the Lord of the Shara Mountains, which form the edge of Wadi Arabah near Petra. Dushares was a principal god of the Nabataeans and seems to have been a god of the daytime.³ Another inscription dates about 10 years earlier and dedicates a temple to al-Kutba, the Nabataean god of writing and commerce. It also refers to Wytw, which is identified as present-day Qasr Awet in the northern Sinai, where a temple to this Nabataean god has been excavated (Taylor 2001). Another inscription on limestone block (47 × 61 × 70 cm) is from the wall of a large building, possibly a temple. The inscription is worn and its perimeter lost (Figure 14.4).

This transcription reads: (1) For Ellat the God of Haqem, (2) son of Yarhibo. And he wrote a contract of

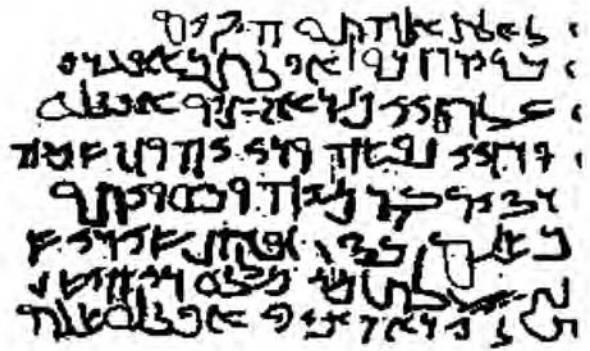


Figure 14.4. Nabataean inscription from Tell Shaqfia in Wadi Tumilat (3 km southeast of Tell al-Kebir at Ismailia). Adapted from Clermont-Ganneau 1924.

lease, (3) for the life of master Fusaiyu or [Rudaiyu] the priest, (4) and for the life of himself and of him whose name shall be, (5) mentioned before him and at. . . (6) It was completed on the 21st of [the month of] Pashonsi of the, (7) year 4 of Ptolemy the king which is [the year], (8) the year of master [Fusai]yu or [Rudai]yu the pri[est.] Hail! (Littmann and Meredith 1954). Nine miles east of Pelusium, on the northeastern edge of the Nile Delta west of Lake Serbonis (Lake Bardawil), an inscribed basalt slab (24 × 64 m) was discovered with the inscription “Huwairu, son of Garmalla(?) for. . .” (Littmann and Meredith 1954). Another inscription on a fragment of a column associated with an altar in a sanctuary (now in the Ismailia Museum, Egypt), was found 50 km (30 mi) east of al-Qantara in the eastern Nile Delta. The text reads: “Huwairn, son of Garmalla, son of Zuy[ainat]” (Littmann and Meredith 1954).

Nabataean Inscriptions from the Roman Period

The Nabataean State continued to flourish throughout the first century CE as allies of the Romans. Their power extended far into the Arabian Peninsula along the Red Sea to Yemen. Petra remained a cosmopolitan emporium. In 106 CE, the legate of Emperor Trajan in Syria, Cornelius Palma, moved against Petra and defeated the Nabataeans, adding Petra to the Roman province Arabia. The Nabataeans, however, continued to work cooperatively with the Romans on trade and the military (Glueck 1965; Bowersock 1983). Many short rock inscriptions in the Central Eastern Desert (Figure 14.5; Lankester, this volume), for instance in al-Hamra, Bir Nakheel, Bir Umm Dalfa, Bir Umm

² The name of al-Kutba is related to the Arabic root كَتَبَ, *kataba*, to write (Strugnell 1959; Taylor 2001).

³ Shaj al-Qaum, on the other hand, was the god of the nighttime, protecting the souls of sleepers and accompanying them on their nightly journey through the heavenly realms.

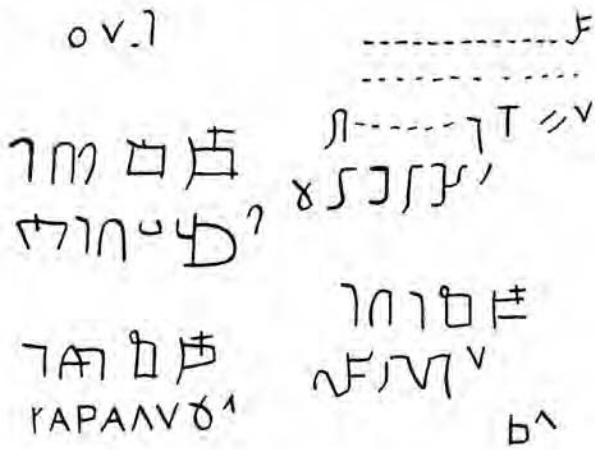


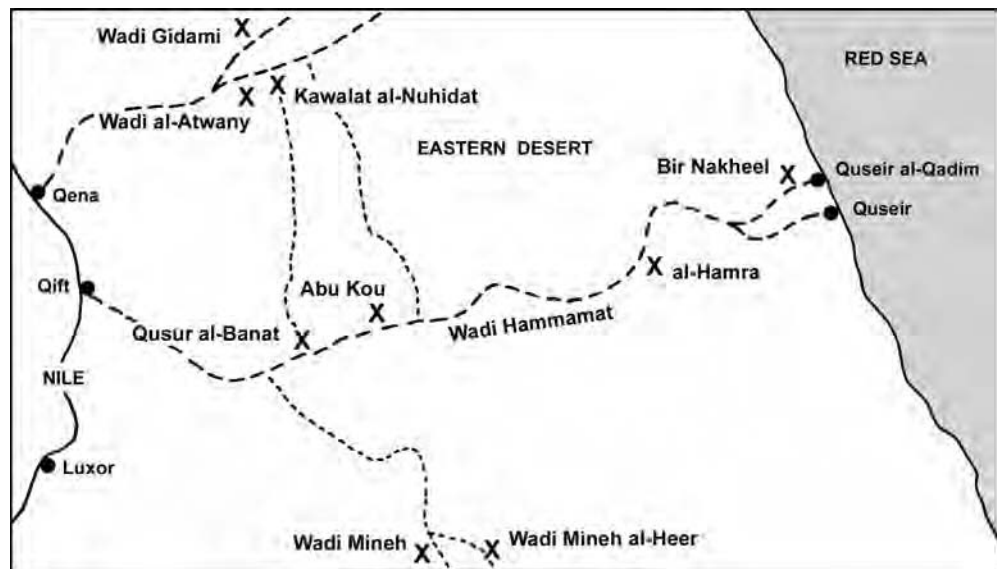
Figure 14.5. Nabataean inscription in Bir Umm Dummerana. Adapted from Littman and Meredith 1953.

Dummerana (Figure 14.6), Bir Umm Enab, Kawalat al-Nuhidat, Qusur al-Banat, Wadi Gidami, Wadi al-Atwany, Wadi Hammamat and Wadi Mineh, are testimony of the Nabataean presence in the area also in Roman times. Most of the Nabataean inscriptions in the Eastern Desert date between the second half of the first century BCE and 266 CE. These graffiti seem hastily scratched on the rocks on the sides of the valleys in the desert. The Nabataean inscriptions in Qusur el-Banat, Wadi Hammamat and al-Hamra are on the main route between the Nile Valley and Red Sea coast, and are found in association with hydremata (the inscriptions in al-Hamra are actually on one of the doorposts of the way-station). Many of the inscriptions include the

word for dromedary driver and it seems likely that the caravans whose members scratched these Nabataean inscriptions were the ancient traders who arrived at Myos Hormos and followed Wadi Hammamat to reach the Nile Valley at Qift. Maybe the Arabs living in Qift in the Roman period returned with the Roman expedition into Southern Arabia in 25–24 BCE, but they may also have been Nabataeans.

Nabataean inscriptions are likely to occur on the roads between the Nile Valley and the Red Sea, garrisoned by the Romans; the converse may be equally true, where Nabataean inscriptions occur it is likely that a Roman road, hitherto unknown, existed. This seemed to be the case at Bir Umm Dalfa where two small Nabataean fragments were noted (Murray 1925: 149). One reads “Shimraku, son of Fihru (or Fakhru), Shimraku, Garam (or Garm).” These are Nabataean names and it is noteworthy that Garma, a common name among Nabataeans, is written with Greek letters (Littmann and Meredith 1953: 8). It is probable that a Roman road existed from Mons Claudianus to Myos Hormos past the two water points at Umm Anab and Umm Dalfa. Another Nabataean inscription in Bir Umm Dalfa reads, “Hail! Du()aibu, son of Hanthalu. Hail! Hanthalu, son of Shubruma(t). Hail! Zabnu, son of Abdu. Hail! Zabnu, son of (Ha)ntha(u). Shimraku. Ga(m)ilu” (Figure 14.7). A Nabataean inscription in Bir Umm Enab reads, “Hail! Amalu (or Ammanu), son of Abd-Ehyu. Hail! Kaiyamu, son of Audu” (Figure 14.8, Littmann and Meredith 1953). In the valleys between Wadi Gidami and Wadi Hammamat more Nabataean inscriptions were found.

Figure 14.6. Map of the Central Eastern Desert, showing the location of Nabataean graffiti dating to the Roman Period. X = Nabataean inscription. Adapted from Sayed 1999; drawing by H. Barnard.



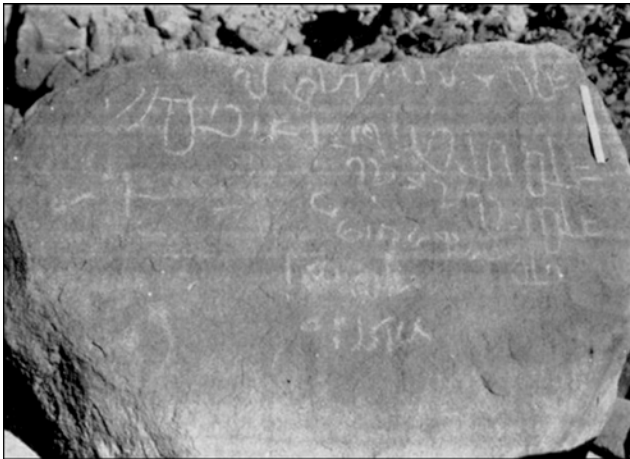


Figure 14.7. Nabataean inscription in Bir Umm Dalfa. Adapted from Littman and Meredith 1953.



Figure 14.8. Nabataean inscription in Bir Umm Enab. Adapted from Littman and Meredith 1953.

One of these reads, “Wahb Elas, son of Ressu, son of Ausu. Hail!” (Littmann and Meredith 1954). Here the author wrote his name, Wahb Elas, in Greek letters and the names of his ancestors in Nabataean characters. Another inscription, in Wadi Hammamat, mentions Faltael, son of Auamu. His profession is said to have been a repair man for clothes or shoes (Littmann and Meredith 1954).

Wadi Hammamat (Between Qift and Quseir)

Wadi Hammamat, between Qift and Quseir (Figure 14.6), is mostly known as the source of the ancient ‘bekhen’ stone (greywacke, Harrell and Brown 1992), and its many Pharaonic inscriptions (Espinell, this volume; Lankester, this volume). The valley forms a natural road across the desert and was used for long-distance trade among Egypt, the Arabian Peninsula, Africa south of the Sahara and Asia throughout history (Rohl 1995; Taylor 2001). In the Graeco-Roman Period, *hydreumata* and

watch towers were constructed at regular intervals along the route between the Nile Valley and the Red Sea coast (Sidebotham and Zitterkopf 1989), making the road so popular that by the time of the Roman occupation of Egypt, the residents of Qift (Coptos) were more Arab than Egyptian. Many of the inscriptions are dedications to Egyptian deities, especially Amon-Min-Pan (Espinell, this volume), and were made by travelers along the road or the *Sementyou*, the engineers and artisans who quarried the *bekhen* stone to be used in sculptures and monuments in the Nile Valley. During the Roman Period, many Nabataean inscriptions were carved in the area.

An inscription in Qusur al-Banat reads: “Hail! Rabbil, son of Shamrahu, son of Zubaidu” (Littmann and Meredith 1953). Another in Abu Kou, east of Qusur al-Banat and an area where several Nabataean inscriptions were found, reads: “Zynubs.” This Greek name was written in Nabataean characters. At al-Hamra two short Nabataean inscriptions were found associated with the Roman *hydreuma* at that site. These read, “Hail! Germa,” and “Hail! Maleh” (Littmann and Meredith 1953). In Bir Nakheel, 16 km west of Quseir, a Nabataean inscription was discovered, which reads, “Hail! Ausu, son of Auselahy.” Farther south, on the route between Qift and Berenike (Figure 14.3), is a large and heavily inscribed rock shelter with mostly Graeco-Roman inscriptions, but also three Nabataean graffiti. One reads, “Be remembered Mubarak[u]. Good luck!” (Littmann and Meredith 1954). A second inscription in Wadi Manih, gives the occupation of the author: “Garmu, son of Hana’at, son of Kahlan, the plasterer, be remembered. Good luck!” (Littmann and Meredith 1954: 224). Paleographically this inscription dates to the reign of Emperor Augustus (30 BCE–14 CE). Other evidence from this period is found on a stele in Qift, where the building and restoration by Emperor Augustus of some *hydreumata* in the region are mentioned (Littmann and Meredith 1954: 239).

This [inscription number 75] is one of the best preserved and most clearly copied Nabataean inscription of Egypt in this collection. The letters have forms that may date from the 1st century A.D. or even B.C. (Littmann and Meredith 1954: 224).

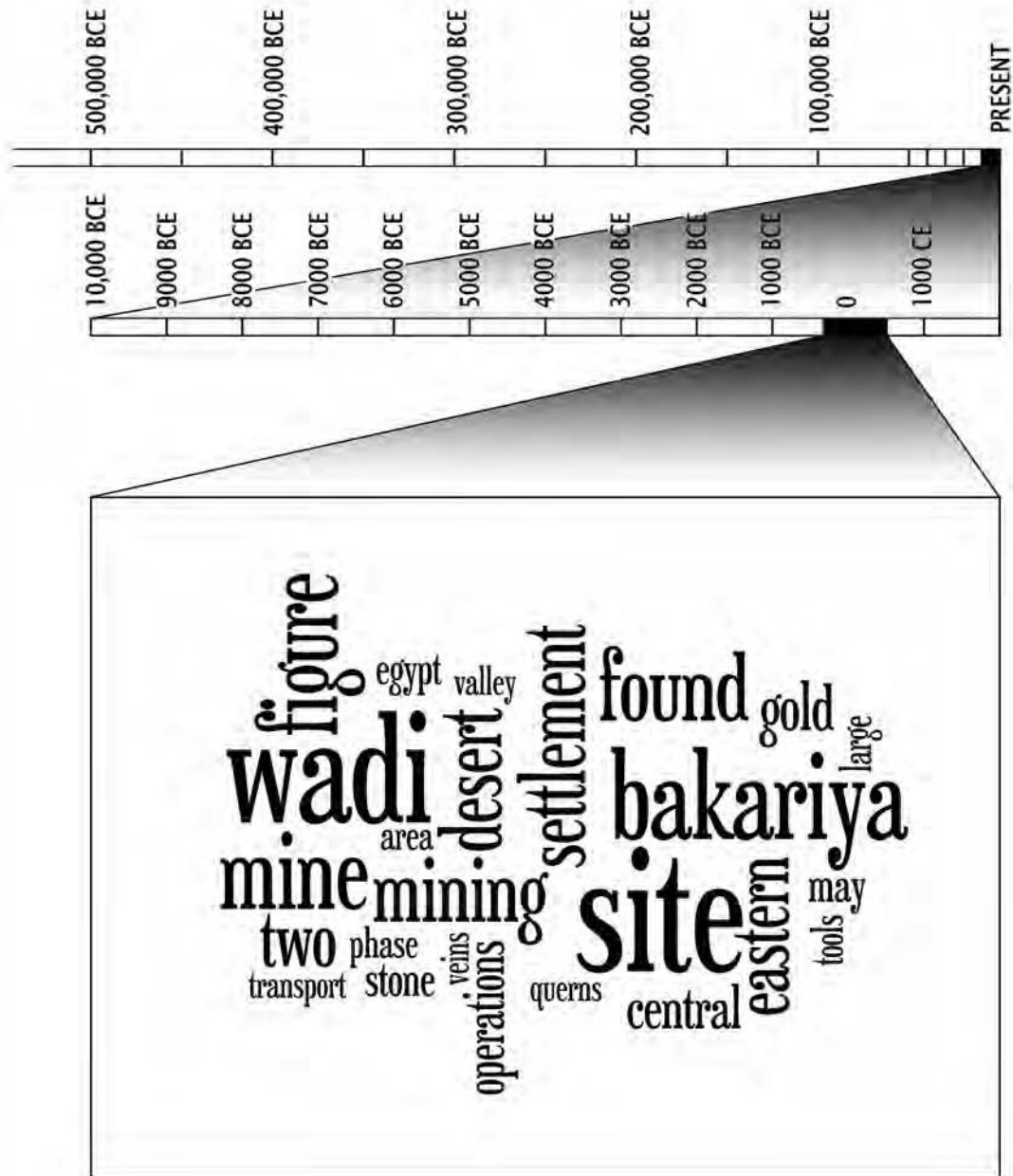
Near the Roman *hydreuma* Afrodito in Wadi Mineh al-Heer, four Nabataean inscriptions were discovered among Classical and other inscriptions. One of these reads, “Malilu, son of Julios,” mentioning Nabataean and a Greek name, respectively. Both are written

in Nabataean characters. These inscriptions are the southernmost Nabataean inscriptions in Egypt found to date.

Discussion

The Nabataeans left us with few written records and magnificent ruins, such as Petra, Hejra, Elusa, Bostra and others. Remains of Nabataean temples are preserved in Italy, Turkey, Egypt and the Arabian Peninsula. The Nabataeans were an Arab people with the ability, the infrastructure and the connections necessary to conduct maritime trade with India and profit handsomely from this trade. Their architecture, religious practices and symbolism as well as their language preserve evidence of contact with India while their names have been recorded in ancient Chinese history. Ancient authors tell us that

Arab traders brought the goods from Asia to Egypt, but they fail to inform us which Arab traders. While there may have been a number of different types of Arab traders working at the same time, it is evident from the wealthy and culturally rich Nabataean ruins, that the Nabataeans must have been principal players in the trade on the Red Sea and the Indian Ocean. The Nabataeans had ports on the Red Sea, like Aila and Leuco Come, and apparently used all harbors on the Egyptian Red Sea coast, as is evident from the inscriptions found in the Eastern Desert. It is clear the Nabataeans were of Arab extraction, lived in this area in the Graeco-Roman Period, and were involved in the transport of valuable goods between the Red Sea and the Nile Valley. Others stayed in the hydremata in the desert, working in craft jobs.



Time line and word cloud for Barbara J.M. Tratsaert, *Roman Gold Mining in the Eastern Desert: The Mining Settlement in Wadi Bakariya*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 15



Roman Gold Mining in the Eastern Desert: The Mining Settlement in Wadi Bakariya

BARBARA J. M. TRATSAERT

WADI BAKARIYA IS LOCATED IN THE CENTRAL part of the Egyptian Eastern Desert, just north of the modern asphalt road between Edfu and Marsa Alam (Figure 15.1, Hume 1934, 1965). That this valley is one of the natural routes through the Red Sea Mountains since prehistory is evident by the many rock drawings in the region, although many of these have recently been destroyed during the extension of the modern highway. Which ancient route served the Roman gold mining settlement in the valley is still under investigation. There are two possibilities, the Berenike-Coptos route, through Wadi Daghbag, and the Marsa Alam-Edfu route, which is accessible via Wadi Miya. The settlement has previously been divided into two sites with several phases of occupation: Bokari I, intermittently active during the Old and Middle Kingdoms (2757–1640 BCE), the Graeco-Roman Period (332 BCE–395 CE) and the beginning of the Islamic Period; and Bokari II with remains dating to the New Kingdom (1539–1075 BCE, Gundlach 1977a, 1977b; Egyptian Geological Survey and Mining Authority 1979; Klemm and Klemm 1994; Sidebotham and Zitterkopf 1996; Klemm *et al.* 2001; Klemm *et al.* 2002). The author has not yet found any indications that the site was indeed re-opened in the early Islamic Period, and evidence of mining activity during the Old and Middle Kingdoms requires further study of the pottery on site. The exact location of Bokari II is not clear, except that it is about a kilometer north of Bokari I. The ancient remains in Wadi Bakariya cover an area of approximately 6 km² in seven parallel valleys and smaller interconnecting side valleys.

The mining settlement is organized in six areas that were designated for industrial, administrative, domestic and possibly religious use (Figure 15.2). These areas, covering approximately 75% of the surface of the site, include the administrative center of the operations (Site 1), the actual mine (Site 2), a well, a shrine, two isolated mining shafts and a potential transport zone formally identified as ‘Lone Rock.’ The remaining 25% of the site comprised residential quarters. A grano-diorite stone quarry, dated to the Late Ptolemaic or Early Roman Period, is located almost immediately opposite the entrance to the center of the gold mine. This quarry has 18 individual workings with several carved pedestals, which appear to have been the main product, still *in situ* (Harrell *et al.* 2006; Harrell 2009). Its association with the gold mine has not yet been explained and it is possible that they are at least partially contemporary. The ‘life of a mine,’ as defined in modern literature (Hartman 1987: 6–11), consists of four phases: the prospecting phase, during which a search for ore is preformed in a large (predefined) area; the exploration phase, during which the extent and economic value of the found mineral deposits are evaluated; the development phase, during which the necessary infrastructure is constructed; and the extraction phase, during which the ore is mined and processed. These phases will be used here to explain the organization of the ancient gold mine in Wadi Bakariya.¹

¹ Bir Umm Fawakhir in the Central Eastern Desert has a similar organization (Meyer 1995a; Meyer 1995b; Meyer and Heidorn 1998).

Figure 15.1. Location of the gold mining settlement in Wadi Bakariya in the Central Eastern Desert (Egypt) between Marsa Alam, on the Red Sea coast, and Edfu, in the Nile Valley.

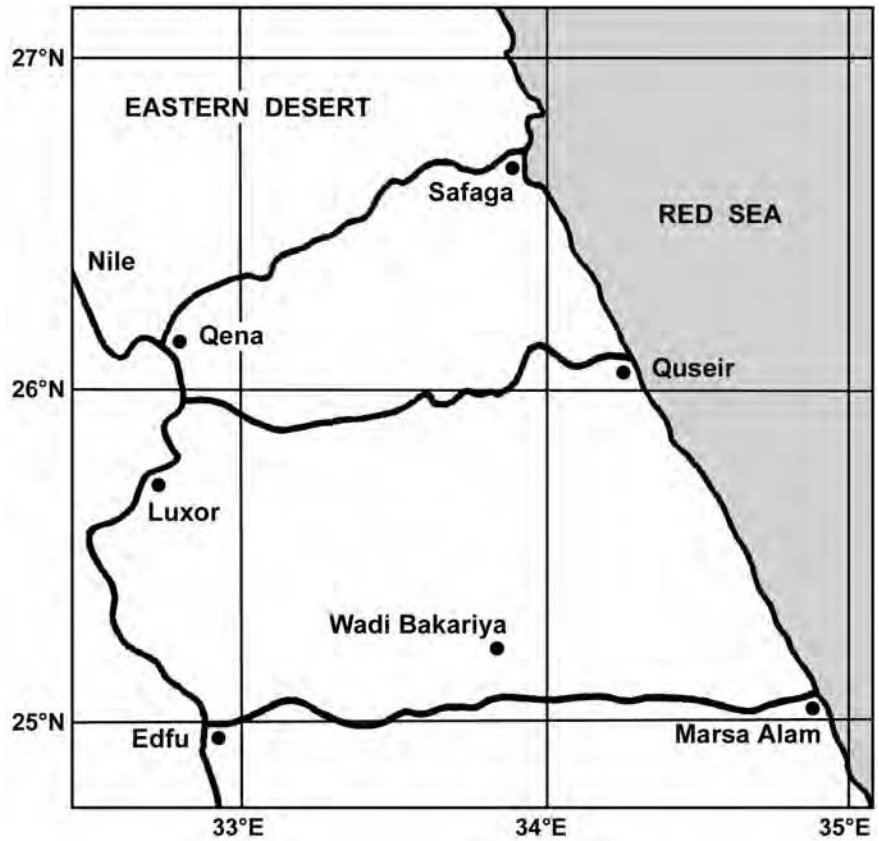
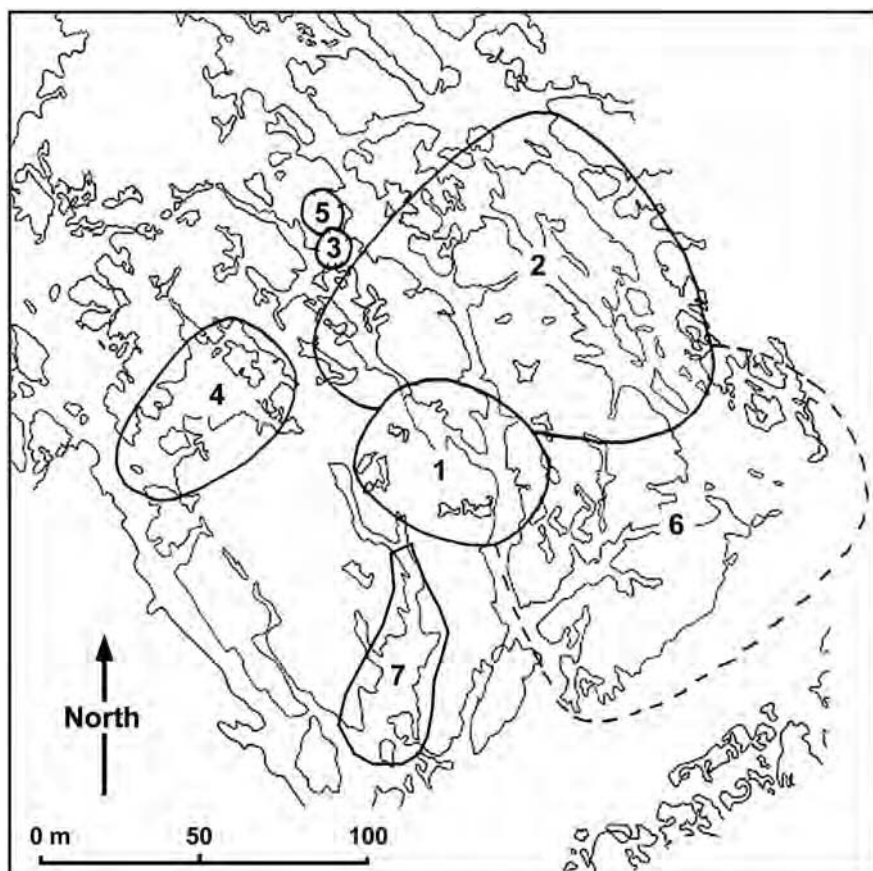


Figure 15.2. The seven areas of the Roman gold mining operation in Wadi Bakariya, in the Central Eastern Desert (Egypt). 1 = Site 1; 2 = Site 2; 3 = well; 4 = the transport zone (Lone Rock); 5 = shrine; 6 = residential area; 7 = Wadi with the Two Shafts.



The Prospecting and Exploration Phases

Not much is known about the prospecting techniques in the Egyptian Eastern Desert during the Roman Period, although it can be assumed that the techniques were similar to those used in Ptolemaic and Pharaonic times. Agatharchides of Cnidus—quoted by Diodorus Siculus in the first century BCE, by Pliny the Elder in the first century CE (albeit indirectly), and by Photius in the 9th century CE—describes how gold can be prospected:

For the earth is naturally black and contains seams and veins of a marble which is unusually white and in brilliancy surpasses everything else which shines brightly by its nature . . . The entire operations are in charge of a skilled worker who distinguishes the stone and points it out to the labourers (Diodorus 3.12, Oldfather 1935; Photius 59-61, Burnstein 1989).

Pliny describes three ways to obtain gold: searching the ‘detritus’ of rivers (sieving alluvial deposits), searching and washing pockets of sand (*segullum*) near outcropping veins; and sinking shafts, constructing subsurface galleries (*arrugiae*) (Pliny 33.67-78, Jones 1970; Rackham 2003). Roman prospectors may also have visited abandoned mines and quarries to evaluate the economic value of the remaining deposits or tailings left by its previous occupiers. This may have happened at Wadi Bakariya, where there may have been much older mining activities, but more research is needed to support this hypothesis. Gold in Wadi Bakariya occurs in primary deposits, where gold-bearing quartz veins intrude the host rock. Most are outcropping veins, running along the surface for substantial distances; in only two places does the vein dip underground (Hume 1937: 735). Three distinctive types of rock were identified in Wadi Bakariya: a biotite, biotite-hornblende, granite-granodiorite group, intruded by the auriferous veins; a coarse-grained biotite, granite group; and gabbrodiorites. A few diorite dykes run through the site in an east–westerly direction (Saleed *et al.* 1983). The distinction between the different rocks is obvious and the mining operations obviously observe these perimeters. There are no signs of secondary deposits that are usually found at the foot of a mountain or in river sediments downstream from an outcropping vein.

The Development Phase

Once the extent of the potential mine at Wadi Bakariya was defined, a temporary settlement would have been constructed. The current layout, however, represents

the final phase of the mine, with at least two phases identified during the survey of the site in 2002 (Tratsaert 2004). During phase 1, mining activities were concentrated at Site 1, the well, the two mining shafts and the transport zone; while in phase 2 an expansion of the mine (Site 2) to the north and the east took place and the existing residential sector was constructed (southeast corner). The activities associated with the well and the transport zone appear to have been continuous throughout the life of the mine; the shrine is harder to date due to the lack of surface pottery available for dating purposes. The areas active during phase 1 are all in close proximity, while during phase 2 activities seem to have been more scattered within the ‘new’ perimeters of the site. The settlement was centrally planned, with areas designated for industrial and residential use, while the mine seems to have expanded slowly, crossing the original boundaries of the site. There are six clearly defined areas, each with a specified function.

Site 1 is where the mining operations started and where eventually the administration of the settlement was located. The structures here have multiple rooms and are clearly built for longevity. The site lies in a small valley that is completely built up. Examples of identifiable administration-related buildings are a gate, warehouse and *skopelos* (Figure 15.3).² The gate is an impressive structure between sites 1 and 2. It is made of two mirror-image one-room buildings, located in the narrowest section of the valley and indicated by small cairns on nearby hilltops.³ The *skopelos* on the highest top overlooking the settlement has a view of the entire mine and must also have been used as a landmark by travelers. This section was identified as the locale exhibiting the earliest activity on the site, which is corroborated by several subphases that can be discerned in the architecture as well as many saddle and rotary querns and working platforms, indicating that the mined ore was processed here. In the later expansion, it is obvious that the ore was excavated but not processed *in situ*.

Site 2 is the extension of the mine and comprises an estimated 75% of the site. Due to its large size, it is

² A *skopelos* (plural *skopeloi*) is often a simple round or square watchtower, usually located on a hilltop, guarding roads and settlements throughout the Graeco-Roman world.

³ A cairn is an often conical human-made pile of stone which usually functions as a landmark indicating routes, graves or events such as battles, accidents or reaching the summit of a mountain.

Figure 15.3. View of Site 1 in Wadi Bakariya, Central Eastern Desert, Egypt, looking east, showing some of the administrative buildings.



Figure 15.4. View of Site 2 in Wadi Bakariya, Central Eastern Desert, Egypt, looking north, showing some of the ancient mining operations.



divided into smaller sections to simplify orientation and description. These subdivisions are the large open-cast mine, two isolated mining shafts and the transport zone. The architecture in this section is industrial and consists of small one-room huts apparently connected to a series of trenches. These were probably used to store tools between shifts or for other short-term functions. The huts were evidently not built for long-term use and usually only a single bottom course remains (Figure 15.4). It seems that the caravans arriving at and departing from the site were

organized in an area now identified as the transport zone (Figure 15.5). This hypothesis is based on the landscape of this site, which is in a large valley that could facilitate the maneuvering of a large caravan. The site is located at the western perimeter of the mine with immediate access to the Eastern Desert. No remains of animal lines or other structures for animals were found. The animals for the caravans could have been kept elsewhere, or the mine may have been visited by caravans on their way through the desert and never was a final destination. There is a

Figure 15.5. View of the wide valley tentatively identified as a transport area in Wadi Bakariya, Central Eastern Desert, Egypt.



Figure 15.6. Ancient hut with a boat petroglyph near the transport zone in Wadi Bakariya, Central Eastern Desert, Egypt.



small group of huts at the end of the valley, one of which is decorated with a drawing of a boat (Figure 15.6). In the Pharaonic Period the navy organized transport through the desert. This boat might also be an indication of this section of the mine or of some specific activity (Espinel, this volume; Lankester, this volume).

Two smaller ancient remains in Wadi Bakariya comprise a well (Figure 15.7) and a putative shrine (Figure 15.8). Both sites are enigmatic as there are no inscriptions and only little pottery near the well; their identification is from

architectural evidence only. As more data on the Eastern Desert are collected, additional comparative material will become available. A well similar to the one in Wadi Bakariya has been found in Wadi Mu'eleh, and structures with a probable religious function have been found in Wadi Mu'eleh, Wadi Hattiem and at Abu Diyeiba.⁴ All three have a similar top plan, a small enclosed area or

⁴ Wadi Mu'eleh and Wadi Hattiem were visited by the author, with Dr S.E. Sidebotham. The information on Abu Diyeiba is courtesy of Dr J.A. Harrell.

Figure 15.7. The ancient well near the gold mining settlement in Wadi Bakariya, Central Eastern Desert, Egypt.



Figure 15.8. The building identified as a shrine near the ancient gold mining settlement in Wadi Bakariya, Central Eastern Desert, Egypt.



courtyard with an attached niche-like room. In contrast to Wadi Bakariya, where the shrine is closer to the perimeter of the site, all other possible shrines are near the center of the settlement. This remarkable difference may be due to the expansion of the site or the remodeling of this or previous religious structures. The remaining 25% of the site comprises a residential section; ancient prospecting traces show that the area was found barren of gold and suitable for habitation. This area is complex as it includes several clusters or ‘suburbs,’ along with individual

structures. Further investigations are required, but it can already be inferred from the rich architecture that a lot of effort was expended to construct and maintain these structures. The houses are clearly built for the long term in a style that is quite different from the administrative structures. Indicators for the longevity of the buildings are their frequent additions and evidence of refurbishment. Many suburbs are located in secluded side valleys and out of sight of the main settlement. This may indicate intent to create distance between work and recreation (Figure 15.9).



Figure 15.9. One of the suburbs in the residential area of the ancient gold mining settlement in Wadi Bakariya, Central Eastern Desert, Egypt.

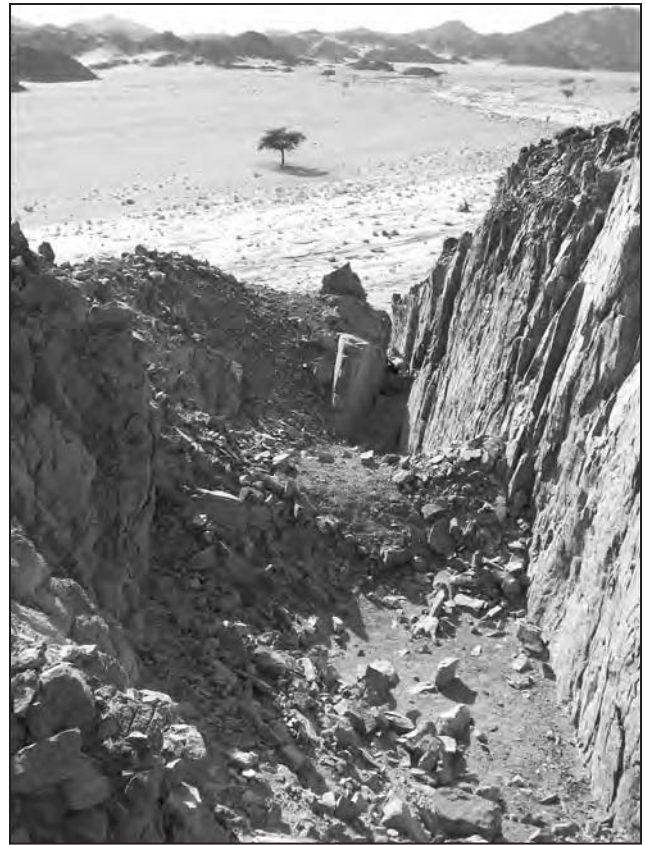


Figure 15.10. Open-cast trenches on the slopes of the low hills typical for Wadi Bakariya in the Central Eastern Desert, Egypt.

The Exploitation Phase

Once the living and working facilities at the site were established, the actual mining and processing of the ore could commence. The veins were excavated in open-cast trenches, now flanked by low, oblong heaps of discarded quartz (Figure 15.10). At one location, two veins apparently disappeared underground creating the need for shafts in order to access the underground minerals (Figure 15.11). Both shafts have since collapsed and it is unclear whether the ore went deep enough to warrant subsurface galleries. The western shaft seems to have had two entrances, suggesting a deep subsurface mine. This entrance is now filled with debris and windblown sand. The eastern shaft has only one entrance and leads under the mountain at a less acute angle compared to the western shaft. This shaft is accessible for about 5 m; no obvious tools marks are visible on the walls.

Agatharchides of Cnidus, best quoted by Photius, describes the operation of a Ptolemaic mine somewhere in the Egyptian Eastern Desert:

The entire operations are in [the] charge of a skilled worker who distinguishes the stone and points it out to the labourers. Those who are assigned to this unfortunate task, the physically strongest, break the quartz-rock with iron hammers, applying no skill to the task, but only force, and cutting tunnels through the stone, not in a straight line but wherever the seam of gleaming rock may lead (Diodorus 3.12, Oldfather 1935; Photius 59-61, Burstein 1989).

Although this describes a mine during the second century BCE, this description can be applied to some extent to the mining operations in Wadi Bakariya. The only tools found *in situ* are made of local stone; many sources for stone suitable for tool manufacturing are found throughout the settlement. Two-handed pounders of local stone were found between the ruins and the debris (Figure 15.12a). These were used to break the quartz in the veins and show clear signs of heavy usage. Other known extraction tools include bone chisels and wedges, though none have as yet been found on site as the miners probably would have taken them when the site was abandoned. A different extraction technique entailed



Figure 15.11. Entrance to the western shaft in the Wadi with the Two Shafts in Wadi Bakariya, Central Eastern Desert, Egypt.

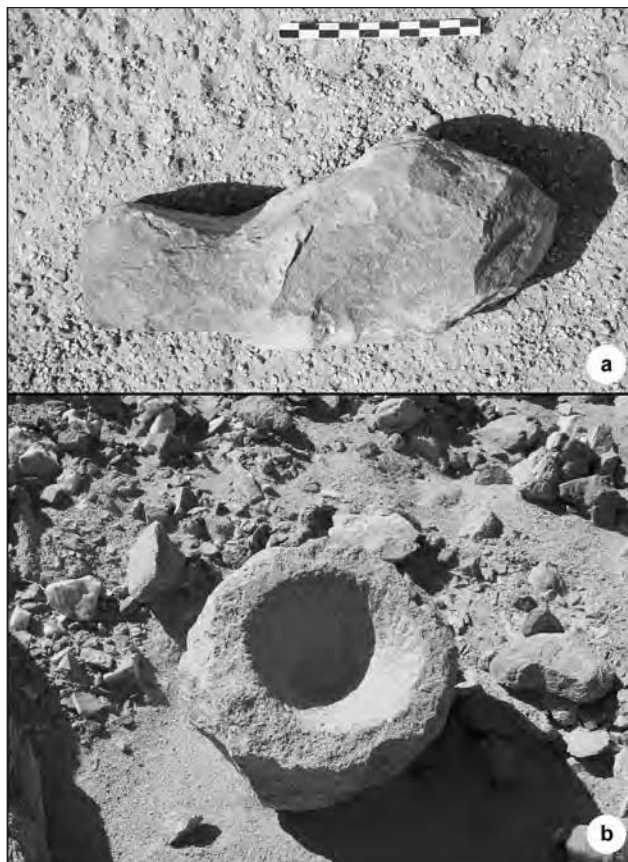


Figure 15.12. Mining tools as described by Diodorus Siculus found in Wadi Bakariya, Central Eastern Desert, Egypt. a: two-handed pounder made of local stone; b: unused granite mortar.

heating the rock with fire, followed by quenching it with water and vinegar causing it to crack. Possible traces of this way of mining may be visible at Sokari, a large ancient gold mine south of the modern asphalt road between Marsa Alam and Edfu. No traces of such tools or techniques were observed in Wadi Bakariya.

The boys . . . laboriously gather up the rock as it is cast down piece by piece and carry it out into the open to the place outside the entrance. Then those who are above thirty years of age take this quarried stone from them and with iron pestles pound a specified amount of it in stone mortars, until they have worked it down to the size of a vetch (Diodorus 3.13, Oldfather 1935; Photius 62-63, Burstein 1989).

It is rare to find metal tools on any mining site in the Eastern Desert because they would have been taken by their owners upon leaving the area or otherwise recycled. Stone tools are more often found, as they were easy and cheap to make, or often too worn and too heavy to be transported elsewhere. Few mortars were found in Wadi

Bakariya, the majority associated with the ruins of Site 1 (Figure 15.12b). These mortars are made of a large block of local granite; its circular depression prepared by chisel and over time smoothed out when using the tool. The few mortars found there show no signs that they were actually used, and no signs of the iron pestles apparently used to pound the quartz. The examples found on site were partially buried under windblown sand and what might be tailing residue from a later phase; others could still be buried. The pounders pictured in Figure 15.12a might have been used in conjunction with a mortar, though these tools were never found together in any one section of the mine.

Thereupon the women and older men receive from them the rock of this size and cast it into mills of which a number stand in a row. They take their places in groups of two or three at the spoke or handle of each mill they grind it until they have worked down the mount given them to the consistency of the finest flour (Diodorus 3.13, Oldfather 1935; Photius 62-63, Burstein 1989).

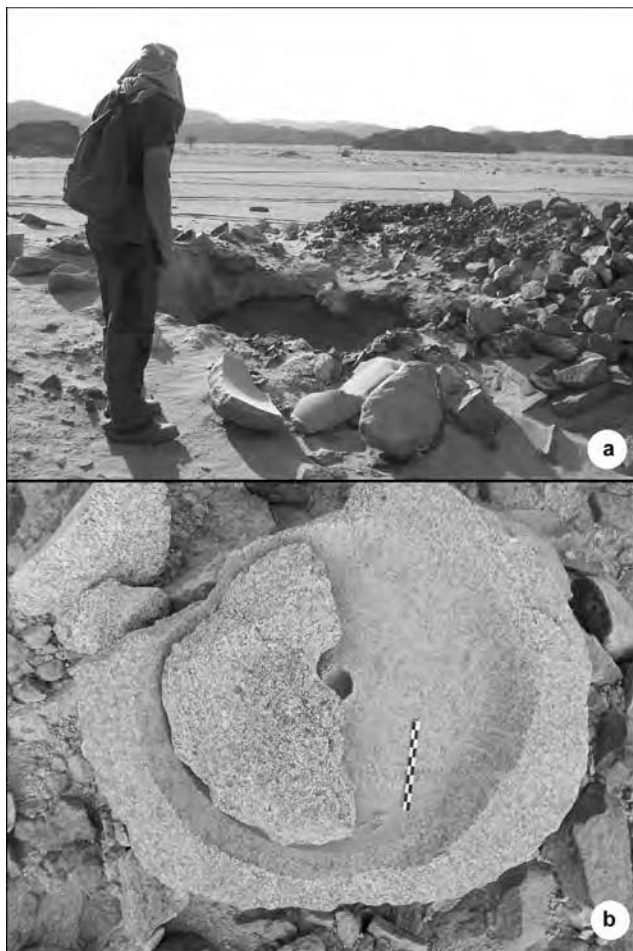


Figure 15.13. Saddle quern (a) and rotary quern (b) found in Wadi Bakariya in the Central Eastern Desert, Egypt.

Three types of mills have been identified at the mine in Wadi Bakariya, including rotary querns, saddle querns and a third type (Figure 15.13). All were found in clearly identified areas, aiding in establishing phases of the settlement. The third type of mill is a single large stone or boulder of local stone with a shallow, oblong depression in its center. The tools found in association with such mills are small handheld hammers with one flat polished side, with the other side convex to fit an adult human hand. This third type of mill appears to be the oldest type on site and is found in only two places. One was found near the shrine, which may date back to the New Kingdom (Sidebotham and Zitterkopf 1996). The second location was in the southeast of the settlement where mills were found in association with a small group of buildings with attached work platforms.

Rotary and saddle querns in Wadi Bakariya are concentrated mainly at Site 1. A saddle quern

(Figure 15.13a) is rectangular, hallowed out with clear grooves created by the quartz and a smooth square-like upper half with two handles to move it over the lower part. Rotary querns seem to be the most recent type of mill on site (Figure 15.13-b), which is inferred from the fact that saddle querns are reused as building material in both the gate and the warehouse on Site 1. Both rotary and saddle querns consist of two parts, an immobile base and a mobile upper section, and both types may have been operated by two persons. Of the rotary querns, usually only the lower parts remain; the few preserved upper parts show a central hole for an axle and a second hole to feed quartz into the mill. It seems likely that rotary querns were more efficient than saddle querns, an indication of a movement toward more industrial mining operations over time and providing further support for the chronological phasing of both tools. The distribution of these mills may offer insight into the chronology of the settlement. The two locations of the third type are both remote and not related to the rest of the mining settlement. The other two types of querns are found in locations clearly associated with the currently known phases of the gold mine.

In the last steps the skilled workmen receive the stone which has been ground to powder and take it off for its complete and final working; for they rub the marble which has been worked down upon a broad board which is slightly inclined, pouring water over it all the while; whereupon the earthy matter in it, melted away by the action of the water, runs down the inclined board, while that which contains the gold remains on the wood because of its weight. And repeating this a number of times, they first of all rub it gently with their hands, and then lightly pressing it with sponges of loose texture they remove it in this way whatever is porous and earthy, until there remains only the pure gold-dust (Diodorus 3.14, Oldfather 1935; Photius 64-65, Burstein 1989).

Apart from the tailings in Site 1, no traces of washing activity or an installation as described above have been found.⁵ This, however, does not exclude their presence; the significant expansion of the mine may have destroyed or simply buried them under debris.

Then at last other skilled workmen take what has been recovered and put it by fixed measure and weight into earthen jars, mixing with it a lump of lead proportionate to the mass, lumps of salt and a little tin, and adding thereto

⁵ Klemm and Klemm 1994, however, mention the remains of washing tables at Wadi Bakariya, near Site 1; these were not seen during the 2002 survey.

barely bran; thereupon they put on it a close-fitting lid, and smearing it over carefully with mud they bake it in a kiln for five successive days and as many nights; at the end of this period, when they have let the jars cool off, of the other matter they find no remains in the jars, but the gold they recover in pure form, there being but little waste (Diodorus 3.14, Oldfather 1935; Photius 66-67, Burstein 1989).

There are no signs in Wadi Bakariya of furnaces as described above. The arid climate of the Eastern Desert does not offer the quantity of water and fuel required for large-scale mining and smelting; it is more likely that the washing and cooking took place near the Nile or in locations like Wadi Daghabag where there was a permanent source of water.

Discussion

Separated by their size and length of operation, there are two categories of mines and quarries in the Eastern Desert, large and small. The operations in Wadi Bakariya belong to the smaller category, while sites like Mons Claudianus, Mons Porphyrytes and Bir Umm Fawakhir fit in the larger operation category. The operations in Wadi Bakariya seem to have been highly professional; yet do not seem to have lasted very long. It is unclear whether the settlement remained in use after the deposit was exhausted, potentially in an administrative function to sites in the immediate vicinity or serving as residences for people living and working in the desert. The large mine in Wadi Daghabag may have been associated with such a secondary function for settlement in Wadi Bakariya. There are, however, no obvious traces for these two theories and further investigation is imperative. There are no cemeteries in Wadi Bakariya suggesting that the people who died on site were not buried there, but rather may have been taken back to the Nile Valley. This is corroborated in the Coptos Tariff.⁶ There are no fortifications or animal lines suggesting that the mine needed protection from an outside threat or that the miners working on site needed to be supervised. Agatharchides of Cnidus described the need for foreign soldiers to guard the convicted criminals (*damnati*) working at the mine he visited. The residential section is extensive, indicating both the importance of the site as well as supporting the theory

⁶ The Coptos Tariff is a list of taxes for travelers on the desert road, dating around 90 CE. It mentions that on behalf of the deceased, the modest sum of 1 drachma, 4 obols should be paid for the use the road (Sidebotham *et al.* 2008: 187-188; Jackson 2002: 103-105).

that the miners working here were contract workers as in Mons Claudianus.⁷

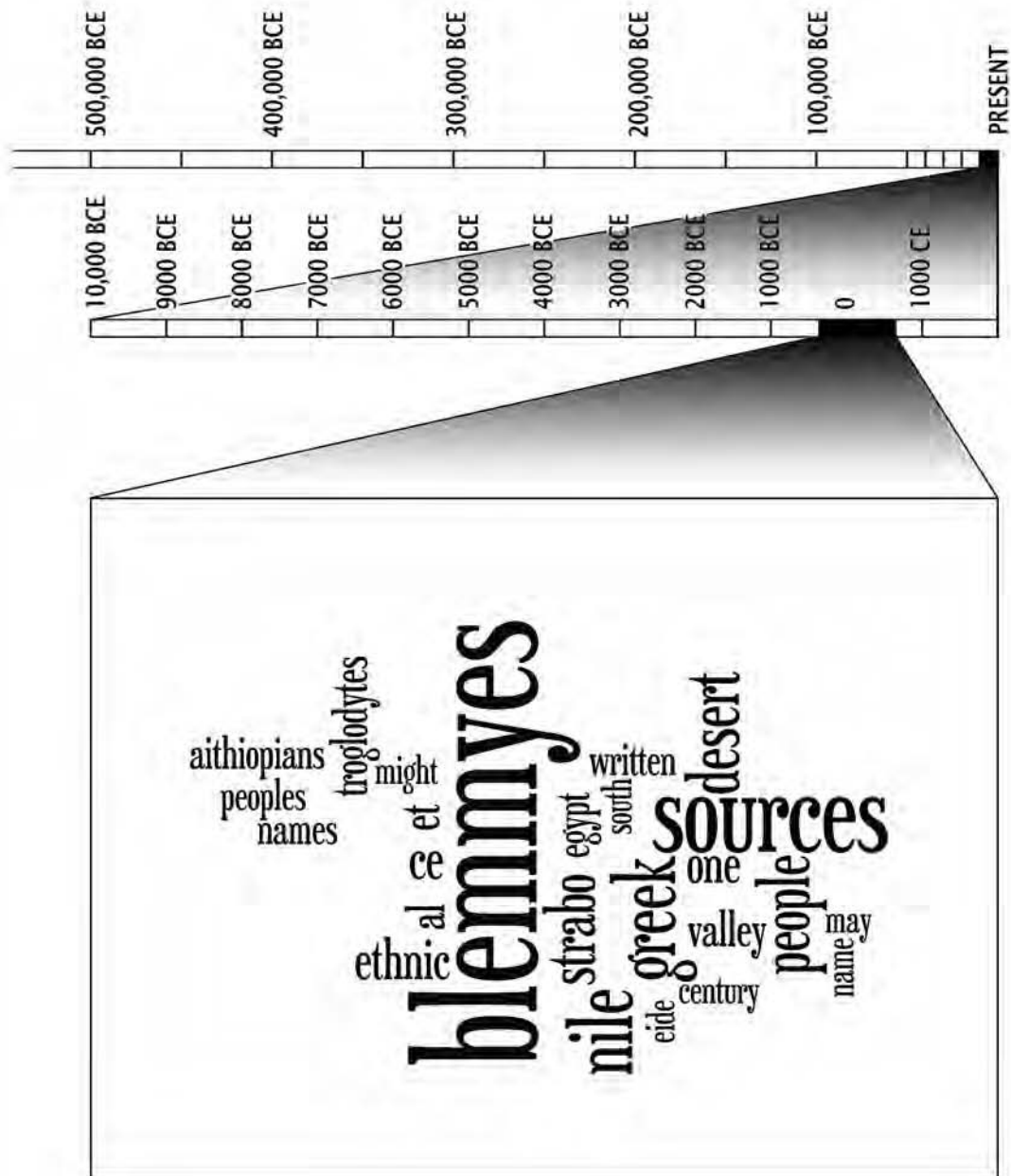
The organization of the operations was apparently complex and shows a certain degree of professionalism. The core of the settlement is Site 1 where the mine started and remained in use until the end of the operations. When the veins were exhausted, the operations moved to the current known section of the site, while the main activity at Site 1 continued to be processing ore and administration of the entire settlement. This is inferred from the fact that the majority of the tools were found among the ruins of Site 1. Further research, preferably including archaeological excavations, is needed to offer an explanation for the tailings found associated with the ruins as these could be leftovers from washing the gold powder out of the ore or another activity. As the mine expanded to the north and the east, it was no longer a temporary settlement. The ore was extracted and brought to Site 1 for further processing such as grinding. The lack of washing tables and furnaces suggests that certain processing tasks took place elsewhere. A possible location for this activity is Wadi Daghabag, where no archaeological excavations have yet taken place, or the Nile Valley. Most of the primary deposits were mined in open-air trenches, following the veins; in two places the veins disappeared underground and shafts had to be created.

Wadi Bakariya is unique in that thus far no evidence has been found of an area specifically reserved for organizing transport to and from the operations in mining settlements. The transport zone seems to have been such an area as suggested by its landscape and potentially underlined by the presence of a boat petroglyph. There are, however, no animal lines or other features proving that caravans were based here for any significant amount of time. It may be that long-distance caravans stopped when passing by the settlement and delivered supplies or picked up the yield of the mine. The residential sector is elaborate, complex and secluded; the richness of the preserved architecture suggests that a lot of care was given to the structures. The only religious construction on the site is in a side valley, hidden from the rest of the

⁷ The workers received wages for their labor, top salaries being as high as 47 drachmas per month. There were adze men, water carriers, stone masons, hammer men, guards, roller operators, iron hardeners, bellow blowers, side wedge men (used for rollers and scaffolding; there is no evidence of saws used in cutting stones) and blacksmiths (Jackson 2002; Sidebotham *et al.* 2008).

settlement. There are no inscriptions and few artifacts in this section, but comparison with similar sites in the Central Eastern Desert supports the hypothesis that this building had a religious rather than an industrial or residential function. There is only one well on site, which seems to have been moved over time in an

effort to secure the supply of water. It is a relatively large structure suggesting the importance and central organization of the mining operations in Wadi Bakariya. A lot of questions remain after writing this chapter, most of which can be addressed only by further archaeological excavations.



Time line and word cloud for Richard H. Pierce, *A Blemmy by Any Other Name...: A Study in Greek Ethnography*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (type font Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 16



A Blemmy by Any Other Name...

A Study in Greek Ethnography

RICHARD H. PIERCE

THE GREEK LEXEME *ethnos* (ἔθνος) WAS A classifier. In the first instance it denoted groups of people, animals or plants bound together by physical kinship (γένος, *genos*); but it was frequently extended to cover groups of people associated by social bonds of community (δῆμος, *demos*), territoriality (χώρος, *choros*), lifestyle (βίος, *bios*) or political organization (πολιτεία, *politeia*). This is explicitly stated in some ancient grammatical and lexicographical sources (Uhlig 1965: 38) and is manifest throughout the geographical texts. The variables of kinship and society were not mutually exclusive, and in a given context any one of them might be used as an ethnic label (ἔθνικόν, *ethnikon*) and function as the name (ὄνομα, *onoma*) of the group so labeled. This meant that ethnic identities could be nested so that one *ethnos* could be a subgroup of another. What began as a label characterizing an ethnic group could be raised to the level of an ethnonym. The term tribe *genos* (γένος, *genos*, tribe) is sometimes used with the same meaning as *ethnos*, sometimes to denote a subgroup of an *ethnos*. Thus the Ostrich-eaters are a *genos* in the *Library of History* by Diodorus Siculus (3.28.2) and an *ethnos* in the *Geography* of Strabo (16.4.11).

The broadest category, physical kinship, by its very nature, could imply racial affinity. For example, the label ‘Aithiops’ (Αἰθίοψ) meant, etymologically, ‘burnt faced,’ and was used of all the ‘black’ people from Africa to India. It was also used to denote the inhabitants of the large part of Africa called ‘Aithiopia’ (Αἰθιοπία) and

in a still more restricted sense to refer to the ruler and subjects of the kingdoms of Kush and Meroe. There were no corresponding collective terms for people of other hues, but some ethnic names such as Indians, Aithiopians, Kelts and Skyths covered people conceived at similar degrees of scope and abstraction (Ephorus, *Fragmente der griechischen Historiker* 70 F 30 a, from Strabo 1.2.28; see also Strabo 1.2.34 and 2.5.32). Differences in physical traits and temperament among peoples were attributed to differences in climate based on geography (Ptolemy, *Tetrabiblos* 2.1.6-12; Poseidonius via Strabo 2.2.3 and 17.2.1). Ethnonyms, like personal names, were regarded as original (πρωτότυπα) and authoritative (κύρια). Adjectives (ἐπίθετα) derived from them (παράγωγα) can be ambivalent, being open to either a strictly ethnic or a looser territorial interpretation, in the former case referring to the people itself and in the latter to the territory they currently or once inhabited. There is a certain chicken-and-egg quality to this, inasmuch as conceptually a people and its homeland were intimately joined; but when, for example, an ethnic group had migrated from its ancestral lands, the ethnic and geographical reference of a derived adjective may differ. There was an extensive Greek literature on names in general, and there were writers whose monographs focused on ethnonyms in particular (for instance, Hippias of Elis, Hellanicus of Lesbos and Callimachus of Cyrene). Greek authors exploited the distinction between names of Greek and foreign origin critically and understood the difficulty of penetrating the meaning of

alien words and names without the assistance of native speakers (Strabo 1.1.6, 16.4.18; Galen *Thrasylabus* 5.867, Helmreich 1907–1909).

Ethnicity in the Eastern Desert

The variety of Greek ethnic names associated with peoples of the Eastern Desert, between the Red Sea and the Nile Valley in Egypt and Sudan, needs to be examined in relation to the sources in which they appear. The primary division follows a cleavage between literary sources, that is, texts transmitted through the classical tradition, and documentary sources, or papyrological and epigraphic artifacts. Among the former are a number of easily translatable ‘lifestyle names’ in Greek that reflect the influence of the Hellenistic ethnographic theory of ‘you are what you eat,’ such as ‘fish-eaters,’ ‘locust-eaters,’ ‘elephant-eaters’ and the like. The bulk of these come to us by way of the Alexander Historians, describing the exotic lands conquered by Alexander the Great (356–323 BCE), Agatharchides, Artemidorus (quoted by Strabo) and Diodorus. They are unlikely to be translations of the names by which the peoples they denoted identified themselves (see, for instance, Snowden Jr. 1970: 108–109, 283–284). From the same sources also come three Greek names that are not manifestly translatable: Megabaroī, Troglodytes (or Troglodytes) and Blemmyes.

The Megabaroī

The Megabaroī appear very rarely in ancient writings and are confined to Hellenistic sources and Latin texts derived from them. They are not prominent in either literary or documentary sources; only five examples by three Greek authors plus Pliny the Elder, writing in Latin but drawing upon Greek sources (*Natural History* 6.189), and the demotic *pHauswaldt* 15, are known. Two of the Greek sources (Diodorus Siculus 3.33.1 and Strabo 16.4.17) report that the Megabaroī used round shields of ox hide and clubs set with knobs cased in iron. Diodorus makes them troglodytes (“of the troglodytes, those called Megabaroī”) while Strabo refers to them as “Megabarian Aithiopians.” The texts of the two authors also differ in structure, syntax and vocabulary to a degree that makes it very unlikely that Strabo was directly dependent on Diodorus. Strabo (16.4.5, 15–16, 18 and 20) explicitly acknowledged his dependency on the geographer Artemidorus (active around 100 BCE) and the difference between his text and that of

Diodorus suggests that Diodorus may have been drawing upon yet another even older source, Agatharchides of Cnidus (Burstein 1989: 112). Strabo (17.1.2 and 17.1.53) grouped them with the Blemmyes as subject to the Aithiopians and placed them on both sides of the River Nile. If the Megabaroī are the same as the Megabradoī or Megabardoī mentioned by Ptolemy, then they are placed far south in the interior of Africa. There is no satisfactory etymology for the name Megabaroī itself, and in the single documentary source (*pHauswaldt* 15), a marriage document in demotic Egyptian, the interpretation of the name, written ‘*mḥbr*,’ is subject to doubt.

The Trog(l)odytes

Trogodyte (Τρωγοδύτης) in this spelling is untranslatable in Greek and exceedingly rare in the surviving Greek sources. Even in the earliest and most important work where it does appear, Herodotus (4.183.4), it occurs in only a minority of the manuscripts, albeit among the earliest in the tradition. It is also found as a geographical name in the derived form *Trogodytike* (Τρωγοδυτική) in the older tradition of the *Historia Alexandri Magni* (3.34.4, written after the 4th century BCE), and in a fragment of Hecataeus (*Fragmente der griechischen Historiker* F 3a, 264, Jacoby 1923–1958, written in the fourth-third century BCE). By contrast, the Greek *trogloodyte* (Τρωγλοδύτης) is easily translatable as ‘hole-diver’ (τρώγλη, a hole formed by gnawing, an animal hole, and δύτης, diver) and is by far the most frequent form found in the manuscript tradition with over 150 occurrences in a wide range of authors and genres. Even so, the untranslatable variant, *Trogodyte* (Τρωγοδύτης), has, since the 1860s, been judged to be the correct form (Dindorf 1869: 124–126; Murray and Warmington 1967; Burstein 1989: 109). The evidence for this is the spelling *Trogodyte* used in Ptolemaic documentary texts from Egypt (Snowden Jr. 1970: 18, 270; Liddell *et al.* 1995: 1831b–1832a; Tomber 2005: 41) and a note in the *Chrestomathia Straboniana* (Müller 1861: 629; *Codex Palatinus graecus* 398, written in the 9th century CE; see also Diller 1975: 39–41) saying that the geographer Strabo omitted the lambda (λ). The *Chrestomathia Straboniana* is, however, ambiguous; for in commenting on Strabo 1.1.3 its anonymous author writes *Troglodytes* without comment (Müller 1861: 530). In both passages Strabo is referring to the same problem in Homeric interpretation (how to understand ‘Erembians’ in *Odyssey* 4.84). In 1.1.3, Strabo says that when Homer

wrote Erembians (Ἐρεμβοῦς), he was probably referring to Troglodyte Arabians (Τρωγλοδύτας Ἄραβας); while in 16.4.27, Strabo makes explicit what he there describes as the forced etymology for Erembians, namely “entering the earth (εἶσαν ἐμβαίνειν),” that warranted understanding them to be Troglodytes (hole-divers). Instead Strabo opts for Posidonius’s emendation, *Arambians* (Ἀραμβοῦς), as being what Homer called Arabians, in preference to more drastic solution of the stoic Zeno of simply replacing Erembians (Ἐρεμβοῦς) with Arabs (Ἄραβας).

Strabo’s discussion of the forced etymology “entering the earth” only makes sense if his text has Troglodytes (hole-divers). This is doubtless why Stephan Radt, in his edition of the text, prints Τρωγλοδύτας at 16.4.27 (Radt 2005: 404), although elsewhere he consistently has Τρωγο- against the manuscripts even where the context makes more sense if one prints Τρωγλο- as, for example, in 17.3.7. Here Strabo says that some of the North African Pharusians are said to “dwell like Troglodytes, digging up the earth,” but Radt writes Τρωγοδυτικῶς and translates “nach Trogodytenart eingegraben in der Erde wohnen.” This translation presupposes that dwelling like a Trogodyte means living like a troglodyte and that the word, correctly spelled, means the same as when it is incorrectly spelled. I shall return to this issue, but first it is necessary to round off the discussion about the comment in the *Chrestomathia Straboniana*.

The remark about the missing lambda comes in notes on Strabo’s last book. Possibly in the preceding 16 books lambda had been written as expected and was now missing. Its absence in the etymological discussion would have attracted the reader’s attention. The notes tend to cluster in sequences from book to book, which suggests that the note taking was also performed sequentially rather than thematically. In the present case, with the exception of note 53 (underlined), notes 46 to 56 follow the sequence of Strabo’s text 16.2.22, 16.3.6, 16.3.7, 16.4.1, 16.4.3, 16.4.8, 16.3.6, 16.4.14, 16.4.17 and 16.4.27, in that order. There is no obvious explanation why note 53 interrupts the sequence. Perhaps it was an afterthought harking back to note 47. If the author’s general practice followed a sequential pattern, then it is possible that lambda was also omitted previously, but that elsewhere the context had not attracted attention. Either way, the *Chrestomathia Straboniana* can scarcely be regarded as providing strong evidence for the state of the literary tradition of Strabo’s text. The edition of Strabo’s *Geographica* by Stephan Radt constitutes a great

advance over its predecessors, not least as regards its *apparatus criticus*. There one can see how the testimony of the major manuscripts (Radt 2002: XVII–XIX) favors spellings with lambda for every occurrence (τρωγλο-, τρωγλω-, and τρογλω-), but also where readings in an important manuscript contradict this trend. Already in the 1860s attention was drawn to the exceptional writings with τρωγο- (Dindorf 1869: 124–125), which now appear in Radt’s apparatus criticus at 15.1.25, 16.4.4 and 16.4.5. All come from *Vaticanus graecus* 1329 (siglum F in Radt 2002), which contains books 12–17 and is dated to the 13th–14th century CE. On the basis of these variants and three examples in manuscripts of Diodorus Siculus, it has been proposed to emend all the writings with lambda in both Strabo and Diodorus to τρωγο- (Dindorf 1869); and this is what Radt has done throughout his edition of Strabo with the single exception of 17.3.7 mentioned above. It was “nicht unmöglich (Dindorf 1869)” that what we may call the ‘lambda infection’ had spread throughout the manuscript traditions of all earlier and later Classical writers wherever τρωγλω- was found; and indeed, as noted above, τρωγο- writings have been observed in the manuscript traditions of Herodotus and Pliny, among others (Liddell *et al.* 1995: 1831b–1831a). One should, however, keep in mind that the infection must be believed to have spread into very diverse genres and with a remarkable consistency in scribal practice. Moreover, it should also be noted that the constituent *-dytes* (-δύτης) is a meaningful formative element in other Greek compounds which presuppose that the first constituent too is meaningful, for instance, *ammodyte* (ἀμμοδύτης, sand-diver, a kind of snake), and *psammodyte* (ψαμμοδύτης, sand-diver, a kind of fish). If the constituent *trogo-* is the true reading, then the ending *-dyte* too is not Greek; and Trogodyte as a whole was a foreign ethnic name.

The documentary texts, though much fewer in number, consistently support the spelling *Trogodytes* (Τρωγοδύται) without lambda. In addition to the sources originally adduced above, there are eight additional inscriptions from the Paneion at Kaneis in the Eastern Desert (Espinell, this volume), which express thanks to the god Pan for having brought a traveler safely from the (land of the) Troglodytes. In clear contrast to these texts is the inscription of Ptolemy III Euergetes (246–221 BCE), which Cosmas Indicopleustes, writing in the 6th century CE, says he copied at Adulis, in modern Eritrea. There mention is made of elephants from the Troglodytike,

with lambda (ἐλεφάντων Τρωγλοδυτικῶν, Wolska-Conus 1968: 370-371, on the geographical bounds of the Troglodytike; see *Geographi Graeci Minores* 2.16). Here an inscription preserved only in a literary text records a spelling with lambda in agreement with prevailing literary usage, but contrary to the orthography of the surviving inscriptions and papyri. If one were to argue that spellings with lambda indicate literary, and those without documentary sources, then the view that the papyrus fragment describing a clash in the desert involving Romans, Aithiopians and Troglodytes (Τρωγοδύται) is a documentary source would gain additional support (Turner 1950; Eide *et al.* 1998: 932-935). So the literary and documentary sources seem to have developed along separate lines, and it must be accepted that the possibility that τρωγλο- in the literary tradition may have displaced an original τρωγο-. Even so, as Strabo 16.4.27 and 17.3.7 show, each instance will have to be judged on its own merits. There are several issues that need to be addressed when passing judgment.

One problem will be passages in which the reading Troglodyte is consistent with its immediate context. This issue is clearly manifested in the treatment of Strabo 17.3.7 by Radt where he prints Τρωγοδυτικῶς and translates “nach Troglodytenart eingegraben in der Erde wohnen” in which he presupposes that dwelling like a Troglodyte means living like a troglodyte and that the word correctly spelled means the same as when it is incorrectly spelled. Moreover, by capitalizing Τρωγοδυτικῶς, he marks the word as essentially an ethnic reference to Troglodytes; but ancient Greek manuscripts do not observe any capitalization convention. To capitalize is a modern editorial decision. An editor will have to decide whether the text in question is naming a definite ethnic group (capitalized), or characterizing the lifestyle of its referent, be it man or beast (not capitalized), the aim being to reflect the way of thinking of the ancient author. For example, Claudius Aelianus (*Natura Animalium* 9.44) refers to troglodytes as “a genus of humans” that takes its name from its way of life. Thus, he appears to treat troglodytes as a general category of humans, but goes on to describe how people living near the seashore catch octopuses during the summer, and so is probably thinking about the behavior of a particular group of troglodytes, comparable to the group of the Fish-eaters (*Ichthyophagoi*) whom Agatharchides describes, rather than of troglodytes in general. In another passage Claudius Aelianus speaks of

troglodyte Arabs (*Natura Animalium* 6.10). In Herodotus 4.183.4, we have what appears to be the earliest attested use of troglodyte, there used as an adjective identifying a subcategory of Aithiopians distinguished by how they dwell (printed “οἱ γὰρ τρωγλοδύται Αἰθίοπες” in Hude 1927): “the troglodyte Aithiopians.” Josephus (*Antiquitates Judaearum* 1.214; see also Genesis 25.1) refers to Keturah, one of the wives of Abraham, as a troglodyte, and in Josephus’s table of contents her origin is said to be “the tribe of the troglodyte Arabs (τὸ τῶν τρωγλοδυτῶν Ἀράβων ἔθνος).” In Strabo 1.1.3 Radt prints Τρωγοδύτας Ἄραβας (where all the legible manuscripts have τρωγλοδύτας Ἄραβας) and translates “die arabischen Troglodyten.” But for Strabo 16.1.26, he prints οἱ Σκηνῖται Ἄραβες and translates “die Zeltbewohnenden Araber.” Following this pattern, τοὺς Τρωγοδύτας Ἄραβας would be “die Troglodyten Araber.” Both tent-dwelling and troglodyte are in the attributive position between the article and the substantive (Smyth 1963: 293-298), making tent-dwellers and troglodytes subcategories of Arabs, much as Agatharchides (*De mari Erythraeo*, fragment 61, following Artemidorus) divides troglodytes (unchanged by editors) into two categories, those who have had a normal circumcision, and those who have had a radical one. The latter, he says, the Hellenes call κολοβοί, which means maimed in Greek. In chapter 86, Agatharchides mentions troglodytes who had moved from the upper regions because of the burning heat and says they are addressed (προσαγορευόμενοι) as Βόλγιοι. This word has no meaning in Greek and might be what those people called themselves. As far as I know, there is only one other example of such a name linked with troglodytes, namely that of the Abylloi (Ἄβυλλοι), who appear in a fragment of Book 2 of *Periegesis*, written in the second century BCE by grammarian Apollodorus (*Fragmente der griechischen Historiker* 106, Müller *et al.* 1851) as an ethnos very close to the Nile near the Troglodytike.

Another problem turns on the purport of Troglodyte. If correct in context, it must be a lifestyle epithet that has been raised to the status of ethnonym, and this is consistent with the names Greek sources use for peoples on the fringes of their conceptual world. Strabo (1.1.6, 7.3.6 and 7.3.7) says that Apollodorus, Eratosthenes and Posidonius thought that Homer’s use of lifestyle labels (horse-milkers, milk-eaters, etc.) instead of real names to refer to peoples on the northern fringes of the Greek world showed that he was ignorant about them.

This point is well taken and can be extended to sources concerned with the southern fringes as well. Moreover, some Greek lifestyle ethnonyms (such as lice-eaters, man-eaters, wagon-dwellers) were distinctly negative from a Greek point of view. Ptolemy remarked on the savage and bestial life of the meat- and fish-eaters, and Plutarch contrasted the lives of nomads and troglodytes with that of the humane and civilized Greeks, “us,” as he wrote (Plutarch, *De sollertia animalium*, *Moralia* 964a). Numerous discussions in ancient Greek sources show that the origins of names and their changes over time were of great interest—for example, the discussion of the Aborigines in Juba as preserved by Charax and Aelius Herodianus and in Dionysius of Halicarnassus. There is evidence for at least three works attributed to writers of the fifth to third centuries BCE that were specifically about ethnic names and nomenclature. In general, where discussions concern persons or peoples, a recurrent theme is identity, and the more specifically referential a name, the greater the likelihood that the writers took a real interest in and were better informed about those it referred to. Stereotypical labels, treated as ethnic names (lice-eaters, man-eaters, etc.) place the people mentioned in the barbarous margins of the Greek world. Often references to them are perpetuated by literary tradition and reflect no actual social encounters. Other names also function as generic labels for non-human species. There are troglodyte Aithiopians and Arabs, but there are also troglodyte sparrows and snakes; there are nomadic Skyths and Aithiopians and nomadic geese and dogs. It is only a short step to fantastic names (shadow-feet, dog-heads, etc.) that place their bearers beyond the bounds of humanity and credulity.

Seen in this light, Troglodytes in the Greek literary sources relating to the Eastern Desert are an almost completely undifferentiated mass, bearing a demeaning name. Unlike the peoples about whom the Greeks thought themselves reasonably well informed, such as Romans, Skyths and Indians, and for whom numerous subgroups are recorded (for instance in Strabo 7.3.2 and 7.1.3), only two possible Troglodyte subgroups are referred to by name. One is the *Abylloi* (Ἀβυλλοί), a fragment of Book 2 of Apollodorus’ *Periegesis* (*Fragmente der griechischen Historiker*, fragment 106, Müller *et al.* 1851, written in the second century BCE as preserved in Aelius Herodianus) if indeed the Greek phrase placing them πρὸς τῇ Τρωγλοδυτικῇ, ἔγγιστα τοῦ Νείλου means “in the Troglodytike, very near to

the Nile” and not “facing the Troglodytike, nearest the Nile,” and if being located in the Troglodytike is the same as being a Troglodyte. The other group is the Bolgioi (Βόλγιοι), whom Agatharchides tells us were troglodytes who moved from the upper regions, which is the far south, because of the burning heat (Diodorus Siculus 1.37.8). In the documentary sources, Troglodytes appear as dangerous people, but bearers of a name that is a specific identifier conveying no additional meaning.

The Blemmyes

The status of people referred to in ancient sources as Blemmyes has been undergoing reconsideration (Christides 1980; Dafa’alla 1987; Barnard 2005, 2007; Burstein 2008). Of primary concern have been, on the one hand, to what ethnic group, if any, that term refers and, on the other, where people so called were to be found. The base for the current discussions is both archaeological and textual, the former substantially augmented by important fieldwork done during recent decades, the latter receiving a modest increment during the same period. My concern here is the Greek sources, particularly as they bear upon the ethnicity and historicity of Blemmyes and the question of their diachronic geographical distribution. The ancient written sources underlying discussions on these matters have been largely the same (Updegraff 1978, 1988), but their interpretation and the weight given them has varied. In the following I am leaving aside the peoples named in Egyptian texts prior to the conquest of Egypt by Alexander the Great in 332 BCE who have been interpreted as tribesmen of the Eastern Desert. These have been treated severally and summarily elsewhere (Eide *et al.* 1994, 1996) and collectively pose problems that merit a detailed discussion beyond the scope of this chapter. The discussion here begins in the early Ptolemaic Period and extends into the early phase of the Arab conquest of North Africa, starting in 639 CE (18 AH).

Of the three ethnicities addressed in this chapter, the Blemmyes are the best documented and the people about which the sources most closely converge. As far as the name itself is concerned, the variations in the Greek spelling of the name are trivial (Βλέμυες, Βλέμυες). No Greek source has attributed any lexical etymology to the name, which throughout its use always had a solely ethnic reference. Moreover, it is possible that the name is related to words in the modern Beja

language *Tu-Bedawie* (Zaborski 1989), perhaps even with the meaning ‘desert dweller.’ I always have a sense of helplessness when contemplating etymologies that involve words, particularly names, that have passed across language boundaries. That Beja, who view themselves primarily in tribal categories, should, when asked to identify themselves as part of a broader ethnic collectivity, refer to themselves as nomads or desert dwellers appears quite natural. On the other hand, the sentence of a Beja informant that this connection is based upon (Zaborski 1989) could prove problematical if *balami* has at its root the notion of ‘to wander, to live as nomads.’ In that case, the informant may simply have been asserting in his own tongue that he was an *Arab*, a nomad.

The earliest morphologically unambiguous mention of Blemmyes occurs in a highly crafted poem by Theocritus (Eide *et al.* 1996: 569-570), a Sicilian who established himself at the court of Ptolemy II Philadelphus (282–246 BCE; Hunter 2003; Stephens 2003: 122-170). There, in the rarified atmosphere of a literary circle that included Callimachus of Cyrene and Apollonius of Rhodes, Theocritus cultivated a genre that included bucolic poetry and is now known as the *Idyll*, upon which his reputation rests. Among these, the 7th included a mention of the Blemmyes. The setting is the Greek island Cos, where in verses garnished with rustic song, nymphs, a harvest festival and a mysterious goatherd (perhaps the god Pan disguised), is embedded a homo-erotic passage in which that god is urged to bring to the arms of a pining lover one Philinus, a dainty, rosy-cheeked boy, or some other willing to submit to his lust. If Pan is not compliant, the poet wishes upon him the following punishment.

May you stay in Edonian mountains in midwinter,
turned towards the river Hebrus, near Arktos (the Great Bear),
and in summer among the remotest Aithiopians may you
herd your flock,
beneath the rock of the Blemmyes, whence the Nile can
no longer be seen
(Theocritus, *Idyll* 7, verses 111-114).

In other words, in winter Pan is to freeze in the far north, in summer to swelter far to the south away from the Nile (Gow 1940: 54; Gow 1950: 159-160, with reference to Dionysius Periegeta, verse 220). These verses imply that the Edonians and the Blemmyes inhabit the ends of the earth, and were probably chosen because they were recognizable as such to the target audience of Theocritus. Their evident function is to express an extreme polarity

of climate and geography, a rhetorical device paralleled in the use of Skyths and Aithiopians by Agatharchides (Marcotte 2001).

What is the information content of these verses? The semi-legendary Edonians are already mentioned a century and a half earlier in *The History of the Persian Wars* by Herodotus (5.124, 7.110, 114 and 9.75) and might have been known to the more erudite scholars in Alexandria. The Blemmyes are presented as a people, comparable to the Edonians, who live where the most remote of the Aithiopians, the peoples whose faces are burnt black by the intense rays of the sun, are found. By implication the Blemmyes too are black. The phrase “beneath the rock of the Blemmyes” might as well be translated here as “under a Blemmy rock,” either translation presumably suggesting that the Blemmyes live in a mountainous region, a southern parallel to the mountains of the Edonians, in a region further described as out of sight of the Nile and thus, by implication, placed somewhere far south in Africa. Strictly speaking, the Blemmy rock might even be a toponym (as implied by Verity and Hunter 2003: 28) conveying no information about the contemporary location of that people. To this one might add an assumption that it was a place suitable for herdsmen like Pan. Lastly, if Theocritus was aware of the fact that, in Ptolemaic Egypt, the Greek god Pan was assimilated to the Egyptian god Min (Espinel, this volume), the ithyphallic protector of the desert routes between the Nile Valley and the Red Sea, the poet might have found this an added incentive for linking Pan, herding, and the distant Blemmyes. This is no more than speculation, but has raised the interesting possibility that Theocritus may have been far more interested in Egyptian religion than has been commonly thought (Stephens 2003: 122-170).

What can the source of these exiguous tidbits be? During the reign of Ptolemy II Philadelphus, explorers were sent to probe the African interior of the Red Sea coast in search of elephants for the army (Fraser 1972: volume 1, 177-179, volume 2, 298-309; Casson 1993: 247-50; Roller 2003: 193-194). Tales of their adventures probably circulated at the court, much as the travels of Speke and Stanley did in Queen Victoria’s day; and Theocritus may have heard some of them or even had access to more detailed information from Callimachus, who, as librarian of the great Library at Alexandria, may have read official reports or even spoken with their authors (Diodorus Siculus 3.38.1). As far as Theocritus

is concerned, this would still be second- or third-hand information at best. This assumed link to the Red Sea and the elephant hunters might justify the further assumption that the Blemmyes lived in the Red Sea Hills, but the verses themselves do no more than place them in the tropics, far to the south and away from the Nile. It has been suggested that the rock of the Blemmyes might have turned up in a contemporary discussion on the sources of the Nile, an idea paralleled in an earlier proposal that Theocritus might have been showing that he was abreast of the results of the exploration of the Upper Nile that was also taking place under Ptolemy II Philadelphus (Gow 1950: 160). There may also have been travelers motivated by curiosity, such as Herodotus (3.139.1) refers to or the later Cleombrotus, a Spartan who, Plutarch says, wandered the Troglodyitike and sailed far up the Red Sea, not on business but as a seeker of knowledge (Plutarch, *De sollertia animalium*, *Moralia* 964a, Ogilvie 1967: 115; Peters 2001: 596-598). If the allusions of Theocritus were not utterly obscure for his audience, it is probably reasonable to assume that they mirrored current generalities that can be summed up as follows. There was a black people called Blemmyes who lived as herdsmen in mountains far to the south of Egypt, and not on the Nile.

Other Ptolemaic literary sources do little to elaborate this picture. The geographer Eratosthenes, a contemporary of Theocritus in his later years, makes Blemmyes and Megabaroï subjects of Aithiopiens and places them “on each side of Meroë, along the Nile, towards the Red Sea, but sharing a boundary with Egyptians” (Radt 2005). My own interpretation of this somewhat difficult passage, which survives only in Strabo’s copy (17.1.2) made roughly a century later, is that Eratosthenes envisaged these people as living in an area between the Nile Valley and the Red Sea coast, bounded on the north by the Atbara River and the Egyptian border, and on the south by the Blue Nile. Four Ptolemaic papyri written in demotic Egyptian, on the other hand, may put the Blemmyes in quite a different light. An otherwise unknown Haremheb (Harmais), the groom in a legal instrument from Edfu, documenting a marriage dated to 219 BCE, is identified as a “*brhm*, born in Egypt” (Eide *et al.* 1996: 579-580; *pHauswald* 6, line 1). The names of both groom and bride are recognizably Egyptian and of themselves would not mark their bearers as other than ethnic Egyptians. The phrase “born in Egypt,” in iconic translation “of birth in Egypt,” parallels

a standard expression in Greek documents, ‘by descent,’ which was used to qualify a preceding noun denoting an ethnic group recognized by the Ptolemaic administration. The same ethnic identification appears in a demotic marriage document from Gebelein, dated to 152 BCE (*pRylands* 16, line 5). In another demotic Egyptian text, dated to around 180 BCE, an accused blasphemer is blamed for damage done while “drinking with the *brhw* [plural].” The text relates events on the island of Philae, and is fraught with philological difficulties (*pDodgson = pAshmolean Museum* 1932: 1159; Eide *et al.* 1996: 612-614; Martin 1996: 340-343; Porten *et al.* 1996: 341-346; Jackson 2002: 121). Finally there is the demotic wine account from Edfu dated to 132 or 131 BCE (*pCarlsberg* 409, fragment 38, column 2, lines x+4 and x+5, Schentuleit 2006: 27, 197-198, plate 4). In successive entries, the word *blhmwt* appears, first with the masculine singular definite article and then with an ambiguous writing that can be either a definite article in the feminine singular or in the portmanteau plural. The severely damaged text, as restored by the editor, records disbursement by the wine repository of the temple of Edfu on behalf of the city (Edfu) involving these *blhmwt*.

In each case the words transcribed as *brhm*, *brhw*, and *blhmwt* have been interpreted as demotic writings of the ethnic label Blemmy or Blemmyes. In the first two examples the established parallelism between the Egyptian “born in Egypt” and the Greek “by descent” warrants interpreting *brhm* as a noun denoting an ethnic identity, and the graphic similarity in consonantal structure of *brhm* and the undoubted Coptic writing of Blemmy, *Blhmow* (Crum 1962: column 38b; Černý 1976: 23), induced editors to interpret *brhm* as Blemmy. The same applies to the interpretation of *blhmwt* in the last example, but the invariant ending *wt* with different forms of the definite article is yet to be explained. The example with *brhw* has been translated as Blemmyes, but again without support in the text itself and burdened with philological uncertainty. In sum, the written evidence for the Blemmyes during the Ptolemaic Period is modest indeed. If we accept the interpretation of *Brhm* and *Brhw* as Egyptian writings for the name of the Blemmyes, the most that can be said is that the Blemmyes were a recognized ethnic group, that people of Blemmy descent were present in Egypt, and that one of them caroused scandalously on Philae. They move from the legendary fringe, but remain shadowy beings, although probably present in Egypt as well as in the remote desert.

Subsequent to the Roman annexation of Egypt sources relating to Blemmyes become relatively more numerous and informative. The most important initial source is again Strabo, but this time, rather than presenting the views of Eratosthenes, he appears to be drawing on contemporary sources, including his friend Aelius Gallus, Prefect of Egypt, and perhaps his own observations. In a brief review of the natural defenses of Egypt against foreign invasion he includes the peoples living to its south, about whom he writes:

There remain to the south Troglodytes Blemmyes and Noubai and Megabaroι the Aithiopiανs beyond Syene; these are nomads, neither numerous nor warlike, although not long ago people thought they were because they frequently attacked unguarded folk in the manner of bandits” (Strabo 17.1.53, λοιπὰ δὲ τὰ πρὸς νότον Τρωγλοδύται <καὶ> Βλέμμυες καὶ Νοῦβαι καὶ Μεγάβαροι (οἱ ὑπὲρ Σῆνης Αἰθίοπες)· εἰσὶ δ’ οὗτοι νομάδες καὶ οὐ πολλοὶ οὐδὲ μάχιμοι (δοκοῦντες δὲ τοῖς πάλαι διὰ τὸ ληστρικῶς ἀφυλάκτοις ἐπιτίθεσθαι πολλάκις) as printed by Radt 2005).

The passage mentioning these southern people poses interpretive problems. As it stands in the Greek manuscripts, part of the text reads “Troglodytes Blemmyes and Noubai and Megabaroι the Aithiopiανs beyond Syene, Τρωγλοδύται <καὶ> Βλέμμυες καὶ Νοῦβαι καὶ Μεγάβαροι (οἱ ὑπὲρ Σῆνης Αἰθίοπες).” The passage from Eratosthenes shows these peoples as distinct; and if this text retains that view, normal Greek syntax expects a conjunction (καὶ, and) between Troglodytes and Blemmyes as is supplied by some modern editors in printed editions. Without the conjunction, the two terms could be treated as constituents of a single phrase, “troglodyte Blemmyes.” Moreover, the scope of the final phrase, “the Aithiopiανs beyond Syene,” might be questioned, particularly if Strabo was trying to be congruent with his citation from Eratosthenes. There Blemmyes and Megabaroι are subject to, not subcategories of Aithiopiανs (the Meroites). The phrase used here might be construed as in apposition to all the aforementioned peoples, grouped together as the Aithiopiανs (black people) beyond Syene and contrasted to the Aithiopiανs toward the south and Meroe (the Meroites, as is evident in the ensuing text). Alternatively, it might apply only to the Megabaroι, contrasting them to Troglodytes, Blemmyes and Noubai, who by implication live away from the Nile. Much turns on the meaning of the Greek preposition *hyper* (ὑπὲρ), variously translated as ‘above’ or ‘beyond.’ The contrast

between people near Syene and those toward the south and Meroe might favor a distribution along the Nile, but the philology is not decisive. Amid these uncertainties, the only increment in information about the Blemmyes is to bring them near the southern border of Egypt at the beginning of Roman rule and to find them treated as an ethnic group that, being neither numerous nor warlike, posed no security risk for the government of Egypt. None of this emerges from any source that can be ascribed to Blemmyes themselves.

Later in the first century CE, Pliny the Elder, in a much quoted context brimming with incredible tales from innermost Africa about peoples bereft of human traits and civil institutions, reports that “Blemmyes traduntur capita abesse, ore et oculis pectore adfixis” (the Blemmyes [*Blemmyae* in Latin] are reported to have no heads, their mouths and eyes being fixed in the chest, *Naturalis Historia* 5.8.46). Much of the chapter from which these words are drawn appears in the *Chorographia* written by Pomponius Mela only a few years before the *Naturalis Historia*. Pomponius Mela records in slightly different wording that “Blemmyis capita absunt, vultus in pectore est” (the Blemmyes have no heads, the face is in the chest, *Chorographia* 1.8). In spite of the considerable amount of material about Africa common to both authors, there are sufficient differences in the structure and wording of their texts to justify concluding that they drew on a common source, rather than that Pliny had made direct use of Pomponius Mela. That source most likely belongs to a preceding Hellenistic tradition that was more interested in narrating wonders and exotica than in recording reliable ethnographic information. The narrowly geographical information offered is general and does no more than place the Blemmyes far to the south beyond a continuous and uninhabitable region and juxtapose them to other scarcely human peoples. To this set of texts that present Blemmyes as a vaguely defined people remote from and of no concern for Egypt can be added the mention of them in the *Geographica* of Claudius Ptolemy, a predominantly technical work concerned with establishing the longitudinal and latitudinal coordinates of places throughout the known world. Ptolemy was active during the middle decades of the second century CE, at a time when direct knowledge of Blemmyes was appearing in contemporary documentary sources. Even so, he places them far to the south, east of the Nile, south and west of the Bay of Avalites, near the

southern end of the Red Sea, and north of a line roughly 10° north of the equator. The general context suggests that this is a manifestation of inertia perpetuating an outdated tradition.

Throughout the second century CE and well into the third, sources explicitly relating to Blemmyes are notably lacking, and it is only at the end of the third century CE that a new set of sources emerges that presents Blemmyes in a broader range of contexts. None of the members of this set is free from problems of interpretation, three come from the much criticized *Historia Augusta* (Eide *et al.* 1998: 1060-1053, 1063-1065, 1065-1066), two make no explicit mention of Blemmyes but only refer to Indians in contexts where that name has been interpreted as referring to them (Eide *et al.* 1998: 1057-1059, 1060-1053), and only one of minor importance can be nearly contemporary with the events to which it refers (Eide *et al.* 1998: 1055-1057). The most influential source (Eide *et al.* 1998: 1188-1193), however, was written in 298 CE, nearly 250 years after the events it purports to record. Its author, Procopius of Caesarea, was a highly productive Byzantine historian, considered reasonably accurate as regards events of his own times, though with a markedly negative bias against his contemporary, Emperor Justinian (483–565 CE). In the context of his account of Justinian's wars (1.19.27-37), he describes the withdrawal by Emperor Diocletian (244–311 CE) from the Egyptian border to the vicinity of modern Aswan. To secure this new disposition, the emperor arranged for the tribe (γένος, *genos*) of the Nobatai to move into the Nile Valley on either side of the river and thus provide a buffer against the tribe of the Blemmyes. The information content from Procopius bifurcates, and one task is to disentangle past and present in this pivotal text; what relates to Procopius's own time, what genuinely refers to Diocletian's time, and what relates to the intervening period.

Procopius appears to begin by referring to his own time as regards the distance between Aksum and Elephantine (Aswan), the peoples living there, and Elephantine as the southern boundary of the Roman Empire. The turn of phrase used to express the distance in terms of travel time seems a rather archaic formulation, and it is conceivable that his whole account may have been borrowed from an earlier source, perhaps the same one that conveyed the dispositions of Diocletian and their motivation. There is no reason *a priori* to doubt that gold was paid to the Blemmyes in Procopius's day, but that

the Blemmyes were paid continuously from Diocletian's reign onward is not supported by any other source and does not obviously conform to Roman policy during that period. There are, however, sources to corroborate the assertion that the Blemmyes did indeed raid Roman territory in that period. The statements concerning the temples on Philae, the presence there of Blemmy priests and the gods in which the Blemmyes believe has little explicit support from other contemporary sources, but may gain some indirect support through interpretations of texts from Philae (Dijkstra 2008). A Blemmy custom of making human sacrifices to the sun is uncorroborated. This and subsequent sources of the 4th century CE present the Blemmyes somewhat differently than earlier texts. Although the Blemmyes are still placed in the interior of the desert, they are now presented as a very populous tribe of barbarians, a force the Roman rulers in Egypt had to reckon with. In addition to military dispositions to contain and fend them off, for which there is some archaeological corroboration (Pierce 2001: 96-97), attempts were made to win their hearts and minds through the establishment of religious institutions. Some sources were even beginning to indicate that Blemmyes had a distinctive culture.

Other sources of the 4th century CE are consistent with this picture, and even show Blemmyes operating farther north in the desert and encroaching on the Nile Valley at Coptos and Ptolemais as allies of the Palmyrenes. Although all these sources must be utilized with caution, as this survey of sources explicitly mentioning the Blemmyes moves into the 4th century CE, the picture becomes more substantial. Two sources in particular mutually corroborate one another in showing the Roman interest in maintaining political relations with them. In a eulogy of Emperor Constantine I (272–337 CE), Eusebius of Caesarea paints a colorful picture of the motley line of barbarian envoys waiting to be received at the imperial palace: "Some had ruddy complexions, some whiter than snow, some blacker than ivory and pitch, and some had a color of a middling blend—for both the Blemmy and the Indian races and the Aithiopians [...] could be seen as I watched the scene described above" (Eide *et al.* 1998: 1079-1081). We might have doubted the authenticity of this report if we did not have a petition to the Emperors Constantius and Constans on a papyrus in the Archive of Abinnaeus, in which a commissioned officer in the Roman army refers to how in the years 337–341 CE he was assigned to

bring “refugees from the Blemmy people (*Blemniorum gentis refugas*)” to Constantinople and subsequently spent three years escorting “the aforementioned envoys (*legatos*)” back “to their homeland (*patriam suam*)” (Eide *et al.* 1998: 1083-1087). The evidence of these two sources is consistent with that of the third set of sources. Roman diplomacy appears to be working at this juncture, but there seems to be an internal contradiction in Abinnaeus’s text. He is ordered to conduct Blemmy refugees to Constantinople, departs “with envoys of the aforementioned people” in the company of his superior, and returns escorting “the aforementioned envoys” back to their “homeland.” Are there two groups of Blemmyes, refugees and envoys, or only one? If there are two, then only one returns. My own inclination is to assume there is only one group, referred to rhetorically as taking refuge in the clemency of the emperor but in fact acting as envoys. Envoys imply some sort of political structure, and homeland implies territoriality. That these envoys (*legati*) returned to their homeland (*patria*) indicates they were not settled in Roman territory, but does not reveal whether that homeland was in the desert or in the Nile Valley south of the Roman frontier.

Later sources from the 4th century CE portray the Blemmyes as aggressive raiders sweeping down from the desert, plundering and terrorizing people in the Nile Valley, thus corroborating Procopius’s picture of their shifting relations (Eide *et al.* 1998: 1087-1092, written around 390 CE; Eide *et al.* 1998: 1107-1109, written before 466 CE). By 350 CE, other sources attest a settled Blemmy presence in the Nile Valley south of the Egyptian border. Two of these stand out. Epiphanius of Salamis remarks that Talmis (Kalabsha, about 50 km south of Aswan) “is now held by the Blemmyes” and that there were emerald mines in mountains beside Talmis where “the barbarians now dig and extract emeralds” (Eide *et al.* 1998: 196-1121). The use of ‘now’ implies that this was a recent occurrence, around 392–394 CE. Olympiodorus of Thebes gives a self-serving, but nonetheless informative account, written around 423 CE, of his visit among the Blemmyes (Eide *et al.* 1998: 1126-1128). From this time onwards it is documentary sources, some originating internally from self-declared Blemmyes, that predominate and give substance to a picture of them as having a defined political structure, desert connections and vital pastoral interests. In this regard, particularly important are the somewhat enigmatic letter from Phonen, King of the

Blemmyes, written around 450 CE, to Abourni, King of the Noubades, detailing the ongoing conflict between the two peoples for control of pasture in the Nile Valley (Eide *et al.* 1998: 1158-1165) and the so-called ‘Blemmy documents,’ a modest corpus of legal and administrative documents probably found in Gebelein (near Luxor), which explicitly emanate from a Blemmy milieu (Eide *et al.* 1998: 1196-1216).

To the documentary sources one can add an excerpt from a letter, written around 580 CE, to Theodore of Alexandria from the king of the Nobades, preserved in the Syriac Church History by John of Ephesus (Dijkstra 2005). There the Nobadian king describes how

[b]ecause of the malice of the cunning of him that is between us, namely the king of the Makurians, I sent my holy Father to the king of the Blemmyes that he might send him thither (to Alodia) by ways which are in his territory. Ultimately he who was (just) mentioned, the Makurrian, learned of this and set his guards at every pass of his kingdom, in the mountains and in the valleys, as far as the red Sea, as he tried to seize my Father to frustrate that good work of God, as my Father has written to me here (Vantini 1975: 21-23, reproducing the translation by Payne-Smith, checked against Richter 2002: 86).

This mirrors a letter Longinus had sent to the Nobadian king describing his journey:

Of course we were neither without the love of humanity which is in Him (God) nor His chastisement. All those who were with my frailty came down severely or to some lesser degree sick, my insignificant self being the first. It was also right that I was the first to be chastised since I was the cause of many sins and errors into which I fell. And not only did we fall into sickness and doubt our salvation but also the animals with us, which did not tolerate the blazing heat and dryness in the mountains and the foulness of the water, died. In this way seventeen dromedaries died on us (adapted from Vantini 1975: 19-20; checked against Richter 2002: 86).

Here Blemmyes are presented acting in a space and in a role soon to be associated with the Buja of medieval and the Beja of modern sources; and that the same people lie behind both ethnonyms has long been asserted and has been accumulating support from written sources (Plumley and Adams 1974; Plumley 1975). In both cases the names may reflect a similar level of organization and represent identities elicited by confrontation and interaction with external powers. Small groups (nuclear family, clan) suffice for day-to-day activities and broader ethnic identities of section and tribe arise to meet greater

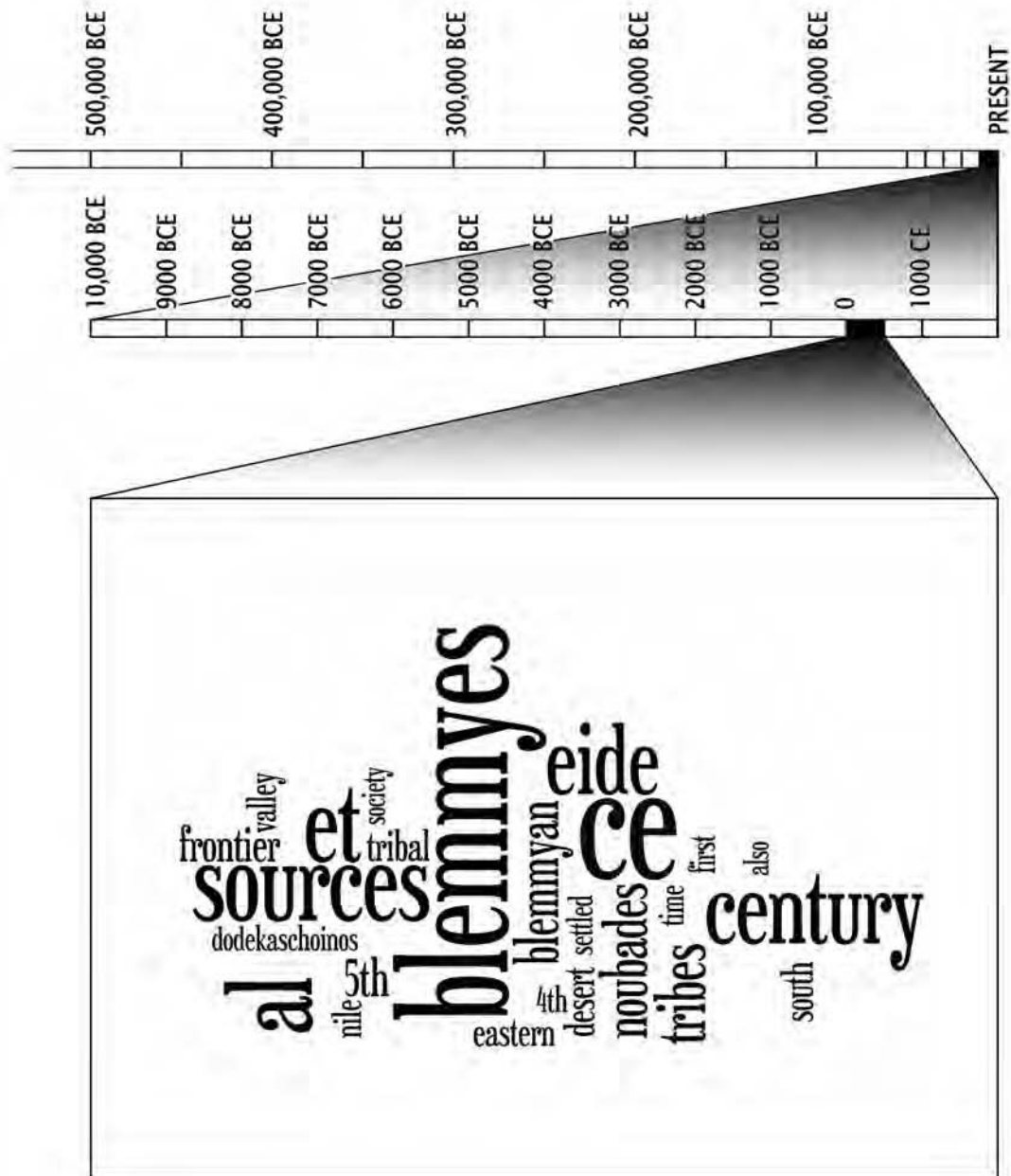
challenges, much as the modern Beja identity is forged in tribal competition within the nation-state.

Desert dwellers are seldom, if ever, completely self-sufficient; and life in the Eastern Desert involves contact with the Nile Valley. The political relations between powers based in the two regions have usually been asymmetrical, with the advantage ultimately lying with those based in the Nile Valley. The presence of Bedouin sections of a tribe in the Eastern Desert and of sections of the same tribe settled in the Nile Valley is a well-documented feature of tribal life and obviously advantageous to the tribe as a whole. The tribesmen live in different worlds, but not in worlds apart. They are mutually supportive, both economically and politically. Commercial exchange of desert products (charcoal, animal products, medicinal plants, etc.) to obtain necessary foodstuffs and goods and service as carriers and guides are mediated by contacts in the Nile Valley. Moreover, the Bedouin of the Eastern Desert occupy a mountainous desert that is subject to recurrent fluctuations in precipitation and on occasions herdsmen from the desert have been compelled to seek refuge for themselves and their animals in the Nile Valley. These relations are most clearly to be seen in the records of the ethnographic present, whatever that really means, but can also be discerned in historical documents from the Middle Ages and earlier.

The sources for the Blemmyes are consonant with a Bedouin pastoral nomadic society based in the Eastern Desert that expanded northwards in Roman times and for a brief period gained an independent foothold in the Nile Valley. The Arabic sources dealing with the transition from Byzantine to Arab rule in Egypt and northern Sudan suggest a continuity of culture among desert dwellers. The overlap in both time and place of Blemmyes and Beja in sources from that period indicate that those sources are referring to the same peoples. When the Blemmyes appear as attackers in the Nile Valley, it is at specific places (such as Coptos, Panopolis, Syene, Philae and Antaioupolis), which lie at points where raiders from the Eastern Desert could gain access through larger valleys. Outside the Nile Valley they turn up at Kharga Oasis, in the Western Desert, and on the Red Sea coast, commandeering a ship to raid the Sinai Peninsula. Much the same applies to the Buja in the Arabic sources. Since the 1800s, writers on the Eastern Desert have used 'Beja' in a general way to refer to the broad assemblage of tribes and clans,

whose members even today, in the first instance, tend to identify themselves as Bisharin, Hadendoa, and so on, secondarily by their clan, and only in special contexts as Beja (Murray 1935; Paul 1954; Wendrich 2008; Barnard 2009). I expect the same held true for the peoples of the past. We have no direct sources from subgroups of Blemmyes, but the usage in the Blemmy documents from Gebelein and in the letter by Phonen, King of the Blemmyes, suggests that the people who commissioned those texts must have recognized the term Blemmy as an appropriate expression of their general identity, both among themselves and in relation to others.

Objections have been raised to the identification of the Blemmyes as pastoral nomads in the Eastern Desert on the grounds that their settled presence in the Nile Valley, subject to kings supported by administrators with elaborate Byzantine titles, shows that in the 4th and 5th centuries CE their territory "lay in the Nile Valley, not in the Eastern Desert" (Burstein 2008: 259). The evidence presently available can equally well be understood as showing them based in the Eastern Desert, but having a tenuous foothold in the Nile Valley. As for the use of administrative terminology that to some degree parallels that of Byzantine Egypt, the question remains how much political significance should be ascribed to this fact. In the shadow of modern states, Bedouin sheikhs have been addressed with lofty titles, such as Sir, Officer of the British Empire or King, without their political organizations being other than traditional and tribal (O'Connor 1993: 112, 119). It has been suggested that the Blemmyes were probably organized as a "nomadic state" (Khazanov 1994). This might be true in form for the period when they held a foothold in the Nile Valley, but not in substance on the scale Khazanov was considering. Even Bedouin have semi-permanent dwellings, and it remains to be seen whether the ancient settlements in the Eastern Desert (*medinas*) may have had Blemmy residents (Ricke 1967: 33-37; Pierce 2001: 157, 166; Sidebotham *et al.* 2002, Lassaniy, this volume). Ultimately, at the most general level the desert dwellers, whether called Megabaroï, Troglodytes or Blemmyes, may be one and the same people. This, at least, was what an ancient scholiast concluded about the Blemmyes and Troglodytes when commenting on Theocritus: "Βλέμυες: ἔθνος Αἰθιοπικὸν μελανόχρουν· οἱ αὐτοὶ δὲ τοῖς Τρωγλοδύταις" (Blemmyes: a black-skinned Aithiopian *ethnos*; the same as the Troglodytes, *Prolegomenon anecdote* poem 7, section verse 114a, line 1, Wendel 1967).



Time line and word cloud for Jitse H.F. Dijkstra, *Blemmyes, Noubades and the Eastern Desert in Late Antiquity: Reassessing the Written Sources*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 17



Blemmyes, Noubades and the Eastern Desert in Late Antiquity: Reassessing the Written Sources

JITSE H.F. DIJKSTRA¹

THE FAMOUS ROMAN ETHNOGRAPHER STRABO (17.1.53, Eide *et al.* 1998: 828-835) wrote in the first century CE about the peoples south of Egypt:²

There remain, to the south, the Troglodytai, Blemmyes, Noubai and Megabaroï, the Ethiopians beyond Syene. These are nomads and neither many nor warlike, although they were believed to be so by the ancients because of their frequent raids on defenseless people. As regards the Ethiopians who extend towards the south as far as Meroe, they too are not numerous, nor do they live closely together, for they inhabit a long, narrow and winding river valley, as we already described [in 17.1.1 and following]. Nor are they well prepared either for war or for life in general (Eide *et al.* 1998: 830, slightly altered).

It is not entirely clear from this account how Strabo views the situation south of the Egyptian frontier, but he seems to make a division between four ethnic groups, among them the Blemmyes, who are nomadic, and settled Ethiopians in the Nile Valley (Pierce, this volume). From

an earlier passage (Strabo 17.1.2, Eide *et al.* 1996: 557-561), we learn in addition that the Blemmyes, together with the Megabaroï, live to the north of (the island of) Meroe, between the Nile and the Red Sea, that is, in the Eastern Desert (but see Pierce, this volume). In that passage, the Troglodytai are said to live on the Red Sea coast, while the Noubai inhabit the land to the west of Meroe. Several other Graeco-Roman ethnographical, geographical and other accounts exist, in which the Blemmyes are located rather vaguely south of Egypt among various other peoples, usually in the Eastern Desert. In Claudius Ptolemy's *Geographica* (4.7.31, Stückelberger and Graßhoff 2006: 465), for instance, the Blemmyes are placed, together with the Megabaroï and Noubai, to the east of the Nile farther south.³

In terms of the quantity and variety of the written sources, however, the heyday of the Blemmyes falls not in the Graeco-Roman, but rather in the Late Antique Period (4th–6th centuries CE). When one takes a closer look at these sources, two marked differences with the previous period appear. First, they predominantly place the Blemmyes not in the Eastern Desert but in the Nile Valley, at least at the end of the 4th and the first half of the 5th century CE alongside a people referred to as 'Noubades,' in northern Lower Nubia. Second, we

¹ Some of the key issues addressed in this chapter benefited considerably from a fruitful intellectual exchange with Jacques van der Vliet in 2002, for which I am grateful. I would further like to thank him and Geoffrey Greatrex for remarks on an earlier version of this chapter.

² In this chapter I refer in most cases both to the textual sources and to the relevant pages in Eide *et al.* 1996; Eide *et al.* 1998, who usually provide bibliography, text, translation and comments.

³ For the sources on the Blemmyes before 298 CE, see Updegraff 1978; Updegraff 1988.

only hear of the Blemmyes and Noubades and not the variety of other peoples south of Egypt as was the case in the previous period. In this chapter the question will be addressed as to how it is possible that in Late Antiquity we only hear about the Blemmyes (and the Noubades), and to what extent these Blemmyes can still be connected to the Eastern Desert.

In order to answer these questions we shall first take a fresh look at the plentiful sources about the Blemmyes and Noubades and at what they say about the situation south of the Egyptian frontier in this time period. Thus far, scholarly reconstructions of this situation have been too static and we shall re-interpret the sources in the light of anthropological studies of other tribal societies. Having sketched a more complex view of the society of northern Lower Nubia in the 4th–5th centuries CE, we shall finally come back to the question of the relations between the Blemmyes living there and the Eastern Desert.⁴

Previous Scholarship on the Society of Late Antique Lower Nubia

In recent years, significant progress has been made in the study of the Late Antique sources on the Blemmyes and Noubades with the publication of the third volume of *Fontes Historiae Nubiorum* (Eide *et al.* 1998). This publication has made available, through English translations, the primary sources, which were written in a variety of languages and scripts (Demotic, Meroitic, Greek, Latin and Coptic) and are often hard to access, both to specialists and to a wider community of scholars who do not master some or any of these. Yet many commentaries in *Fontes Historiae Nubiorum* still reflect the coherent histories that scholars in the past have attempted to write on the basis of too few sources, without sufficiently taking into account the inherent bias in these sources, which look from an outside perspective to the situation beyond the southern Egyptian frontier, and the complexity of tribal societies.

These reconstructions are usually represented in terms of ‘conquest’ and ‘occupation,’ in which ‘the Blemmyes’ and ‘the Noubades’ battled it out after the withdrawal of

the southern Egyptian frontier by Emperor Diocletian to the First Cataract in 298 CE (Procopius, *Persian Wars* 1.19.27–37, Eide *et al.* 1998: 1188–1193) and the subsequent weakening of the Kingdom of Meroe had left a power vacuum in Lower Nubia in the 4th–5th centuries CE. Some of these reconstructions, notably the one in the only, now rather outdated book-length synthesis on the Blemmyes (Updegraff 1978: 179), even speak of a centralized ‘Blemmyan State’ in the region immediately south of the frontier (Christides 1980: 136; Belçaguy 1982: 228–231; compare to Burstein 2008: 260), called Dodekaschoinos (‘Twelve Miles Land’) in Greek. More nuanced, if still too static, are later attempts (Török 1984: 220–236; Török 1988: 47–63; Török 1989: 397–412; Török 1999: 148, 152–153) to compose a coherent history out of all the sources. In this reconstruction the Blemmyes rose to power around 394 CE, after which they dominated the Dodekaschoinos until about the middle of the 5th century CE when they were defeated decisively by the Noubades. The results of this unstable situation on the frontier were frequent invasions of these peoples into Egypt, either alone or together, in what are often described as ‘wars’ with Rome.

This general framework is also found in *Fontes Historiae Nubiorum* (in particular in Eide *et al.* 1998: 1156–1158, 1165). For example, the aftermath of the peace treaty between the Roman general Maximinus (Priscus, fragment 21, Eide *et al.* 1998: 1153–1158) and ‘the Blemmyes and Noubades,’ in 452 or 453 CE,⁵ is described as a “state of war” (Eide *et al.* 1998: 1157). On the other hand, several remarks in the commentaries show an awareness that the situation must have been more complex than the historical sources suggest. For example, the Blemmyes are now said to be only “the masters of the area around Talmis” (modern Kalabsha, about 60 km south of Aswan, Eide *et al.* 1998: 1121), not of the whole Dodekaschoinos; ‘the Kingdom of the Blemmyes’ is to be seen as a ‘tribal state’ or ‘states’ (Eide *et al.* 1998: 1087, 1156, 1165), while some of the sources give an idea of the tribal hierarchy of the peoples (Eide *et al.* 1998: 1165). Despite these nuances, however, the editors do not fully transcend the static model of whole peoples led by ‘kings’ fighting each other in a struggle for power and invading Egypt.

What has not been sufficiently realized is that among the sources of the 5th century CE there is a unique group

⁴ The results of my research were first presented at the 7th International Congress of Nubian Studies, Rome, 10 September 2002. They were later published in Dijkstra 2008: 131–174. This chapter is based on this work, yet deviates from it in that it concentrates not on the relations between the southern peoples and Philae, but on their relations with the Eastern Desert.

⁵ The date of this event is usually placed shortly before the death of Maximinus in 453 CE, hence “452 or 453.”

of texts written for or by people who call themselves ‘Blemmyes’ or ‘Noubades’ (the ‘inside sources’).⁶ These sources provide a more reliable, if still fragmentary picture of the complex tribal society of northern Lower Nubia in Late Antiquity and therewith an important corrective to the ‘outside sources.’⁷ Moreover, they offer an excellent opportunity at comparison with what we know of other tribal societies from anthropological studies. The next step to understand the complexity of the tribal society south of the First Cataract in Late Antiquity, then, is to make a distinction between the ‘outside’ and the ‘inside sources’ about the Blemmyes and the Noubades and then to see how the ‘inside sources,’ aided by anthropological studies and models, supplement and modify the picture of the ‘outside sources.’ Another problem in the reconstruction in *Fontes Historiae Nubiorum* is that it gives no explanation for the scarcity of written sources (and the total absence of ‘inside sources’) for the 4th century CE, as compared with those of the 5th century CE. Before we turn to the sources of the 5th century CE, we shall therefore address this problem first.

The Problem of the Historical Sources of the 4th Century CE

In 280 CE, Blemmyes are reported in the *Historia Augusta* (Probus 17, Eide *et al.* 1998: 1065-1066) to have taken the cities Coptos and Ptolemais in Upper Egypt, which the Romans then had to reconquer. In the version preserved in Zosimus (1.71.1, Eide *et al.* 1998: 1175-1176), Ptolemais revolted against the Romans with the help of the Blemmyes and attacked Coptos. A little over a decade later, in 291 CE, we hear of them fighting with ‘Ethiopians’ (that is, Nubians) beyond the Roman frontier (*Panegyrici Latini* 11.17.4, Eide *et al.* 1998: 1055-1057). If these sources are reliable in any way, they tell us something about the unstable situation on the southern Egyptian frontier at the end of the third century CE, culminating in the revolt of Domitianus

Domitianus in 297 or 298 CE, which Emperor Diocletian personally repressed (Thomas 1976, 1977). To resolve the problems on the southern frontier, he then gave up the Dodekaschoinos and withdrew the frontier to the Aswan region in 298 CE, as is reported by Procopius of Caesarea (*Persian Wars* 1.19.27-37, Eide *et al.* 1998: 1188-1193).

Despite the account by Procopius, who locates the Blemmyes in the Dodekaschoinos up until 298 CE, there is no evidence that the Blemmyes had settled there in the third century CE. In fact, only at the end of the next century are there clear indications that they had indeed become settled in the Dodekaschoinos; the account by Epiphanius of Salamis (*De gemmis* 21, Eide *et al.* 1998: 1115-1121), dating to around 394 CE, states that Talmis “is now held by the Blemmyes,” and a series of later texts confirm that the process of Blemmyan settlement had been completed by this time (among which Claudius Claudianus, *Carmina minora* 28.15.23, Eide *et al.* 1998: 1125-1126; Palladius, *Dialogue on the Life of St John Chrysostom* 20.41-42, Malingrey and Leclercq 1988: 397).

If these Blemmyan tribes had become settled to such a degree in the Nile Valley by the end of the 4th century CE, how could this situation have come about? *A priori* it can be expected that Blemmyan settlement did not happen overnight, but due to the lack of reliable sources, we have to have recourse to anthropological parallels to find a satisfactory answer. Studies of how nomads settle show that they can pick up this way of life as a result of internal or external pressures to society, just as they can leave it again because of similar factors (Irons and Dyson-Hudson 1972; Salzman 1980; Cribb 1991; Khazanov 1994; Barnard and Wendrich 2008). It seems that the withdrawal of the southern Egyptian frontier in 298 CE, in which the Dodekaschoinos was given up by the Roman Empire, and the subsequent decreasing influence of the Kingdom of Meroe in the first half of the 4th century CE provides precisely such a context, for it would have resulted in a severe blow to the trade and other relations between Rome and Meroe. The archaeological remains of the Dodekaschoinos in the 4th–5th centuries CE that were studied before the closing of the Aswan High Dam, drowning the area under the waters of Lake Nasser, give the impression of continuity but at the same time of a decentralized agrarian society that was more self-sufficient than in previous times (Adams 1977: 390-413; Török 1988:

⁶ Other important ‘inside sources’ are the documents from Gebelein (near Luxor; Eide *et al.* 1998: 1196-1216), which concern a Blemmyan tribe in the Egyptian Nile Valley at the end of the 6th century CE. Because I concentrate here on the sources from the 4th–5th century CE, I shall not discuss these fascinating documents here.

⁷ Compare Pierce 2001: 164: “Ideally, one would like to turn these ‘outsider’ sources inside out so as to infer from them the perspectives of the ‘insiders’; in reality, we remain entangled in them, unable to free ourselves fully from their biases.”

209-219; Welsby 2002: 20-24; Edwards 2004: 198-210). This evidence suggests that the events of 298 CE and onward led to disintegration of the socio-political structure of the Dodekaschoinos. It seems plausible to assume, then, that Blemmyan tribes, which were probably already semi-settled or settled on the margins of the Nile Valley, stepped into the socio-political niche and gradually settled among the indigenous, Nubian population in the course of the 4th century CE.

The only literary source that contradicts this picture is the account by Procopius (*Persian Wars* 1.19.27-37, Eide *et al.* 1998: 1188-1193) on the withdrawal of the frontier by Emperor Diocletian in 298 CE. This Byzantine historian writes in the 6th century CE that the emperor asked the Nobatai (Noubades) to migrate from “the Oasis” and drive off the Blemmyes and other ‘barbarians’ that lived in the valley; and so it happened. This migration story, however, cannot be based on truth (Eide *et al.* 1998: 1192). The archaeological remains from the region do not show a marked break with the previous period, which makes a mass immigration of an entire people unlikely (Adams 1977: 345-348, 419-422; Edwards 2004: 201-202), and there is no association in the sources between the Noubades and any oasis, nor are the Blemmyes attested in the Dodekaschoinos before 298 CE. As we shall see, the other textual sources rather suggest that the scenario was the other way round and that the Blemmyes only appear to have been permanently settled in this region in the second half of the 4th century CE, whereas they disappear from the record again in the second half of the 5th century CE. It seems that Procopius is trying to explain the situation as it was in his own day, with the Blemmyes in the Eastern Desert—“the Blemmyes inhabit the interior of the country” (Eide *et al.* 1998: 1190)—and the Noubades in Lower Nubia, and that he wrote about the situation in 298 CE from a contemporary perspective (Demicheli 1976: 166; Török 1988: 31). Because the migration story appears to have been made up, it is more likely that the Noubades consisted of the local Nubian population, even though they came to be known in the sources by the name of Noubades only in the 5th century CE.

A confirmation of the equation between Nubians and Noubades is provided by a Demotic graffito from Philae dated to 373 CE (Griffith 1937: 104-105, Eide *et al.* 1998: 1110-1112). To this inscription the scribe, a priest from Philae, has added the remark that the Blemmyes and Nubians had been in conflict with each other, as a

result of which the processional boat (or bark) of Isis had been away from Philae for two years, but that the bark had been returned in the year in question.⁸ Because the account by Priscus, written in the 5th century CE, describes the Blemmyes and the Noubades as bringing a statue “to their own country,” which is clearly northern Lower Nubia, in 452 or 453 CE, this evidence confirms that the indigenous Nubians were later called Noubades. The graffito in Philae may also be the first indication of Blemmyan settlement in the Dodekaschoinos.

The process of Blemmyan settlement in the course of the 4th century CE, however, is extremely hard to follow in the small number of other sources we have from this century. In 336 CE, a delegation of Blemmyes attended the celebration in Constantinople of the 30th year of the reign of Emperor Constantine I (Eusebius, *Life of Constantine* 4.7, Eide *et al.* 1998: 1079-1081). A year or so later, in 337 or 338 CE, the Roman cavalry commander Abinnaeus escorted Blemmyan refugees to Constantinople, returned with them “to their homeland” (where this is, is not stated) and stayed with them for three years (Bell *et al.* 1962: 34-37, Eide *et al.* 1998: 1083-1087). In two inscriptions (Bernard *et al.* 1991: 367-372, Eide *et al.* 1998: 1094-1103), dated around 350 CE, King Ezana of Aksum, a successor kingdom of Meroe, perhaps mentions Blemmyes as his subjects much farther south in modern Ethiopia.⁹ In 373 or 374 CE, about the same time that the Demotic graffito was incised at Philae, Blemmyes are reported to have raided a monastery in the Sinai (Mayerson 1994: 148-163). Finally, the Roman historian Ammianus Marcellinus (22.15.24, Eide *et al.* 1998: 1114-1115) writes in the last quarter of the 4th century CE that hippopotami formerly living in the Nile Valley of Egypt had moved because of over-hunting to ‘the Blemmyes.’ Tempting though it may be to view this source as a confirmation that the Blemmyes had settled in the Nile Valley south of Egypt at this time (Burstein 2008: 258-259), it can

⁸ The reading *Nwbe.w* (“Nubians”) was originally proposed by Griffith 1937: 105. For a different reading see Bresciani 1969, followed by Eide *et al.* 1998: 1111, but see the refutation of this reading by D. Devauchelle in Wagner 1987: 397, note 1.

⁹ That is, if the name Bougaeitoi, which is reminiscent of the later name Beja, can be equated with Blemmyes. Epiphanius of Salamis (*De gemmis* 19-21, Eide *et al.* 1998: 1115-1121), however, around 394 CE distinguishes the Blemmyes in Talmis from the Bugaei, whom he apparently places further south.

be questioned whether such a precise location of the Blemmyes at this time can be inferred from this source.¹⁰

In sum, the scanty sources of the 4th century CE do not give an unequivocal picture of the location of Blemmyan tribes. What seems clear, however, is that by the end of the century they had become settled in the Dodekaschoinos. The most plausible scenario for the process of settlement is that in response to the disintegration of the socio-political structure of the Dodekaschoinos at the end of the third century CE, Blemmyan tribes gradually settled among the indigenous population in the course of the 4th century CE. This disintegration in political structure, from an area belonging to one state (the Roman Empire) and under the influence of another (the Kingdom of Meroe) to a less complex society, is no doubt precisely the reason why we have so few written sources from the 4th century CE as compared to the 5th century CE. These later sources show an increasing organization of Blemmyan and Nubian tribes, in which certain tribes are associated with specific places and form federations with each other. It can be no coincidence that the name ‘Noubades’ also starts to appear in the 5th century CE. That being said, it is time to turn to these sources. As they consist of ‘outside’ and ‘inside sources,’ we shall start with the former and then see how the latter supplement and modify the picture.

The Society of Northern Lower Nubia in the 5th Century CE

The predominant impression that we get from the ‘outside sources’ on the Blemmyes and Noubades in the 5th century CE is that they frequently raided Egypt. The two most important sources in this respect are the historians Procopius (*Persian Wars* 1.19.27-37, Eide *et al.* 1998: 1188-1193) and Priscus (fragment 21, Eide *et al.* 1998: 1153-1158). Although reporting about events in 298 CE (but written from a later perspective), and 452 or

453 CE, respectively, both describe peace treaties with these peoples to keep control of the unstable situation at the frontier after 298 CE. The texts also clearly illustrate the Roman willingness to make concessions, such as tolerating access to the temple island of Philae. Perhaps related to the treaty of 452 or 453 CE is the campaign by Florus, *procurator* of the city of Alexandria, against the Blemmyes and Noubades in 450-457 CE (Jordanes, *Romana* 333, Eide *et al.* 1998: 1193-1194). An idea of the impact of such raids is given in a petition on papyrus, dated 425-450 CE, to Emperor Theodosius II by Bishop Appion of Syene (modern Aswan), who complains that raids by these peoples, “coming upon us as if from nowhere,” hinder the churches in his diocese (Feissel and Worp 1988, Eide *et al.* 1998: 1138-1141).¹¹

Whereas there is some evidence for diplomatic exchanges between Rome and Blemmyan tribes in the 4th century CE (Eusebius, *Life of Constantine* 4.7, Eide *et al.* 1998: 1079-1081; Bell *et al.* 1962: 34-37, Eide *et al.* 1998: 1083-1087), these relations seem to have been formalized in the 5th century CE by assigning both the Blemmyes and the Noubades a federate status. According to Procopius the Blemmyes and Noubades were paid annually until his own time, as often happened with tribes that held this status elsewhere in the Roman East (Heather 1997: 66-71; but see Pierce, this volume). A federate status of the Blemmyes is also suggested by the historian Olympiodorus of Thebes (fragment 35.2, Eide *et al.* 1998: 1126-1128), who says in the first half of the 5th century CE that he visited the Blemmyes “around

¹¹ That raids from the south were taking place in the 5th (and 6th) centuries CE is also reflected in the emergence of the motif of ‘Ethiopian’ (Nubian) and Blemmyan raids into Egypt in non-historiographical literature of this time, especially early Christian literature. To concentrate just on the Blemmyes, in the *Blemyomachia* (Livrea 1978; Eide *et al.* 1998: 1182-1185), a classicizing poem dated between the end of the third and the middle of the 5th century CE, a battle is described between a Roman general and the Blemmyes. Blemmyan raids into Egypt are further reported in hagiographical works (Pachomius, *Paralipomena* 9, Eide *et al.* 1998: 1087-1092; *Life of Shenoute* 89-90, Eide *et al.* 1998: 1107-1109; in this context it is also relevant to mention a passage from the *Life of Moses* (Till 1936: 69), in which demons are said to carry spears “like the people of the Blemmyes.”). The 6th-century CE Church historian Evagrius (1.13, Whitby 2000: 21), finally, reports that the exiled Bishop Nestorius was captured on a Blemmyan raid in Kharga Oasis even though, if Nestorius was indeed captured by a desert tribe, it is doubtful whether they were Blemmyes.

¹⁰ Burstein also refers to another passage in Ammianus (14.4.3, Rolfe 1950: 27) where the inhabitants of the Eastern Desert, identified as Saracens, are said to extend “to the cataracts of the Nile and the frontiers of the Blemmyes.” Ammianus (or his source), however, does not seem to have had a clear understanding of the situation south of the frontier. This is evident, for instance, from Ammianus 22.15.2 (Eide *et al.* 1998: 1112-1114), where he views Elephantine and Meroe as west of Egypt. In this passage, moreover, he calls both “cities of the Ethiopians” (so Nubian cities), which implies that he thought that this whole area was in Nubian hands, while he places “the Saracens” in the Eastern Desert again (as in 14.4.3, Eide *et al.* 1998: 1113-1114). I would like to thank Jan Willem Drijvers for discussion of these passages.

Talmis” and met their “tribal chiefs and prophets.”¹² Olympiodorus was a Roman diplomat and therefore probably the reason why he was sent to the south was on a diplomatic mission. Moreover, the term ‘tribal chief’ (Greek *phylarchos*) is known from the eastern frontier of the Roman Empire where it was used for Arab chieftains entering into a federate relationship with the Romans (see, for instance, Grouchevoy 1995).

Apart from this picture of frequent raids by ‘the Blemmyes’ and ‘the Noubades’ into Egypt and the attempts by the Romans to do something about this—by concluding treaties with them, making them concessions (such as allowing them to worship at Philae or paying them money), and granting them federate status—the sources suggest that the Blemmyes undertook two kinds of activities in the Nile Valley at this time. First are religious activities, as we have seen that the Blemmyes were attracted to the Isis temple of Philae (Priscus, fragment 21, Eide *et al.* 1998: 1153-1158; Procopius, *Persian Wars* 1.19.27-37, Eide *et al.* 1998: 1188-1193; Griffith 1937: 104-105, Eide *et al.* 1998: 1110-1112). Furthermore, according to Olympiodorus (fragment 35.2, Eide *et al.* 1998: 1126-1128), they had “prophets” (a high-ranking Egyptian priestly title) at Talmis in the first half of the 5th century CE. Second are economic activities in which the Blemmyes were apparently engaged. Both Olympiodorus and Epiphanius (*De gemmis* 21, Eide *et al.* 1998: 1115-1121) tell us that the Blemmyes were involved in the extracting of emeralds in the mountains “near” or “around Talmis.” However, Olympiodorus also remarks that these emerald mines are the ones “from which the kings of Egypt used to obtain emeralds in abundance,” which suggests that the Blemmyes were actually exploiting the mining site of Mons Smaragdus, near the Red Sea coast south of the modern asphalt road between Edfu and Marsa Alam. This site is more than 200 km from Talmis, which brings us to the relations of the Blemmyes from the Nile Valley with the Eastern Desert, a topic to which we shall return in the next section.

Having discussed the picture that arises from the ‘outside sources,’ which are mostly literary works in Greek, Latin or Coptic, let us now compare this with the one from the ‘inside sources,’ which are all

¹² Most scholars discussing these sources assume a date of around 423 CE for this visit by Olympiodorus (for example Eide *et al.* 1998: 1126; Pierce, this volume), but this date is not certain (Gillett 1993: 13).

documentary texts. They are few in number, written in obscure (‘pidgin’) Greek or Coptic and often hard to understand or even translate (Hägg 1982, 1984, 1986). Yet they give an invaluable ‘inside’ view of the society of the Blemmyes and Noubades in the 5th century CE, and therewith provide an important counterbalance to the ‘outside sources.’

An example of how the ‘inside sources’ supplement the ‘outside sources’ are the several inscriptions from the temple of Mandulis at Kalabsha, which confirm the statement by Olympiodorus that the Blemmyes had “prophets,” as they testify to a Blemmyan-centered cult at Talmis in the 5th century CE (Wilcken 1901: 411-419, Eide *et al.* 1998: 1134-1138; Maspero 1908: 43-46, Eide *et al.* 1998: 1128-1132). Cultic activity in the late 4th century CE is further attested in an inscription from the northern temple of Taphis (modern Tafa, between Kalabsha and Aswan; Zucker 1912: 155-164, Eide *et al.* 1998: 1132-1134). Because Olympiodorus states, in the early 5th century CE, that Taphis was in the hands of the Blemmyes, it is likely that the inscription also refers to Blemmyan religious activities in this town, even if this is not obvious from the text.

Additional evidence for diplomatic relations, this time between a Noubadian tribe or tribes and the Roman Empire, is provided by one of the three letters addressed to the local Noubadian tribal chief (*phylarchos*) Tantani (Eide *et al.* 1998: 1165-1175). These letters date to around the second half of the 5th century CE and were found in Qasr Ibrim together with the Phonen Letter (discussed below). In the mentioned letter to Tantani, tribune Viventius sues for peace with the chief (Eide *et al.* 1998: 1165-1171). What seems to have happened is that a high military official responsible for all soldiers in Egypt had come to the frontier region, but had to leave again after a few days. He then delegated the task of concluding the peace treaty to Viventius, the commander of a military unit at the frontier (tribune), but who had apparently become responsible for all soldiers in the frontier region. This text confirms the picture of the ‘outside sources’ that Rome concluded peace treaties with the southern peoples, yet at the same time provides an important corrective to it in that it is not done with ‘the Blemmyes and Noubades’ as a whole, but in this case only with a local Noubadian tribe, which was probably based in Qasr Ibrim.

The ‘inside sources’ also significantly modify the picture of frequent raids into Egypt of the ‘outside

sources' and give us an idea of the tribal society south of the frontier, notably through the Silko Inscription and the Phonen Letter. The first is a Greek inscription on the walls of the temple of Mandulis at Kalabsha. It is the triumphal inscription of Silko, "*basiliskos* of the Noubades and all Ethiopians" (Bernand 1992: 147-149, Eide *et al.* 1998: 1147-1153), dated to the 5th century CE. In this inscription, Silko contends that he fought with Blemmyan tribes on three occasions, apparently in the large area from Primis (modern Qasr Ibrim) to Talmis (Kalabsha), and gained a victory each time. As *casus belli* for the second campaign, Silko mentions that the Blemmyes broke an oath they had sworn after their first defeat. Silko is also mentioned in the second source, the Phonen Letter. This is a Greek text on papyrus, found in Qasr Ibrim together with the letters to Tantani and hence also dated to around the second half of the 5th century CE (Rea 1979, Eide *et al.* 1998: 1158-1165). Phonen, probably the same person as the Blemmyan tribal chief Phonoin known from one of the inscriptions from Kalabsha (Wilcken 1901: 411-419, Eide *et al.* 1998: 1134-1138), may give the Blemmyan perspective on a capture of Talmis by Silko (on which occasion is not entirely clear), as he says that the Noubades not only broke a truce but also killed two leading tribesmen and took hostages. Phonen now asks Abourni, the successor of Silko, who had apparently died, to withdraw from "our lands" (around Talmis) and return the gods to the temple of Mandulis. The peace would mean "that we have my cattle with your cattle, pasturing one with another and the sheep."

The Phonen Letter provides some further information about the highest ranks of the Blemmyan tribes, for it mentions a tribal chief (*phylarchos*) and sub-despot (*hypotyranos*). Once again the title phylarch may indicate relations with Rome, but the hierarchy of the highest tribal offices is also reminiscent of modern chiefdom societies, such as that of the Sudanese Nuba with their chiefs (*mek*) and sub-chiefs (*sheikh*, Nadel 1947). Other similarities with chiefdom societies are the larger-scale raids apparently involving several tribes and a large territory, the way in which the conflict over lands is described, and the interests of both parties (cattle and sheep). Finally, clearly important is the breaking of the 'tribal code' by killing and taking hostages, which provokes counteraction. A chiefdom society would also explain the term *basiliskos* that Silko employs. The context makes it clear that Silko places himself on

an equal footing with other chieftains yet, as has been suggested (Hägg 1990: 148-156; Eide *et al.* 1998: 1153), with his usage of the diminutive of *basileus* ("king") he may have wanted to identify himself with the king par excellence, the Roman emperor, for chieftains often identify themselves with outside powers to reinforce their own position (Kristiansen 1991: 39).

The 'inside sources,' then, give a more complex picture of the tribal society south of the Egyptian frontier in the 5th century CE than sources such as Priscus and Procopius, which give the impression of 'wars' between Rome and whole peoples, in which 'the barbarians' needed to be subdued. First, the letter of Viventius to Tantani gives a more realistic picture of how the peace was maintained on the southern Egyptian frontier. In it, a treaty is concluded not with whole peoples but with a local Noubadian tribal chief, and the instigator is not a high military commander but the local commander of the frontier troops who has been delegated this task. It seems plausible, given the complex tribal society south of the frontier, that such treaties were rather haphazard and were concluded, when the occasion arose, either with tribes near the frontier or the most powerful ones.

Second, when looking at the 'inside sources' we see that conflicts over land between different tribes or federations of tribes were equally at stake. The characteristics of this tribal society, as they appear especially from the Silko Inscription and the Phonen Letter, best conform to those of a chiefdom society, with Blemmyan tribes mostly concentrated in Talmis (Kalabsha) and Taphis (Tafa), and Noubadian tribes in Primis (Qasr Ibrim), further south.¹³ We should therefore no longer view Silko as a 'king,' at least not in the modern sense of a ruler of a state, but rather as a powerful chieftain at the head of a federation of tribes. Similarly, it would be better to identify this federation as a 'chiefdom' and to use the term 'Kingdom of Noubadia' only for the situation in the 6th century CE, when the Noubades seem to have been masters over a larger area with a higher degree of organization. It seems that the growing self-awareness of the Noubades, witnessed in the Silko Inscription, eventually pushed the Blemmyan

¹³ From the Silko Inscription it appears that he fought with the Noubades from Primis (Qasr Ibrim) to Talmis (Kalabsha) and the Phonen Letter, addressed to the Noubadian chieftain Abourni, as well as the three letters addressed to the Noubadian tribal chief Tantani have all been found in Qasr Ibrim, which suggests that they came from there.

tribes of the Dodekaschoinos back into the margins, for in the 6th century CE nothing is heard of them in this region any more.¹⁴

The Blemmyes and the Eastern Desert

Having provided a picture of a complex tribal society in Lower Nubia in the 4th-5th centuries CE, in which the Blemmyes gradually settled among the indigenous Nubian population in the course of the 4th century CE and were marginalized again in the second half of the 5th century CE, let us now address the question of how the Blemmyan tribes in the Dodekaschoinos can be related to the Eastern Desert. Recently it has been argued that they had nothing to do with it, “the evidence of the majority of the ancient sources is clear: the territory of the Blemmyes in the 4th-5th centuries CE lay in the Nile valley, not in the Eastern Desert” (Burstein 2008: 259). In light of the discussion of the sources, this statement needs at least to be modified in that we have clear evidence for Blemmyes in the Nile Valley only in the late 4th and first half of the 5th century CE (with no dated evidence after 452 or 453 CE). Even if we maintain that these sources indicate the presence of Blemmyan tribes in the Dodekaschoinos at this time, however, it is unlikely that they would have lost all contacts with the Eastern Desert. To understand the situation in its full complexity, we have to briefly return to the Graeco-Roman sources on the Blemmyes.

We have seen above how Strabo locates the Blemmyes rather vaguely south of Egypt, but probably in the Eastern Desert, and that he describes them as nomads. Such accounts give a simplified picture of the complexity of the Eastern Desert dwellers, who are regarded as primitive ‘barbarians.’ There is evidence, for example,

¹⁴ Blemmyan raids on Omboi (Kom Ombo), around 567 CE, and Antaeopolis (Qaw al-Kebir), around 547 CE, in Upper Egypt are reported in two petitions on papyrus from the so-called Dioscorus archive (Maspero 1911: 16-18, 36-39). A Blemmyan tribe settled on an Egyptian island with an independent status is attested in the Gebelein documents (Eide *et al.* 1998: 1196-1216), dated to the late 6th century CE. In the *Martyrdom of St Arethas* (Eide *et al.* 1998: 1185-1188), a letter from Emperor Justin I to King Elesbas of Axum is included. In this letter, written before April 525 CE, the emperor threatens to send an army of Blemmyes and Noubades. Finally, in a passage from the Syriac *Church History* of John of Ephesus (3.4.53, Richter 2002: 56), a group of Blemmyes, in 579/580 CE, escorts Bishop Longinus of Noubadia to Alodia through the Eastern Desert more to the south, where they are evidently placed in this story.

in three papyri dating to the third–second centuries BCE of Blemmyes settled in the Nile Valley of Egypt (La’ada 2002: 308). In reality, it can be expected that ‘the Blemmyes’ at this time consisted of a heterogeneous ethnic group, ranging from pastoral nomads to tribes in regular contact with settled people and even tribes which were settled themselves, much like modern Beja (Pierce 2001: 59-60; Burstein 2008: 253; Barnard 2009: 22-28). No doubt this situation did not change in Late Antiquity. In other words, that the sources mostly speak of Blemmyes in Lower Nubia thereafter does not mean that their brethren did not continue to live in the Eastern Desert; the latter have simply not left any textual evidence.

The textual sources confirm that the Blemmyan tribes in the Nile Valley continued their contacts with the Eastern Desert dwellers. As we have seen, they apparently exploited the emerald mines at Mons Smaragdus in the first half of the 5th century CE (Olympiodorus, fragment 35.2, Eide *et al.* 1998: 1126-1128) and perhaps already at the end of the 4th century CE (Epiphanius, *De gemmis* 21, Eide *et al.* 1998: 1115-1121). In the 6th century CE, Cosmas Indicopleustes (11.21, Wolska-Conus 1973: 353) tells us that Blemmyes provided ‘Ethiopians’ (Nubians) with emeralds for the trade with India, and this Blemmyan activity apparently continued into Arab times (Kirwan 1937: 78). According to Olympiodorus, Blemmyan tribes were also established in the desert station Phoinikon (al-Laqaitea, between Qift and Quseir), and in Khiris, which may be another desert station on the road from Coptos to the Red Sea harbor Berenike (Kirwan 1966: 123). In addition, archaeological evidence from Berenike shows that in Late Antiquity part of the population consisted of pastoral nomads, who had probably settled from the Eastern Desert for economic reasons and may well have felt ethnically related to the Blemmyan tribes in the Nile Valley (Sidebotham and Wendrich 1995: 8-10; Sidebotham and Wendrich 1996: 51, 353; Sidebotham and Wendrich 1998: 181; Sidebotham and Wendrich 1999: 452-453; Sidebotham and Wendrich 2000: 419; Sidebotham and Wendrich 2007: 198; Smith 2008: 358-359). It seems that a similar process took place in the case of the Blemmyan tribes settled at Talmis, which is mentioned twice in connection with the emerald mines. Perhaps they revived the old trading link with the south and concentrated in Talmis as their central place, while making use of the contacts with their brethren in the Eastern Desert.

Given these indications of the involvement of the Blemmyes in the Red Sea trade centered in the harbor of Berenike, another letter to Tantani, this time written by the clergyman or monk Mouses (Eide *et al.* 1998: 1172-1175) deserves to be mentioned. Among the goods traded between Mouses and the Noubadian tribal chief Tantani, he mentions (black) pepper, which is one of the main commodities imported from India and found in large quantities in the excavations at Berenike (Cappers 2006: 111-117; Wendrich *et al.* 2006). This text may be an indication that Noubadian tribes were also involved in the trading of the goods from Berenike into the Nile Valley at this time.

Even if an ethnic like 'Blemmyes' is a fluid term that stands for a more complex reality, it can be expected that certain tribes would have emphasized their solidarity in the face of the greater powers of the Nile Valley (Smith 2008: 357-359). This is perhaps the very reason why we only hear of 'the Blemmyes' (and Noubades) in the Nile Valley in the sources of the 4th–5th centuries CE, for the tribes there would have been in direct contact with the Roman Empire. Several accounts report the unstable situation on the southern Egyptian frontier, which the Romans tried to keep in check by concluding treaties. It seems that some of the Blemmyan tribes had become settled and organized to such an extent by the end of the 4th century CE, for reasons discussed above, that we hear of them in the Roman sources as a unified group, 'the Blemmyes,' and that they even spoke of themselves that way. With the growing organization of the Noubadian tribes in Lower Nubia, however, by the second half of the 5th century CE these Blemmyan

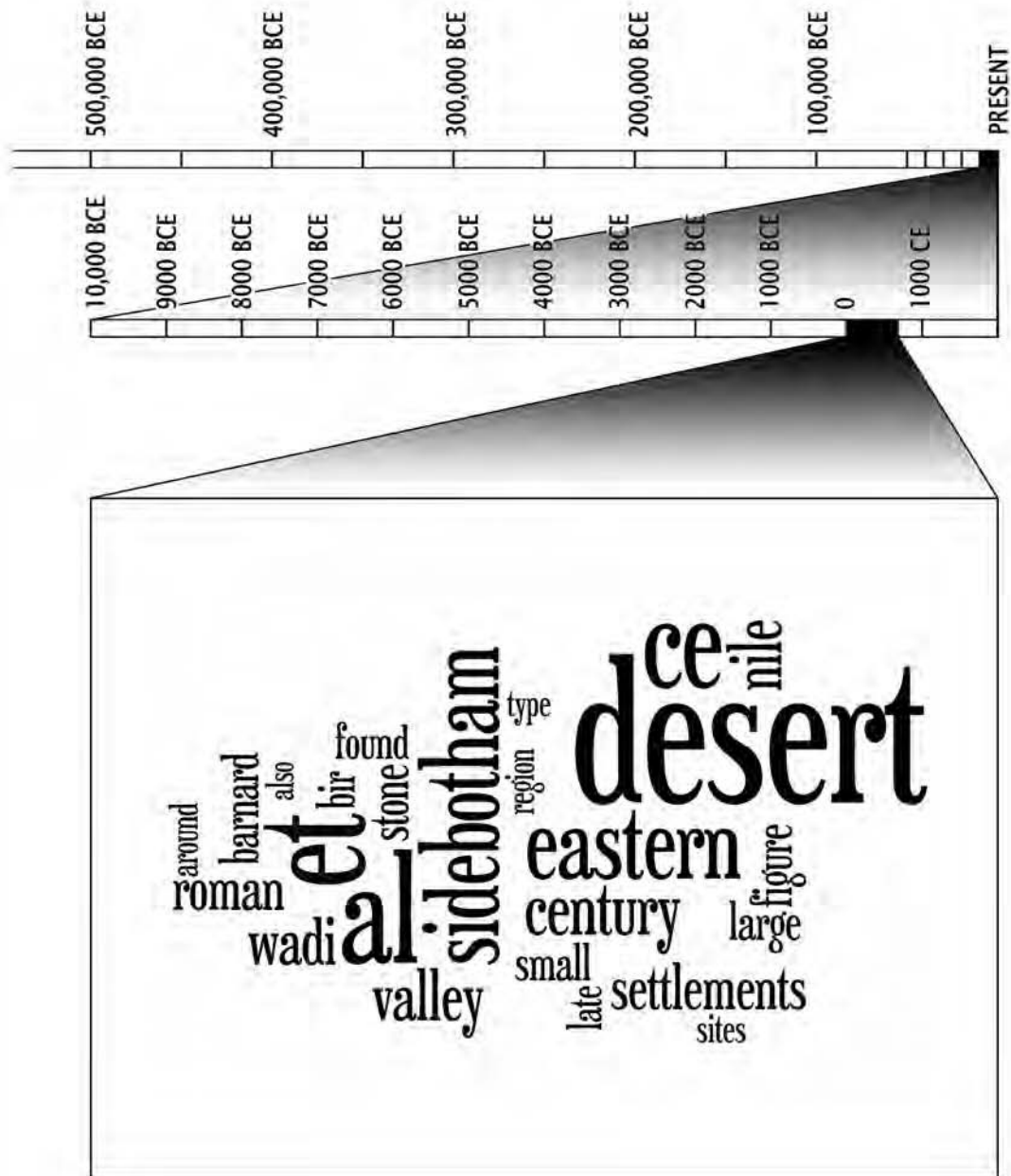
tribes became marginalized again, which is probably the reason why they disappear from the textual record for the Dodekaschoinos at this time.

Discussion

I hope to have shown that the ethnic term 'Blemmyes' should be used with extreme care because it was used in a generalizing way by outsiders, whereas the term probably included a wide variety of different groups of people living between the Red Sea and the Nile Valley. I therefore wholly agree that we cannot simply equate Eastern Desert Ware with 'the Blemmyes,' as has been successfully demonstrated in a recent study (Barnard 2008, see also Barnard 2005, 2007, 2009). I disagree, however, with the statement made there that "the textual sources have probably been exhausted" (Barnard 2008: 113). This holds especially true for the 'inside sources:' a linguistic analysis of Blemmyan names, even if the material is meager, could be rewarding, especially in comparison with Beja (Satzinger 1992; Browne 2003; Browne 2004; Satzinger 2004),¹⁵ the contents of the only Meroitic inscription of the probably Noubadian chieftain Kharamandoye from Kalabsha (Leclant *et al.* 2000: 208-211, Eide *et al.* 1998: 1103-1107) is still not fully understood, and the last word has also not been said about other problematic texts, such as the Silko Inscription and the Tantani letters.¹⁶ As much as the expectations are set on archaeological exploration of the Eastern Desert, which may yield more data about the various activities employed there, the written sources thus remain of fundamental importance.

¹⁵ See also Satzinger's earlier studies of the Blemmyan documents (Satzinger 1968; Satzinger 1985).

¹⁶ Joost Hagen is currently preparing a re-edition of the latter texts in his PhD-dissertation at Leiden University (the Netherlands) on the Coptic texts from Qasr Ibrim.



Time line and word cloud created from Gábor Lassányi, *On the Archaeology of the Native Population of the Eastern Desert in the First–Seventh Centuries CE*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 18



On the Archaeology of the Native Population of the Eastern Desert in the First–Seventh Centuries CE

GÁBOR LASSÁNYI¹

THE ARID ZONE BETWEEN THE NILE VALLEY and the Red Sea, called the Eastern Desert, is a topographically diverse area. It comprises large gravelly plains, sandy zones and the peaks of the Red Sea Hills. In many places fresh water sources lie close to the surface and groves of desert trees can be found. The area allows pastoral nomadic tribes to move around with their flocks and traces of them have been documented in the region from Neolithic times onward (Sadr 1988, 1991; Sadr *et al.* 1995; Gatto, this volume; Vermeersch, this volume). In the view of Hellenistic geographers this region was a borderland on the southern margin of the civilized world. Therefore, until the Roman and Byzantine Periods in Egypt (30 BCE–641 CE) most of the information available to ancient scholars about the area came in the form of secondhand information from traders and other travelers. This chapter aims to give an overview of the archaeological information currently available on the native population of the Eastern Desert in Roman and Byzantine times (Figure 18.1). To put this narrative into perspective, I will first summarize the most important textual and archaeological sources on the history of the region.

The Eastern Desert in the First–Third Centuries CE

In the first two decades after the Roman conquest of Egypt (30 BCE), the Roman government did not pay

¹The author would like to express his gratitude to Professor László Török for his advice during the writing of this chapter and to László Illés for preparing the illustrations.

much attention to the natural resources in the Eastern Desert or the harbors on the Red Sea coast, with the exception of Myos Hormos (just north of modern Quseir). At that time the most important desert routes were those used in Ptolemaic times, between Edfu and Berenike and between Qift and Myos Hormos. Some of the Late Ptolemaic gold mines in the south were probably still functioning at the time; most of the known Late Ptolemaic mines are close to the Edfu-Berenike and Edfu-Marsa Nakari roads (Sidebotham 1997a: 389; Sidebotham *et al.* 2008: 332–334). From the last years of the first century BCE, the central role in the desert trade of Edfu (Apollonopolis Magna) was again taken over by Qift (Coptos) and, like before, Coptos started functioning as a customs station between the desert and the Nile Valley (Rathbone 2002: 185–186; Sidebotham 2002: 416). The quarrying of ornamental stone was resumed during the Julio–Claudian Period (27 BCE–68 CE) in Wadi Hammamat (Bernand 1972: 41), while new operations were started in Wadi Umm Wiqala (Bernand 1977: 218–228; Sidebotham *et al.* 2001: 138–142) in Mons Claudianus (Maxfield and Peacock 2001: 431) and Mons Porphyrites (Peacock *et al.* 2001: 58–59).

From the reign of Emperor Augustus (27 BCE–14 CE), the desert roads and settlements were overseen by an equestrian military officer, the *praefectus Montis Berenicidis*. Trade between the Nile Valley and the harbors on the Red Sea flourished as early as the first century CE and cisterns and road stations were built along the desert roads to facilitate and safeguard the crossings of the Eastern Desert (Pliny, *Natural History* 6.26.102, Bernand 1984: 199–200; Cuvigny 2000:

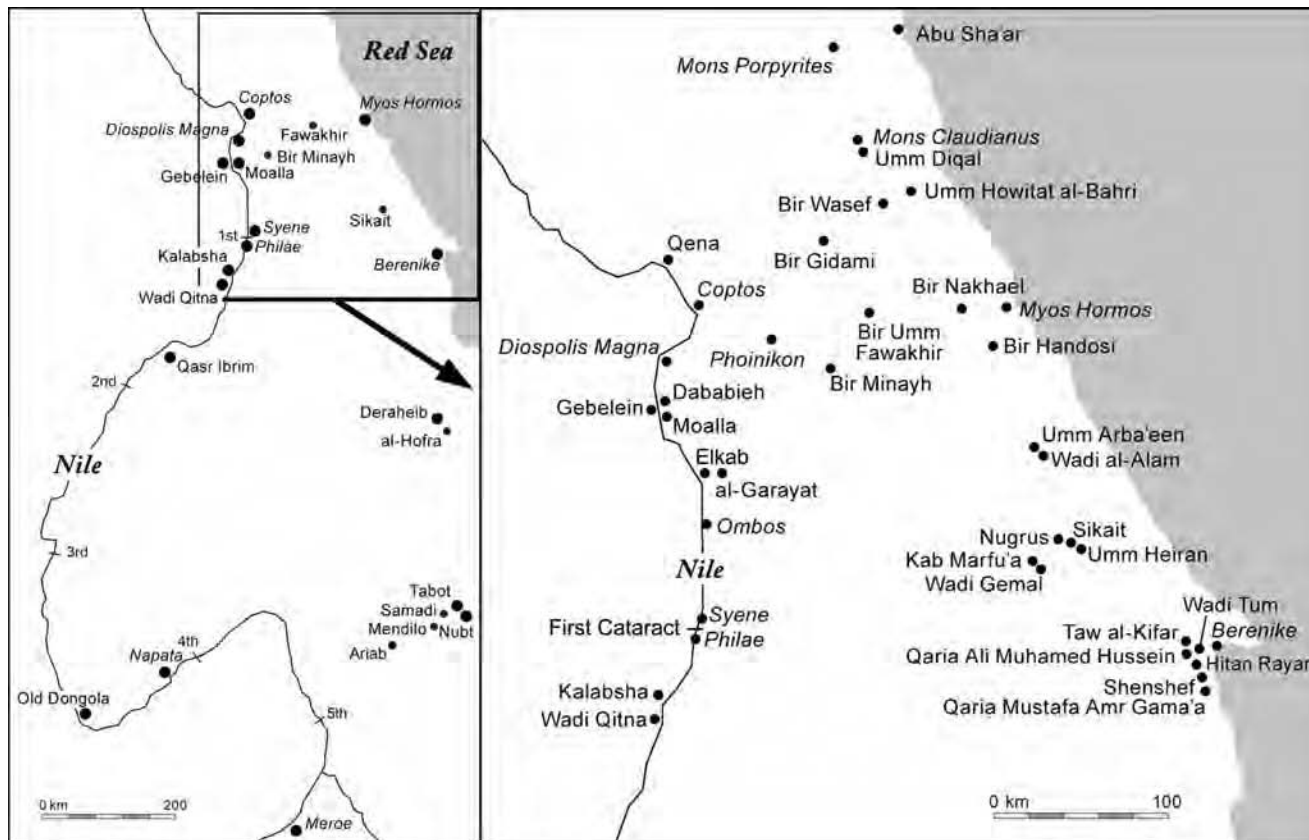


Figure 18.1. Map of the area showing the sites mentioned in the text.

162). In the Flavian Period (69–96 CE), road stations without significant fortification were converted into *praesidia* that functioned as fortified watering stations (*hydreumata*), road stations and check-points (Bagnall *et al.* 2001). In the second century CE these *praesidia* were garrisoned by small military units, comprising about 10–20 soldiers and 3–5 cavalymen (Maxfield 1996; Cuvigny 2003a: 307-310). The superiors of the *praesidia* were the *curatores* who directly reported to the *praefectus Montis Berenicidis* or to the commanders of the troops stationed in the base camps at the end of the desert roads in the Nile Valley (Cuvigny 2003a: 313-317), especially in Coptos (Bülow-Jacobsen and Cuvigny 2007: 23). The establishment and fortification of the desert road stations not only provided a solid base for the traffic of taxed commodities and for the support of the imperial mail network, but was also a reaction against the increased raiding by the indigenous groups of the desert (Cuvigny 2003a: 321-333). The extent of the Roman occupation of the Eastern Desert remains unknown; taking a few scattered archaeological finds into consideration it is possible that there were

Roman gold-mining activities as far south as Daraheib in Wadi Allaqi, where a supposed Roman *praesidium* was discovered (Sadr *et al.* 1995: plate 5). In textual sources other small fortresses are mentioned, possibly situated east of the Dodekaschoinos (Cuvigny 2005: 135-154), the area south of Aswan.

In 137 CE, during the reign of Emperor Hadrian, a new desert road was built from Antinoopolis in Middle Egypt (Bernand 1984: 216-217), first leading east through a rather barren part of the desert, and then following the coast of the Red Sea (Sidebotham and Zitterkopf 1997, 1998; Sidebotham *et al.* 2000). The commercial significance of this road is unclear (Sidebotham *et al.* 2008: 42-43). In the second half of the first century CE, minor clashes between the locals and Roman military units in the Eastern Desert are mentioned (Cuvigny 2003a: 351-352), while in the beginning of the second century CE there is an abrupt increase in the military reports on attacks by the nomads of the desert intent on stealing dromedaries (Cuvigny 2005: 35-37, 89-95, 109-110). This definitely indicates the empowerment and mobilization of the population of the desert; according

to the literal sources, however, the nomads did not have effective military strength at the time.

The process of acculturation of the desert population is reflected in the correspondence of the *praesidia*. From the Severan Period onward (193–235 CE), foreign names of persons receiving military allowances in Roman camps appear more frequently. Baratit, the so-called *tyrannos* of the ‘barbarians,’ even had a letter in Greek written to one of the curators of the road to Berenike (Grimal 1999: 506; Cuvigny 2007: 320). Another ‘barbarian’ whose name is included in one of the letters bore the title *dekanos* (Grimal 1998: 541). As it appears in a report by a *monomakhos*—probably an armed caravan guardian (Cuvigny 2003b: 373)—who had been expelled from his *praesidium* (Grimal 1999: 506), these barbarians effectively controlled the desert roads in the late Severan Period. No textual evidence exists for the southern (Sudanese) part of the desert, east of the Meroitic Kingdom, and no archaeological material indicates Kushite activity in the southern gold mining regions. Several ‘Beja’ tribes living in the south of the Red Sea Hills, however, apparently came under the influence of the rising Aksumite Kingdom for a period between the second and third centuries CE (Eide *et al.* 1996: 948–953).

As a consequence of the crisis in the Roman Empire, the military presence in the *praesidia* in the Eastern Desert came to an end in the middle of the third century CE. There is, however, no archaeological evidence for extensive intentional destruction in the final strata of the *praesidia*. On the basis of the available archaeological information, it is unclear whether any mining activity took place in the Eastern Desert until the time of the Tetrarchy (293–306 CE). One possible exception is a badly damaged dedicatory inscription above the entrance of the small rock-cut temple in Wadi Sikait (Bernand 1977: 167–177; Rivard *et al.* 2002; Sidebotham *et al.* 2004; Foster *et al.* 2007: 332–333). This text has been dated to the reign of the Emperor Gallienus (260–268 CE), but it is most likely earlier.² Scattered written sources referring to ‘Blemmyan’ raids in the area of

² The text was reconstructed by Bernand from three different drawings by 18th–19th century CE travelers (Bernand 1977: 167–177). Next to the fragmentary state of the inscription, several problems arise with his reading. First, Bernand reconstructed the Greek inscriptions above the right gate and the middle gate as a single inscription. Second, in the reconstructed text Berenike is mentioned as a deity, which is unlikely in a third-century CE context.

Coptos are known from second half of the third century CE (*Historia Augusta*, Probus 17, Eide *et al.* 1998: 1063–1065; Zosimos, *Historia Nova* 1.71.1, Eide *et al.* 1998: 1175–1176). Their exact meaning is unclear.³

The Eastern Desert in the 4th–7th Centuries CE

During the Tetrarchy and the first decades of the Constantinian Period (around 290–340 CE), important military and administrative measures were taken towards the stabilization of the security of the Thebaid, the region between Aswan and Abydos. Emperor Diocletian officially evacuated the Dodekaschoinos, the Nile Valley south of Aswan, ceding it to the Meroitic Kingdom (Procopius, *De Bellis* 1.19.27–37, Eide *et al.* 1998: 1188–1193; Török 1988: 29–30). He is also started to build a line of forts around Syene (Aswan) and in the Thebaid, posting military units to the most critical points along the line of defense in the Nile Valley (Bowman 1978), often at the entrances to the main valleys leading into the Eastern Desert. The fort at Abu Sha‘ar, on the shore of the Red Sea (Sidebotham *et al.* 1989; Sidebotham 1993, 1994), can probably also be connected to the protection of the desert trade routes (Bagnall and Sheridan 1994: 162–163; Sidebotham 1994b: 157–158; Sidebotham 1997b: 503). The situation in the desert proper temporarily stabilized as the quarrying activity in Mons Porphyrites was restarted; the quarries and the restored network of these northern road stations were operational until the middle of the 5th century CE (Maxfield and Peacock 2007: 422–426). It is likely that the classical network of roads in the south was used by caravans during the period that the harbor of Berenike was prospering between the middle of the 4th and the end of the 5th century CE. No evidence, however, has yet been found of the rebuilding of Roman road stations in this area. Traders probably paid native guides or guardians for their services.

That the Roman government was largely familiar with the political situation outside the Nile Valley can be inferred from the archive of Flavius Abinnaeus (Török 1988: 31–32; Eide *et al.* 1998: 1083–1087), who served as *ducenarius* in the Thebaid and accompanied Blemmyan political refugees to the Imperial Court in Constantinople during the reign of Emperor Constantius

³ Both sources probably describe the same uprising in Middle Egypt around 280 CE; the rebels are said to have been helped by Blemmyan warriors.

II (337–361 CE). After this he escorted the Blemmyes back to their country and spent three years with them, most likely to represent the interests of his government in their territory. The political and ethnic situation in Middle Egypt changed continuously after the collapse of the Meroitic government in the middle of the 4th century CE and the volatile political situation in Lower Nubia, with the emerging post-Meroitic kingdoms (Török 1999), led to a strengthening of the Blemmyan tribes. Around 390 CE, the Mons Smaragdus area and Berenike were apparently under the control of the Blemmyes (Epiphanius, *De gemmis 19-21*, Eide *et al.* 1998: 1115-1121). Not much later it is written that the region around Talmis (Kalabsha, just south of Aswan) was also occupied by that tribe. The names of the settlements occupied can be found in the memoirs of Olympiodorus who traveled to Lower Nubia around 420 CE on some diplomatic mission. He writes about the emerald (beryl) mines that he wanted to visit and for which he needed the permission of the Blemmyan king who, according to the source, dwelled outside the Nile Valley (Török 1988: 49-51; Eide *et al.* 1998: 1126-1128; Dijkstra 2008: 146-156).

By of the middle of the 5th century CE, the quarrying of Mons Porphyrites came to an end (Maxfield and Peacock 2007: 426). Around the same time the Roman military forces in the Thebaid were no longer able to protect the province from ‘barbarians’ raids. There is ample reference in Coptic hagiographies to pagan Blemmyan desert nomads attacking monasteries and villages near the Nile Valley (Updegraff 1978, 1988; Eide *et al.* 1998: 1087-1092, 1107-1109; Dijkstra 2008: 156-159). The security situation of the Thebaid required direct action against these belligerent neighbors, but a military campaign did not take place until 450 CE when general Maximinus mounted a campaign against the Blemmyes and the Noubades in Lower Nubia (*Priscus*, fragment 21, Eide *et al.* 1998: 1153-1158). He defeated both of them and came to a settlement that was meant to last for a hundred years. As soon as Maximinus died, however, the barbarians are said to have immediately broken the pact.

The imperial government did not restrict its efforts to military actions, but also deployed diplomatic maneuvers. It can be assumed that there was some Byzantine initiative behind the conflicts between the Noubades and the Blemmyes over the rule of the region around Kalabsha in the middle of the 5th century CE.

Either way, it was a convenient opportunity for the imperial government to turn two restless peoples against each other. The triumphal royal inscription of Silko, King of the Noubades (Török 1988: 56-60; Eide *et al.* 1998: 1147-1153), written on the western wall of the forecourt of the temple of Madulis in Kalabsha provides information on the expulsion of the Blemmyes from the Nile Valley. The political situation stabilized somewhat in Lower Nubia after these events, but the Blemmyan menace never completely disappeared from Egypt until the end of Byzantine rule in 641 CE. The so-called Blemmyan documents, a set of documents in Greek and Coptic said to have been found on the island Gebelein just south of Luxor (Eide *et al.* 1998: 1196-1216; Dijkstra, this volume), indicate that around the end of the 5th century and the beginning of the 6th century CE, Blemmyan *foederati* were settled in the Thebaid (Power, this volume). Another treaty guaranteed pagan Nubian tribes the right to visit the temple of Isis on the island of Philae, near Aswan (Updegraff 1978: 148-150; Török 1988: 70; Updegraff 1988), until the reign of Emperor Justinian (527–565 CE). To the Upper Egyptian communities, however, these pagan groups did not mean security as they could be easily hired to take action in the machinations of the local landowners in the area. As it appears from a petition written in 552 CE (Dijkstra 2005), marauding pagan groups still caused anxiety in the region of Ombos (Kom Ombo, north of Aswan) even after the closure of the temple of Isis on Philae.

The Desert Dwellers in the First–Third Centuries CE

One of the so far unresolved archaeological issues of the Eastern Desert is the apparent lack of indigenous archaeological finds from the first millennium BCE to the second–third centuries CE, except for the southernmost territories (Fattovich 1989). The reason for this is probably that systematic research in the desert proper has been extremely limited, except for the Graeco-Roman sites mentioned above. The earliest remains of the indigenous population of the Eastern Desert are perhaps the tombs near Hitan Rayan and along the Via Hadriana (Sidebotham and Zitterkopf 1996: 398-400; Aldsworth and Barnard 1996; Sidebotham *et al.* 2008: 198-199), although their identification is uncertain (Figure 18.2). The superstructures of these tombs are low oval platforms covered by flat stone slabs. They

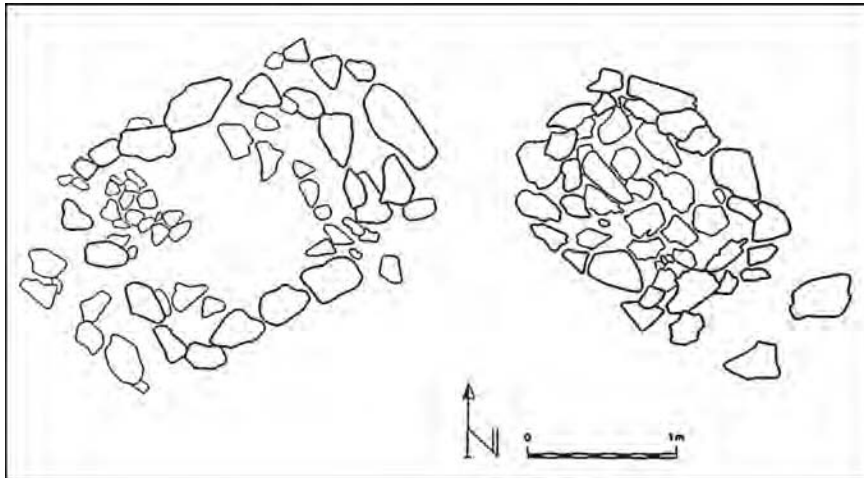


Figure 18.2. Plan of two Early Roman burials near Hitan Rayan. Adapted from Sidebotham and Zitterkopf 1996: 400.

can be dated to the first–second century CE on the basis of associated pottery, which is of known Roman-Egyptian, wheel-thrown types. No handmade vessels were documented in association with these structures.

Sherds of handmade, burnished and decorated cups and bowls, the first type of artifacts that can be connected to the native inhabitants of the desert, appear around the same time. Identified as Eastern Desert Ware (Barnard 2008), it has been found in small quantities in the early Roman layers of Myos Hormos (Barnard 2008:10) and Berenike (Rose 1995; Barnard and Rose 2007: 189-191).

The Desert Dwellers in the 4th–7th Centuries CE

As can be inferred from the written sources of Late Antiquity, indigenous desert groups not only (re)gained full control over the desert east of Upper Egypt, but also settled in areas in the Nile Valley. Detailed study of sites from this period in this region can provide insights in the main elements of their material culture. The main settlements where traces of the desert population can be demonstrated are presented here; all settlements in the Eastern Desert dating to the 4th–7th century CE are included with the exception of the chain of fortified road stations along the northern desert roads, as well as the fort at Abu Sha‘ar where there is evidence of Roman military presence until the end of the 4th century CE (Sidebotham *et al.* 1991; Maxfield 2007: 80-81). One of the most intriguing questions in the archaeology of the Eastern Desert is the function and cultural attribution of a number of settlements dating to the 4th–7th centuries CE without a direct connection to any mining or quarrying activity. Most of these have

been described in the northern parts of the Eastern Desert (Sidebotham *et al.* 2002). It has become clear, however, that such settlements are not limited to the fringes of Roman Egypt, but also existed in the southern, Sudanese parts of the region.

Identified as enigmatic settlements, these settlement sites share the following features. The buildings are of locally available, unworked stones and cobbles, laid without the use of mortar (Vasáros 2010a, 2010b). They mostly have only one or two rooms, although variants with four to five rooms also exist. The height of the walls never exceeds 1.6 m, so these structures may have been partly built of organic materials (Figure 18.3).

This kind of mixed building of stone, wood and animal hair is still used in many areas in northern Sudan. The settlements are situated on the hill slopes of the Red Sea Hills. They are usually rather hidden, sometimes in dead-end valley, often in places where reliable water sources were available. They are close to but never directly on any large ancient trade route, while there is no trace of quarrying or mining activity directly associated with the sites. The pottery associated with these sites is also uniform, usually including a large number of Aswan vessels, Cilician Late Roman 1 amphorae and marl clay flagons; North African terra sigillata is also often present. Several sites also preserve small amounts of Eastern Desert Ware, described above.

Some of these sites, such as Umm Howeitat Bahri (Sidebotham *et al.* 2002), Bir Nakheel (Figure 18.4; Whitcomb and Johnson 1979: 297-300; Earl and Glazier 2006), and Bir Minayh (Figure 18.5; Luft *et al.* 2002; Luft 2010), are lying close to the main caravan tracks strengthened with way-stations in the Early Roman

Figure 18.3. Stone buildings in Bir Minayh.



Table 18.1. Overview of the discussed ‘enigmatic’ sites in the Eastern Desert, from north to south.

Modern name	Number of buildings	Associated cemetery	Handmade pottery (EDW)	Pottery date (century CE)	Reference
Umm Diqal	300	Yes?	No	—	Peacock 1997
Umm Howeitat Bahri	126	—	No	5th–mid 6th	Sidebotham <i>et al.</i> 2002: 192-197
Bir Wasef	120	—	—	—	Harrell <i>et al.</i> 2006: 129-130
Bir Gidami	119	—	No	6th–7th	Sidebotham <i>et al.</i> 2002: 199-201
Bir Nakheel	187	Yes	No	6th–7th	Whitcomb and Johnson 1979: 297-300; Earl and Glazier 2006
Bir Handosi	47	—	No	5th–6th	Sidebotham <i>et al.</i> 2002: 201-2006
Bir Minayh	296	Yes	Yes	Late 4th–6th	Luft <i>et al.</i> 2002; Luft 2010
Wadi al-Alam	—	Yes	—	—	Sidebotham 1999: 365-367
Umm Arba’een	—	—	—	—	Sidebotham 1999: 367
Umm Heiran	190	No	Yes	5th–6th	Sidebotham <i>et al.</i> 2004: 23
Nugrus West	60–70	—	—	5th–6th	Sidebotham <i>et al.</i> 2004: 25
Qaria Ali Mohamed Hussein	8	—	—	—	Sidebotham 1999: 361-363
Hitan Rayan	141	Yes	Yes	5th–mid 7th	Aldsworth and Barnard 1996
Wadi Tum	2	—	—	—	Sidebotham 1999: 360-361
Qaria Mustafa Amr Gama’a	109	Yes	Yes	5th–mid 6th	Sidebotham <i>et al.</i> 2002: 213-217

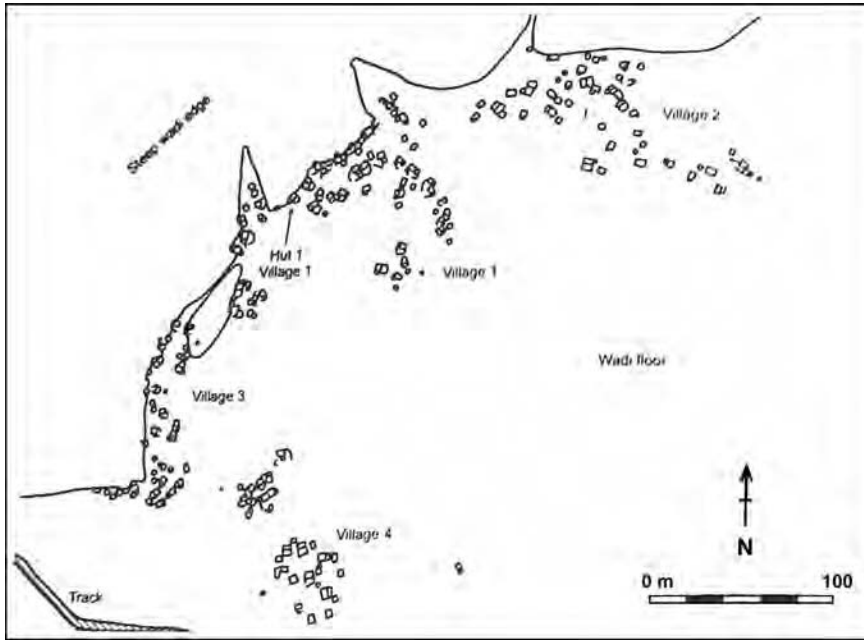


Figure 18.4. Plan of the Late Roman settlement at Bir Nakheel. Adapted from Earl and Glazier 2006: 28.

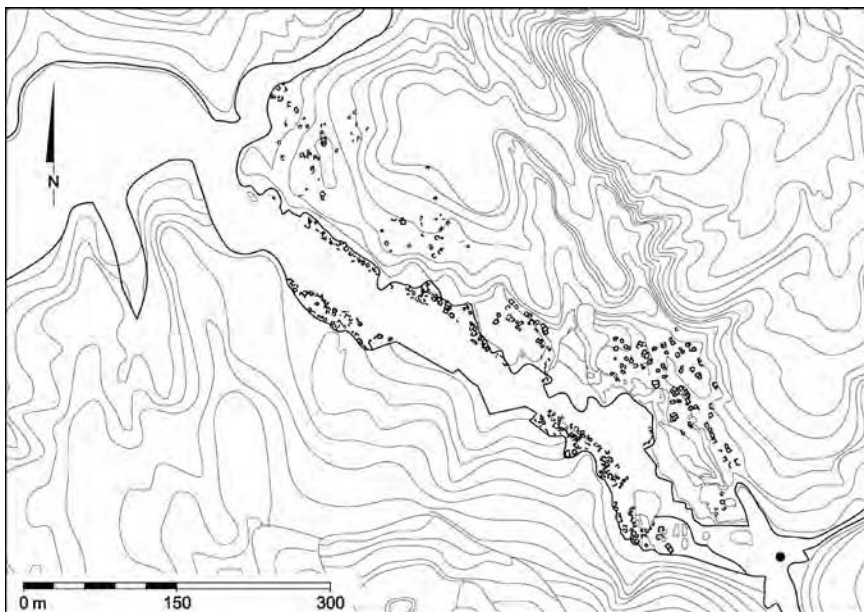


Figure 18.5. Plan of the Late Roman settlement at Bir Minayh. Adapted from Vasáros 2010.

Period; these Late Roman ‘enigmatic’ settlements, however, are never directly situated on these roads. Although some nicer structures are present at some of the sites, the majority of the buildings are coarse stone huts with low walls or tent emplacements, similar to the structures built of stone and acacia branches and other organic materials currently still used by some Beja in the southern part of the Red Sea Hills (Krzywinski and Pierce 2001: plate 117; Magid 2008). These huts lack any internal structures, except for the occasional raised platforms made of stone and sand, and some do not have a flat floor surface. The number of the

structures at several sites indicate a population of at least 50–100 people, although the structures may not all be contemporaneous. The archaeological evidence unearthed during excavations at Bir Minayh, including a large number of glass beads as well as children burials, indicates the presence of complete families at the settlement (Lassányi 2010d, 2010b, 2010f; Németh 2010; Lassányi 2010g). In the vicinity of Bir Minayh, as well as Hitan Rayan (Figure 18.6, Aldsworth and Barnard 1996; Sidebotham *et al.* 2002: 206-213), Qaria Mustafa Amr Gama’a (Sidebotham *et al.* 2002: 213-217), Bir Handosi (Sidebotham *et al.* 2002: 201-206), and Umm Diqal

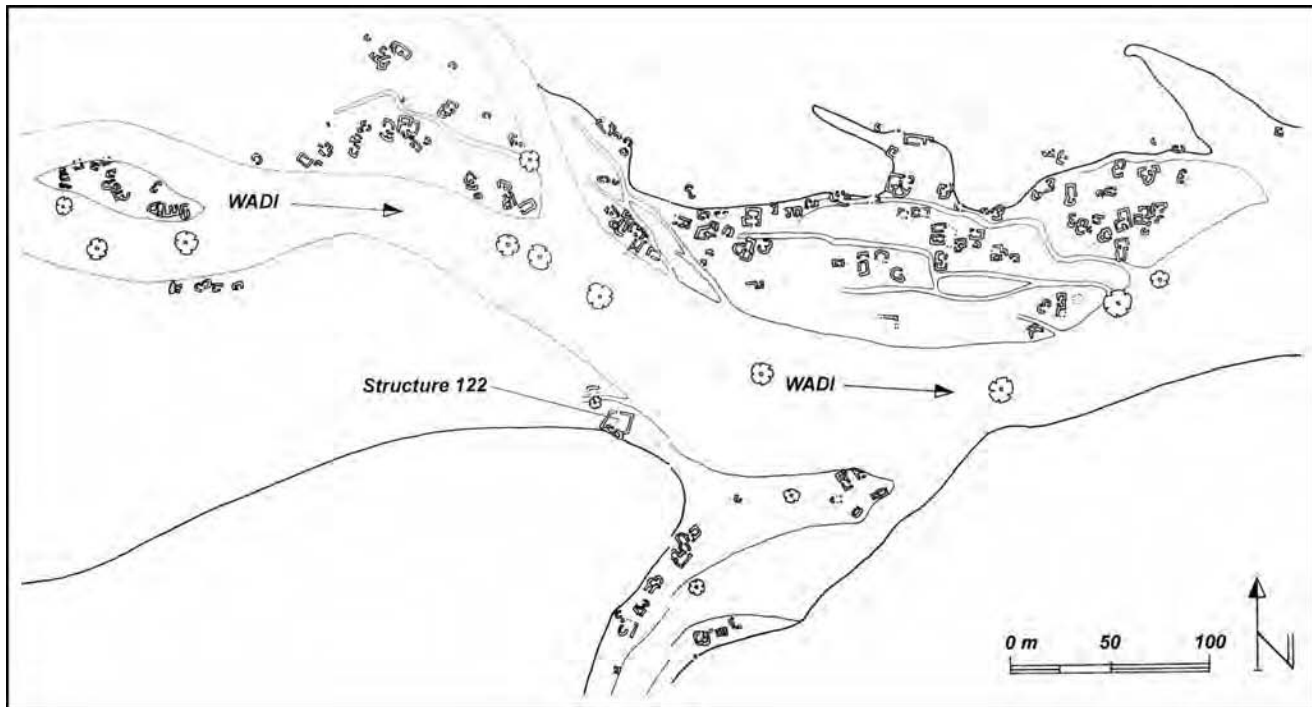


Figure 18.6. Plan of Hitan Rayan. Adapted from Aldsworth and Barnard 1996; Sidebotham *et al.* 2002: 207-208.

(Peacock 1997), small cemeteries of tumulus graves were found, while a large number of similar tumulus graves were identified around Berenike (Barnard 1998).

These enigmatic villages were established in a harsh environment, far from the Nile Valley, without any obvious commercial or mining function and without direct access to sources of food. Several hypotheses on their function have been proposed (Sidebotham *et al.* 2002: 223-225). The ideas of military camps, or charcoal burning or hunting settlements were suggested and dropped because of the relatively large size and unorganized character of the settlements. The idea of the settlements being early laura-type monastic communities may serve as an explanation, but apart from the lack of a large central building (church), the absence of Christian graffiti or other Christian artifacts in the area makes this doubtful. An interpretation of these settlements may be easier after a comparison is made to some contemporary settlements on the edges of Nile Valley, for which textual or archaeological evidence on the prevailing burial tradition of the settled desert population exists, as well as to sites in the Sudanese part of the Eastern Desert, far from Late Roman (Byzantine) Egypt.

On the edge of the Nile Valley, approximately 2–7 km from the arable lands, are at least three settlements with close similarity to the enigmatic Late Roman sites

in the Eastern Desert. The southernmost is in Lower Nubia, north of Khor Kalabsha, of which only drawings and photographs remain as the settlement is now lost under the water of Lake Nasser (Figure 18.7; Ricke 1967: 33-36). Finds dated the site to the Roman Period. Considering the dry stone buildings and the proximity of tumulus graves, attributed to Blemmyes settled in the Nile Valley (Török 1988: 47-63, 226-228; Török 2008: 516-530), it can be assumed that this settlement was a dwelling place for a desert population that had settled on the edge of the arable land. The same is probably true for two desert settlements near ElKab, in Upper Egypt, at al-Garayyat (Figure 18.8) and at Dababieh (Figure 18.9). These settlements are contemporary to the nearby tumulus graves (Daressy 1895; Schweinfurth 1904; Schweinfurth 1922: 275-276). Despite the fact that there are no detailed plans of these settlements, satellite imagery suggests their close resemblance to the Late Roman enigmatic settlements in the desert proper (Table 18.1). Similar settlements have been described in the Sudanese part of the Eastern Desert, in Tabot (Magid *et al.* 1995; Magid 1998, 2004; Barnard and Magid 2006) and Nubt (Sandars and Owen 1951; Hinkel 1992: 206-209; Oman *et al.* 1998; Krzywinski, this volume). These are characterized by simple buildings built of natural stones, often with low walls, with some larger and more

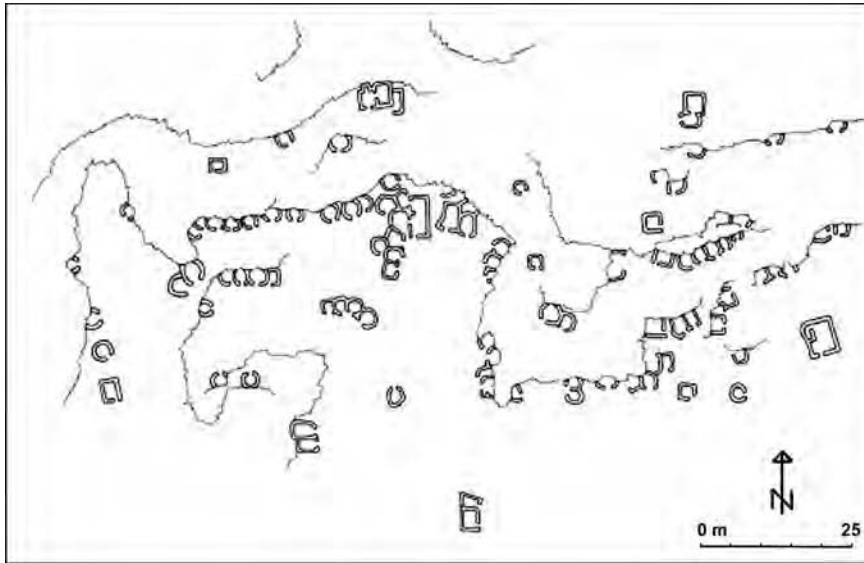


Figure 18.7. Plan of the settlement in Khor Kalabsha. Adapted from Ricke 1967: 35.

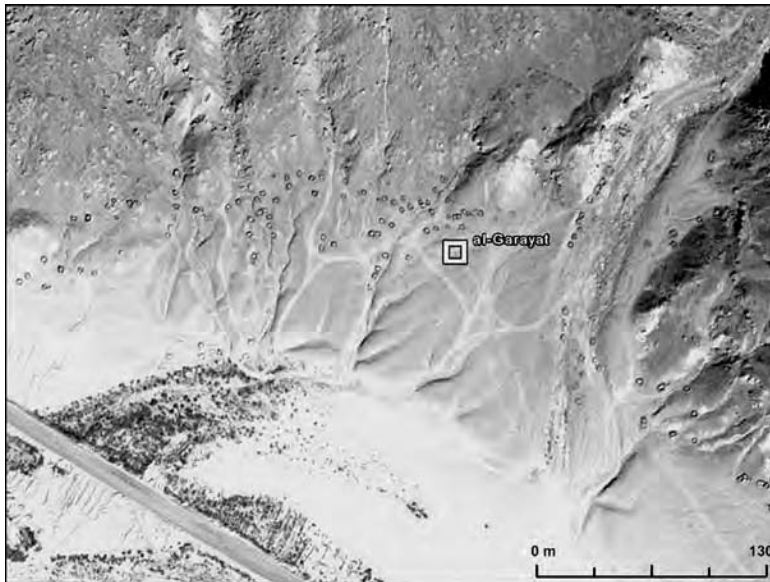


Figure 18.8. Satellite photograph of the ancient settlement at al-Garayat. Courtesy of Google Earth.



Figure 18.9. Satellite photograph of the ancient settlement at Dababieh. Courtesy of Google Earth.

complex structures. The earlier of these settlements is Tabot, which has produced third century CE radiocarbon dates and 4th–7th century CE ceramics (Magid *et al.* 1995; Magid 2004; Barnard and Magid 2006). Data too sparse to allow firm conclusions have been published on the Pre-Islamic layers of Nubt and a third settlement, identified as the large gold mining site of Daraheib in Wadi Allaqi (Newbold 1948; Sadr *et al.* 1999).

The 5th–6th century CE settlement of Shenshef is located in the Red Sea Hills just southwest from Berenike (Murray 1926; Aldsworth and Barnard 1998; Aldsworth 1999). It is different in several respects from the other Late Roman settlements in the Eastern Desert. The site comprises more than 300 buildings without a trace of mining or industrial activity in the vicinity that could explain the presence of such a large community. The buildings of its second and third architectural phases are similar to the best-quality houses of the mining communities in Wadi Sikait and Nugrus (Rivard *et al.* 2002; Sidebotham *et al.* 2004; Foster *et al.* 2007). Several hypotheses were proposed about the function of Shenshef, including a summer settlement for the citizens of Berenike (Murray 1926), the residence of slave traders or settlers from the Arabian Peninsula (Power 2007; this volume). No significant quantity of artifacts or inscriptions associated with the Arabian Peninsula, however, was found in the region. According to archaeological evidence, Shenshef housed a rich community with access to both goods from the Nile Valley as well as the exotic goods traded at Berenike. The diet of the inhabitants was mainly based on sorghum and ovicaprids (Cappers 1999; Gould 1999; Van Neer and Ervynck 1999; Vermeeren 1999). Pottery finds included vessels from the Nile Valley, Mediterranean amphorae and a relatively large amount of Eastern Desert Ware (Tomber 1998, 1999). On the hills around the settlement is a cemetery of ring cairn tumuli graves (Aldsworth and Barnard 1998: 429). In combination with the recovered Eastern Desert Ware, this cemetery indicates a significant presence of desert dwellers in Shenshef where the higher-quality buildings were possibly built by the same craftsman who worked in the Mons Smaragdus area. Although the interpretation of some buildings of Shenshef, such as the so-called chapels (Aldsworth 1999), is still unclear, it can be assumed that Shenshef was a regional center of local native groups who controlled the desert around Berenike as well as the caravan routes heading north and probably also south.

Upon trying to connect the desert sites with those closer to the Nile Valley by combining historical and archaeological information, several issues need to be addressed. First is security, as it is difficult to imagine a community from the Nile Valley living in a territory under the control of desert dwellers, or a community of desert dwellers settling so close to the Egyptian heartland. Second are the sources of food, fuel and water. Fifty to a hundred inhabitants would have needed amounts of such commodities that neither the surrounding desert environment nor the local inhabitants could have possibly provided. Third are the reasons, economic or otherwise, that Egyptian or native settlers could have had to build these communities in such remote areas, far from existing roads, mines and quarries. Considering the character of the buildings and their location far from the direct influence of Roman Egypt, the lack of obvious economic activity, the presence of burial traditions and grave monuments dissimilar to contemporary graves in the Egyptian and Nubian Nile Valley, and the fact that similar settlements and graves at edge of the Nile Valley can be associated with the historical evidence concerning Blemmyan settlers, however, it seems that the enigmatic settlement in the desert was built and inhabited by semi-nomadic tribes (the Blemmyes of the written sources). As nomads do not necessarily bury their dead close to their camps, the occasional absence of cemeteries does not contradict this interpretation.

This, however, poses a number of questions about these people who are most often described as pastoral nomadic tribes living in the desert. When and why did they start building their first, at least semi-permanent, settlements? Where and how did they learn to build houses? What was the economic livelihood of these villages? When and why were these sites abandoned? The earliest desert settlement with stone buildings at Tabot was probably started in the third century CE. The first appearance of similar settlements in the Egyptian parts of the Eastern Desert can be dated to the second half of the 4th century CE or the beginning of the 5th century CE. This period corresponds to the penetration of the Blemmyes in Lower Nubia and their raids in Upper Egypt. According to the textual sources, such as inscriptions of cult associations in the Kalabsha region and diplomatic letters found in Qasr Ibrim, the

settled Blemmyes quickly acculturated.⁴ In these Greek documents the Blemmyes are described as living in a tribal society, with a king (*basileus*, *tyrannos*) and several tribal chieftains (*phylarkhos*, *hypotyranos*; Updegraff 1978: 180-185; Török 1988: 226-229; Hägg 1990; Dijkstra 2008: 169-170). This period is also the most prosperous of the harbor at Berenike (Sidebotham and Wendrich 1996; Sidebotham 1997a; Sidebotham and Wendrich 2001; Sidebotham 2002; Wendrich *et al.* 2006). Without doubt the local tribes gained an income from facilitating, guiding, protecting or robbing the traders. It is also possible that they were directly involved in the transportation of goods or even in the commerce itself. The local rulers, whatever their status or titles, certainly profited from the beryl mines in the Mons Smaragdus region and the gold mines throughout the Eastern Desert.

The Late Roman enigmatic settlements were established under these cultural and economic circumstances. Their huts and houses witness the acculturation of the desert population and the building technique and style were probably learned in the Dodekaschoinos, Mons Smaragdus or Berenike. The livelihood of those living in these settlements, be it year-round or seasonal, must have been based on animal husbandry. It is likely that some of the inhabitants worked elsewhere for periods of time, in the desert trade or in the mines and quarries in the region. The location of Nugrus West and Umm Heiran in the vicinity of the large mining settlement at Mons Smaragdus suggests that their inhabitants were responsible for guarding the mines and associated roads. Recovered artifacts indicate that these sites were supplied with food and other goods from the Nile Valley, as well as with luxury items brought into the region by long-distance traders. Settlements of this size in this environment could not have been self-sufficient. Although the available ceramic finds do not allow a more precise dating, it seems that the desert settlements were abandoned from the second half of the 6th century CE onward. This period more or less coincides with the closing of the large beryl mines in the Mons Smaragdus region, the gold mines at Bir Umm Fawakhir and the harbor of Berenike.

The reasons and details of this process of abandonment of the desert are still unclear. The strengthening of the northern Nubian Kingdom and the conversion of Nobadia

to Christianity in the 6th century CE certainly stabilized the traditional trade routes through the middle Nile Valley (Török 1988: 69-73), and the decline of the harbor of Berenike must have caused an economic decline in the northern part of the Eastern Desert (Cappers 2006; Sidebotham and Wendrich 2007). It is possible that the closure of the northern mines and quarries was related to the political and economic problems in Byzantine Egypt and the effects of the Persian occupation at the beginning of the 7th century CE. If it is correct that these larger desert settlements depended upon supplies transported along the northern trade routes, then such a crisis could very well have caused the deterioration of these settlements. The southern centers of Tabot and Daraheib apparently continued to prosper until medieval times (12th–13th century CE).

Besides the quarrying activity at Mons Porphyrites in the Late Roman–Early Byzantine Period, we have evidence for mining activities in Bir Umm Fawakhir and in the Mons Smaragdus area. The finest architectural features can be found in the latter area, in Wadi Sikait and Nugrus (Figure 18.10, MacAlister 1900; Rivard *et al.* 2002; Sidebotham *et al.* 2004; Foster *et al.* 2007). The nicer structures in Wadi Sikait are large buildings with walls constructed from carefully selected natural stones, held together with a muddy mortar, around a small courtyard. Niches with stone shelves are integrated in the walls and a few buildings preserve traces of plastering and painting. Some buildings apparently had a second floor. Next to these well-built stone structures, many more coarsely built buildings with low walls built of natural local stone are preserved. These stone huts and putative tent-bases are very similar to the structures in the so-called enigmatic settlements. Another site in the Mons Smaragdus area is Kab Marfu'a (Sidebotham *et al.* 2005). The better built structures at Kab Marfu'a are architecturally similar to those in Wadi Sikait and Nugrus. Although there was no mining activity at Kab Marfu'a, a large number of rough beryl fragments suggests its link to the activities in Mons Smaragdus; probably gems were roughed out or even cut here. A long rectangular building in Wadi Sikait has close analogies at Nugrus and Kab Marfu'a (Figure 18.11, Sidebotham *et al.* 2004; Sidebotham *et al.* 2005); all three have three large rooms, are built high on a hillside and can be reached by a set of stone steps. The architectural features and small niches on the back wall of the inner-most room and the fact that in Nugrus a stone statue of a sitting

⁴ The Medjay apparently did the same thing centuries earlier (Näser, this volume).

Figure 18.10. A typical, high-quality stone building in Nugrus (*Mons Smaragdus* area).



figure in Egyptian style was found inside the front room suggest that these buildings were temples.

The interpretation of other buildings and architectural details is more problematic. The function of the small niches in the terrace wall of Building 9 in Nugrus, the very narrow inner rooms in the same structure (Sidebotham *et al.* 2004: 25), and remarkable inner niches in the ‘tripartite’ building (SK-W014) in Sikait are still enigmatic (Foster *et al.* 2007). Excavations at the settlement in Wadi Sikait clearly indicated the presence of women and children at the site in the 4th–6th centuries CE. Mediterranean amphorae and imported fine wares indicate the economic importance of the area and show that this site was supplied from the Nile Valley. The architectural quality of the edifices can be explained with the presence of professional craftsmen, most likely coming from the Nile Valley. Next to the fragments of wheel-thrown vessels, a relatively large amount of Eastern Desert Ware was discovered on the surface and in stratified contexts (Sidebotham *et al.* 2005; Barnard 2005–2006; Barnard and Rose 2007). While a large number of Roman coins were excavated in Sikait, no written documents were found in the Late Roman layers and it is doubtful that a written administration existed for the site in this period.⁵ In Wadi Sikait remains of military equipment such as scale-mail

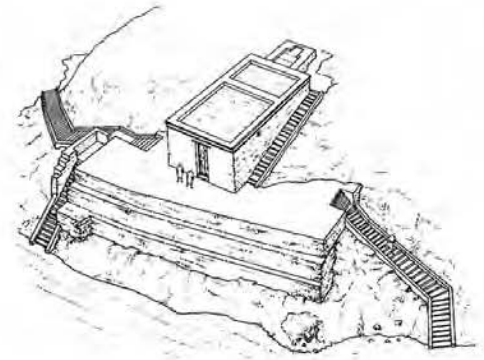
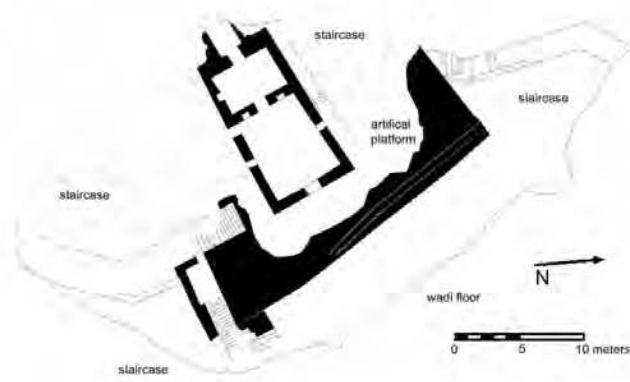
⁵ The good preservation of other organic artifacts on the site indicates that such documents would have survived.

armor fragments and arrowheads were discovered, but no contemporary fortified structure is known at the settlement or in its vicinity.⁶ The large 5th–6th century CE gold mining settlement at Bir Umm Fawakhir, north of Wadi Hammamat at a distance of 80 km or 3–4 days walking from the Nile Valley, shows many similarities to the contemporary sites in the Mons Smaragdus area (Meyer 1995a, 1995b; Meyer and Heidorn 1998; Meyer *et al.* 2000). The stone houses are coarser than those in Wadi Sikait and the archaeological material is similar to that from Wadi Sikait, although in Bir Umm Fawakhir only a very small amount of Eastern Desert Ware was unearthed (Barnard 2008: 4, 129). Like in Wadi Sikait, no traces of a written administration were found in Bir Umm Fawakhir nor is there evidence for an active military station at or near the site.⁷

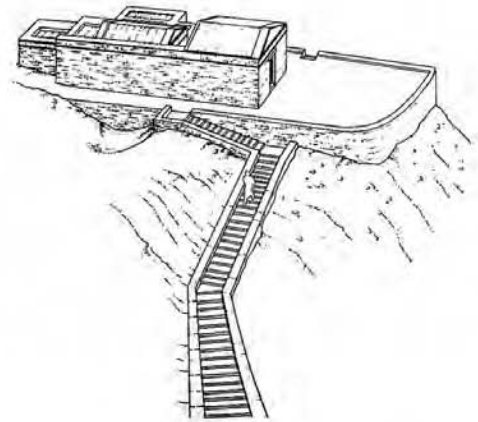
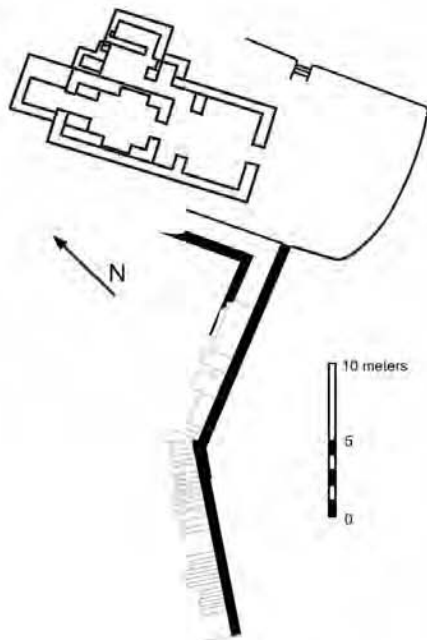
According to written sources from the end of the 4th century CE, the Mons Smaragdus area and the former

⁶ Although in the nearby fortress Appolonos in Wadi Gamal, a few Late Roman artifacts were recovered from the surface (Sidebotham *et al.* 2005), this is not necessarily proof for a Late Roman military use of the site that has otherwise left no trace.

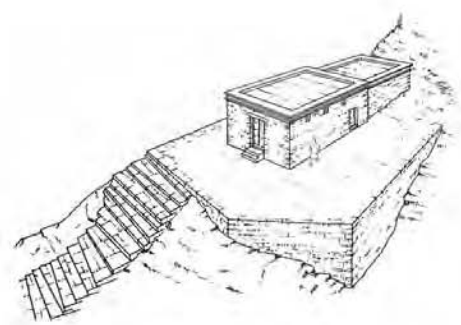
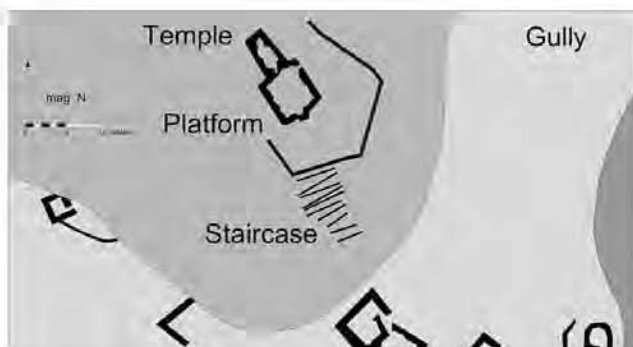
⁷ <http://oi.uchicago.edu/research/pubs/ar/91-92/fawakhir.html>; <http://oi.uchicago.edu/research/pubs/ar/92-93/fawakhir.html>; <http://oi.uchicago.edu/research/pubs/ar/95-96/fawakhir.html>; <http://oi.uchicago.edu/research/pubs/ar/97-98/fawakhir.html>; <http://oi.uchicago.edu/research/pubs/ar/98-99/fawakhir.html>; and <http://oi.uchicago.edu/research/pubs/ar/00-01/fawakhir.html> (accessed January 24, 2010).



1



2



3

Figure 18.11. Comparison of the tentative temples in Wadi Sikait, Nugrus and Kab Marfu'a. Adapted from Sidebotham *et al.* 2004; Sidebotham *et al.* 2005; Sidebotham *et al.* 2008: 131, 133, 293.

Roman military station at the small oasis at Phoinikon (Laqeita), halfway on the desert road between Bir Umm Fawakhir and the Nile Valley, came under the control of Blemmyan tribes (Eide *et al.* 1998: 1126-1128). Although only indirect evidence exists, we can assume that at least a large part of the artisans living at these mining settlements were Egyptian craftsmen. The most feasible explanation for the existence of prospering mining communities, supplied with good logistical support living far from Nile Valley in hostile territory, is that these mines were exploited by investors from Byzantine Egypt who closed contracts with local tribal chiefs and Blemmyan kings. Local rulers most likely provided protection and water for these communities for some concession fare. The 9th century CE Arabic writer al-Ya‘qubi describes a similar situation in the gold mines in the northernmost Beja Kingdom where locals and Muslims worked together (Vantini 1975: 72, 77). In the city of Allaqi, all kinds of people are said to have lived together. Al-Mas’udi, writing in the 10th century CE, described the beryl (emerald) mines in Egypt as follows:

The place where the emerald is mined is called Khariba (Kharba); it is a mountainous desert. The Beja guard this place Khariba and all those who dig emerald there must pay them a fee for the protection (*khifara*) which they assure (Vantini 1975: 135).

Burial Customs in the 4th–7th Centuries CE

In contrast to earlier periods, a large number of cemeteries and grave monuments are known from the border area of Eritrea down to the area bordering Upper Egypt. Some or most of these must be linked to the indigenous desert population. Despite their geographical distance, the burial customs and the grave superstructures display great similarities. Similar grave monuments, different from contemporary Egyptian and Nubian tombs, can be found at certain points along the Nile Valley; therefore, it seems possible to identify areas with a substantial settled desert population in Upper Egypt and Lower Nubia. It is also possible to construct a preliminary typology of the various grave types of the Eastern Desert dwellers between the 4th and 7th centuries CE. All known burials are inhumation burials with the bodies placed in contracted position on the rock surface or in a shallow pit. In some graves the body was possibly placed in an extended position. The same was said to apply to the disturbed burials in ElKab (Schweinfurth 1922); the small size of burial chambers,

Table 18.2. Grave types in the Eastern Desert.

Type	Description
1	Crevice graves
2	Circular tumuli
2a	ring grave, ring-cairn tumulus
2b	circular platform tumulus, <i>akerataheil</i>
2c	circular platform tumulus, <i>akerataheil</i> with strengthened with large vertical stone blocks
3	Clustered circular tumuli
4	Circular tumuli with enclosure walls
4a	free-standing tumulus with encircling wall
4b	free-standing or clustered tumuli with common encircling wall
4c	free-standing or clustered tumuli with adjoining encircling walls
5	Beehive-formed graves
6	Circular or oval graves covered with flat stones

however, makes this interpretation unlikely. A typology of graves in the Eastern Desert is given in Table 18.2 (Figures 18.12, Krzywinski, this volume).

Crevice graves (type 1) represent the simplest form of burial where the body is placed in a rock crevice and covered with stones and pebbles. An example of this type is the child burial documented at Bir Minayh, with pottery sherds in its vicinity that could be dated to the 4th–6th centuries CE (Lassányi 2010c: 264). Hundreds of similar, disturbed graves were found near Wadi Sikait, with both Early and Late Roman pottery preserved on the surface.⁸ The use of crevices for burial is not limited to this time period or the Eastern Desert; the practice existed in the Nile Valley for thousands of years. Circular tumuli (type 2) are the most characteristic and most frequently encountered grave superstructure in the Eastern Desert. They consist of cairns built of unworked stones on top of small burial chambers built of larger stone blocks. The body was placed in a contracted position in the shallow pit, or on the exposed surface. The superstructure of a ring grave or a ring-cairn tumulus (type 2a) resembles a cylinder or a cone with the stones often appearing to have been simply thrown into a heap. Their diameter is usually 2–5 m, their height around 0.5 m. Ring-cairn tumuli are often found on the slopes or tops of mountains. They appear throughout the Eastern Desert and have been documented in Bir Minayh and Berenike. Circular platform tumuli (type 2b), or *akerataheils* as they are locally known (Sadr *et*

⁸ Personal observations by the author in 2002/2003.

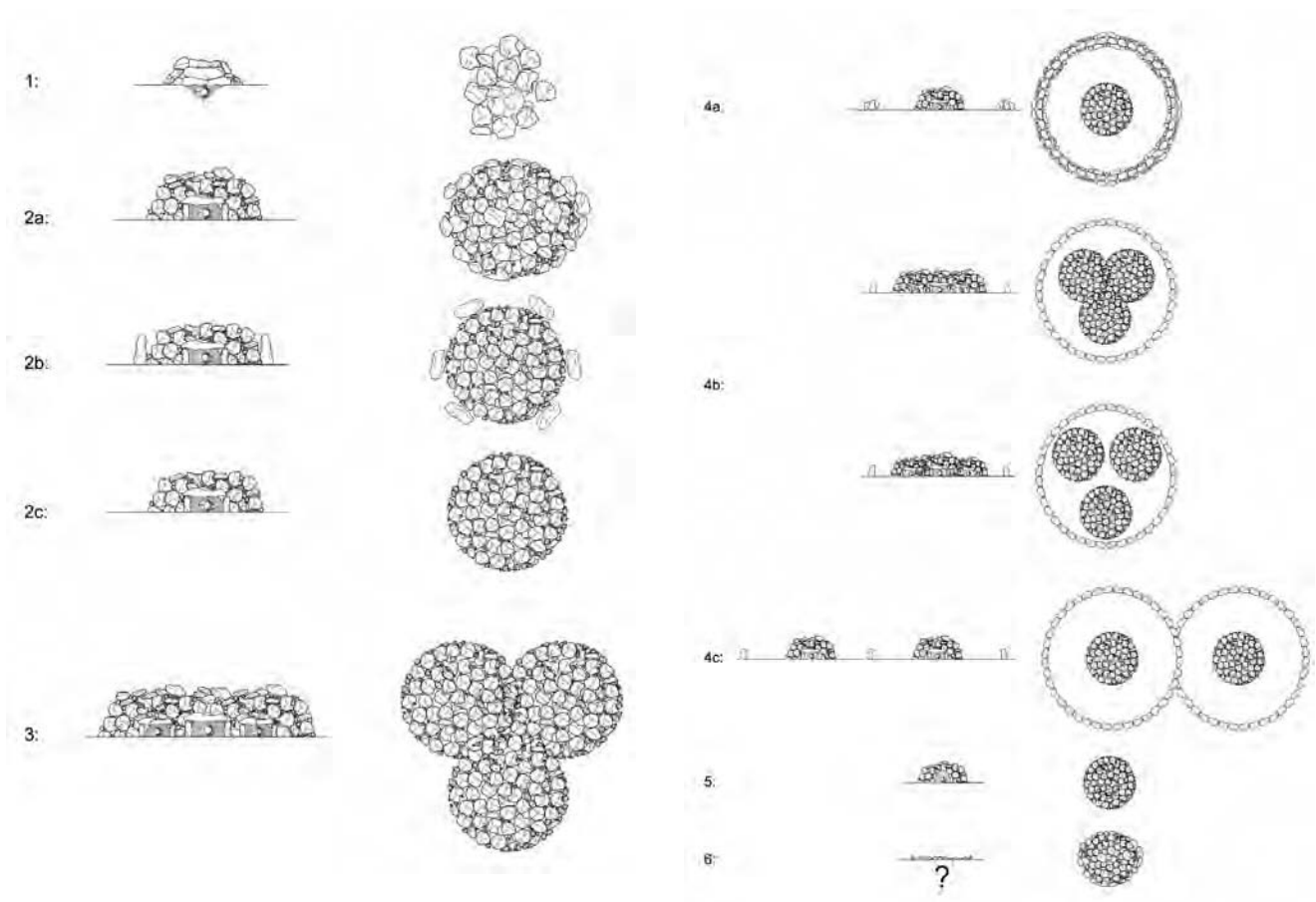


Figure 18.12. Schematic layout of the Late Antique burials in the Eastern Desert. Drawings prepared by L. Illés.

al. 1995; Krzywinski, this volume), are characterized by a superstructure built of carefully selected unworked stones, forming a flat-topped, cylindrical tumulus erected over a small burial chamber of large, irregular stone blocks (Figure 18.13). Tombs of this type are sometimes surrounded by large standing stone blocks (type 2c). Type 2 tumuli are documented near the Eritrean border (Manzo 2004), the region of Ariab (Reinold and Mohamed Ahmed 2008), in Mendilo and Shamadi in eastern Sudan (Magid *et al.* 1995; Krzywinski, this volume), Wadi Allaqi and Wadi Gabgaba on the border between Egypt and Sudan (Sadr *et al.* 1998), and the region of Wadi Hammamat in the north. The type is also found in the Nile Valley near Kalabsha (Ricke 1967; Strouhal 1984), in the mountainous area near ElKab (Schweinfurth 1922), and at Moalla (Figures 18.14–15, Daressy 1895; Floyer 1895). The superstructure of some burials at Nubt contains a small chamber with three stele-like stones, while next to some graves at

Kalabsha stone steles were erected. Circular platform tumuli are usually 3–5 m in diameter with a height of 0.5–1 m. In the Onib Crater (Sadr *et al.* 1995: 220) and around Nubt, burial monuments with a diameter as large as 10–30 m, with a height of 1.5–2 m, have been discovered.⁹ Excavated burial monuments could be dated to the 4th–6th centuries CE (Lassányi 2005, 2010g); the earliest of these grave monuments are in Bir Minayh and Kalabsha, the latest (based on radiocarbon analysis) are in Wadi al-Ku and Wadi Terfowi (Sadr *et al.* 1995: 227). It must be noted here that plundered circular platform tumuli are almost indistinguishable from disturbed ring cairns. Circular platform graves do not seem to occur north of Wadi Hammamat. Very similar graves, locally known as *nawamis* (meaning ‘concealing a secret,’ but also ‘mosquitoes,’ Hoffmeier, this volume), however, are widespread on the Sinai Peninsula (Murray 1935).

⁹ Personal communication by Dr Knut Krzywinski.

Figure 18.13. Tumulus grave in Bir Minayh.



Figure 18.14. Satellite photograph of the cemetery in Moalla. Courtesy of Google Earth.



Figure 18.15. Tumulus grave in Moalla.



Next to free-standing graves, several cemeteries preserve a number of clusters of circular tumuli graves (type 3). This suggests a family or other connection between the owners of the individual tumuli within each cluster. Burial sites of this type dated to the 5th–6th centuries CE were documented in Hitan Rayan (Aldsworth and Barnard 1996: 437–440), and in the cemeteries near Kalabsha (Ricke 1967; Strouhal 1984), as well as near Moalla.¹⁰ Free-standing tumuli encircled by a low wall (type 4a) were found in Wadi Allaqi and near Kalabsha in the Nile Valley. This type of grave superstructure is different from the small tumuli surrounded by a ring of stele-like stone blocks common in Wadi Allaqi and in the southern part of the Eastern Desert. These were constructed in medieval times (for examples, see Sadr *et al.* 1995: 222, 232). Examples of free-standing and clustered tumuli surrounded by a common encircling wall (type 4b, Schweinfurth 1922: 278) and clusters of free-standing tumuli with adjoining encircling walls (type 4c) have only been documented in the Nile Valley, in Kalabsha and Moalla.¹¹ A single oval, beehive-shaped stone grave (type 5) was discovered and excavated at Bir Minayh (Lassányi 2010b: 267). It contained a small interior space and appeared to have been erected in the 5th–6th century CE. Although only one example of this type has been identified thus far, it is possible that other tumuli, now robbed and severely damaged, originally looked like this. Similar tumuli, identified as ‘doom-graves’ are common around the Fourth Cataract (Paner 2003: 176–177), but these mostly date to the second millennium BCE. At Taw al-Kefar, near Berenike, there are a number of graves built of larger, flat stones to form oval platform-like grave structures encircled by a stone wall (type 6). These apparently date to the Late Roman Period (Sidebotham 1999; Sidebotham *et al.* 2008: 208).

In some cemeteries near the Nile Valley, satellite stone monuments were documented that may be associated with mortuary rites. Several low stone chambers, small stones enclosures, steles and platforms were described around the tumulus graves near Kalabsha and similar structures possibly existed in Moalla (Daressy 1895: 28). The small number of burials studied in detail permits only general remarks on burial customs and tomb furniture. Bodies were placed in contracted position on animal skins (Sadr *et al.* 1995: 216), or wrapped in

textiles (Schweinfurth 1922). The excavated burials often contained golden jewelry (Sadr *et al.* 1995: 213–215). In the relatively small burial chamber, there was room only for small ceramic vessels, such as cups or small bowls. In the Dodekaschoinos, pottery included handmade Eastern Desert Ware next to wheel-thrown Egyptian vessels (Strouhal 1984; Barnard and Strouhal 2004; Barnard 2007, 2008). In Kalabsha (Ricke 1967; Strouhal 1984: 201–203) and Bir Minayh (Lassányi 2010a: 296), small sandstone items of unknown function were found. With incised decorations and a shallow cavity these resemble altars or small offering tables. A ceramic object with a similar form and incised decorations resembling those on Eastern Desert Ware (Figure 18.16), found in Wadi Allaqi, may have had a similar function (Sadr *et al.* 1995: 221). Pottery sherds found in the Egyptian part of the Eastern Desert and at burial sites near the Nile are often of small, wheel-thrown, slipped and painted bowls with incurving rims or from larger slipped plates, jars and marl jugs. In Kalabsha and Wadi Qitna, a large amount of Eastern Desert Ware was found. The large amount of broken pottery found on the top of the tomb and around it suggests food and drink offerings or funeral feasts. Egyptian and Late Roman 1 amphorae from Cilicia as well as large storage vessels were found at several burials (Lassányi 2010). These may have functioned as containers for liquid offerings.

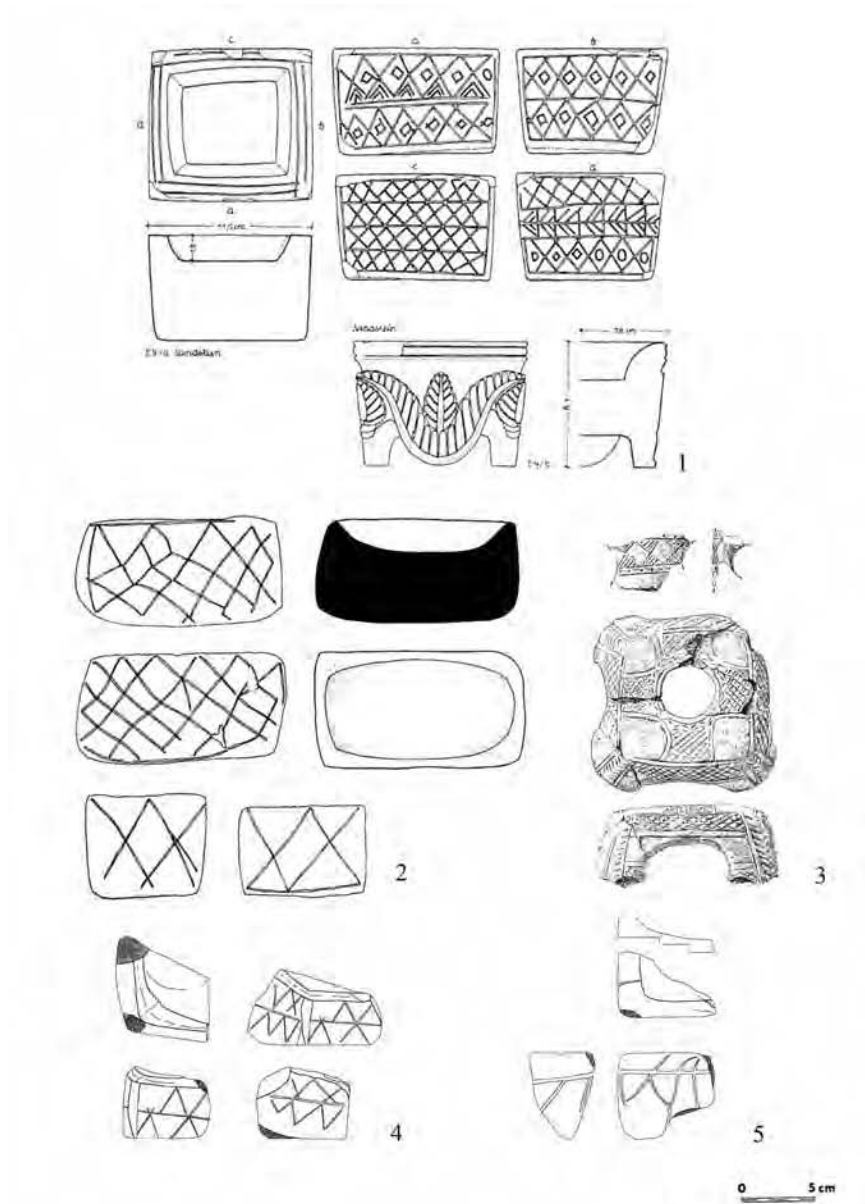
The Material Culture and Economy of the Desert Dwellers

If we accept that the enigmatic settlements discussed above can be identified as dwelling places and sites under the direct control of the native desert population and the cemeteries as their burial grounds, we may draw a preliminary picture of the material culture and economy of the Eastern Desert dwellers in Late Antiquity (Whitcomb and Johnson 1979; Meyer 1995a, 1995b; Sidebotham and Zitterkopf 1996; Meyer and Heidorn 1998; Tomber 1998; Sidebotham 1999; Tomber 1999; Meyer *et al.* 2000; Sidebotham *et al.* 2002; Sidebotham *et al.* 2008; Lassányi in press). The pottery finds are mainly utilitarian vessels, including wheel-thrown Nile clay amphorae and storage jars, as well as marl flasks. Aswan bowls and cups, complemented by a small amount of North African terra sigillata, form the bulk of the recovered fine wares. At most Late Roman sites south of Wadi Hammamat, a relatively small amount of

¹⁰ Personal observation by the author in November 2008.

¹¹ Personal observation by the author in November 2008.

Figure 18.16. Small altars or offering tables from the cemeteries in Kalabsha, Wadi Qitna, Bir Minayh and Wadi Allaqi. Adapted from Ricke 1967: 69; Strouhal 1984: 201; Sadr *et al.* 1995: 221; Lassányi 2010a: 296.



handmade Eastern Desert Ware has been found.¹² Eastern Desert Ware first appeared in first–second century CE layers in Berenike and Myos Hormos (Rose 1995; Barnard 2006; Barnard and Rose 2007; Barnard 2008: 10). During the 4th–6th centuries CE, it is present at several sites in the Eastern Desert between the Gash Delta and Wadi Hammamat, as well as at several sites in Lower Nubia (Ricke 1967; Strouhal 1984; Barnard and Strouhal 2004; Barnard *et al.* 2005; Sidebotham *et al.* 2005; Barnard 2005–2006; Barnard and Magid 2006; Barnard and Rose 2007; Barnard 2008; Lassányi

¹² This percentage is even lower than it appears because during unsystematic surface surveys, researchers preferentially collect such remarkable burnished and decorated sherds.

2010e, 2010f). It is possible that some of the ceramics at Daraheib also belong to this type.¹³ Eastern Desert Ware may be part of the ceramic tradition of the Khatamya group in the Gash Delta (Manzo 2004). Although more research, especially in the Sudanese part of the Eastern Desert, is necessary to draw firm conclusions, Eastern Desert Ware can definitely be associated with the dwellers of the Eastern Desert (Barnard, this volume). In

¹³ In their unpublished site report (Interim Report on the Eastern Desert Research Center (CeRDO) Archeological Activities 1994), Karim Sadr, Alfredo Castiglioni and Angelo Castiglioli mention a large number of fragment of handmade, incised ‘Beja pottery’ to be present on the surface. The ceramic sample collection from Daraheib that was studied by Dr Pamela Rose, however, did not contain such pottery.

the desert proper it seems to have been used extensively, while closer to the Nile Valley, where wheel-thrown pottery was easily available, only small quantities of Eastern Desert Ware were used, perhaps mostly in mortuary contexts.

Metal finds are rare in the Eastern Desert, which suggests that metal was likely continuously recycled. Large amounts of glass beads, however, have been found, especially in the region of the modern border between Egypt and Sudan. Organic remains, including mats of vegetable fibers and ropes of animal hair, have been discovered in large quantities in Shenshef (Sidebotham and Wendrich 1998: 89) and Wadi Sikait.¹⁴ Ropes made of ovicaprid hair can be linked to the dwellers of the desert. Dietary information is mostly based on archaeozoological (Van Neer and Lentacker 1996: 354–355) and archaeobotanical research on 4th–6th century CE material from Shenshef (Cappers 1999; Van Neer and Ervynck 1999: 442–443), and Bir Umm Fawakhir.¹⁵ In addition to the remains of ovicaprids, a substantial number of bones of locally farmed cattle was unearthed during the excavations at Bir Umm Fawakhir. Data from Shenshef are almost identical to those from the later strata at Berenike, with sorghum and ovicaprids serving as the main sources of nutrition.

Discussion

It can now be suggested that there existed an almost homogeneous indigenous culture in the Eastern Desert from the first century CE, at the latest, until medieval times. Without much hesitation, I call this the Early Beja Culture, as the name Beja is widely used to describe the desert population in the historical sources from the 7th century CE onward. All archaeological and historical data suggest a broad cultural as well ethnic continuity in the region until modern times (but see Bintliff and Barnard, this volume). Although the exact meaning of the term Blemmyes is debated, in this model the Upper Egyptian and Lower Nubian Blemmyan groups appearing in the historical sources were part of the same cultural horizon. Our knowledge about these desert dwellers can be summarized as follows. The majority of the early Beja population was nomadic. Their most important domestic animals were ovicaprids and

dromedaries; in the southern regions, close to the current border between Sudan, Ethiopia and Eritrea, and in the vicinity of Lower Nubia, cattle were bred as well (Eide *et al.* 1998: 1094–1100, 1158–1165). As finds from 4th–6th century CE strata at Berenike and Shenshef reveal, sorghum dominated the diet of the early Beja, together with animal products. Porridge of sorghum (*assidah*), often mixed with milk, is still a vital foodstuff for the nomads in Atbai (Wendrich 2008; Barnard 2009: 527; Abdel-Qadr *et al.*, this volume).

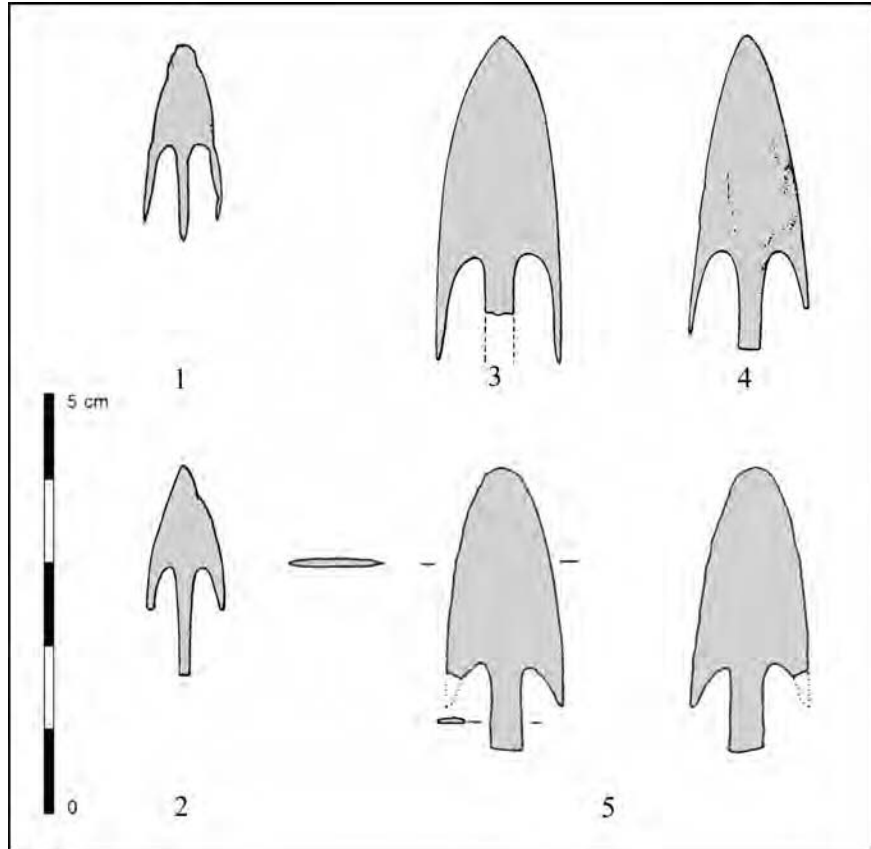
There is less information about the material culture of the ancient desert dwellers. Apart from the handmade Eastern Desert Ware are a large number of ropes and textiles made of the hair of ovicaprids found in the later strata of Berenike. The desert environment did not provide favorable conditions for the production of pottery, and Eastern Desert Ware is less common in northern regions where the local vessels were replaced by easily available wheel-thrown pottery from the Nile Valley. The large numbers of glass beads found at the northern late settlements (Németh 2010) provide a picture of the taste of the desert dwellers in jewelry. Obviously the desert dwellers in the north developed a taste for imitation *folles* (bronze coins of the Byzantine Empire), which were manufactured from the end of the 4th century CE (Sidebotham and Seeger 1996; Cappers 2006: 39; Lassányi 2010a: 295). These coins must have had a very low monetary value, if any at all. In the period under consideration money circulated only in the Nile Valley and in Berenike. Pieces of raw beryl, as found in Bir Minayh and Bir Umm Fawakhir, however, may have been used for barter. Although the dating of petroglyphs is rather uncertain, it is feasible that the depictions of the warriors riding dromedaries equipped with spears, circular shields and occasionally with bows that were identified as Blemmyan (Winkler 1938: 15–17; Červíček 1986: 85–88, 93–96; Huyge 1998), were made during the first millennium CE. The barbed arrowheads (Figure 18.17) found in Wadi Sikait (Sidebotham *et al.* 2004) and Kalabsha (Strouhal 1984: 228–229) presumably belonged to Blemmyan warriors. Similar arrowheads dated to the first–third century CE, however, were recently unearthed in Mouweis, near Meroe in Sudan (Couton-Perche and Leroux 2010).

Thus far, information has been mostly obtained from the Beja settlements on the periphery of the Thebaid. It seems probable that most desert dwellers were engaged in animal husbandry during the major part of the year and

¹⁴ Personal observation by the author in December 2002–January 2003.

¹⁵ <http://oi.uchicago.edu/research/pubs/ar/00-01/fawakhir.html> (accessed January 24, 2010).

Figure 18.17. Arrowheads from Kalabsha, Sikait and Mouweis. Adapted from Strouhal 1984: 228; Sidebotham *et al.* 2004: 17; Couton-Perche and Leroux 2010: 135.



lived in hastily built huts. In certain centers in northern and eastern Sudan, however, they also built houses with stone foundations beside temporary lodgings. Along the most important trade routes of the Eastern Desert and in the direct vicinity of the mining camps, stone buildings were erected between the late 4th–late 7th centuries CE. The northern temporary camps were abandoned around the 6th–7th century CE. Around the princely centers at Daraheib and Nubt, the buildings constructed from stone continued to be used for some time after that. The assumed economic decline apparently only struck the desert of Upper Egypt. The tombs with golden objects in Wadi Allaqi and in the region farther to the south attest the wealth of that land and of the Beja kings in early medieval times.

Most information is available on the burial customs of the desert dwellers. Although some features such as the erection of steles or of outbuildings display regional differences, the most characteristic burial type of the population of the Eastern Desert was the circular stone tumulus built over tiny stone chambers. The deceased was laid in a contracted position. Abundant food and liquids were deposited as sacrifice in ceramic containers mostly on the top and beside the grave’s superstructure.

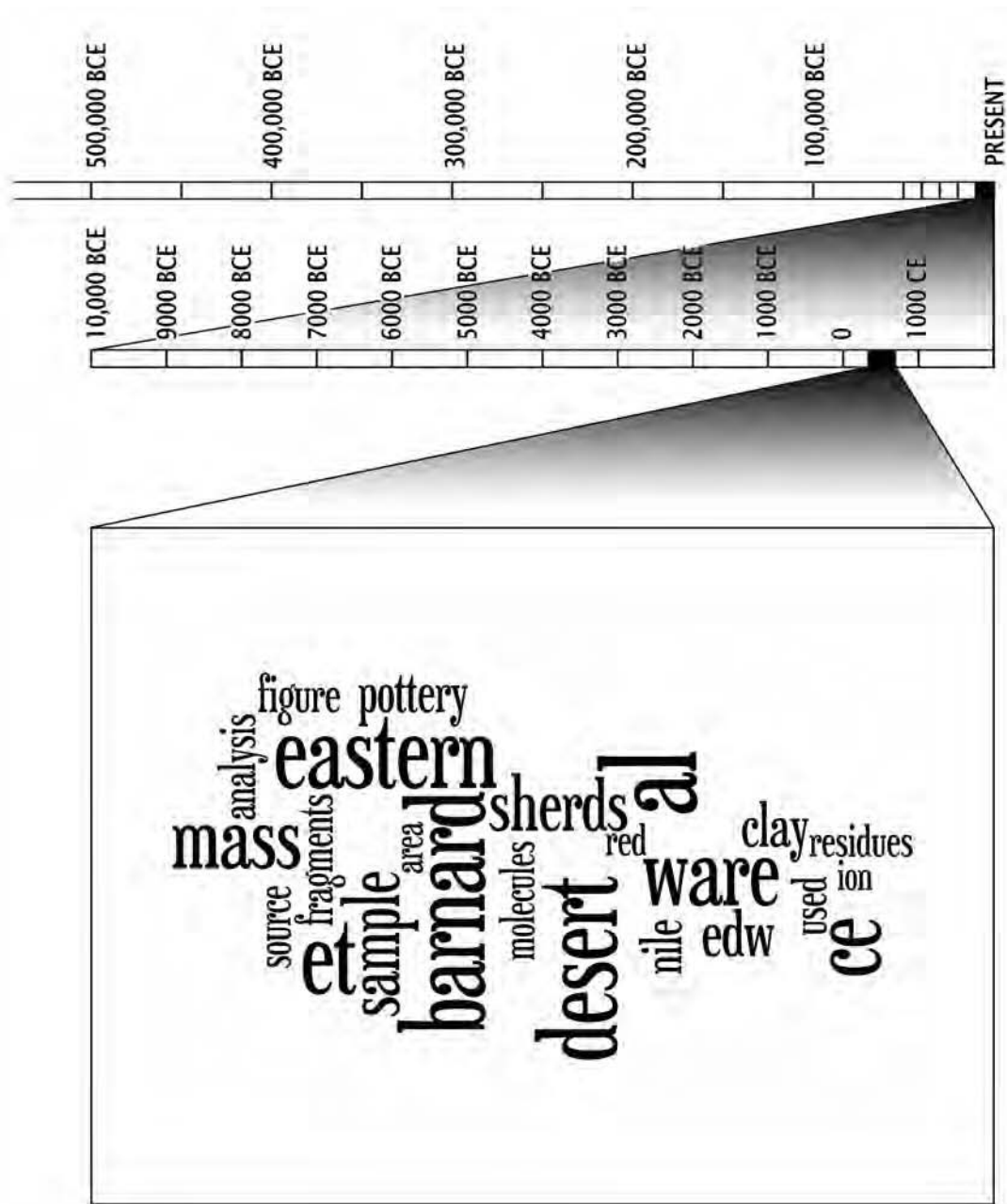
In the period under discussion and probably even later the Beja were pagan. In inscriptions from Kalabsha and Tafa, in addition to the gods of the Nile Valley, Madulis and Isis, other unknown gods appear who were worshipped by the Blemmyes (Török 1988: 233; Eide *et al.* 1998: 1132-1138, 1207-1208; Dijkstra 2005). It is evident from the inscriptions of Kalabsha that the Blemmyes who settled in the Dodekaschoinos comprised a well-organized religious community. In the 6th century CE, they had pagan priests and as late as 570 CE they made an attempt to maintain the pagan sanctuaries of the Thebaid (Dijkstra 2005). At Wadi Sikait, Nugrus and Kab Marfu’a, around Mons Smaragdus, sanctuaries with an axially structured ground plan were built in the 4th–5th centuries CE. These buildings attest to the spread of traditions and cults from the Nile Valley.

Textual sources also provide data on Blemmyan society. It seems probable that the desert south of Wadi Hammamat was under the control of a Blemmyan ruler (*basileus, tyrannos*) who shared his power with several chieftains (*phylarkhos, hypotyranos*) of smaller local tribes. The importance of clan and family relations transpire from the Greek text of the Letter of Phonen (Török 1998: 57-59; Török 2008: 528-530; Eide *et al.*

1998: 1158-1165; Dijkstra, this volume), written around the middle of the 5th century CE. Similar tribal ranks are also mentioned in the so-called Blemmyan Documents (Eide *et al.* 1998: 1196-1216, Dijkstra, this volume). The extent of the region controlled by the Blemmyes during the 5th–7th centuries CE is unknown. The 9th century CE writer al-Ya‘qubi mentions six Beja kingdoms on the Red Sea coast. In view of the substantial size of

the tombs in the region, it seems likely that the royal centers were in Daraheib and Nubt. If modern Nubt near Tabot is identical with the Nupt mentioned in a letter from Qasr Ibrim, written in 758 or 759 CE, it may be supposed that the Eastern Desert region south of the modern Egyptian border was under the authority of a single Blemmyan ruler.¹⁶

¹⁶ Personal communication by Joost L. Hagen.



Time line and word cloud for Hans Barnard, *Results of Recent Mass Spectrometric Research of Eastern Desert Ware (4th–6th centuries CE)*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 19



Results of Recent Mass Spectrometric Research of Eastern Desert Ware (4th–6th centuries CE)

HANS BARNARD

EASTERN DESERT WARE (EDW) REFERS TO A small corpus of handmade ceramic cups and bowls that are usually smoothed or burnished and frequently decorated with impressed or incised decorations (Figure 19.1). Their distinctive remains have been found in 4th–6th century CE contexts in the Nile Valley between the First and the Fifth Cataract, as well as in the Eastern Desert between there and the Red Sea coast (Table 19.1). Eastern Desert Ware invariably forms only a small percentage of the ceramic finds at these sites, among much greater numbers of Cream Ware and Red Ware sherds, associated with the Late Meroitic Nubia (Strouhal 1984; Barnard 2007, 2008a), or Egyptian Red Slip A and B sherds, associated with Late Roman Egypt (Tomber 1998, 1999; Barnard 2007, 2008a). The dates provided by these pottery finds have been confirmed by coins (Strouhal 1984; Sidebotham 2000), and by radiocarbon analysis (Magid 1998, 2004). Eastern Desert Ware has now been studied in some detail (Barnard 2002, 2006b, 2006a; Barnard and Rose 2007; Barnard 2008a), including chemical analysis of the ceramic matrix and the organic residues in the vessels (Barnard and Strouhal 2004; Barnard *et al.* 2005; Barnard and Magid 2006), as well as ethnographic and experimental archaeology (Barnard 2005–2006, 2008a, 2008b, 2009). It was concluded that Eastern Desert Ware was most likely made and used by one of the indigenous groups in the area at the time,

which is concurrent with earlier assumptions based on more cursory studies of the material (Ricke 1967; Rose 1995; Sidebotham and Wendrich 1996, 2001; Luft *et al.* 2002). Despite the suggestions made in these earlier studies, however, the identification of this group remains enigmatic (Barnard 2005, 2007, 2009). In this chapter efforts to shed light on this matter by mass-spectrometric analysis of selected sherds of Eastern Desert Ware are discussed.

Introduction to ICP-MS and GC/MS

Mass spectrometry refers to a variety of methods to accurately measure the mass, or rather the mass to charge ratio (m/z) of ions (charged molecules). All mass spectrometers consist of a sample inlet, an ion source (where molecules in the sample are ionized), the actual mass analyzer (where ions are separated according to their m/z) and an ion detector (Figure 19.2). The sample inlet transforms part of the sample into a form and quantity fit to be analyzed by the instrument. Mass analyzers separate ions with a different m/z by applying electromagnetic forces, requiring the molecules in the sample to be ionized (charged) so that they will respond to such forces. How an ion is recorded by the detector at the end of the instrument depends on its m/z , not its mass. Ions that carry a double charge will appear to have half their actual mass, while molecules that do not accept the ‘correct’ ionization, either positive or

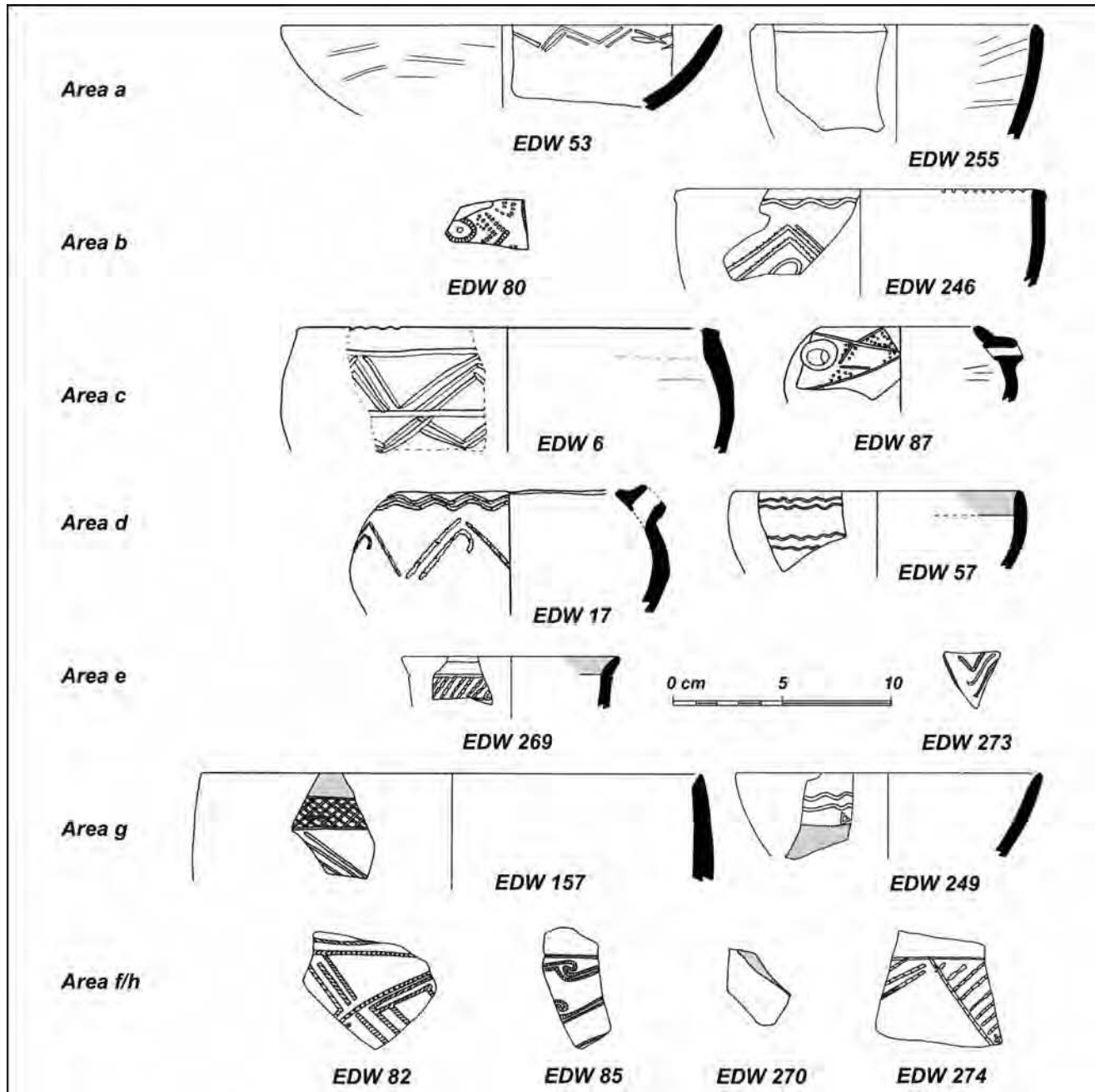


Figure 19.1. Examples of Eastern Desert Ware (EDW) apparently from different production areas ("a" through "f/h") as inferred from the chemical composition of the clay matrix established by ICP/MS. Adapted from Barnard 2008a: 61-62.

negative depending on the setting of the instrument, will escape analysis.

In laser ablation, inductively coupled plasma mass spectrometry (LA-ICP-MS), as used in this study, the sample inlet is a powerful laser that evaporates part of the sample. The resulting vapors are transported into an argon torch, which comprises argon plasma at a temperature of around 7000 °C, trapped in and powered by a magnetic field. Such an argon torch is an aggressive

ion source that breaks up most of the molecules in the sample into positively charged elemental ions. After ionization, ions of different m/z can be separated in time or space using the differences in their response to the electromagnetic forces inside a mass analyzer. A time-of-flight mass analyzer (ToF) consists of a metal tube at high vacuum with an ion accelerator at its beginning and an ion detector at its end. Upon entering the analyzer, the ions are accelerated by an

Table 19.1. Approximate date, location and function of the sites where Eastern Desert Ware has been found. *Bayt* (بيت) = house, tent; *wali* (ولي) = governor, saint; *bir* (بئر) = well, spring; *gebel* (جبل) = mountain, hill; *hitan* (حيطان) = walls, ruins; *marsa* (مرسى) = anchorage, beach; *qadim* (قديم) = old, ancient; *qaria* (قرية) = village, hamlet; *qasr* (قصر) = castle, palace; *wadi* (وادي) = valley, river bed. Adapted from Barnard 2008a: 4.

Site	Approximate date	Location				Function						
		Nile Valley	Mons Smaragdus	Red Sea coast	Eastern Desert	Mine / quarry	Fort / way-station	Rest house	Harbor	Cemetery	Other	Unclear
Bayt al-Wali	350–400 CE	×								×		
Berenike	250 BCE–550 CE			×					×			
Bir Abraḡ?	50 BCE–50 CE				×		×					
Bir Minih	250–650 CE				×							×
Bir al-Murayr	250–550 CE				×						×	
Bir Umm Fawakhir	450–550 CE				×	×						
Gabati?	150 BCE–550 CE	×								×		
Gebel Zabara	450–550 CE		×			×						
Gelli (Wadi Gamal South)	250–550 CE		×								×	
Hitan Rayan	450–650 CE				×							×
Kab Marfu'a (Wadi Gamal orth)	50–450 CE		×								×	
Kalabsha North	300–400 CE	×								×	×	
Kalabsha South	250–550 CE	×								×		
Kurgus	1500 BCE–1000 CE	×					×					
Marsa Nakari (Nechesia?)	50–350 CE			×					×			
Nubt	650–1000 CE				×					×		
Qaria Mustafa 'Amr	450–550 CE				×							×
Qasr Ibrim (Primis)	650 BCE–1850 CE	×									×	
Quseir al-Qadim (Myos Hormos)	250 BCE–550 CE			×					×			
Sayala (near Hieria Sycaminos)	50–350 CE	×						×		×		
(Wadi) Sikait	450–550 CE		×			×						
Tabot	250–350 CE				×		×					
(Hitan) Shenshef	450–550 CE				×							×
Umm Heiran	450–550 CE		×									×
Wadi Abu Qreiya	250–550 CE				×						×	
Wadi Alaqi	650–750 CE				×					×		
Wadi al-Arab	250–550 CE	×						×				
Wadi Qitna	250–550 CE	×								×		
Wadi al-Tareif	350–550 CE	×								×		

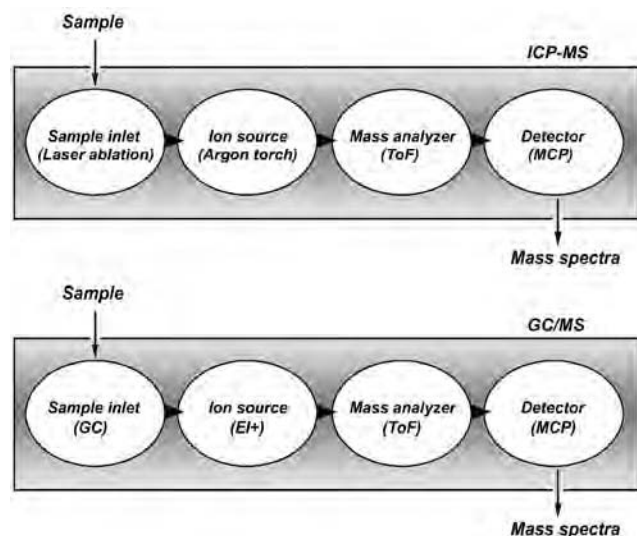


Figure 19.2. Schematic representation of an ICP-MS instrument (top) and a GC/MS instrument (bottom). Both consist of a sample inlet (left), where the samples are transformed into a state that facilitates analysis; an ion source, in which some of the molecules from the sample are ionized (charged); a mass analyzer, where the ions from the sample are separated by mass (using electromagnetic forces); and a detector (right), where the abundance of ions with a specific mass is measured. ToF: time-of-flight mass analyzer; MCP: multichannel plate ion detector; GC: gas chromatograph; EI+: electron impact ion source. Adapted from Barnard 2008a: 47, 68.

electromagnetic pulse, after which they are allowed to drift toward the detector. Typically it takes 10–100 μsec for ions to travel the distance of around 2 m between the accelerator and the detector. The speed of each ion, and consequently the time it needs to complete this journey, depends on its mass and charge state (m/z). Different ions reach the detector at different times from which the m/z of each ion can be extrapolated. As the atomic mass of all elements is very accurately known, these data represent the elemental composition (fingerprint) of the (ceramic) sample.

Interpretation of the results of ICP-MS analysis to provide information on the provenance of materials has been used extensively in geology (Jenner *et al.* 1990; Longerich *et al.* 1990) and archaeology (Porat *et al.* 1991; Mallory-Greenough *et al.* 1998; Glowacki and Neff 2002). As the size of a sample produced by laser ablation is relatively small and the fabric of pottery is a heterogeneous mix of clay, mineral inclusions and fillers, the data on the chemical composition as produced by LA-ICP-MS will vary with every analysis of a single sherd. Therefore, multiple samples of each sherd need to be analyzed, not only to provide an average abundance of the selected elements within the sherd, but initially

also to show the validity of the method for the corpus as whole. The resulting large amount of data is usually evaluated with statistical methods, most frequently principal component analysis (Glowacki and Neff 2002). Ideally, raw clay materials from the various source areas of the pottery should also be analyzed in order to compare results with the results of the actual pottery. As such source areas and materials are often unknown, however, elemental fingerprinting is generally limited to arranging the sherds into groups, most likely from the same, unknown source.

The sample inlet of a combined gas chromatography/mass spectrometry (GC/MS) instrument consists of a gas chromatograph at the center of which is a long and narrow glass column through which a flow of carrier gas is maintained. This column is coated on the inside with a thin layer to which some of the molecules in the sample will be attracted. The column is in an oven of which the temperature can be carefully controlled. The end of the column is connected to the ion source of a mass spectrometer. Once the sample is on the column, the mobile phase (the carrier gas) and the stationary phase (the coating inside the column) compete for the molecules in the sample. For each molecule the outcome of this competition depends on the temperature inside the column. As this temperature is slowly raised, the various components of the sample leave the stationary phase one by one and travel with the carrier gas to the end of the column and into the ion source of the mass spectrometer. Even ionization methods more gentle than the argon torch described above will not just change the charge status (m/z) of the original molecule, but will usually also cause some of them to fracture. Analysis of the resulting fragments and their abundance provides additional information that is helpful in identifying the original molecule. This is especially the case when molecules are ionized by a beam of high-energy electrons, in an electron impact ion source (EI+), in which the fragments and their relative abundance appear to be highly reproducible. This allows the comparison of the mass spectra generated by an unknown compound with known spectra in large digital libraries. Thus, the output of a GC/MS instrument is a combination of a single chromatogram and a large number of mass spectra. Each peak in the chromatogram represents a molecule in the sample and a mass spectrum can be created for each of these peaks. With specialized software, mass spectra of the unknown compounds in the sample can

be electronically compared with the spectra of known compounds in a digital library. This usually leads to the identification, with a reasonable amount of certainty, of many of the components in most of the samples (Barnard *et al.* 2007b).

Fatty acids, steroids and terpenoids preserved in the ceramic matrix of unglazed archaeological vessels are relatively well studied because of their propensity to survive archaeologically and their amenable behavior in laboratory conditions (Condamin *et al.* 1976; Hill *et al.* 1985; Patrick *et al.* 1985; Mills and White 1989; Gerhardt *et al.* 1990; Oudemans and Boon 1991; Evershed 1993; Charters *et al.* 1995; Shimoyama *et al.* 1995; Regert *et al.* 1998; Malainey *et al.* 1999; Mottram *et al.* 1999; Stern *et al.* 2000; Eerkens 2002). Interpretation of the results of these studies to arrive at the origin of such residues, by finding biomarker molecules or establishing the ratio in abundance of selected compounds, is often still problematic (Barnard *et al.* 2007a). Usually, only general remarks can be made on the original use or contents of the pottery under investigation. Combined with archaeological and historical information, however, these remarks can help create important insights into the former function of archaeological pottery (Skibo and Deal 1995; Barnard *et al.* 2007a; Barnard and Eerkens 2007).

Fingerprints of Eastern Desert Ware

In Egypt, four types of clay are most commonly used for pottery production. Geologically the oldest is so-called ‘Aswan clay,’ from a number of sources near the First Cataract, which has been used for pottery production in southern Egypt and northern Sudan since at least 500 BCE. Tertiary marl clays and Quaternary Nile alluvium have been used for pottery production in Egypt from Predynastic times onward. A fourth type of clay used by Egyptian potters occurs in isolated patches in the Nile Valley between Cairo and Esna, and also in Kharga Oasis (in the Western Desert). The exact relation between this clay and pottery production in antiquity is unclear. ‘Potter’s clay,’ however, is not a geological entity, but rather a man-made mix of one or more naturally occurring clays (natural blends of clay, silt and sand), water and a variety of additions, fillers or temper, added to the mix to prevent excessive shrinkage during the production process. A large variety of fillers can be used, including volcanic ash, silt, sand, dung, crushed pottery (grog) or shells, or chopped straw (Shepard 1976; Rye

1981; Skibo *et al.* 1989; Arnold *et al.* 1991; Arnold and Bourriau 1993; Bell 1994; Schiffer *et al.* 1994; Bourriau *et al.* 2000a, 2000b; Stark 2003). Another factor obscuring the geological sources of potter’s clay is the vernacular terminology that in no way correlates with geological entities, in English nor in Arabic (Table 19.2). The prepared substance intended to produce pottery is referred to as ‘paste,’ and the final fired material constituting the ceramic vessel as its ‘fabric.’

Table 19.2. Arabic vernacular terms for clay. Adapted from Barnard 2008a: 42.

Arabic		Translation
عربي	transcription	
صاصال	<i>sasal</i>	(dry) clay, argillaceous clay, marl
طفلة	<i>taflah</i>	(potter’s) clay, marl, argil
طين	<i>teen</i>	(potter’s) clay, argil, mud, alluvium
غرين	<i>ghareen</i>	(Nile) clay, alluvium
وحدل	<i>wahal</i>	mud (also proverbial), silt

Fifteen different pottery fabrics were identified for ancient Egyptian pottery during a meeting of experts in Vienna in 1980 and are therefore referred to as the ‘Vienna System’ (Arnold and Bourriau 1993). The Vienna System divides the fabrics into two main groups: Nile clay and marl, which are each subdivided into five large subsections (designated A–E) and several smaller ones. The identification of these fabrics is made macroscopically or at low magnification (10–20x) on fresh breaks and combines characteristics of the fabric itself, the inclusions in the paste (non-plastic and organic), as well as the ceramic technology of the vessel, especially the firing conditions (Arnold and Bourriau 1993; Bourriau *et al.* 2000b). Macroscopically the typical fabric of Eastern Desert Ware is a rusty red with relatively large, poorly sorted mineral inclusions and little organic remains. This is reminiscent of fabric type Nile A of the Vienna System, which is mostly associated with late Predynastic and early Dynastic vessels predating Eastern Desert Ware by 3500 years. The technology and decorations of Eastern Desert Ware resemble those of the C-Horizon, 2300–1500 BCE, adding to the ‘prehistoric’ appearance of the vessels. In petrologic thin-section, most of the mineral inclusions appeared to be angular, poorly sorted quartz and feldspar grains. Many sherds also contained small numbers of amphiboles and microclines (Figure 19.3). Limestone,

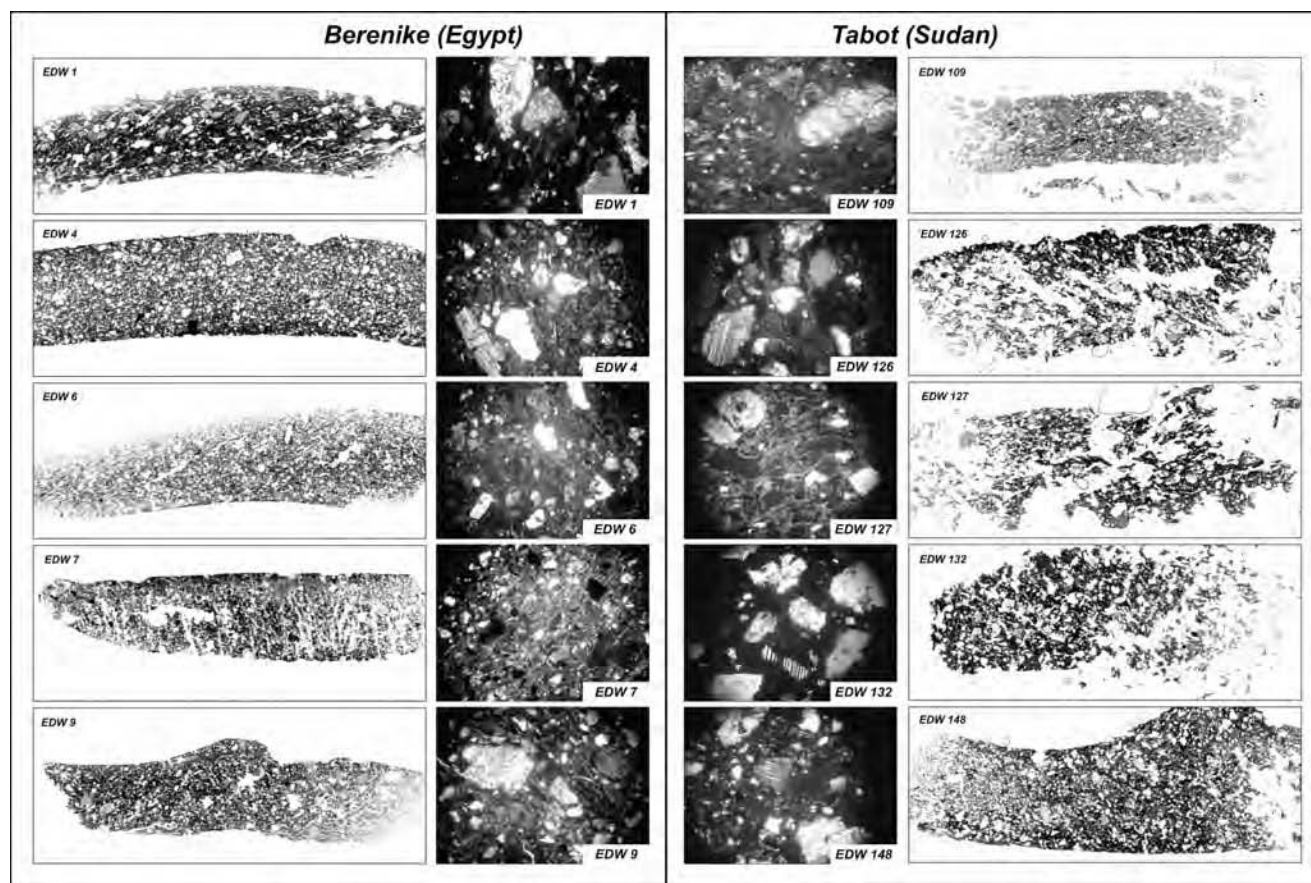


Figure 19.3. Petrologic thin sections of selected Eastern Desert Ware sherds, at low magnification as well as high magnification in cross-polarized light. Next to abundant quartz and feldspar fragments, these reveal sandstone and metamorphic rock fragments (EDW 1), amphiboles and metal-oxide fragments (EDW 4), metal-oxide fragments (EDW 6), limestone fragments (EDW 7), limestone and sandstone fragments (EDW 9), sandstone fragments (EDW 109), microclines, limestone and sandstone fragments ((top), sandstone fragments (EDW 126), granitic rock fragments (EDW 127), metal-oxide and granitic rock fragments (EDW 132), and sandstone fragments (EDW 148). Adapted from Barnard 2008a: 201.

sandstone and granitic rock fragments were often seen, sometimes all in the same sherd. This combination of minerals is outside the Vienna system, but concurrent with the igneous and metamorphic rocks that form the Red Sea Mountains (Butzer 1974; Arnold and Bourriau 1993; Barnard 2008a).

To investigate the provenance of Eastern Desert Ware, the abundance of 44 selected elements in 141 sherds was established with a GBC OptiMass Orthogonal ToF ICP-MS, with attached New Wave 213 LUV Laser Ablation System, owned by the Institute for Integrated Research in Materials, Environments, and Society (IIRMES) at California State University, Long Beach (Table 19.3; Figure 19.4). The sherds were from Tabot (59), the Mons Smaragdus area (45), Berenike (26), Qasr Ibrim (7), Marsa Nakari (3) and Quseir al-Qadim (1). To minimize contamination the analysis was performed on a fresh

break and the first pass of the laser was always discarded. After each 5–10 samples, four standard materials were analyzed to monitor for instrument drift, partly caused by fluctuations in the argon torch, and allow for correction of the data. The newly acquired data were compared with the published data on 20 wheel-thrown Egyptian vessels (Mallory-Greenough *et al.* 1998; see also Barnard and Strouhal 2004), 16 made of Nile clay and 4 of marl during the New Kingdom (Table 19.4).

Two methods were employed to reduce the data and select elements that are specific for each of the hypothetical production areas. Both methods are based on simple statistical techniques and were used to produce graphs allowing visual inspection and interpretation of the data. Principal component analysis (PCA) was used to find elements best representing the differences among the sherds (Neff 2002; Glascock *et al.* 2004). This is a

Table 19.3. Average abundance (in parts/million) of 44 elements in 141 Eastern Desert Ware sherds (189 measurements) as established by LA-ICP-MS. Adapted from Barnard and Strouhal 2004; Barnard 2008a: 48-51.

Element	Atomic number	Average mass (Da)	Average abundance (ppm)	Element	Atomic number	Average mass (Da)	Average abundance (ppm)
Na	11	22.99	25118.426	Sb	51	121.76	0.8365079
Mg	12	24.31	6986.6599	Cs	55	132.91	0.9898942
Al	13	26.98	113654.65	Ba	56	137.33	426.59534
Si	14	28.09	258278.37	La	57	138.91	22.370265
K	19	39.10	19942.010	Ce	58	140.12	50.815397
Ca	20	40.08	38538.118	Pr	59	140.91	24.006720
Sc	21	44.96	22.113652	Nd	60	144.24	21.878413
Ti	22	47.87	6620.1073	Sm	62	150.36	7.5183069
V	23	50.94	82.573175	Eu	63	151.96	1.7918519
Cr	24	52.00	79.754709	Gd	64	157.25	8.7307407
Mn	25	54.94	575.23439	Tb	65	158.93	1.8182540
Fe	26	55.85	54753.365	Dy	66	162.50	8.0115344
Ni	28	58.69	186.18720	Ho	67	164.93	4.1966667
Co	27	58.93	30.796349	Er	68	167.26	5.4266667
Cu	29	63.55	66.051482	Tm	69	168.93	4.1114286
Zn	30	65.41	178.07714	Yb	70	173.04	5.0989947
As	33	74.92	5.2461905	Lu	71	174.97	1.9967196
Rb	37	85.47	40.689153	Hf	72	178.49	5.8931217
Sr	38	87.62	306.88757	Ta	73	180.95	3.6616402
Y	39	88.91	16.907937	Pb	82	207.21	79.435926
Zr	40	91.22	148.01598	Th	90	232.04	3.6496825
Sn	50	118.71	13.220582	U	92	238.03	1.2523280

standard statistical technique in which a complex set of data, containing a large number of variables per element, is transformed into a smaller set of variables that still represent the variance of the original data set. Another way in which elements were selected for investigation was by calculating the signal/noise ratio for each element from three separate measurements of the composition of eight sherds. Table 19.4 shows the average values of the five selected elements (Co, Ce, Sm, Eu and Tm) for four archaeological regions where Eastern Desert Ware has been found (the Mons Smaragdus area, the Red Sea coast, Sudan and the Nile Valley) as well as the seven hypothetical production areas (a–e, g and f/h). These are compared with the published data on Nile clay and marl from the Egyptian Nile Valley (Mallory-Greenough *et al.* 1998).

Closer inspection of the data revealed that most of the Eastern Desert Ware sherds found in northern Sudan

and on the Red Sea coast, but not necessarily produced there, were probably made of raw materials from a single geological source, which is not necessarily in a single geographical location. This is most obvious in the relative concentrations of europium (Eu) and thulium (Tm). The average concentration of these elements is almost the same in Eastern Desert Ware sherds found in northern Sudan and on the Red Sea coast (Figure 19.5), but quite different in sherds found in the Mons Smaragdus area or the Nile Valley. The chemical fingerprints of Eastern Desert Ware are also quite different from New Kingdoms sherds produced and found in the Nile Valley (Table 19.4; Figure 19.5). As these analyses were made on different instruments, with different sensitivities and settings, the differences may be partly caused by instrument bias. The fingerprints of Eastern Desert Ware found in the Nile Valley, however,

Figure 19.4. Maximum and minimum abundance of 44 elements in 141 Eastern Desert Ware sherds (189 measurements) on a logarithmic scale. The concentration of lanthanides and actinides are presented separately to facilitate inspection of the data. Adapted from Barnard 2008a: 51.

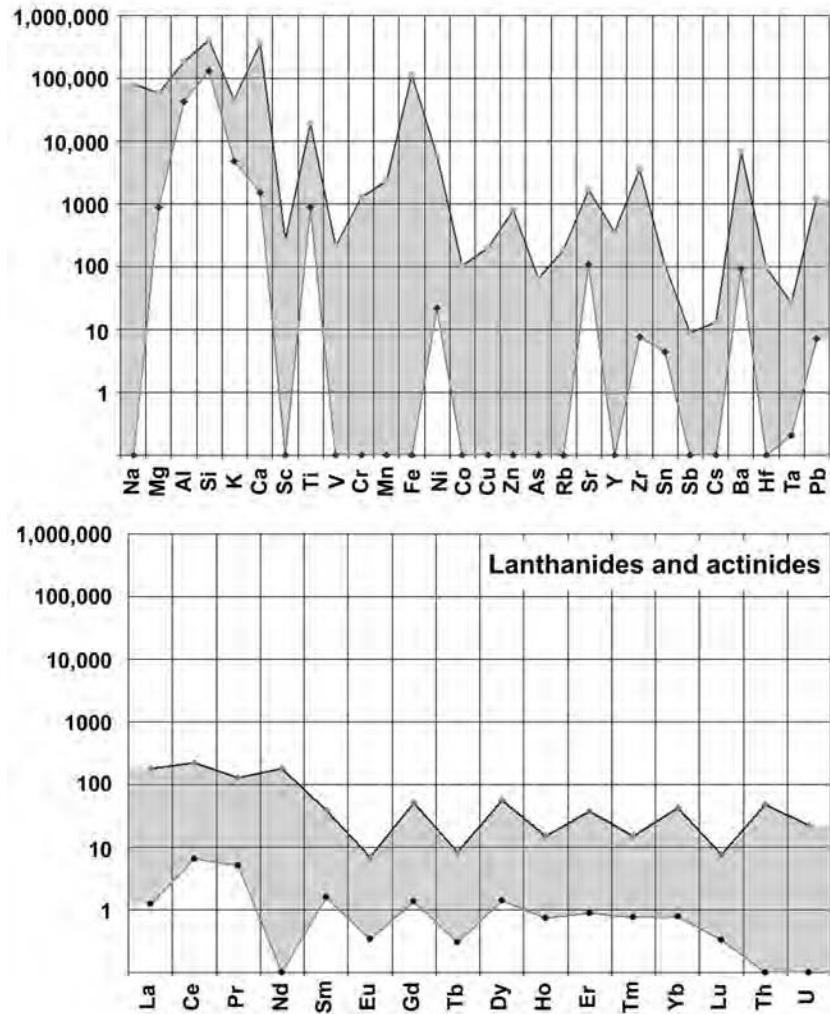


Table 19.4. Average abundance (in parts/million) of cobalt (Co), cerium (Ce), samarium (Sm), europium (Eu) and thulium (Tm) in Eastern Desert Ware found in four regions in the Eastern Desert (ED, top) and produced in seven hypothetical production areas (af/h), compared to the hypothetical source of the vessels found on the Red Sea coast and in Sudan (the Red Sea Mountains) and to 20 wheel-thrown vessels produced in the Nile Valley during the Egyptian New Kingdom (NV, bottom). Selection of the elements is based on the signal/noise ratio (deduced from repeated measurements on selected sherds), as well as on statistical analysis of the data (by principal component analysis). Adapted from Mallory-Greenough *et al.* 1998; Barnard 2008a: 60.

		Co 27 (58.93 Da)	Ce 58 (140.12 Da)	Sm 62 (150.36 Da)	Eu 63 (151.96 Da)	Tm 69 (168.93 Da)
ED	Mons Smaragdus	28.24	65.59	9.19	1.90	5.08
	Red Sea coast	32.53	49.12	7.00	1.77	3.25
	Sudan	33.94	35.09	5.91	1.53	3.59
	Nile Valley	25.08	81.82	10.20	2.97	4.30
Hypothetical	area a	25.07	135.69	27.53	6.70	4.87
	area b	25.95	87.60	20.15	1.79	9.20
	area c	33.48	103.79	16.23	2.70	13.33
	area d	26.98	52.55	5.49	1.83	2.09
	area e	18.83	111.28	13.36	3.68	4.28
	area g	36.80	36.66	6.18	1.63	4.68
	area f/h	22.70	93.10	9.26	2.23	4.79
	Red Sea Mountains	33.55	38.08	6.08	1.54	3.52
NV	marl	—	55.78	5.19	1.32	0.28
	Nile clay	—	66.56	7.00	1.95	0.42

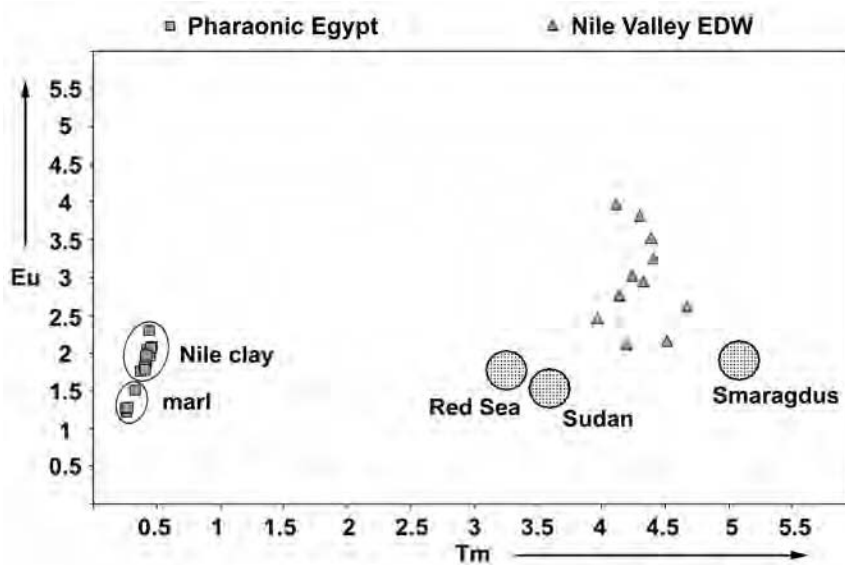


Figure 19.5. Scatter plot indicating the relation between the abundance of Tm (thulium, on the x-axis) and Eu (europium, on the y-axis) for Middle Kingdom sherds and Eastern Desert Ware found in the Nile Valley. The average for all analyzed Eastern Desert Ware sherds found on the Red Sea coast, in northern Sudan and in the Mons Smaragodus area are indicated as large circles (the size of this circle has no statistical significance). Adapted from Barnard 2008a: 57.

are also distinctly different from Eastern Desert Ware found in the Eastern Desert. It seems therefore safe to assume that the raw material for most Eastern Desert Ware did not originate from the usual Egyptian sources. Until alternative source areas have been identified and raw materials with a known provenance have been analyzed, the location or locations of this source will remain unknown. The suggestion that this source, or these sources, is associated with the Red Sea Mountains can thus only remain tentative, although in combination with the provenance of many sherds and the observations on the petrologic thin-sections, this is now quite likely.

Organic Residues in Eastern Desert Ware

Fragments of 51 Eastern Desert Ware sherds (31 from Berenike and 20 from the Mons Smaragodus area) were available for organic residue analysis (Figure 19.6). The surfaces of these samples were removed with an aluminum-oxide grinding stone to minimize post-depositional contamination of the sample. The remaining core of the sherd was crushed using an aluminum-oxide mortar and pestle. Of the resulting pottery powder 400 mg was transferred into a clean glass test tube to which 2 ml of a 2:1 chloroform-methanol mix was added. Powder and solvent were thoroughly mixed and sonicated for 30 min at room temperature. After centrifuging at 2000xg for 15 min, the supernatant was transferred into a second test tube. Fresh solvent was added to the sediment, which was again mixed, sonicated, centrifuged and decanted. After three such extractions the depleted pottery powder was discarded. The solvents in the second test tube were evaporated, after which the dry residue was derivatized

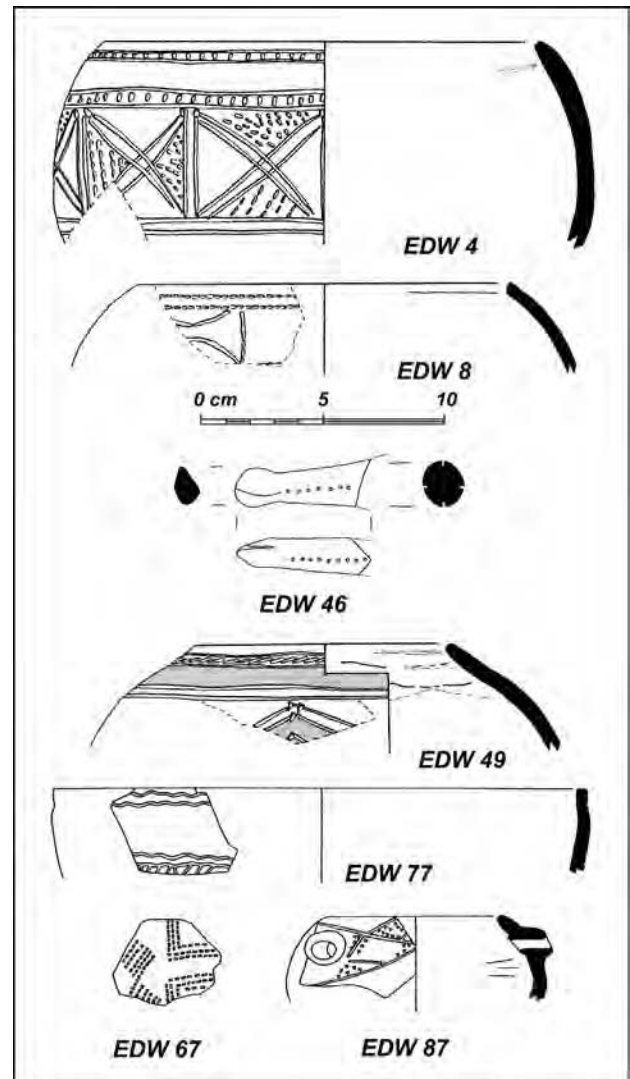


Figure 19.6. The seven Eastern Desert Ware sherds for which the organic residues are discussed in this chapter. Adapted from Barnard 2008a: 78.

(Barnard *et al.* 2005, 2007b; Barnard 2008a). To prevent contamination the sample preparation was completed using gloves from which the talcum powder was removed. Residual pottery powder was removed from gloves and tools with three rinses of water, formic acid and acetone, respectively. To monitor the procedure, empty sample vials were included as well as vials with the powder of new ceramic vessels or of modern vessels in which known foodstuffs had been prepared.

The instrument used to analyze the samples was a gas chromatograph (GC) feeding into a time-of-flight mass spectrometer (MS), built by Waters/Micromass, owned by the Pasarow Mass Spectrometry Laboratory at the University of California, Los Angeles (Figure 19.2). The injector vials were loaded in the automated injector set to inject 1 μ l of each sample into the injector port heated to 250 °C. The vapors released from the samples were carried through the CG column by a 1.2 ml/min flow of helium. The column used was an HP 5MS fused silica capillary, stationary phase 5% methyl silicone, 50 m long, 0.32 mm internal diameter, 0.25 micron film thickness, made by Agilent Technologies. The resulting chromatograms and mass spectra were stored and studied off-line using MassLynx 4.0 software and the 2002 version of the NIST/EPA/NIH Mass Spectral Library enabling comparison of the spectra of the samples with those of almost 150,000 known molecules.

All 51 sherds that were investigated appeared to have preserved an organic residue, arguing against a production of Eastern Desert Ware as receptacles for water or to be used specifically as grave goods, unless they were filled with food for the deceased or used for a funeral feast before being interred in the grave. No biochemical technique is capable of identifying all organic molecules in a complex sample, such as an ancient pottery vessel, and the methodology described above is designed to find traces of lipids, such as fatty acids, acylglycerols and cholesterol (Barnard *et al.* 2007a; Barnard and Eerkens 2007). Different avenues have been developed to interpret the combination of molecules that results from biochemical analysis of ancient residues in order to hypothesize on their source (Evershed 1993; Skibo and Deal 1995; Malainey *et al.* 1999; Eerkens 2005; Barnard *et al.* 2007a). These include the search for marker molecules, more or less specific for a group of foodstuffs, and calculating the ratios of certain fatty acids, such as mono-unsaturated fatty acids C16:1/C18:1 and odd-chain fatty acids (C15:0+C17:0)/

C18:0 (Figure 19.7),¹ and then comparing these with the marker molecules or ratios found in the residues of known foodstuffs (Barnard *et al.* 2005; Eerkens 2005).

Sherd EDW 4 (Figures 19.6 and 19.7) preserved many saturated fatty acids, both even-chained and odd-chained, as well as mono-unsaturated oleic acid (C18:1). The azelaic and oxysebacic acid in the residue are probably the oxidation products of longer mono-unsaturated fatty acids. Odd-chained and mono-unsaturated fatty acids are more common in food of vegetable origin and thus concurrent with a residue of seeds and berries (cereals). The plant hormones germanicol and β -sitosterol were also present, but could have originated from micro-organisms living off the residue after the vessels was discarded. Phytanic acid and cholestanyl are probably of animal origin, suggesting a residue of mixed origin. The vessel may have been used for fish, which is relatively high in both odd-chained and mono-unsaturated fatty acids, as well as phytanic acid and cholestanyl. This would be concurrent with the provenance of the vessel (Berenike) and its shape. Sherds EDW 8 and EDW 49 preserved rich and quite similar organic residues. The residue in sherd EDW 8 was interpreted as originating from a meat stew, the residue in sherd EDW 49 as originating from a vegetable stew (Barnard *et al.* 2005). Sherd EDW 46 preserved palmitic (C16:0) and stearic (C18:0) acid in almost equal amounts, as well as low amounts of oleic (C18:1) and erucic (C22:1) acid. This is concurrent with a residue from seeds and berries (cereals). Sherd EDW 67 preserved many saturated and mono-unsaturated fatty acids, but little else. This is concurrent with an origin from greens, probably mixed with vegetable oil given the relative abundance of lipids. Sherd EDW 77 preserved low amounts of palmitic (C16:0) and stearic (C18:0) acid, as well as even smaller amounts of palmitoleic (C16:1) and oleic (C18:1) acid, and most likely originated from vegetable foodstuffs naturally low in lipids. Sherd EDW 87 preserved palmitic (C16:0), palmitoleic (C16:1), stearic (C18:0) and oleic (C18:1) acid in almost equal amounts, most likely from vegetable oil. This is concurrent with the shape of the vessel (spouted bowl).

¹ C15:0 = pentadecanoic acid (with 15 C atoms and no double bonds); C16:1 = hexadecenoic or palmitoleic acid (with 16 C atoms and one double bond); C17:0 = heptadecanoic or margaric acid; C18:0 = octadecanoic or stearic acid; and C18:1 = octadecenoic or oleic acid.

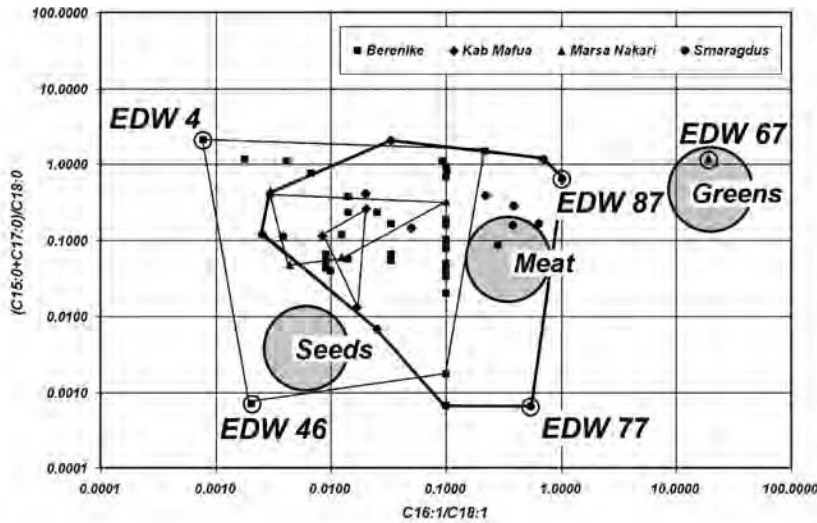
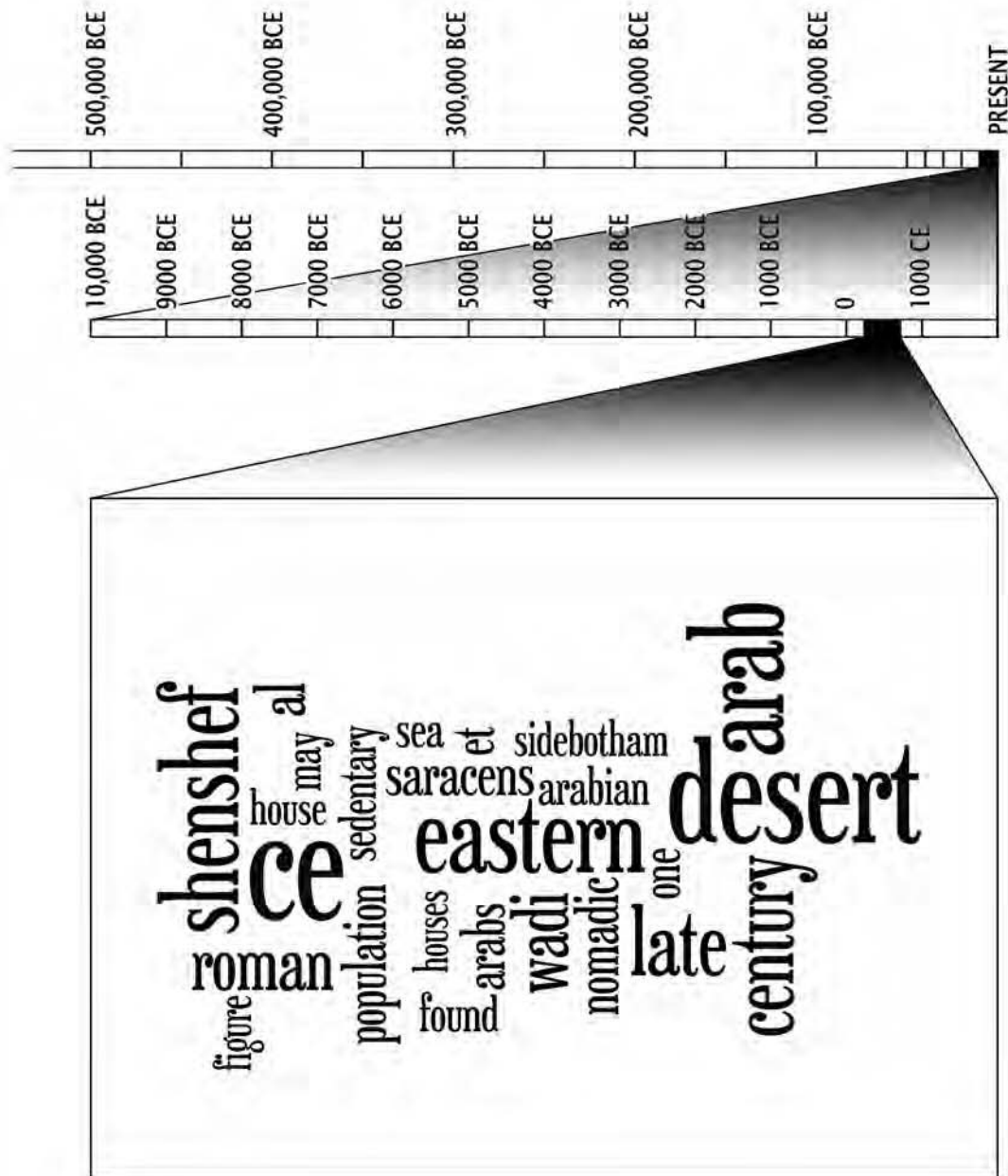


Figure 19.7. Selected fatty acid ratios, on logarithmic axes, of the 51 Eastern Desert Ware sherds analyzed in this study. The gray circles show the approximate position of the same ratios in the residues of known foodstuffs. Adapt from Eerkens 2005; Barnard 2008a: 77.

The small number of vessels in this study does not allow for a statistical correlation of organic residues with vessel form or decoration. The fact that a small tubular-spouted bowl (EDW 87) was apparently used to hold vegetable oil, however, suggests that such a correlation most likely does exist. Most organic residues in Eastern Desert Ware seem to originate from cereals (seeds; Figure 19.7). Residues probably associated with meat or fish were more often encountered in bowls, compared to residues with vegetal origins that were more often seen in cups. Residues in vessels from the Mons Smaragdus area were likely to be from food sources

richer in animal products, and possibly associated with a wealthier lifestyle, than residues from Berenike. It is noteworthy that although the modern inhabitants of the Eastern Desert do not produce pottery, they often use it, while their staple diet consists of porridge and bread made of wheat or sorghum. Even though lipid residues are not very specifically associated with foodstuffs, their analysis can provide valuable information, especially when combined with information from experimental, historical and (ethno-)archaeological sources (Barnard *et al.* 2007a; Eerkens and Barnard 2007).



Time line and word cloud created from Tim Power, *"You Shall Not See the Tribes of the Blemmyes or of the Saracens": On the Other 'Barbarians' of the Late Roman Eastern Desert of Egypt*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 20



“You Shall Not See the Tribes of the Blemmyes or of the Saracens”:

On the Other ‘Barbarians’ of the Late Roman Eastern Desert of Egypt

TIM POWER

IN TWO PREVIOUS PAPERS (POWER 2007, IN PRESS), I have tentatively explored the oft-ignored nomadic Late Antique Arab population of the Eastern Desert, usually referred to as ‘Saracens’ in the Byzantine sources. A brief summary of the key findings of this work is given here, which both serves to contextualize the discussion of sedentary Arab presence, and to redress the focus on the Blemmyes as the Eastern Desert dwellers *par excellence*. The notion that the Arabs, whether sedentary or nomadic, were guests in the desert cannot be allowed to go unchallenged, and for this reason I have somewhat broadened the scope in this chapter.

Two types of Arabs are encountered at the eastern approaches of Egypt in the historical sources, which reach intermittently from the Assyrians to the Orientalists, namely nomads and sedentarists. While the situation regarding the subsistence strategies and sociopolitical complexity of the numerous Arab groups therein attested was, no doubt, of considerably greater diversity than the sources allow for, and moreover subject to all the crude stereotypes and overweening prejudices that the sedentary core has traditionally projected onto the nomadic periphery, the division between Arabs of the desert and Arabs of the sown stands closer inspection. The dichotomy is found in the Qur’an, *inter alia*, here

used as a source bearing on the 7th century CE Hijaz: “It does not behove the people of the City and the Bedouin around them to hold back from following God’s Apostle” (9: 120).” In the Late Roman Eastern Desert, it may be observed that the region north of Wadi Hammamat was inhabited by a nomadic Arab population closely linked with the Sinai and the southern Levant, while a sedentary Arab presence may be associated with Shenshef, near Berenike.

Historical Sources for Nomadic Arabs

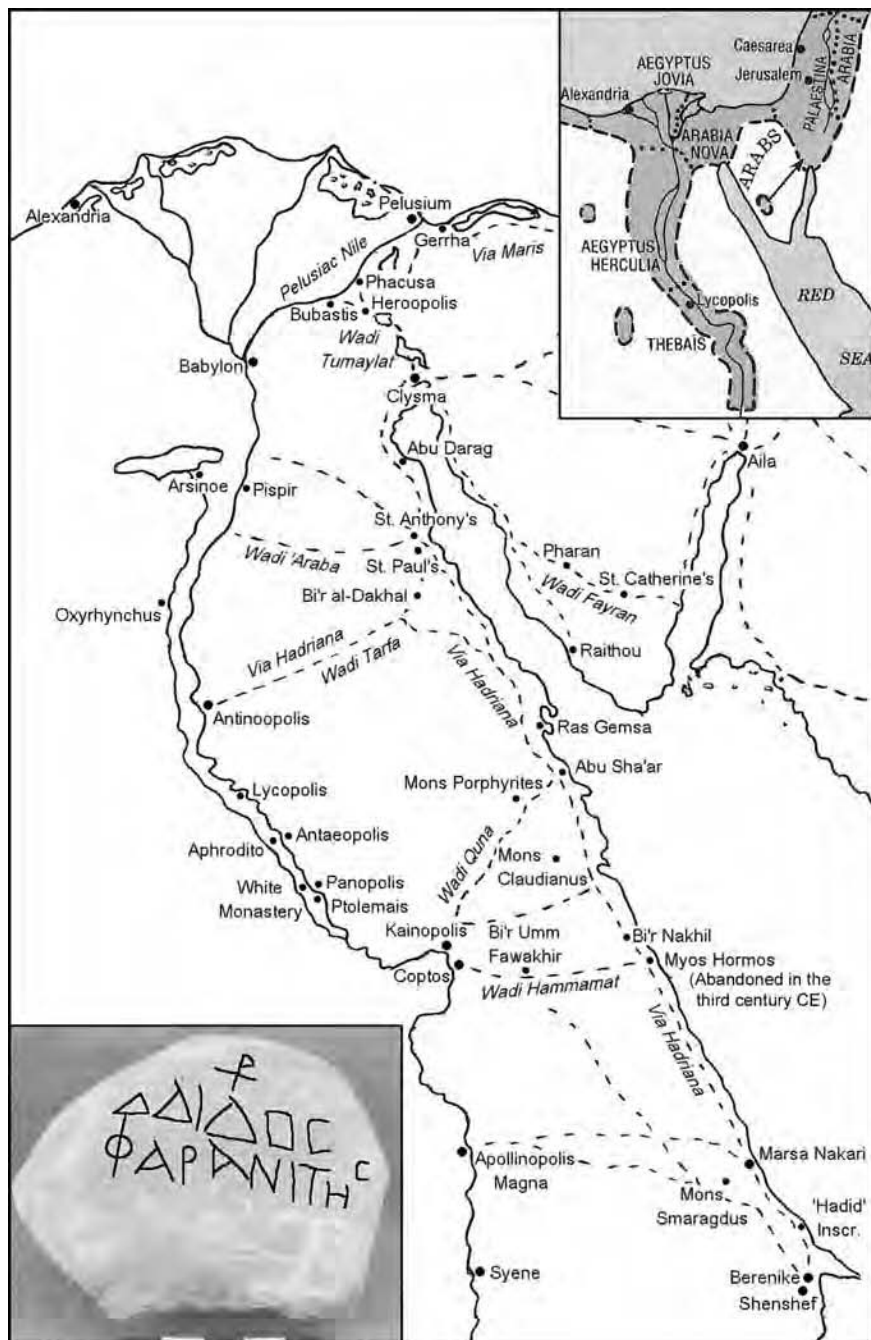
It is well acknowledged that both a sedentary and a nomadic Arab population has existed in the Sinai and the eastern Delta since at least the Iron Age (1300–600 BCE), when the ethnonym Arab is first attested in the Assyrian records (Ammar 1941; Eph’al 1982: 93–100; Redford 1992: 348–351; Figueras 2000: 64–91; Lloyd 2000; Hoyland 2001). How far south into the Eastern Desert, and in what numbers, nomadic Arabs roamed in the Late Antique Period (300–600 CE) has rarely been considered. The historical evidence is intermittent at best, often rather laconic and oblique, and the archaeological evidence is inconclusive, though enough remains of each to allow speculation. Late Antique sources indicate that the western extent of the Desert of the Saracens comprised the broad triangle bounded by Bubastus,

Clyisma (modern Suez) and Pelusium (Figure 20.1, Figueras 2000: 64-91). The ethnic and topographical cohesion of this area may have been reflected in the administrative structure of the eastern empire, for a rather mysterious province of Arabia Nova appears in papyri dated to the 4th century CE (Barnes 1982: 204-205, 213-224; Bowersock 1983: 145-146; Bowersock 1984: 221-222). Certainly Wadi Tumaylat may securely be placed within the Land of the Saracens, as the late 4th century CE pilgrimage account of the nun Egeria makes abundantly clear. When Egeria traveled from Clyisma to

Phacusa in the eastern Delta, the so-called Arabian Nome and Biblical 'Land of Goshen,' she wrote of the necessity of military escorts and fortified staging-posts passing through the 'Land of the Saracens':

From (the fort at) Clyisma and the Red Sea it is four desert staging-posts before you reach the 'City of Arabia' (i.e. Phacusa), and the desert is of a kind where they have to have quarters at each staging post for soldiers and their officers, who escorted us from one fort to the next . . . Pithom (Tall al-Maskhutah/Heroopolis) was pointed out to us . . . it was the point at which our route took us across the

Figure 20.1. Map of the Eastern Desert in the Late Antique Period. Insert at top-right: Map of Arabia. Insert at bottom-left: The 'Adidos Pharanites' inscription. Adapted from Treadgold 1997: 32; Sidebotham and Wendrich 2000: 375.



frontier of Egypt and we left the land of the Saracens, and it is now a fort (*Itinerarium 7.1-9.7*, Geyer 1965: 129-174; Wilkinson 1981).

Indeed, a fragment attributed to Egeria and preserved in the text of Peter the Deacon, dated to the 11th century CE, explicitly states that the fort at Clysma had been built as "defense and deterrent against Saracen raids" (*Liber de Locis Sanctis 101*, Geyer 1965). About 120 km (75 miles) farther south of Wadi Tumaylat is Wadi Arabah. The Saracens of the Wadi Arabah appear prominently in the account of Athanasius on the life of Saint Anthony, for the story goes that in 313 CE, Saint Anthony joined a Saracen caravan for the 'inner mountain':

Anthony said, "Who will show me the way for I know it not?" Immediately a voice pointed out to him Saracens about to go that way. So Anthony approached and asked that he might go with them into the desert. And they, as though they had been commanded by Providence, received him willingly . . . Having first received loaves from his fellow travellers, he abode in the mountain alone, no one else being with him . . . But the Saracens, having seen the earnestness of Anthony, purposely used to journey that way, and joyfully brought him loaves (*Life of Anthony 49-50*, Vivian *et al.* 2003).

Somewhat later, in 357 CE, the local Saracens were less obliging, for Jerome records that they attacked the monastery and killed one of the disciples of the saint (Mayerson 1989). Anthony's point of departure probably lay in the region of Pispir, the 'outer mountain' of his earlier eremitic career, opposite Arsinoe in the Fayum. As one of the richest agricultural regions of Lower Egypt, the Fayum must have offered a consistently reliable arable surplus to nomadic pastoralists. In the early 20th century CE, for instance, it was observed that "in bad years . . . [the local Ma'aza Bedouin] cross the Nile near Beni Suef and graze their camels between the Nile cultivation and that of the Fayum" (Murray 1935: 268).

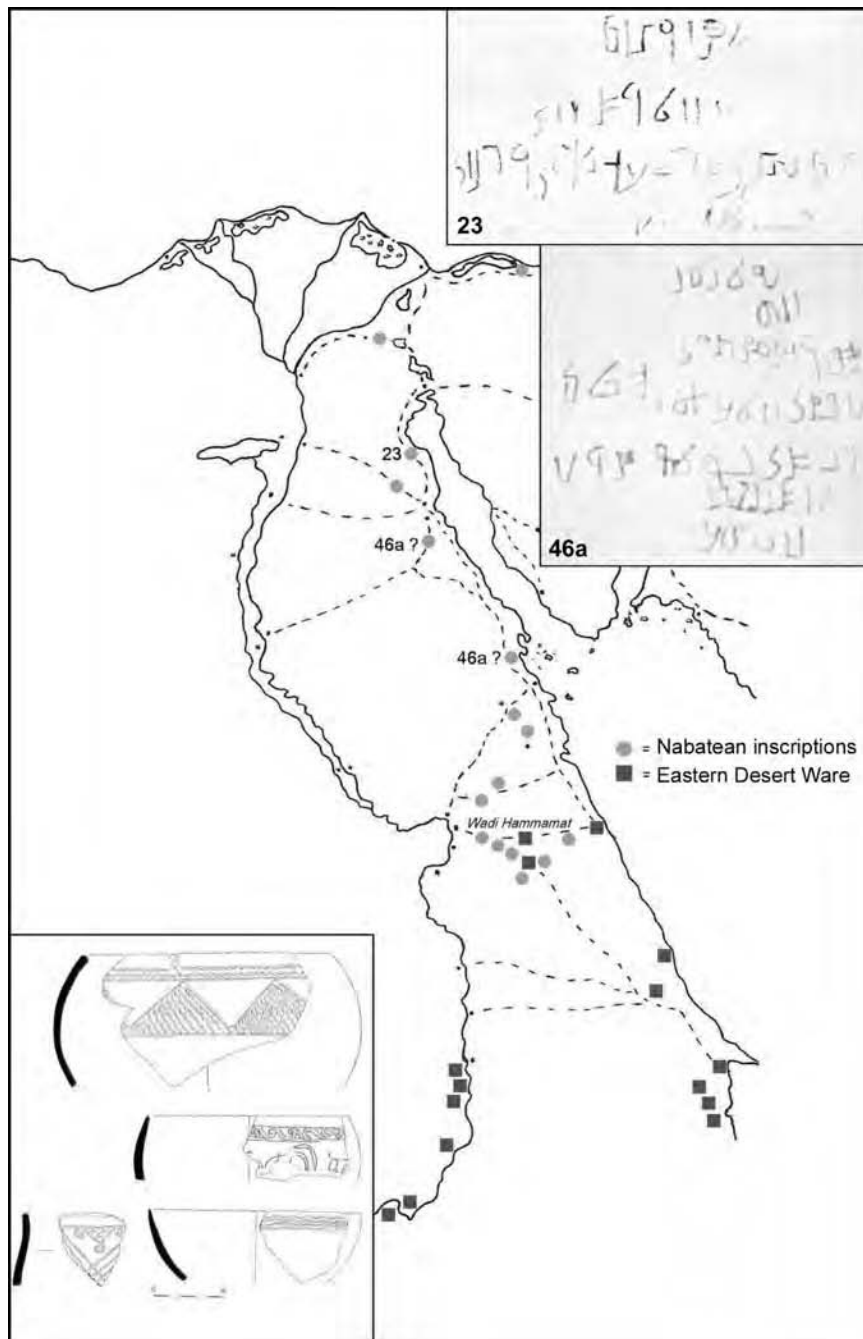
The next major valley connecting the Red Sea to the Nile is Wadi Tarfa, about 200 km (125 miles) south of Wadi Tumaylat. The Roman Via Hadriana ran along Wadi Tarfa from Antinoopolis in the Nile Valley to the fortress and monastery at Abu Sha'ar (near Hurghada), before turning south along the coast to end in Berenike (Murray 1925; Sidebotham and Zitterkopf 1997). Texts from the 4th–6th centuries CE found in the church at Abu Sha'ar provide Semitic names attesting to regular communications with the Sinai and Arabian Peninsulas (Bagnall and Sheridan 1994). It might be possible that such broadly Arabic names belonged to members of a

rather more local semi-sedentarized Saracen population. South from the Via Hadriana, the ancient town of Aphrodito (Kom Ishgaw) in the Thebaid has produced a large number of Late Antique papyri, including the archive of Dioscorus of Aphrodito (MacCoull 1989: 1-15). Both the Blemmyes and the Saracens are encountered in these texts, such as this eulogy to his sometime benefactor Athanasius, Duke of the Thebaid: "O greatest and most high Duke, father of lords . . . You shall not see the tribes of the Blemmyes or of the Saracens, nor shall you behold with your eyes fear of the destructive robber, for godlike peace has blossomed everywhere for all" (MacCoull 1989: 114). Other papyri in the archive constitute legal documents and petitions, such as that the people of neighboring Antaeopolis brought to the attention of the Duke of the Thebaid, complaining that they had not been protected from "nefarious Saracens" (Mayerson 1989: 284). Another papyrus refers to a resident *alabarch* in 568 CE, an office which can be understood as responsible for the supervision of nomads and herds, and therefore perhaps obliquely evidencing a local Saracen presence (Delmaire 1989: 286-87). South of Wadi Hammamat, the evidence for nomadic Arabs becomes much more sporadic. Although Strabo had written of Coptos as being inhabited by Egyptians and Arabians alike (Strabo 8.119-121, Radt 2003), quite what he means by Arabian in this context is altogether ambiguous, so that the general paucity of Graeco-Roman evidence suggests that Upper Egypt did not have the *longue durée* Arabian associations found farther north.

Archaeological Evidence for Nomadic Arabs

Some attempts have been made to locate a material culture of nomadic Arabs in the Eastern Desert north of Wadi Hammamat (Power *in press*), though identifying historically attested ethnic groups with assemblages of material culture is an infamously slippery business (Jones 1997; Näser 2005; Barnard 2007; Burstein 2008; Barnard 2009). Certainly the third century CE Nabataean inscriptions in the Eastern Desert contain a marked Arabic component (Figure 20.2; Littmann and Meredith 1953; Mohamed, this volume). They may have been cut by Late Antique nomadic Arabs writing in the Nabataean script, a situation that has firm parallels in Syria and has further been suggested for the Sinaitic inscriptions (Meshel 2000: 144-151; Macdonald 2003: 48). The location of these inscriptions, one at the fort and monastery of Abu Darag, south of Clysma, and

Figure 20.2. Map of the northern Eastern Desert, showing the distribution of 84 Nabataean inscriptions at 16 sites and Eastern Desert Ware. Adapted from Littmann and Meredith 1953: plates 2 and 5; Hayes 1996: 175.



another at either Bir al-Dakhal, north of Wadi Tarfa, or at Ras Jamsa, on the coastal road south of Abu Sha'ar, corresponds very neatly with the Late Antique historical sources bearing on the Saracens. It is perhaps also significant that very few Nabataean inscriptions have been found south of Wadi Hammamat, from where the historical sources fall silent as to a local nomadic Arab population. The regions of the Eastern Desert, broadly from the Sinai Peninsula to Wadi Hammamat, can therefore be interpreted as the ancestral territory of Arab

nomads, a situation further found on the ground today with the Arab Ma'aza Bedouin of the Gallala Plateau.

At the same time, it is noteworthy that neither the historically attested pattern of Blemmyan raiding (Dijkstra, this volume; Pierce, this volume), nor the sites with Eastern Desert Ware extend north of Wadi Hammamat. The medieval and contemporary northern limits of the territory of the Beja tribes (notably the Ababda, De Jong 2002; Wendrich 2008) respect this valley, suggesting that this boundary is perhaps of some

antiquity. One wonders if the Roman forts and watch-towers along the route that once linked Coptos with Myos Hormos, which are particularly dense along this strategic corridor—with 10 forts at an average distance of 16 km apart and 65 intervisible watch-towers every 1–5 km (Zitterkopf and Sidebotham 1989)—might be associated with regulating this boundary, though obviously this is a matter of speculation. Late Roman pottery was found at several sites, despite the apparent abandonment of Myos Hormos in the third century CE, suggesting that the road maintained a military function which continued after the cessation of its commercial aspect. It therefore seems at least plausible that the territorial boundary between the Saracens and the Blemmyes was informed by the forts and watch-towers along the Coptos-Myos Hormos road. With this hypothetical tribal boundary in mind, it may further be possible to posit certain of the Late Roman 'enigmatic settlements' (Sidebotham *et al.* 2002) as the seasonal settlements of semi-nomadic Arabs. It is perhaps significant that of the five comprehensively published sites (Sidebotham *et al.* 2002), three are located either close to or north of Wadi Hammamat, that is to say in the region historically associated with the Saracens. The enigmatic settlements have been associated with either Christian asceticism (Sidebotham *et al.* 2002; Earl and Glazier 2006; Peacock and Blue 2006) or Blemmyan settlements (Ricke 1967: 33-37; Sidebotham *et al.* 2002; Kryzwinski, this volume; Lassányi, this volume), partially on the basis of parallels with the *laura* of the Judaean desert (Hirschfeld 1992; Peacock and Maxfield 1997: 151-162) and with analogous settlements in Nubia (Ricke 1967: 33-37). The lack of Christian graffiti or Eastern Desert Ware at these settlements, however, complicates such interpretations. Certainly the anchorite hypothesis is undermined by an uncritical reading of Coptic hagiography, in which the desert is deployed as a literary *topos* (Goehring 1993). The Blemmyes hypothesis, meanwhile, seems to rest largely on the assumption that this group represents the dominant nomadic population of the Eastern Desert north as well as south of Wadi Hammamat.

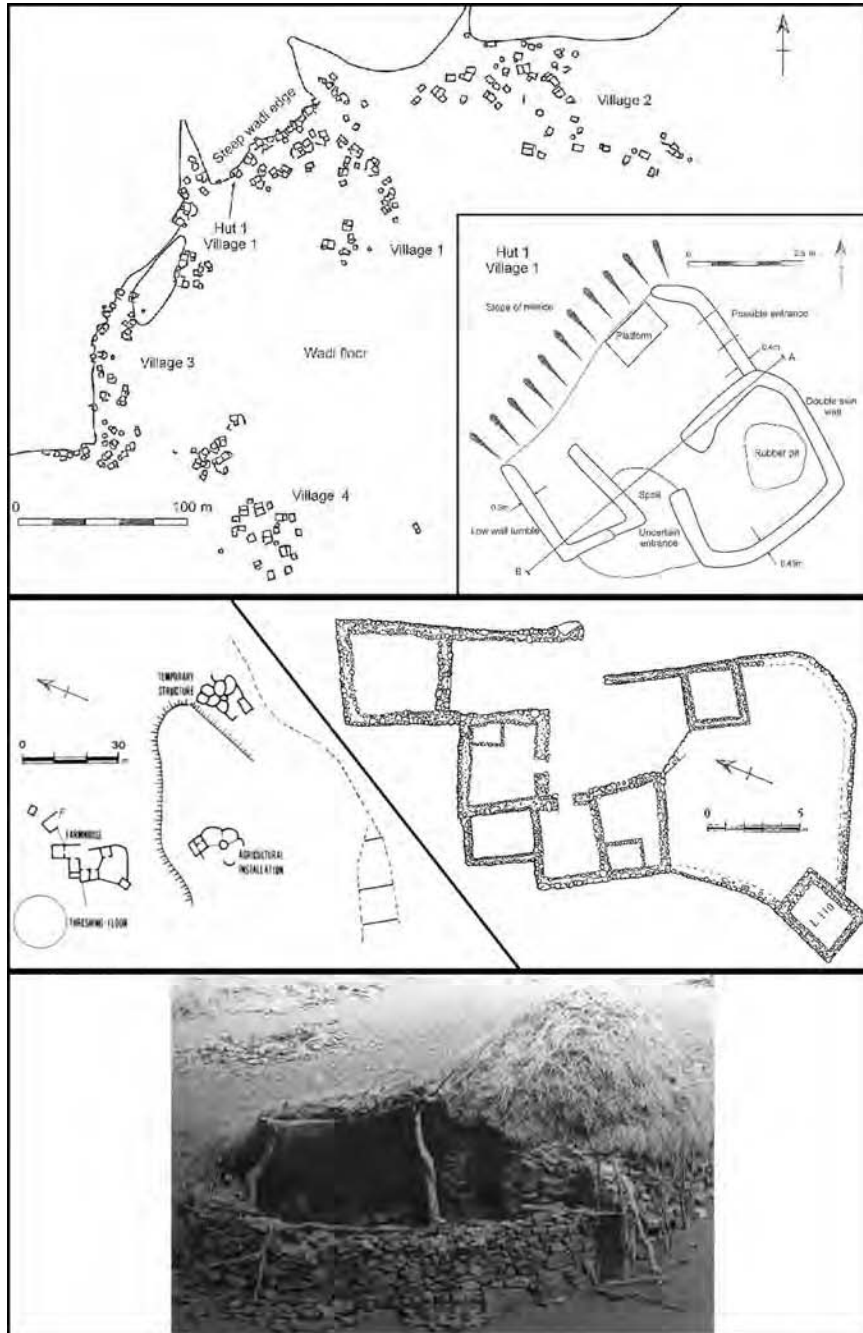
Alternative architectural parallels for the enigmatic settlements of the Eastern Desert can be found in the Late Roman and Early Islamic farmsteads of the Sinai and the Negev Desert (Haiman 1995a, 1995b; Avni 1996), convincingly linked with the indigenous semi-nomadic Arab population (Figure 20.3). Construction techniques and structural dimensions are replicated in

both regions. All walls were dry-stone and double-skin with a rubble fill. Walls recorded in the Eastern Desert reach a height of 0.7–1.2 m (Sidebotham *et al.* 2002), with a maximum of 1.5 m (Earl and Glazier 2006), while those in the Negev Desert are similarly reported to be 1.5 m (Haiman 1995b). Wall width in the Eastern Desert is given as 0.5–0.6 m (Sidebotham *et al.* 2002; Earl and Glazier 2006), and although 0.7 m is reported for the Negev Desert (Haiman 1995b), plans show abutting walls as rather narrower. Internal furnishings in the Eastern Desert were limited to *mastabas* with average dimensions of 1.4 × 0.7 × 0.3 m and bordered by a single row of stones, sometimes with a gravel fill (Earl and Glazier 2006), or one of beaten earth (Haiman 1995b). No trace of roofing materials was found in the Eastern Desert, and though a single beam was found in the Negev Desert, it is clear that roof structures were of impermanent organic materials. Similar structures existed until recently throughout the Arabian Peninsula, providing pertinent models for the reconstruction of those structures found within the 'enigmatic settlements.' The explicit similarities between the architectural typologies and construction techniques of broadly contemporary settlements in the Negev and Eastern Deserts suggest a shared material culture. One explanation of this would be that the same people were responsible for their construction, namely the Saracens historically attested from the Negev Desert, through the Sinai Peninsula and into the Eastern Desert. The enigmatic settlements of the Eastern Desert could therefore represent semi-permanent or seasonally occupied Saracen encampments.

Sedentary Arabs and the Settlement at Shenshef

The ruined settlement at Shenshef lies about 20 km (12.5 mi) southwest of the Graeco-Roman emporium of Berenike (Figure 20.4). Early visitors to the site variously thought it a satellite settlement of people from Berenike, "autumn station for the officials and merchants of Berenike" (Murray 1926: 166), or else a medieval Arab slave dealer's stronghold. The lack of an obvious economic rationale for settlement, including mines and quarries, or millstones and slag-heaps associated with processing minerals, and the very limited amount of arable ground to be cultivated in the immediate surrounds, has served to fuel speculation on the nature of settlement. Survey and excavations undertaken in 1996 and 1997 revealed some limited

Figure 20.3. Plans of possible Saracen settlements in Bir Nakhil, Eastern Desert (top, adapted from Earl and Glazier 2006) and Nahal Mitnan, Negev Desert, Israel (middle, adapted from Haiman 1995b); and a photograph of a 20th century CE Bedouin winter residence in Ras al-Khayma (United Arab Emirates).



evidence for limited agricultural processing, but the function of the site and the origin of its inhabitant remained undetermined (Aldsworth and Barnard 1998; Aldsworth 1999; Cappers 1999; Gould 1999; Van Neer and Ervynck 1999; Vermeeren 1999). The excavators had to conclude that “it is still not clear whether the population consisted of Romans, a Romanized local population (Blemmyes?) or a combination” (Gould 1999: 379). There are, however, problems with the Romano-Blemmyes hypothesis. The large courtyard houses of Shenshef display an architectural

typology without parallel in either the Graeco-Roman Mediterranean or in the Hamito-Semitic traditions of the Nile Valley. Nor can direct parallels be found in the Eastern Desert. The researchers of Shenshef were part of the Berenike team and had very considerable experience of the local archaeology, so that it is surely significant that they were uncertain as to which population ought to be associated with the site.

The study of the domestic architecture of Roman Egypt (Figure 20.5), based on the 1928–1935 excavations at Karanis, in the Fayum (Egypt), by the University of

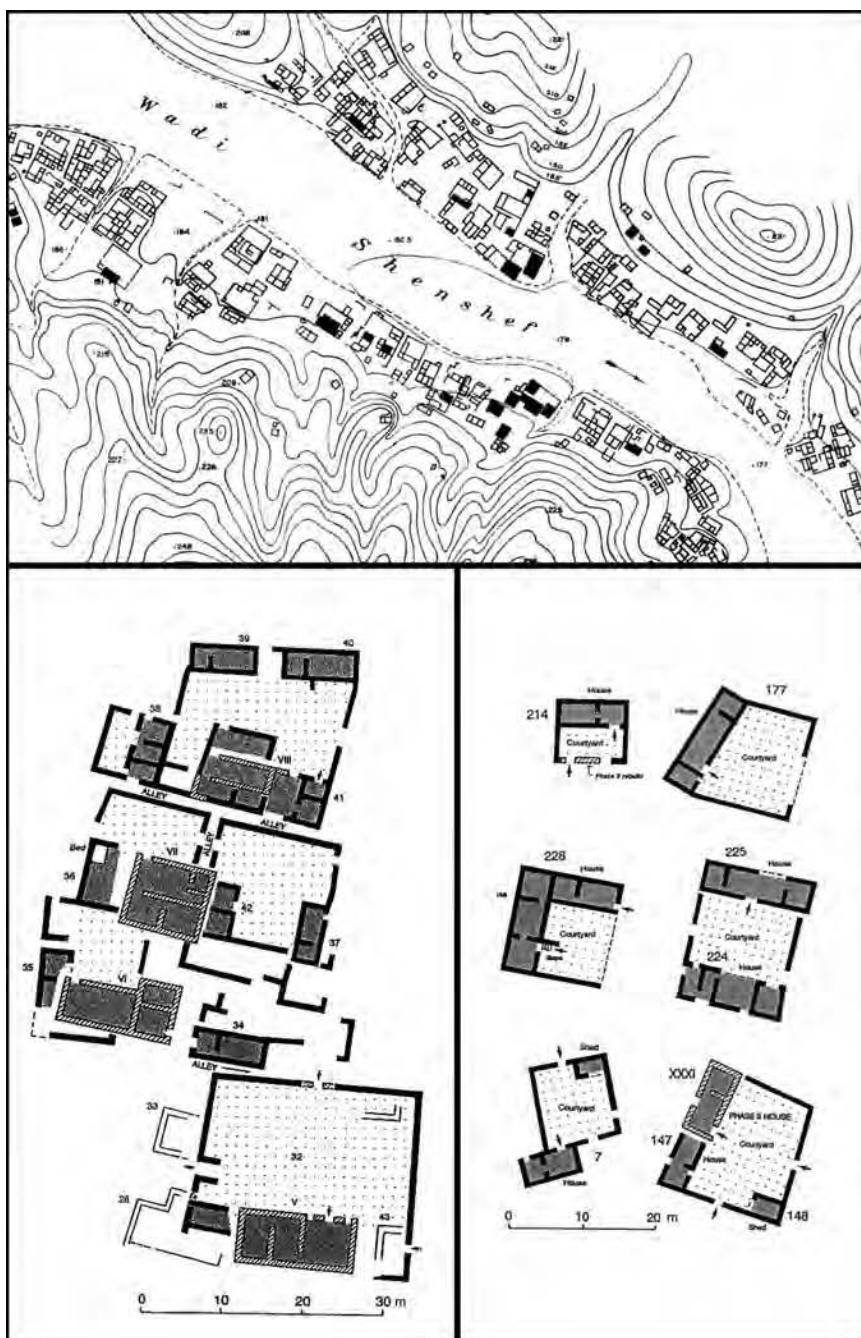
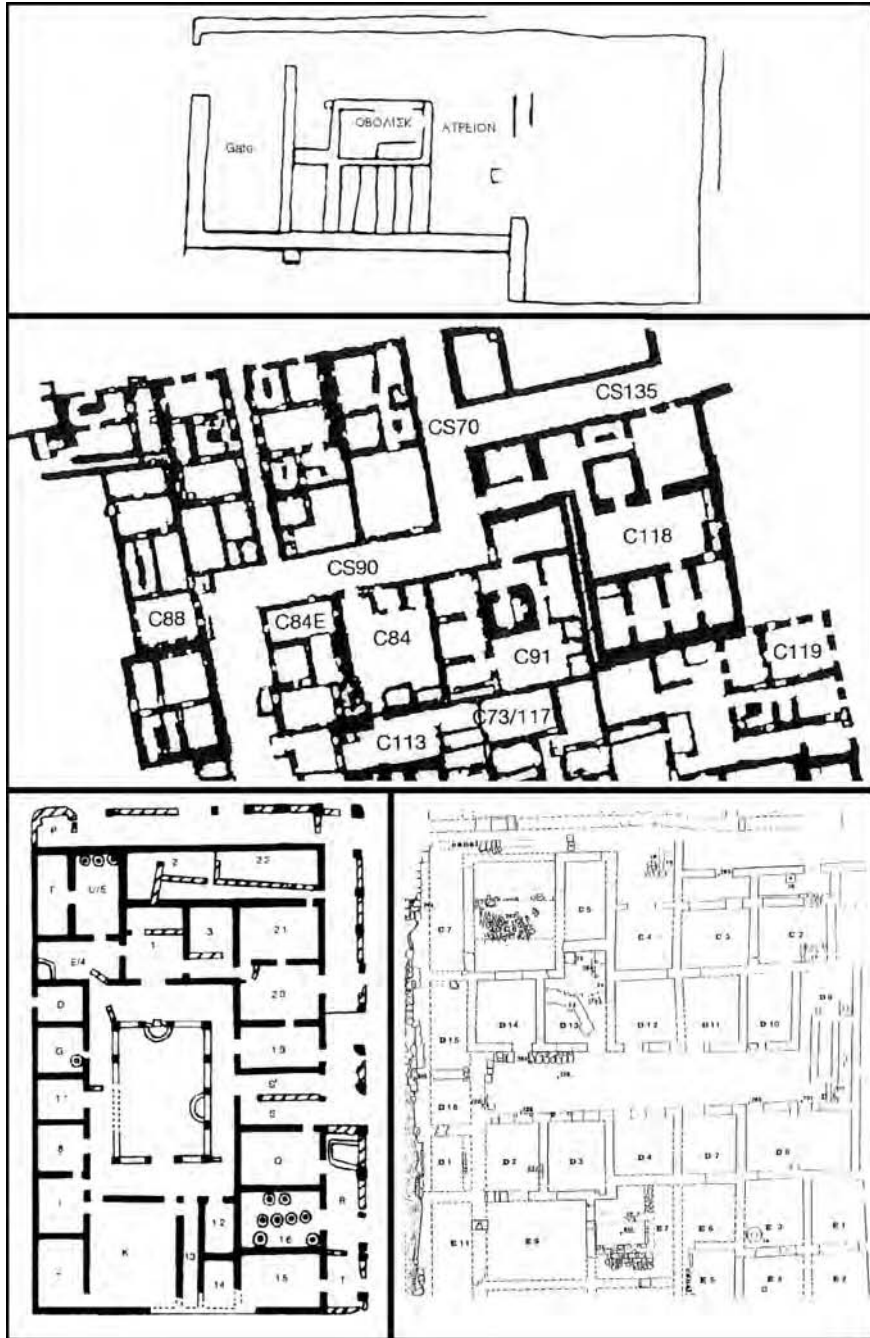


Figure 20.4. Plan of Shenshef (top, adapted from Murray 1926) and selected buildings at that site (bottom, adapted from Aldsworth 1999).

Michigan, indicates that ground plans have an average of about 70 m² (Alston 1997), much smaller than those at Shenshef (Aldsworth 1999). Typically, the houses in Karanis possessed a small external yard for domestic work, while the flat roofs of these frequently multi-storied buildings were similarly employed as working space. Two types of larger house were attested. The first, known as *aithrion*, seems essentially Greek, with rooms arranged around an internal courtyard integral to the house. Such a house is uniquely illustrated on a ground plan in *pOxyrhynchus*. The second larger house

type is of a peculiarly Egyptian style characterized by two towers flanking the main gate. This seemingly goes back to Pharaonic times, when the gate was the cultic center of a house, and recalls the pylons of temple architecture. House plans from urban contexts, notably those unearthed by the Polish excavations at Kom al-Dikka in Alexandria, again show many small rooms grouped around a relatively small internal courtyard. Romano-Egyptian domestic architecture, as briefly outlined here, seems to find no expression at Shenshef, which speaks against a Roman population.

Figure 20.5. Typology of Romano-Egyptian Houses. Top: Ancient drawing of an aithrion house (from *pOxyrhinchus* 24.2406). Middle: Plan of houses in Karanis, Fayum, Egypt (adapted from Alston 2002: 54). Bottom-left: Plan of a house in Tipasa, Algeria (adapted from Ellis 1988: 568). Bottom-right: Plan of houses in Kom al-Dikka, Alexandria, Egypt (adapted from Rodziewicz 1984).



As for the Blemmyes, an architecture of crude curvilinear single-roomed dwellings, attested at Kalabsha and among certain of the enigmatic settlements (Ricke 1967; Sidebotham *et al.* 2002) has tended to be attributed to them (Figure 20.6). Similarly, well-known Byzantine sources largely agree that they were an essentially nomadic people without architecture, though the accounts are fragmented, intermittent and open to widely differing interpretations. The Arabic sources of the 9th–10th centuries CE give more detailed descriptions of the architecture of the Beja. For instance, al-Tabari, who

died in 923 CE (310 or 311 AH), states that “the Beja are nomads, owners of camel and sheep. Their country is a sandy desert, devoid of all vegetation and water, without villages or fortresses (*Ta’rikh Volume 3: 1430*, De Goeje 1879–1901).” Similarly, Ibn Hawqal, who died before 955 CE (343 or 344 AH), tells us “they dwell under hair tents and possess neither villages nor towns, nor cultivated fields” (*Surat Volume 1: 48*, Kramers 1938–1939). In the early 20th century CE, the *bayt bursh* of the Beja is described as being “in colour and shape like a hay-cock, built of matting from the dom-palm. The

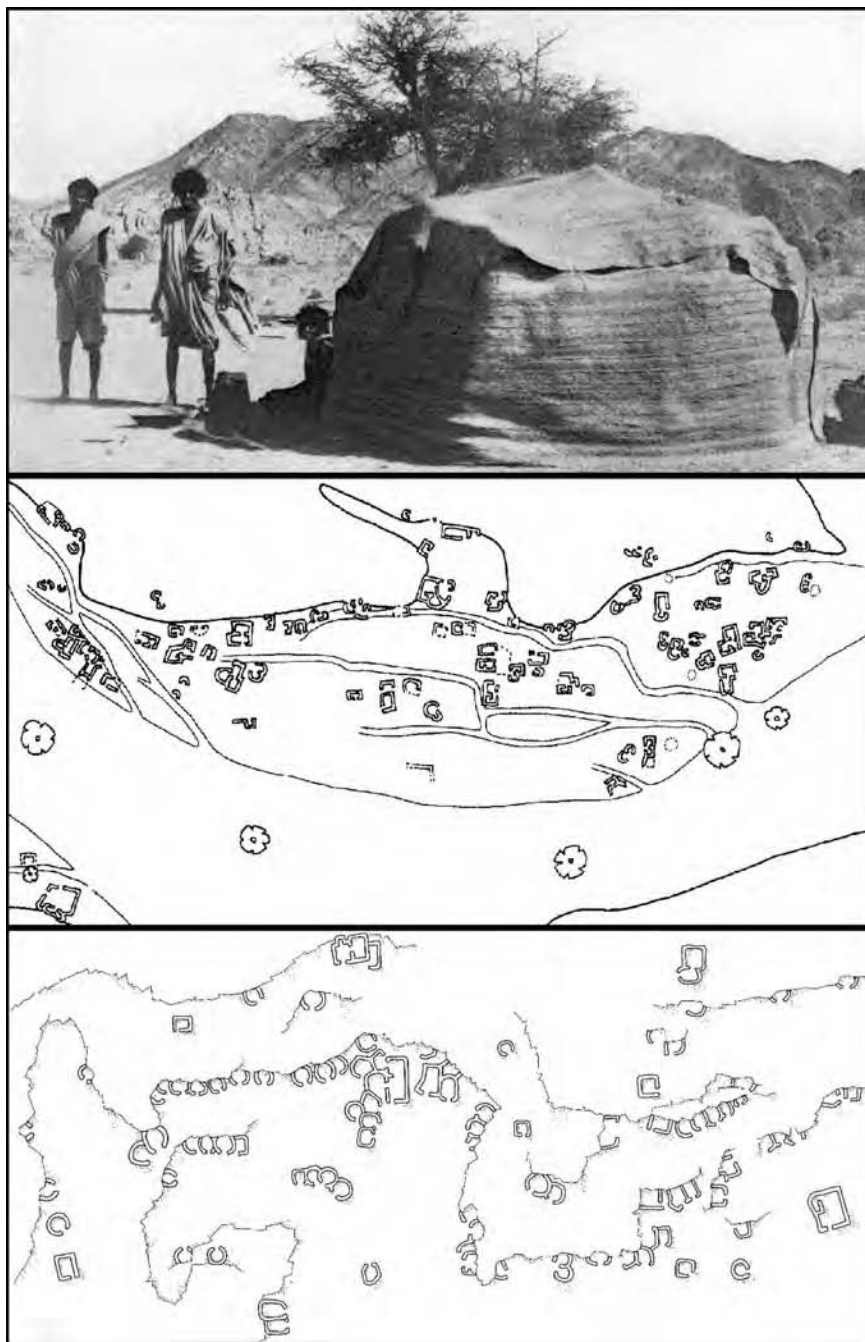


Figure 20.6. Blemmyan housing types. Top: Modern *bayt bursh* (adapted from Murray 1935: plate 11). Middle: Plan of Hitan Rayan (adapted from Sidebotham *et al.* 2002). Bottom: Plan of *Fluchtdorf FD 1* near Kalabsha (adapted from Ricke 1967: 35).

mats are stretched over long curved sticks, and fastened there with wooden skewers, whilst the door, only 2 or 3 feet high is curtained generally with a piece of sacking. The interior is only about 10 feet square in all" (Murray 1935: 81). Such accounts seem to preclude the nomadic Blemmyes as the builders of so sophisticated a settlement as Shenshef.

Having outlined the salient features of the Romano-Egyptian house and the Blemmyan hut, the domestic typology evident at Shenshef appears positively alien. The houses almost all conform to a courtyard plan, with

one or two domestic units arranged along the longitudinal sides of a rectilinear enclosure. This courtyard is of a different order to the Romano-Egyptian *aithria*, being neither an internal element nor an external appendage, but rather the single salient device structuring space. It accounts for between half and two-thirds of the total floor space enclosed by the perimeter walls of a house, far in excess of an *aithria*. Indeed, the houses themselves are considerably larger than those attested at either Karanis or Berenike, with floor areas of 100–750 m² and an average of about 225 m². In other words, the

average house at Shenshef is over three times the size of its Romano-Egyptian counterpart, and about 22 times the size of the Blemmyan hut. Moreover, the internal arrangement of the house is at odds with the Romano-Egyptian typology, perhaps suggesting a different social system or familial structure. Papyri found in Philadelphia, in the Fayum (Egypt), indicate that 36% of the houses contained multiple households, in many cases the result of subdivision through inheritance, which is to say that the houses were most likely planned for a single household (Alston 1997: 34). House types 2a and 2b in Shenshef, however, appear to have originally been intended for two households sharing a single large courtyard. When considered in context, it is clear that the relationship between households and courtyards was rather more complicated, with abutting structures and rebuilding bringing numerous households into close proximity. As for the domestic units themselves, they almost all include a larger rectangular room provided with a doorway, giving onto one or more smaller rooms without public entrances. Having failed to find ready typological parallels among the burgeoning corpus of published Romano-Egyptian house plans, or from what is known of antique Blemmyan and traditional Beja dwellings, it falls then to consider alternatives from further afield. To my mind, the domestic architecture of Shenshef immediately and powerfully recalls the Arabian courtyard house (Figure 20.7). The point of noting such parallels is not to claim Shenshef for the medieval Islamic period, which the 5th–6th century CE ceramic sequence speaks against, but rather to place it firmly in the architectural traditions of the Arabian Peninsula and so infer a pre-Islamic Arab presence on the coast of Egypt.

Umm Jimal in Jordan provides a particularly useful parallel for Shenshef, for it has strong Arab associations in both the Late Roman and Umayyad periods. In the third century CE, Jadhimah al-Abrash bin Malik is attested as King of the Arab tribe Tanukh in a famous inscription from the site. Excavations have revealed continuous settlement through the Late Roman and Early Islamic Periods (DeVries 1993, 1995), which demonstrates extensive remodeling following the Arab conquest. The beaten floor of House 119, for instance, was found embedded with Late Roman and Umayyad ceramics of the 7th century CE, and this and other evidence led to the conclusion that it was “a completely Umayyad construction on a cleared Byzantine domestic site” (DeVries 1995: 430). House plans of Umm Jimal

show clear similarities with the houses of Shenshef, most obviously the massive open courtyard with narrow rectilinear rooms arranged around the perimeters. This is to provide clear parallels with an architectural tradition unattested prior to the Arab conquests, and so almost certainly belonging to the tradition of pre-Islamic Arabia. Another early Islamic site with continuous occupation through Late Antiquity is Setif, in eastern Algeria. A residential area was excavated here and though the buildings in Setif date from the second half of the 10th to the middle of the 11th century CE, they are of the same basic type as those from Umm Jimal and provide further analogies for the houses of Shenshef (Fentress *et al.* 1991: 114–151). Similar rooms flank the courtyards and, as at Shenshef, are furnished with *mastabas*. What is significant about the houses in Setif is the clear break with the Late Roman housing typology, here exemplified by Tipasa in Algeria (Figure 20.5, bottom-left), so that they may be unambiguously identified as belonging to the material culture of the Arab settlers. Setif therefore provides clear Arab comparanda for Shenshef, implying an Arab as opposed to a Romano-Blemmyes population.

Finally, it seems that this typology continued to be used in the Red Sea region for some considerable period of time, for it appears in the Ottoman houses at Suakin in Sudan. The same domestic units of narrow rectangular rooms organized around massive courtyards can be seen at Shenshef, Umm Jimal and Setif. The dimensions and internal divisions of these domestic units are exactly analogous, each being about 10 m long and divided into a small square room and a longer rectangular one. Indeed, a comparison of Shenshef type 2a (Figure 20.4) with an example from Suakin (Figure 20.7, bottom-left) reveals striking similarities. While of course caution must be exercised in comparing buildings separated by so considerable a stretch of time, it might be argued that both belong to the same sociocultural tradition. The large courtyard houses at Umm Jimal, Setif and Suakin belong to a distinctive Arabian architectural tradition stretching back into pre-Islamic Arabia. That these provide ready comparanda for the houses of Shenshef suggests a shared material culture. Again, one explanation of this would be that the same people were responsible, namely the sedentary Arab population attested among the oases of the western Arabian Peninsula and the 200 mm isohyet of the southern Levant. Given that equally strong parallels are not to be found in the domestic architecture of the Romano-Egyptian population, or of that

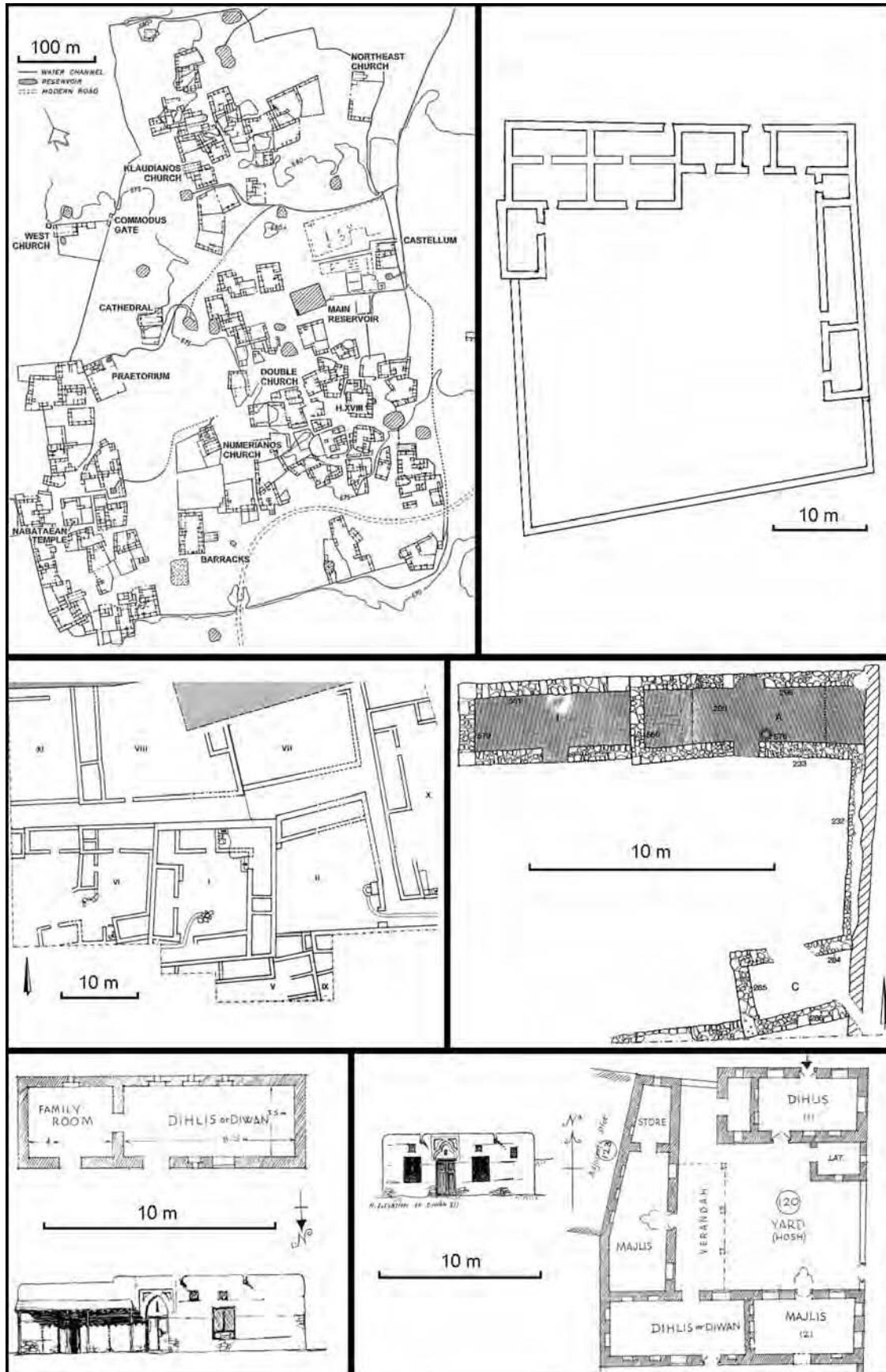


Figure 20.7. Plans of different Arab housing types. Top: In Umm Jimal, Jordan (adapted from DeVries 1995); iddle: In Setif, Algeria (adapted from Fentress *et al.* 1991). Bottom: In Suakin, Sudan (adapted from Greenlaw 1995: 23).

identified with the Late Roman Blemmyes and Early Islamic Beja, a case may now be made for a sedentary pre-Islamic Arab population at Shenshef.

Sedentary Arab *Foederati* on the Coast of Egypt?

Assuming that Shenshef does indeed represent the material culture of sedentary Arabs living on the coast of the Eastern Desert, it remains to suggest an economic rationale for settlement. The available historical sources immediately suggest two possibilities, respectively military and commercial, which might conceivably underlie Arab settlement at Shenshef. It is well known that Arab tribes were engaged as military allies (*foederati*) by the Late Roman state, a practice that became increasingly common in the 5th–6th centuries CE. Very often this involved a degree of assimilation into Graeco-Roman society and culture, including some use of the Greek language and conversion to Christianity. As Cyril of Scythopolis later noted, “these people who had previously been the wolves of Arabia joined the flock of Christ” (18.24-25, Swartz 1991). Others have gone so far as to claim that Christianity turned Arab *foederati*, such as the Ghasanids of Jabiya, into veritable Crusaders for the Byzantines (Shahid 1985: 24-25). This process can be briefly sketched out for the Sinai. Iron Age sources attest to an autochthonic nomadic Arabian population reaching through the Sinai to the Pelusiac branch of the Nile, with enclaves of settlement in the eastern Delta and Wadi Tumaylat from at least the Saite Period (26th Dynasty, 664–525 BCE). The nomadic element thereafter remains pronounced into the 4th century CE. Pliny (6.32.143, Rackham 1942) referred to Arab “tent-dwellers,” or Scenitae, in the Sinai and, three centuries later, Ammianus Marcellinus (22.15.2, Rolfe 1940) explicitly linked these Scenitae with the Saracens of his day. From the mid 4th century CE, however, first Christianization and then sedentarization proceed apace. According to the *Ammonii Monachi Relatio*, believed to date to the 4th century CE, the sheikh of a tribe of sedentary Arabs living around the oasis of Fayran in Sinai, named Obedianus in Greek or ‘Ubayd in Arabic, was converted to Christianity by the holy man Moses (Devreesse 1940; Shahid 1984: 297-323). By the 5th–6th centuries CE, settlement in Wadi Fayran had grown and was provided with monastic institutions, including Deir al-Mahrid and Deir al-Banat (Grossman 1997). The inhabitants of Wadi Fayran were apparently faithful defenders of the monasteries of the Sinai who, from the time of Obedianus (‘Ubayd) had

fought for their Byzantine paymasters against Saracen and Blemmyes nomads.

The Christianized sedentary Arabs in Wadi Fayran were, as *foederati*, widely deployed across the Eastern Desert by the Byzantines (Shahid 1995: 967-189). Earlier *foederati* of possible Arabian extraction are attested in *Notitia Dignitatum*, which lists dromedary corps in Panopolis and Kainopolis (Littmann and Meredith 1954: 241). A papyrus from Apollinopolis Magna (modern Edfu), in Upper Egypt, places units from Fayran in Antaeopolis in 524 or 525 and 529 or 530 (Remondon 1961: 85), and Dioscorus of Aphrodito mentions that they fought with the Duke of the Thebaid against local Saracens (MacCoull 1986; Shahid 1995: 970). Some distance south of Marsa Nakari on the Red Sea coast just off the Via Hadriana, a Greek graffiti was found bearing the name *Adidos Pharanites* combined with a staurogram and a drawing of a gazelle or an ibex (Sidebotham and Wendrich 2000: 374-375; Sidebotham *et al.* 2000). On the basis of firm epigraphic parallels, the researchers argue that this represents the Hellenized Semitic name Hadid and quite reasonably associate this individual with the Christian Arab *foederati* of Wadi Fayran in the Sinai. Although the publication of the study of Marsa Nakari remains a work in progress (Seeger 2001; Barnard 2005-2006), numismatic and ceramic evidence clearly suggest a significant Late Roman occupation. Evidence for maritime trade does not appear to be pronounced, as it is at such better-known sites as Aila and Berenike, while the presence of Eastern Desert Ware implies that contacts with the desert interior were perhaps more significant. Although the limited publication of the ceramic assemblage precludes definitive assertions, it may be thought that Marsa Nakari functioned less as a commercial port, but rather more as a port of supply, associated with the provision and protection of the mines and quarries of the interior. In an early 5th century CE letter by Synesius of Cyrene, bishop of Ptolemais in the Pentapolis (Libya), Arabs from a cavalry unit were involved in a shipwreck between Alexandria and the Pentapolis (*Letters* 5, 112). Given the testimony of Synesius on naval transports of Arab *foederati*, albeit in a Mediterranean context, perhaps military units from Wadi Fayran were shuttled by ship back and forth along the Byzantine ports of the Eastern Desert as and when they were needed, so that ports such as Marsa Nakari were in some sense incorporated into the Roman *limes* system (Jackson 2002; Sidebotham *et al.* 2008).

All this raises the question as to whether the putative sedentary Arab population of Shenshef originated, in fact, in Wadi Fayran and that the *raison d'être* of

settlement was associated with the military. Certainly, it would be in keeping with Roman frontier policy to pitch one set of 'barbarians' against another. Procopius of Caesarea, who died in 554 CE, relates that Diocletian invited the Nabatae into the Dodekaschoinos to check Blemmyes expansion (1.19.29-33, Eide *et al.* 1998: 1188-1194; Dijkstra, this volume, Pierce, this volume), and though the historicity of this has recently been questioned, that the old soldier Procopius interpreted these events according to customary practice is perhaps more significant. It might be objected that Shenshef is clearly not the Late Roman fortress that might be expected, perhaps of the sort attested at al-Qasr near Aswan, but this is to compare a sedentary frontier with a nomadic one. Better parallels might be found along the desert frontier of Oriens, where such forts of the *Limes Arabicus* in Syria-Palestine as survived into the 5th–6th centuries CE had long since lost much of their military character, often being gradually transformed into small irregular settlements as the *limitanei* (soldiers guarding the frontiers) were replaced by *foederati*. The settlement of Shenshef could therefore have served as a base for a sizeable contingent of Arab *foederati*, whether from Wadi Fayran or other less well-known groups, whose purpose was to accompany caravans and patrol the desert roads. Indeed, the very point of these patrols was precisely to be seen and so serve as a deterrent to opportunistic Blemmyan raiding, so that Shenshef need not present the hulking military aspect of a fortress. It is further worth noting that the Byzantine Empire appears to have had some sort of agreement with the political leaders of certain Blemmyes tribes at least, so that Olympiodorus of Thebes, writing around 423 CE, could travel peacefully into their territory (fragment 35.2, Blockley 1983; Eide *et al.* 1998: 1126-1128) and that the frequency and severity of Blemmyes raiding declined in the course of the 5th–6th centuries CE. This may suggest that relations between 'the desert and the sown' were becoming, through treaty and trade, increasingly harmonized, to the extent that the Byzantines need only maintain a limited number of mobile mounted troops to act rather more as policemen than as soldiers.

Sedentary Arab Merchants of the Red Sea

An alternative, economic rationale to the hypothetical Arab settlement at Shenshef draws on historical evidence for an Arabian involvement in the maritime commerce of the Red Sea and Indian Ocean in the Late Antique

Period. Although the Roman Principate (27 BCE–235 CE) seems largely to have mastered the threat posed by Nabataean and Arab piracy, something of a resurgence is notable in the Late Roman Period. Malchus of Philadelphia records (2.404-6, Blockley 1983) that in 473 CE a Saracen chief called Amorkesos seized the strategically located island of Iotabe, ejected the Byzantine garrison and extorted protection money from Graeco-Roman shipping. According to Theophanes (141:15-18, De Boor 1883), writing around 810–815 CE, it was only around 498 CE, under Emperor Anastasius I, that Romanus, Duke of Palestine, was able to force out Amorkesos. This rather suggests that the Saracens of the northwestern Red Sea were, by the second half of the 5th century CE, sufficiently competent sailors to successfully undertake maritime expeditions against the Byzantines.

The Qur'an includes numerous references to the sea and seafaring (Crone 2005). It contains references to navigating by stars (6:97), riding on ships (23:22, 40:80, 43:12), ships in storms at sea (10:22, 29:65, 31:32), fishing, pearling and coral collecting (16:14, 35:12, 7:163), and sailing ships to seek God's bounty (30:46, 16:14, 35:12, 17:66, 22:65, 31:31, 45:12), which can be interpreted as meaning trade on the basis of 2:198 and 62:10 (Crone 2005). Such activities would seem to suggest that the Arabs of the pre-Islamic Hijaz were engaging in open-water navigation and maritime commerce from at least the late 6th and early 7th century CE. Indeed, it may even have been that these Arabs were more competent mariners than the Byzantines in Red Sea waters at least, for while Procopius states that "it is impossible to navigate in the darkness on this sea" (*Persian Wars* 1.19.1-7, Dewing 1914; Eide *et al.* 1998: 1188-1193), the Qur'an praises a God "who has made the stars for you that you might follow the right way thereby in the darkness of the land and the sea" (6:97). Although a number of sites in the western Arabian Peninsula have produced limited quantities of Late Roman ribbed amphorae, including al-Ma'abiyat in Wadi al-Qura in the Hijaz as well as 'Aththar on the northern coastal plain in Yemen (Gilmore *et al.* 1985; Zarins and Zahrani 1985), it is likely that the bulk of Arabian imports are archaeologically invisible (Wendrich *et al.* 2006). The Arabic narrative histories of the 9th–10th centuries CE provide ample evidence for a sizeable pre-Islamic trade in African slaves. It seems that Arabia had long since been associated with slavery, for the anonymous first century

CE handbook *Periplus of the Erythraean Sea* warns of the consequences of shipwreck along the coast of Arabia:

The country inland is peopled by rascally men . . . who live in villages and nomadic camps, by whom those sailing off the middle course are plundered, and those surviving shipwrecks are taken for slaves. And so they too are continually taken prisoners by the chiefs and kings of Arabia (*Periplus* 20, Casson 1989).

Slavery and slaves feature prominently in the social environment glimpsed in the 6th century CE Arabic poetry of the Jahiliya. Indeed, one of the super-star poets of the Jahiliya was ‘Antara bin Shadad al-‘Absi, born to an Arab father by a black slave girl; so too, according to the 9th century CE *Kitab al-Muhabbar* of Ibn ‘Abib, was ‘Amr bin al-‘As, the military commander who led the Muslim conquest of Egypt in 639-640 CE (18-19 AH). A study on African slaves and mercenaries during the pre- and early-Islamic periods suggests that their use was widespread (Pipes 1980). Black troops are said to have been employed by the pagan Quraysh, and according to al-Jahiz, himself of Afro-Arab heritage, the first Muslim to die in battle was from Sudan. Interestingly, Ibn ‘Abd al-Hakam, who died in 871 CE (257–258 AH), seems to indicate that black soldiers played an important role in the conquest of Egypt:

When ‘Ubada b. al-Samit got on the ship to speak with the Muqawqas and approached him, the Muqawqas felt dread for his blackness [... He] said to ‘Ubada, “Advance, black man, and speak gently to me for I am in dread of your blackness; if you speak severely, it will increase my dread.” ‘Ubada advanced toward him and said, “I have heard your speech. Among those I command are a thousand men, all them black, every one blacker than I and yet more hideous to look at. If you saw them, you would dread them excessively” (*Futuh Misr* 66, Torrey 1920; Pipes 1980: 90-91).

Whether or not some at least of these Africa slaves and mercenaries of the pre-Islamic Hijaz were taken from the Eastern Desert is, however, a moot point. The Arabic sources refer to them rather indiscriminately under the general rubric *sudani*, literally meaning black, which the 9th century CE essayist al-Jahiz notes included peoples of both Ethiopian and Sudanese extraction. Unambiguous references to Beja slaves appear only in sources of the 9th–10th centuries CE, when al-Muqaddasi, writing in 985 CE, observes their presence among the armies of the Ziyadids in Yemen (*Ahsan al-Taqasim* 87, Collins 2001). Writing in 1042–1052 CE, Nasir-i Khusraw observed that “the Beja who live in the desert (regions west of ‘Aydhab) are not bad people . . . [I]t is the Muslims and others

who kidnap their children and take them to the towns of Islam where they sell them (*Seferename* 72, Schefer 1881; Vantini 1975: 236). Although it would be unwise to extrapolate too far from these much later sources, they testify to an Early Islamic trade in Beja slaves that may conceivably extend back to the Late Roman period.

Archaeological evidence from Shenshef itself attested to widespread commercial contacts. Some 80 Indo-Pacific beads were found, of which 43% were of the yellow-green color associated with production at Mantai in Sri Lanka, together with three carnelian beads of likely Indian provenance (Francis 2000). Other Indian imports include peppercorns and teak (Cappers 1999; Gould 1999; Vermeeren 1999), though this last was used as a building material scavenged from Indian ships, and a worked piece of blue sapphire (Abraham 2007: 291). All the ceramics from the settlement date to the 5th and early 6th century CE, and attest to wide-ranging contacts (Tomber 1998: 170). Most common are Late Roman Amphora type 1, from Cilicia and perhaps Cyprus, together with fine wares from Tunisia and Cyprus, and Late Roman Amphora type 3 from western Asia Minor. A possibly Aegean hollow-foot amphora, generally dated to the late second to fourth century CE, represents the only pre-5th century CE type of pottery.

Tomber elsewhere notes “scraps of faience considered to be early Roman” (Tomber, 1998:170), which may or may not be identical to Hayes’ fourth-century “buff sherds covered with a thick glassy turquoise to green glaze . . . [which he later identified as Iranian, and warns of confusion with] the normal Egyptian faience as found in early contexts at Berenike” (Hayes, 1995: 36), and further recalls the “green glaze (sherds) which I have come to consider as marking Arab rather than Roman influence” as described by Murray (1926:166). The general descriptions of these sherds do rather resemble each other, though without color photographs, Munsell chart values or chemical analysis of the matrix, it is impossible to be sure. Although it would be unwise to comment on the validity of the proposed identifications without first settling the matter of whether a single type or multiple types are involved, I suspect that we are dealing with Sasanian ceramics from the Persian Gulf. If that is indeed the case, it is further possible to speculate that the hypothetical Arab merchants of Shenshef were tolerated, and even encouraged, by the Byzantines as middle men in the politically awkward commerce with Sasanian Iran.

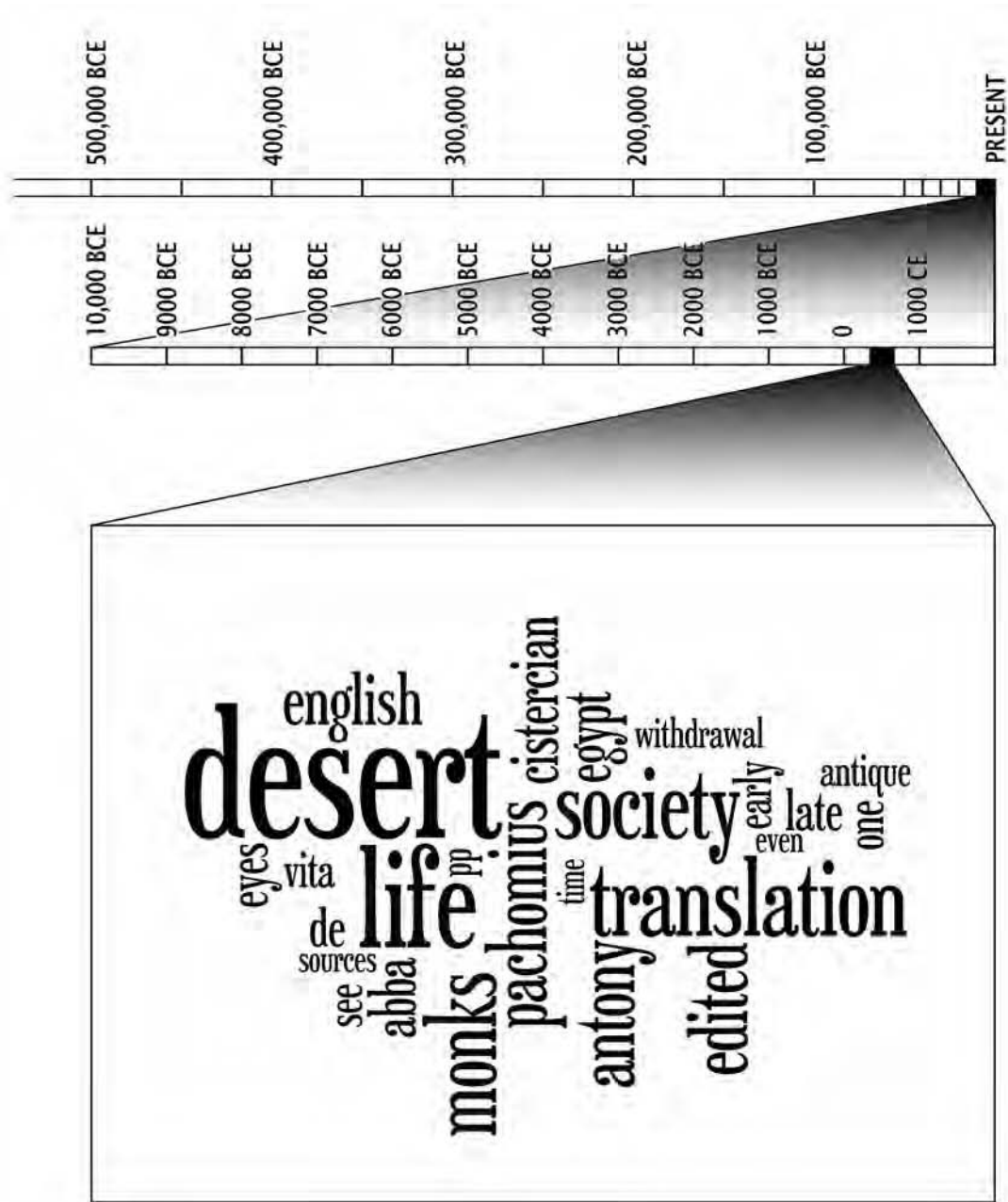
Arguably more important as a marker of trade is the presence of Late Roman amphorae from Aila. This type was

widely distributed throughout the Red Sea and Indian Ocean, and seems to have been the principal container of Byzantine export commodities. Its presence at Shenshef, in association with Mediterranean and possibly Iranian ceramics and together with Indian trade goods or materials, strongly suggests a commercial aspect and an affluent one at that, given the glass cameo retrieved in 1996 (Sidebotham and Wendrich 1999: 239). The ruins at Shenshef may therefore be claimed as an Arab mercantile satellite settlement of the pre-eminent Late Roman emporium in the Red Sea basin.

Conclusion

The domestic typology attested at Shenshef finds its closest parallels, to my mind at least, in the architectural traditions of the Arabian Peninsula suggesting a pre-Islamic sedentary Arab population. The economic

rationale of settlement is open to debate, but the common deployment of Arab *foederati* in the Eastern Desert may indicate a military function, while early Islamic narrative histories apparently preserve the memory of a busy pre-Islamic Arabian trade in African slaves, at least some of which may have been taken from among the Beja of the Eastern Desert. Such interpretations go some way to contextualizing the outstanding success of the Muslim conquests. The Arabs of the conquest were not the rude Bedouin of popular imagination emerging *ex nihilo* from the deserts of the Arabian Peninsula, and while the Bedouin certainly contributed to the success of the conquests, the earliest Muslims were drawn primarily from among the sedentary population of western Arabia, who had long since been involved in the military and commercial life in the Fertile Crescent and the Red Sea basin.



Time line and word cloud for Konstantin M. Klein, *Invisible Monks, Human Eyes and the Egyptian Desert in Late Antique Hagiography*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 21



Invisible Monks, Human Eyes and the Egyptian Desert in Late Antique Hagiography

KONSTANTIN M. KLEIN

“IL N’Y A PLUS DE DÉSERTS,” OBSERVED ALBERT Camus in his essay *Le minotaure ou la halte d’Oran* (1939) on the coastal city Oran in Algeria:¹

There are no more deserts. . . . Yet there is a need for them. In order to understand the world, one has to turn away from it on occasion; in order to serve men better, one has to hold them at a distance for a time. But where can one find the solitude necessary to vigor, the deep breath in which the mind collects itself and courage gauges its strength? (Camus 1955: 157).

When the Egyptian monk Antony renounced the world and withdrew into the Eastern Desert at the end of the third century CE, he was considered the prototype of Christian asceticism. But he was not the first desert hermit, a title Jerome claimed for his protagonist, Paul of Thebes,² who again had some predecessors. Christians in the Eastern and Western half of the Roman Empire

¹ I would like to thank the German Academic Merit Foundation for their generous support in funding my time as a visiting fellow at the Graduate School of Arts and Sciences of Harvard University in 2008/2009. Gratitude is also due to the staff of Widener Library who provided both valuable help and most pleasant working conditions. I am particularly thankful to Dionysios Stathakopoulos (London) and Elizabeth Fels (Boston) for reading through the manuscript and making many helpful suggestions.

² Jerome, *Vita Pauli primi eremita* 1 (hereafter: Hier. *VP*), edited with French translation by E. Morales in *Trois vies de moines (Paul, Malchus, Hilarion): Sources Chrétiennes 508* (Paris, Éditions du Cerf, 2007); English translation by C. White in *Early Christian Lives* (London, Penguin, 1998), pp. 71-84.

were deeply impressed by the *Life of Antony*, written around 373 CE probably by Athanasius, patriarch of Alexandria.³ In Egypt, according to early monastic literary sources, more and more people left the cities to settle in the semi-eremitic monastic communities at the fringe of the desert, making “the desert a city,”⁴ as

³ For the reception of *Life of Antony* in the West, see Augustine, *Confessiones* 8, 6, 4, edited by M. Skutella in *S. Aureli Augustini Confessionum libri XIII. Ed. correctioem curaverunt H. Juergens et W. Schaub* (Stuttgart, Teubner, 1981). The role of Antony as the hermit *par excellence* resulted from the success of this text. The author of the *Life*, however, never had the intention to claim uniqueness for his protagonist. Even though attributed to Athanasius, the question of the authorship of the text is still not entirely clear. Timothy Barnes dismissed Athanasius as the author, whereas Averil Cameron pointed out that the theological and dogmatic content of the text relates to Athanasius, but both ultimately left the question of authorship unanswered. Cameron sees the *Life of Antony* more as a text reflecting its author’s ecclesiastical ideas than the biography of the historical Antony. Neglecting the large amount of anti-Arian polemic, which forms a major part of the text, Aviad Kleinberg unconvincingly postulates, that the *Life* represented a monastic rule by Athanasius shaped into a hagiographical text (Kannengiesser 1988: 69-70; Barnes 1993: 240; Goehring 1999d: 19-20; Goehring 1999c: 92; Cameron 2000: 75; Kleinberg 2008: 103-104; Williams 2008: 105-106).

⁴ Athanasius of Alexandria, *Greek Life of Antony* 14 (hereafter: *VA*), edited in *Patrologia Graeca* 26, cols 833-976, and by G. Bartelink with the French translation in *Athanase d’Alexandrie: Vie d’Antonie: SC 400* (Paris, Éditions du Cerf, 2004); English translation by C. White in *Early Christian Lives* (London, Penguin, 1998), pp. 1-70; and by C. Gregg in *Athanasius. The Life of Antony and the Letter to Marcellinus: The Classics of Western Spirituality* (New York/Ramsey/Toronto, Paulist Press, 1980).

Athanasius put it. In the early 5th century CE, the church historian Orosius described the area as follows:

The vast deserts of Egypt and the ubiquity of sand which were unfit for humans because of their aridity, barrenness and the great danger stemming from the abundance of serpents, were then filled by a great multitude of monks who lived there.⁵

According to hagiographical accounts on the first hermits, desert fathers, desert mothers and early monasteries, Antony's colonization of the desert was so successful that even its most prominent former resident, the devil, had become a homeless vagrant, complaining: "Throughout every nation and all the provinces the name of Christ rings out and even the desert is crammed full with monks."⁶ Even though the famous saying of Abba Apollo, that there were as many monks in the desert as there were laymen in the rest of the world,⁷ can be considered as an exaggeration, it testifies to the great success of desert asceticism, which became a new, integral part of Late Antique Egyptian life (Figure 21.1).

The way of living of the hermits and anchorites added the aspect of withdrawal from society into the number of essential elements of monastic life beside chastity, abstinence, unceasing prayer, manual work and poverty. Many monks believed that *ascesis* could be better exercised in the desert than in the city, and so Jerome replied to his friend Paulinus of Nola when the latter asked for advice on how to lead a solitary life.

Forsake cities and their crowds, live on a small patch of ground, seek Christ in solitude, pray on the mount alone with Jesus, keep near to holy places: keep out of cities, I say, and you will never lose your vocation.⁸

⁵ Orosius, *Historiae adversum paganos* 7, 33, 2 (hereafter: *Oros. hist. adv. pagan.*), edited by C. Zangmeister in *Pauli Orosii historiarum adversum paganos libri VII: Corpus Scriptorum Ecclesiasticorum Latinorum* 5 (Vienna, Teubner, 1882, reprinted in 1967, my own translation).

⁶ *VA* 41 (translated by White 1998).

⁷ *Historia Monachorum in Aegypto* 8, 20 (hereafter: *HM*), edited by A.-J. Festugière in *Historia Monachorum in Aegypto: Subsidia Hagiographica* 34, Brussels (Société des Bollandistes, 1961); English translation by N. Russell in *The Lives of the Desert Fathers. The Historia Monachorum in Agypto: Cistercian Studies Series* 34 (Kalamazoo, MI, Cistercian Publications, 1980).

⁸ Jerome, *Epistula* 58, 4, edited by I. Hilberg in *Epistulae: Corpus Scriptorum Ecclesiasticorum Latinorum* 54-56 (Vienna, Verlag der Österreichischen Akademie der Wissenschaften, 1996); English translation by W. Fremantle in *Jerome. Letters and Selected Works: Nicean and Post-Nicean Fathers Second Series* 6 (Oxford, Parker, 1893).

The prologue of the *Historia Monachorum in Aegypto* states that all kinds of evil are to be found in the cities.⁹ In the same text, John of Lycopolis mentions that living too close to villages has often harmed even the best ascetics.¹⁰ The last chapters of the Bohairic version of the *Life of Pachomius*,¹¹ which are probably later additions, discuss the question whether eremitic or coenobitic asceticism is better. Without question, Antony is acknowledged as the perfect model of anchoritic life, but the text is ambiguous on whether this is the best way of living. Moreover, Pachomius himself in his 'sermon'¹² makes mention of the disadvantages and difficulties of eremitic life as it is described in the *Life of Antony*. Marilyn Dunn called the contrast between these two forms of early monasticism an "artificial polarization" emerging from the early monastic literary sources (Goehring 1999a: 74-77; Dunn 2000: 12). Nevertheless, the contrast and antagonism between fertile and infertile land is older than early Christianity; it figures prominently in the Old Testament, especially in the prophetic writings.¹³

Visible and Invisible Anchorites

The desert was not a pleasant retreat at all. According to early Christian accounts, it was inhabited by horrible animals, brutal robbers and barbaric tribes.¹⁴ Its irregular

⁹ *HM* prologue 6.

¹⁰ *HM* 1, 31.

¹¹ *Pachomii vita Bohairice scripta* 126-134 (hereafter: *SBo*), edited by L.-T. Lefort in *S. Pachomii vita Bohairice scripta: Corpus Scriptorum Christianorum Orientalium* 89 (Louvain, Typographeum Reipublicae, 1925, reprinted in 1953); English translation of a reconstructed Bohairic *Vita* by A. Veilleux in *Pachomian Koinonia I. The Life of Saint Pachomius and his disciples: Cistercian Studies Series* 45 (Kalamazoo, MI, Cistercian Publications, 1980), pp. 23-295.

¹² *SBo* 105.

¹³ Hosea 2, 16-17.

¹⁴ For animals, see *Pachomii vita prima Graeca* 21 (hereafter: *G¹*), edited by F. Halkin in *S. Pachomii vita Graeca: Subsidia hagiographica* 19, Brussels (Société des Bollandistes, 1932); English translation by A. Veilleux in *Pachomian Koinonia I. The Life of Saint Pachomius and his disciples: Cistercian Studies Series* 45 (Kalamazoo, MI, Cistercian Publications, 1980), pp. 297-423; and with Greek text and English translation by A. Athanassakis in *The Life of Pachomius. Vita Prima Graeca: Society of Biblical Literature. Texts and Translations* 7: *Early Christian Literature Series* 2 (Missoula, MT, Scholars Press, 1975); as well as Hier. *VP* 7-8, *HM* 9, 1-4, *Oros. hist. adv. pagan.* 7, 33. For robbers and barbarians, see Palladius, *Historia Lausiaca* 32, 1 (hereafter: *HL*), edited by D.C. Butler in *The*

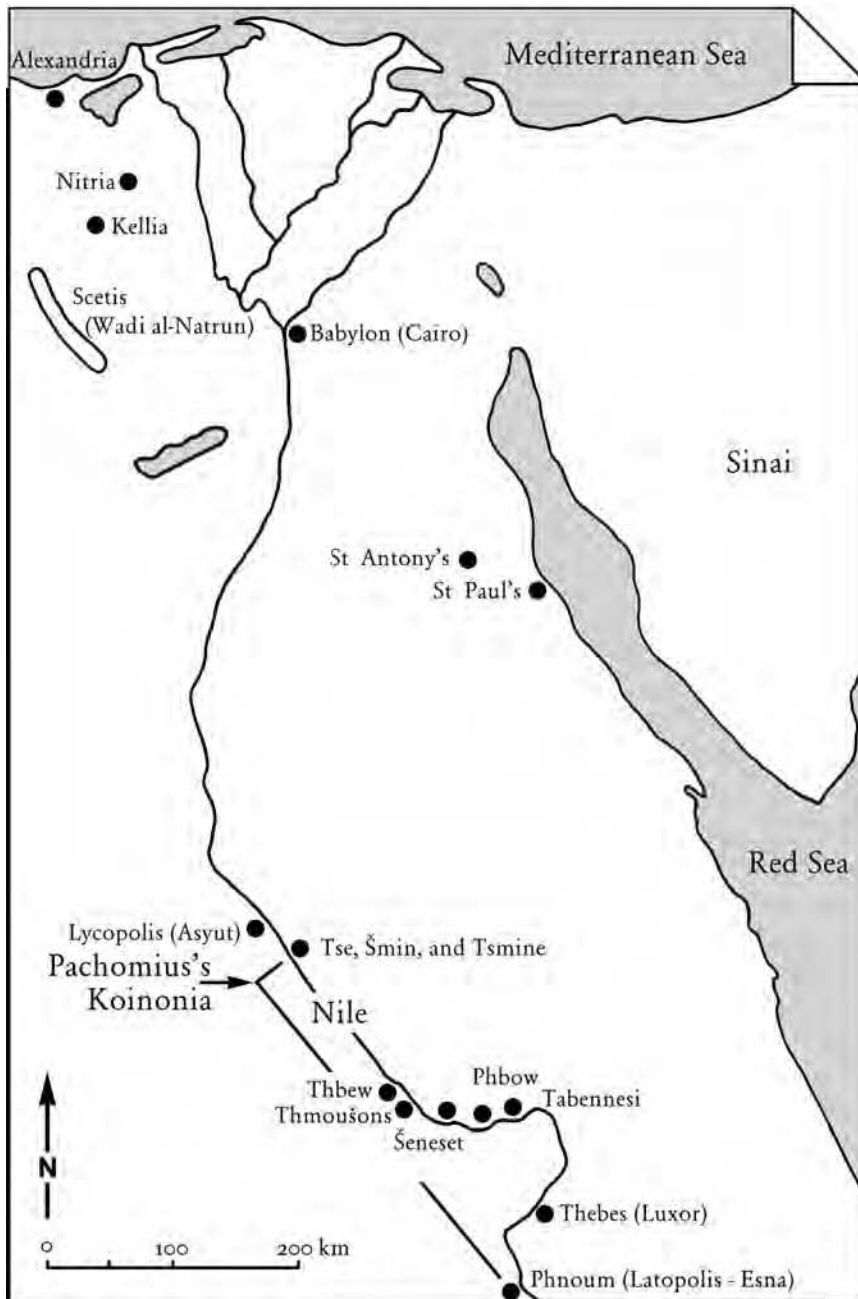


Figure 21.1. Egypt in Late Antiquity.

structure and inconceivable vastness produced a high potential for supernatural visions. For an anchorite, the desert was the place to encounter godly beings like angels and to fight against the hordes of Satan, the demons dwelling in the wilderness. While defeating

Lausiaca History of Palladius. The Greek Text Edited with Introduction and Notes (Cambridge, Cambridge University Press, 1904); English translation by D.C. Butler in *The Lausiaca History of Palladius. A Critical Discussion Together with Notes on Early Egyptian Monachism* (Cambridge, Cambridge University Press, 1898); as well as *HM* 9, 6 and 10, 3-8.

these evils, Antony and his contemporary Paul of Thebes both lived a life in perfect solitude, but came back for temporary visits to civilization. Visibility and invisibility were in a state of constant flux. There remained other possibilities for Late Antique ascetics to disappear from society and still keep contact with it, for instance with letters. In this chapter, however, I want to concentrate on the aspect of invisibility. The withdrawal from society described above was completely enigmatic for non-Christians, even for the cultivated like Emperor Julian (360–363 CE), who wondered:

Some men there are also who, though man is naturally a social and civilized being, seek out desert places, instead of cities, since they have been given over to evil demons and are led by them into this hatred of their kind.¹⁵

According to Emperor Julian, *ascesis* was opposed to society; hence, not surprisingly, in the mid-4th century CE laypeople in Alexandria conceived the ascetics as being lazy.¹⁶ Throughout Late Antiquity ascetics remained always slightly obscure especially for city dwellers, even though the so-called ‘holy men’ gained a high level of influence on Late Antique society (Caner 2002). Moreover, for a Late Antique bishop such as Athanasius, they also proved to be a political problem. In times of controversial theological disputes, their isolation in remote places of the Egyptian hinterland made them susceptible to heresies. Consequently, the desert ascetics had to be included and not isolated from the life of the church and its doctrines. The practice of withdrawal did not completely separate the hermits from society; rather, it placed them outside society and then established new connections between them and the world they had left behind (Brakke 1995: 12, 81, 226-239). Yet, at least for a certain period, they remained invisible by disappearing into the desert.

The negative attitude of city dwellers towards ascetics changed quickly and the quiet life of the hermits came to a rapid end when Late Antique pilgrims discovered that a visit to a hermitage provided them with a means of visible and tangible access to the spiritual achievements of living holy men.¹⁷ Their presence reassured Late Antique society, they lessened fear and anxiety and bridged the wide gap between God in heaven and men on earth (Brown 1971, 1982, 1995, 1998). Through the miraculous deeds of the hermits and their superhuman torments, the visitors could see God, or at least the workings of God, with their own eyes. Often, the hagiographer presented himself as an eyewitness (Brakke 1995: 260; Delehay 1998: 55-56; Williams 2008: 142).¹⁸ Even though John Chrysostom defined faith as

consisting of seeing the invisible as if it were visible (Frank 2001: 635; Cox Miller 2005: 27),¹⁹ seven monks from Palestine, who traveled up the Nile in 394 CE, decided to have a close and personal look at the monastic environment in Egypt:

We have come . . . from Jerusalem for the good of our souls, so that what we have heard with our ears we might perceive with our eyes—for the ears are naturally less reliable than the eyes—and because very often forgetfulness follows what we hear, whereas the memory of what we have seen is not easily erased but remains imprinted on our minds like a picture.²⁰

Even a perfect hermit like Antony was in need of such occasional observers. Without them, the literary text of his biography would lack any instance of reliable facts. For the Late Antique readership, eyewitnesses were a proof for the historical truth of a text. Jerome’s *Life of Paul of Thebes* does not contain any of these references. Consequently, the Church father had to complain about “malicious people”²¹ who criticized his writing and took offense at the existence of the saints presented by him.²²

texts in the dialect of Upper Egypt (London, British Museum, 1915, reprinted in 1977), pp. 432-495; English translation by T. Vivian in *Histories of the Monks of Upper Egypt and The Life of Onnophris: Cistercian Studies Series 140* (Kalamazoo, MI, Cistercian Publications, 1993), pp. 71-141.

¹⁹ John Chrysostom, *Baptismal Catecheses 2, 9*, edited with French translation by A. Wenger in *Jean Chrysostome: Huit catéchèses baptismales inédites: Sources Chrétiennes 50* (Paris, Éditions du Cerf, 1957).

²⁰ *HM 1, 19* (translated by Russell 1980). A similar preference of eyewitness is stated in the letters of Sidonius Apollinaris in fifth-century Gaul, see *Letter 1, 5, 1*, edited by C. Lütjohann in *Sidonius Apollinaris: Epistulae et Carmina: MGH AA 8*, (Berlin, Weidmann, 1887); English translation by W.B. Anderson in *Sidonius. Poems and Letters: Loeb Classical Library 296/420, 2 vols.*, (Cambridge, MA, Harvard University Press, 1936/1965).

²¹ Jerome, *Vita Hilarionis 1, 6* (hereafter: Hier. *VH*), edited with French translation by E. Morales in *Trois vies de moines (Paul, Malchus, Hilarion): Sources Chrétiennes 508* (Paris, Éditions du Cerf, 2007); English translation by C. White in *Early Christian Lives* (London, Penguin, 1998), pp. 85-115.

²² It has been postulated the protagonists of Jerome’s *Lives* were only products of the author’s imagination, as there is no independent testimony corroborating their existence (Weingarten 1877: 26-27). However, Jerome’s accounts do contain historical facts and his hagiography thus can and should be used as a source, especially for cultural studies because the ethnographical and geographical facts are valid (Opelt 1979: 153-155, 177). The malicious people that Jerome complained about, could not lessen the success of his *Lives*. The texts were so popular that they were translated into Greek, Coptic, Syriac and Ethiopic as well

¹⁵ Julian, *Fragmentum Epistulae*, Greek text and English translation by W. Wright in *The Works of the Emperor Julian II: Loeb Classical Library 29* (Cambridge, MA, Harvard University Press, 1969), pp. 293-339.

¹⁶ *SBo* 89.

¹⁷ *HL* 12, 2.

¹⁸ For examples in the ancient texts, see *HL* prologue 2; *VA* 55; *History of the Monks in Upper Egypt 20* (hereafter: *MAe*), edited by E.A. Wallis Budge in *Coptic Texts V.1. Miscellaneous Coptic*

For Jerome himself, the fact that he once had seen a similarly living monk in Egypt and one who used to live in an old well sufficed to prove that his *Life of Paul of Thebes* was no fictional text.²³ It seems contradictory to validate and verify a hermit's life in solitude, but we can obviously trace a certain awareness that ascetic deeds needed to be fixed in oral or written narratives. The *Life of Mary of Egypt* contains, besides the generally miraculous account of her life, a large number of miracles all happening towards the end of Mary's worldly life, such as her levitation in prayer, the crossing of the river Jordan by floating,²⁴ her unnatural velocity in traveling, and the analphabet's ability to write her will and to state her name for the first and last time.²⁵ To proclaim the fame of Mary's wonders, the text, which circulated broadly from the sixth century onwards (Ward 1987: 26), integrates an eyewitness narrator, the monk Zossima, who is able to report Mary's story to his fellow monks. The *Life of Onuphrius* presents a hermit who tried to avoid being seen by withdrawing into the most remote part of the desert. He and his fellow ascetics in other remote parts of the Egyptian desert, however, were still highly concerned about being remembered and generally known in society by offering a deal: "Whoever remembered them in prayers and alms would come directly into heaven."²⁶

The various collections of saint's lives and pilgrim accounts in Late Antiquity testify to an increasing interest in the desert. In Classical times, Greeks and Romans thought the desert to be a *locus terribilis*, important

as into various vernacular languages, and countless manuscripts proclaimed the fame of Jerome's protagonists.

²³ Hier. *VP* 6.

²⁴ Mary of Egypt is not the only case of this form of miracle; Abba Paternuthius was said to be able to cross the Nile with the water only up to his knees and to fly through the air (*HM* 10, 20), whereas Abba Helle is said to have crossed the river twice on the back of a crocodile (*HM* 12, 7).

²⁵ *Vita S. Mariae Aegyptiacae* 10, 22, 25-27 (hereafter: *VM*), edited in *Patrologia Latina* 73, cols 671-690; Greek version edited in *Patrologia Graeca* 87, 3 cols 3693-3726; English translation by B. Ward in *Harlots of the Desert. A Study of Repentance in Early Monastic Sources: Cistercian Studies Series 106* (Kalamazoo, MI, Cistercian Publications, 1987), pp. 35-56.

²⁶ *Vita Onuphrii* 20-21, 27, 35 (hereafter: *VO*) edited by E.A. Wallis Budge in *Coptic Texts IV. Coptic Martyrdom, etc., in the Dialect of Upper Egypt* (London, British Museum, 1914, reprinted in 1977), pp. 205-224; English translation by T. Vivian in *Histories of the Monks of Upper Egypt and The Life of Onnophrius: Cistercian Studies Series 140* (Kalamazoo, MI, Cistercian Publications, 1993), pp. 143-166.

enough to be mentioned, but seldom displayed in a positive way. In contrast, for a young Egyptian Christian like Antony, the desert meant more. It commemorated the tradition of Moses' Exodus, showed him to be like the prophets Elijah (Harmless 2004: 70; Williams 2008: 109-110), Elisha and John the Baptist, the ideals for his asceticism, and finally made it possible for him to follow Christ who after his baptism had been driven by the Spirit into the wilderness (see Matthew 4, 1-2; Mark 1, 12-13; Luke 4, 1-2). Nevertheless, at all times in the Christian narratives of salvation encompassing both the Old and the New Testament, the desert was the place where God showed his unique power: He was the only one able to "lead his people through the desert" (Psalms 136, 6, Zobel 1991; Rapp 2006: 95-96). Christ's forty days in the desert echo Moses' forty-year path to the maturity of being a religious leader; and the two covenants are thus connected (Exodus 3,1, Lindemann 2000: 48). Life in the wilderness repeated the "period of the ideal relationship to God" (Zobel 1991: 196) as encountered in the time of the Old Testament. The early Christian scholar Origen praised the desert in his homilies,²⁷ and its virtues made the harsh environment attractive for Late Antique ascetics. The clear air and the total lack of any distraction were the reasons for Antony, too, to withdraw into the desert.²⁸ His way into the wilderness equaled an abandonment of society. The *Life of Antony* depicts it as the only solution for Antony's longing for solitude, as monasteries were not yet so numerous and almost unknown in Egypt. James Goehring, however, showed in various articles that

²⁷ Origen, *Homiliae in Exodum* 3, 3, edited with French translation by P. Fortier in *Origène. Homélie sur l'Exode: Sources Chrétiennes 16* (Paris, Éditions du Cerf, 1947); English translation by R. Heine in *Origen. Homilies on Genesis and Exodus: Fathers of the Church 71* (Washington, DC, Catholic University of America Press, 1982); *Homiliae in Leviticum* 11, 1, edited with French translation by M. Borret in *Origène. Homélie sur le Lévitique. Texte latin, introduction, traduction et notes: Sources Chrétiennes 286-287* (Paris, Éditions du Cerf, 1981); English translation by G. Barkley in *Origen. Homilies on Leviticus 1-16: Fathers of the Church 83*, (Washington, DC, Catholic University of America Press, 1990); and *Homiliae in Lucam* 11, edited with French translation by H. Crouzel, F. Fournier and P. Périchon in *Origène. Homélie sur S. Luc. Texte latin et fragments grecs. Introduction, traduction et notes: Sources Chrétiennes 87* (Paris, Édition du Cerf, 1962); English translation by J. Lienhard in *Origen. Homilies on Luke. Fragments on Luke: Fathers of the Church 94* (Washington, DC, Catholic University of America Press, 1996).

²⁸ *VA* 49.

ascetic life was already practiced within the villages along the Nile. Both Antony's anchoritic way of life and Pachomius's coenobitic ideas originated from such an environment. Moreover, the *Life of Antony* itself states at its beginning how young Antony placed his own sister with pious women living in a (semi-)monastic community and how he learned the ways of asceticism from an old hermit living close to the village (Goehring 1999a: 79-82, 84; Goehring 1999b: 44; Goehring 1999c: 91-93; Goehring 1999d: 20-22, 25-26).²⁹

Withdrawal from society within society was a well-known practice in Late Antique Egypt. The innovation of Antony, however, was based on the translation of this religious ascetic life to remote places outside society. He spent twenty years in a deserted fort, remaining isolated from the sight of other humans. He was invisible though not completely alone, as admirers brought him food and the hermit performed miraculous deeds from within his retreat. When he returned to society after two decades, he still looked as young as he had been when he was seen for the last time.³⁰ His return, however, did not last long. The arrival of many people was a nuisance to him, for they deprived him of the solitude he desired. Therefore, Antony set up the plan to go to the Upper Thebaid, where he thought that he could live in peace and turn his ascetic life into an even greater self-inflicted torment for God. Some Saracens guided him to "a very high mountain at the foot of which . . . flowed a spring of sweet water,"³¹ which made it possible for him to grow some vegetables, and where he would spend the rest of his life with some disciples.

Even though Athanasius depicted Antony's withdrawal as a story of anchoritic success, and hoped for the wide adoption of its example,³² hermits as extreme as Antony or Paul of Thebes remained exceptional. In the monasteries of Pachomius, founded at the same

time along the Nile, with their communal life and hierarchical structures, withdrawal from the world was not so obvious. When Pachomius had once wanted to become an anchorite himself he learned from his teacher, Abba Palamon, that a hermit did not bear responsibility for other ascetics and was unable to learn from others.³³ Starting with the account of Pachomius's *Life*, the desert did not have to be a geographical reality, but could and should be a spiritual one and was thus gradually transformed into a literary motif (Merton 1957: 60, 146; Louth 1991; Vivian 1993: 18). The environment did not need to be as harsh as the retreat of Antony in the Eastern Desert, where even dromedaries died of disease and thirst.³⁴ The foundations of Pachomius, starting with Tabennesi,³⁵ were all situated in deserted or half-deserted villages in the banks of the Nile (Figure 21.1), and flourished through a permanent interaction with society. Therefore, a substitution for the desert was needed, and monks had to search for new means of withdrawal within society. One solution was to become partially invisible for society, as recluses did. Abba Dorotheus worked, though 'invisible' in his cell, as a supervisor for a women's monastery; John of Lycopolis immured himself and received the necessities of life through a small window, permanently giving blessings and spiritual advice to his admirers, while the recluse Alexandra in Alexandria "shut herself up in a tomb. . . , seeing neither women nor men face to face for ten years."³⁶

Pachomius argued in his *Instruction Concerning a Spiteful Monk*: "If you are in the desert, do battle with prayers, fasting, and mortification. If you are among

²⁹ *SBo* 10.105.

³⁰ *VA* 52.

³¹ *SBo* 17. There were Pachomian monasteries at Phbow (*SBo* 49), Šeneset (*SBo* 50), Thmoušons (*SBo* 51), Tse (*SBo* 52), Šmin (*SBo* 54), Thbew (*SBo* 56), Tsmine (*SBo* 57) and Phnoum (*SBo* 58). All of them were situated along the Nile (Figure 21.1). Some were not originally Pachomian foundations, but joined his coenobitic system at a later stage. Similarly to the theory of Antony as the originator of the anchoritic monasticism, the role of Pachomius as the first founder of coenobitic monasteries in Egypt has to be discarded. Both introduced important innovations to already existing models; their images as the ancestors of monasticism solely resulted from the way they were depicted in two very successful literary accounts, their *Lives* (Goehring 1999c: 41-42, 46-47; Goehring 1999d: 28-29, 31; Williams 2008: 105).

³² *HL* 30 (Abba Dorotheus); *HL* 35, 2.13 and *HM* 1, 4 (John of Lycopolis) and *HL* 5, 1 (Alexandra of Alexandria, translated by Butler 1898).

²⁹ *VA* 3.

³⁰ *VA* 14.

³¹ *VA* 49-50 (translated by White 1998). The garden of Antony with its spring, vegetables and tamed animals, can be understood as a miniature copy of the Garden of Eden. Christianity offered a possibility for an inversion of desert and fertile land; in *HM* 10, 28-29, the monk Copres tells the narrator that the farmland of the peasants neighboring their desert hermitages was infertile until they became Christians. Henceforth, the farmers started to sow desert sand together with the corn in their fields, and at once their land became more fertile than anywhere else in Egypt. As a result, it became their custom to trouble the ascetics every year for sand.

³² *VA* 46.

men, be wise as serpents and simple as doves.”³⁷ There was a large number of different concepts and reasons for becoming invisible for society, be it in a real or in a ‘spiritual’ desert. Generally speaking, for the time after Antony, we find almost exclusively expressions such as “I have not seen humans since. . .”³⁸, rather than “he was not seen since. . .” The main reasons for withdrawal after the lifetime of Antony were on the one hand tradition and imitation (imitation of Antony rather than of Christ), and on the other hand the attempts of the monks to escape society.

The inhabitants of Late Antique Egypt considered the desert to be the traditional dwelling place of demons. Therefore, an anchorite’s fight against them was regarded as a necessary and active commitment to society and an “offensive manoeuvre against the devil” (Brakke 1995: 226) in the tradition of both Christ and Antony. Similarly, even in the early 20th century CE, the desert was considered a fearful place, as Blackman states in his study of the Fellahin of Upper Egypt who did not “go in the desert [at night] because of the fear of hyenas, and, still more, of *afreet*” (demons, Blackman 1927: 21; Rapp 2006: 97). A major part of the *Life of Antony* is devoted to the defense from demons and their wicked tricks aiming to harm and deceive credulous hermits.³⁹ Whereas Egyptian hermits combated the demons in the wilderness, the movement of stylites in Late Antique Syria and Turkey extended it into the third dimension, standing on pillars and fighting against the evil creatures in mid-air. Following the tradition of Christ and Antony, the desert was also the safest place against fornication. As a remedy against lust, monks were sent by their abbots to the inner desert.⁴⁰ Abraham, a disciple of Abba Sisoës, who lived with him in the desert, asked his teacher one day to go into the world for a short time. Sisoës agreed, provided

that they would go where there were no women. “Where is there a place that is without women except the desert?,” the disciple said. “Then,” his teacher replied, “let me stay in the desert.”⁴¹ The reality and difficulties of desert life were displayed very openly, and one of the *Sayings of the Desert Fathers* attributed to Antony states that monks should rather stay in their cells just like fish who have to return to the sea if they do not want to die on dry land.⁴² Hermits were never secure from failing (most probably sinning with women) in repelling transfigured temptations of the devil, as numerous examples show.⁴³ Despite their attraction to the solitary life in the wilderness, many famous figures of Late Antique monasticism tried, but could not endure the hardships of extreme desert asceticism. Jerome, Augustine, Martin of Tours and Benedict all had to retire from their anchoritic attempts.

Besides the fight against demons and fornication, monks withdrew into invisibility because they perceived society as a nuisance. From their perspective, monks could be harassed by overly vehement admirers, local authorities and real enemies. First of all, however, they considered their own family as the greatest obstacle. Abba Pior “gave his word to God that he would never see any of his relations again.”⁴⁴ Fifty years later, though, his sister urgently longed to see him. After some time of deliberation, he decided to visit her, though he closed his eyes and did not allow himself to look at her. This is not an isolated case, but rather a common behavior of Late Antique monks; similar stories were told about Pachomius, Theodore, Abba Mark and Abba Poemen.⁴⁵ The accounts of monks being visited by Roman noblemen and noblewomen are numerous. Jerome and Paula, Rufinus and Melania, and the famous pilgrim Egeria all went on a ‘grand tour’ through the monastic centers of the Middle East. Catching sight of living holy men (as well as of their shrines after their death) offered special benefits to the pilgrims (Carruthers 1998: 49; Frank 2000: 104; Klein 2010: 163-164). Arsenius, the former teacher of Arcadius and Honorius, the sons of Emperor Theodosius I (379–395 CE), who retired to Scetis at the end of the 4th century CE, was once

³⁷ Pachomius, *Instructio Prima* 22, edited by L. Lefort in *Œuvres de S. Pachôme et de ses disciples: Corpus Scriptorum Christianorum Orientalium* 159. *Scriptores Coptici* 23 (Louvain, Imprimerie Orientaliste L. Durbecq, 1956), pp. 1-24; English translation by A. Veilleux in *Pachomian Koinonia III. Instructions, Letters, and Other Writings of Saint Pachomius and His Disciples: Cistercian Studies Series* 47 (Kalamazoo, MI, Cistercian Publications, 1982), pp. 13-46.

³⁸ *HL* 35, 13; 36, 2 and 41, 1; *VM* 8; *VO* 11.

³⁹ *VA* 13 and 21-43.

⁴⁰ *Verba Patrum* (Systematical Collection) 5, 23 (hereafter: *VP* (s)), edited in *Patrologia Latina* 73, cols 851-1024; English translation by B. Ward in *The Desert Fathers, Sayings of the Early Christian Monks* (London, Penguin, 2003).

⁴¹ *VP* (s) 2, 13 (translated by Ward 2003).

⁴² *VP* (s) 2, 1.

⁴³ *HM* 1, 32-36; *VP* (s) 7, 24 and 10, 27.

⁴⁴ *HL* 39, 1-2 (translated by Butler 1898; Butler 1904).

⁴⁵ For Pachomius, see *G*¹ 32, *SBo* 27; for Theodore, see *G*¹ 37; for Abba Mark, see *VP* (s) 14, 6; and for Abba Poemen, see *VP* (s) 4, 33.

visited by a rich Roman noblewoman. The reason for her monastic tour was quite simple. “In my city of Rome there are many people to see but I have come here in order to see saints.”⁴⁶ In the course of their conversation, the act of seeing and not-seeing is very important. At first, the monk refused to be seen by the pilgrim, but then stared directly at her and forced her to look closely at his face. As a result, she then was too ashamed to raise her eyes. Arsenius said to her:

Haven't you heard about my way of life? That is what you should be trying to see. Why have you dared to come all this way across the sea . . .? Have you done this so that you can go back to Rome and say to the other women, “I have seen Arsenius”? In that way you will turn the sea into a highway with women coming to see me.⁴⁷

Consequently, she promised to the saint to tell nobody about their encounter.

There was a form of inter-monastic tourism too. Monks from Nitria sent a letter to Scetis asking the famous Macarius the Great to come and see them. Their means of pressure was successful: they threatened him that if he would not come, they all would come to visit him instead.⁴⁸ His namesake, Macarius of Egypt, found himself a solution for this problem. He used to live in two places, a cell in Scetis and a nearby cave. “If ever a crowd of people troubled him, he would leave his cell secretly and go away to the cave and no one would find him.”⁴⁹ Hilarion spent a large part of his life scurrying around the Eastern Mediterranean trying to escape from the effects of the fame he had acquired as a holy man to ever more remote places, until he eventually found his final retreat in Cyprus.⁵⁰ The escape from authorities, often connected with ordination, is a frequent *topos* of hagiography in East and West with Saint Martin of Tours as its most prominent example. In Egypt, Arsenius refused visits from archbishop Theophilus who finally understood his reluctance and did not come to see the holy man.⁵¹ As only few men were so understanding, monks had to recourse to tricks. When bishop Sarapion wanted Pachomius to be ordained as a priest, the latter disappeared into the midst of a crowd so as not to be

discovered.⁵² Abba Simon played hide-and-seek with a provincial magistrate and hid in a palm tree, shouting down: “There is no hermit here.”⁵³ Society, however, could trick the hermits as well. A provincial judge, who wanted to see Abba Poemen, simply arrested the son of Poemen's sister, forcing the monk to appear in public.⁵⁴

Finally, there was the pressure from real enemies and persecutors who forced the monks to disappear in the desert, surely a stereotypical motif dating to the time of persecution. Gregory of Nazianzus writes that Basil's paternal grandparents fled to the mountains during Maximin Daia's persecutions in the early years of the 4th century CE. Paul of Thebes fled into the desert to await the end of the persecution. Abba Macedonius, who destroyed the idol of the Egyptian falcon god, had to flee into the desert as well. His story, however, concludes with a happy ending, as he managed to convince the pagan priest of Christ's superiority and finally converted the entire city to Christianity.⁵⁵ Most of these examples of withdrawal into invisibility suggest a temporary retreat, unlike Antony and Paul who stayed in the desert until death. After these two ‘perfect hermits,’ however, desert asceticism and withdrawal from society did not necessarily have to have the same absolute duration.

It is remarkable that whenever monks retired from society and then died in the wilderness, they were highly concerned to keep their invisible status after death. Pachomius begged his disciple Theodore insistently to bury him in a place not known to any of the other monks. He was afraid that the monastic society would build a shrine for him, a form of worship he insistently criticized during his lifetime.⁵⁶ Theodore buried him secretly, and “no one knows to this day where he lies,”⁵⁷ a reference to the death and burial of Moses (Deuteronomy 34, 6). Another typical pattern concerns hermits who spent most of their lives hidden away in the desert only to appear to society shortly before death, such as the holy woman in Egypt, known to Palladius, who came to church to receive communion on the very day that she died.⁵⁸ The most bizarre saint, the infamous Mary of Egypt

⁴⁶ *VP* (s) 2, 7 (translated by Ward 2003).

⁴⁷ *VP* (s) 2, 7 (translated by Ward 2003).

⁴⁸ *VP* (s) 3, 9.

⁴⁹ *HL* 17, 10 (translated by Butler 1898; Butler 1904).

⁵⁰ Hier. *VH* 32-47.

⁵¹ *VP* (s) 2, 4.

⁵² *SBo* 28.

⁵³ *VP* (s) 8, 17 (translated by Ward 2003).

⁵⁴ *VP* (s) 8, 13.

⁵⁵ See Hier. *VP* 5-6 (Paul of Thebes) and *Mae* 31-47, 51 (Abba Macedonius).

⁵⁶ *G*¹ 116; *SBo* 122.

⁵⁷ *SBo* 123 (translated by Lefort 1953; Veilleux 1980), and similarly for Antony in *VA* 91.

⁵⁸ *HL* 60, 1.

who spent forty-seven years in solitude as repentance for being a notorious nymphomaniac in Alexandria and Jerusalem in the days of her youth, also became visible again to society only on the eve of her death.

Apart from perpetual withdrawal, some monks became 'invisible' for only a certain period of time. Paternuthius, formerly a robber, listened to three psalms in the church, and then set off to the desert, where he spent three years. Afterwards, he returned to the church, was baptized, and stayed there for seven days. Again he withdrew into the desert, this time for seven years.⁵⁹ Whereas in this case we can note a rhythmic pattern, in some cases temporary withdrawal was also used as a form of punishment. When Pachomius was so ill that he was on the brink of death, the monks asked Theodore to become his successor. Theodore finally, and unwillingly, agreed. Pachomius recovered and was terribly angry with his former best disciple. As a result, Theodore lost all his authority in the monastic community and was sent to a solitary place to fast and weep, where he stayed for exactly two years. And indeed, not Theodore, but Petronius, the abbot of the monastery of Tsmine, became Pachomius's successor.⁶⁰ Here, withdrawal into physical invisibility from society was used as a means of regulation in Pachomius's monastery.

The widespread desire of people in Late Antiquity to physically see 'their' holy men made it increasingly difficult for monks to withdraw (or better: to disappear in invisibility) as their famous forerunners had done. Logically, they searched for new means of asceticism which allowed them to become invisible within society. A stylite standing on a high pillar far above his admirers could reach this point. Because of its very harsh conditions, however, this way of asceticism was mostly restricted to a short period in the 5th–7th centuries CE and, furthermore, to the geographical boundaries of modern Syria and Turkey. The method of becoming a recluse, though easier to accomplish, remained vague in the sources. It is difficult to distinguish between a new ascetic movement and simply a common practice of hiding oneself for a certain period of time in one's very own cell. Therefore, I want to focus on one

method of which we have already heard in some of the examples above.

How does a life in solitude (be it the desert, a pillar or a cell) influence one's dealings with society? The senses, especially speaking and seeing, were heavily restricted. Desires of the body had to be controlled as Athanasius remarked.⁶¹ Nevertheless, in his theology asceticism did not arise from hatred of the body; rather the body had to be subjected to the soul (Brakke 1995: 146-147, 149, 157-158, 239-241). A vow of silence was a frequent means of sensory deprivation.⁶² However, for Late Antique monks in Egypt, the control of their eyes seemed to be important as well.⁶³ The regulations of Pachomius and those of his disciple Horsiesios, which are generally accepted to be authentic (Goehring 1986: 237), give strict advice not to look at anyone during service, mealtimes and working hours.⁶⁴ Abba Isaiah of Scetis postulated that ascetics had to renounce all visible things and control their senses, to give their whole heart to the obedience of God.⁶⁵ An

⁵⁹ Athanasius, *Oration contra gentes* 2, 20-21, edited with French translation by P. Chamelot in *Athanase d'Alexandrie. Contre les païens. Sur l'incarnation du verbe: Sources Chrétiennes 18* (Paris, Éditions du Cerf, 1947); German translation by U. Heil in *Athanasius von Alexandria. Gegen die Heiden* (Frankfurt am Main, Insel Verlag, 2008).

⁶⁰ *HL* 6, 1.3; Horsiesios *Regulationes* 1 (hereafter: *Hors. reg.*), edited by L. Lefort in *Œuvres de S. Pachôme et de ses disciples: Corpus Scriptorum Christianorum Orientalium 159. Scriptores Coptici 23* (Louvain, Imprimerie Orientaliste L. Durbecq, 1956), pp. 82-99; English translation by A. Veilleux in *Pachomian Koinonia III. Instructions, letters, and other writings of Saint Pachomius and his disciples: Cistercian Studies Series 47* (Kalamazoo, MI, Cistercian Publications, 1982). Pachomius *Regulationes* prologue 33, 34, 88 (hereafter: *Pach. reg.*), edited by L. Lefort in *Œuvres de S. Pachôme et de ses disciples: Corpus Scriptorum Christianorum Orientalium 159. Scriptores Coptici 23* (Louvain, Imprimerie Orientaliste L. Durbecq, 1956), pp. 30-36; 80. Jerome's Latin translation of Pachomius' Regulations edited by A. Boon in *Pachomiana Latina, Règle et épîtres de s. Pachôme, épître de s. Théodore et "Liber" de s. Orsiesius. Texte latin de s. Jérôme: Bibliothèque de la Revue d'histoire ecclésiastique 7* (Louvain, Bureaux de la Revue, 1932); English translation by A. Veilleux in *Pachomian Koinonia III. Instructions, letters, and other writings of Saint Pachomius and his disciples: Cistercian Studies Series 47* (Kalamazoo, MI, Cistercian Publications, 1982); as well as *VP (s)* 11, 3.

⁶¹ *HL* 32, 6; *SBo* 89; *VP (s)* 4, 16; 4, 61 and 7, 19.

⁶² *Pach. reg.* prologue 7; *Hors. reg.* 6 (quoting Matthew 6, 9-13; 11); see also *HL* 32, 6; and *SBo* 89.

⁶³ Abba Isaia of Scetis, *Asceticon* 17 (hereafter: *Asc.*), Syriac version edited with French, Latin and Greek translation by R. Draguet, R. in *Les cinq recensions de l'Asceticon syriaque d'abba*

⁵⁹ *HM* 10, 5-8.

⁶⁰ *G*¹ 106-107 and *SBo* 94, 121. For a discussion of the (non-)rules of succession in the Pachomian community regarding the aspect of Max Weber's thoughts on charismatic leadership, see Goehring 1986: 242-246.

anonymous monk in the *Sayings of the Desert Fathers* concluded: “This is monastic life: not to live with the evil, not to see evil.”⁶⁶ The structure of the monastic community of Nitria reflected this restriction of sight, as the seven traveling monks from Palestine noted: “They inhabit a desert place and have their cells some distance from each other, so that no one should be recognized from afar by another, or be seen easily.”⁶⁷ As the Nitrian monks came together for service only on Saturday and Sunday, many of those among them who died in their cells were often not found for several days.⁶⁸

In Antiquity, people thought that the eye was an active rather than a passive instrument. Augustine (354–430 CE) described the mechanics of seeing, as follows:

In this very body . . . I can find something whose inexpressible swiftness astonishes me; the ray from the eye, with which we touch whatever we behold. What you see, after all, is what you touch with the ray from your eye.⁶⁹

Therefore, everyone had the full responsibility to control their visual sense. Abba Serapion compared the eyes of a monk with those of a bodyguard.

While they are on duty the imperial guards in the emperor’s presence must keep their eyes to the front and not turn their heads to one side or the other. So the monk in God’s presence must keep his attention all the time on the fear of God and so none of the enemy’s attacks can terrify him.⁷⁰

The Alphabetical Collection of the *Sayings of the Desert Fathers* gives a vivid example of what could happen when a monk (in this case goaded by the devil) did not control the power of his peering eyes. In Scetis, Abba Apollo’s eyes caught sight of a pregnant woman.

Isaïe: CSCO Scriptorum Syri 120-123, 4 vol (Louvain, Secrétariat du Corpus Scriptorum Christianorum Orientalium, 1968), in *Abbé Isaïe. Recueil ascétique: Collection Spiritualité Orientale 7* (Bégrolles, Abbaye de Bellefontaine, 1985); and the Coptic version edited by A. Guillaumont in *L’Ascéticon Copte de l’abbé Isaïe. Fragments sahidiques: Bibliothèque d’Etudes coptes 5* (Cairo, Imprimerie de l’Institut français d’archéologie orientale, 1956); English translation by J. Chryssavgis and P. Penkett in *Abba Isaiah of Scetis. Ascetic Discourses: Cistercian Studies Series 150* (Kalamazoo, MI, Cistercian Publications, 2002).

⁶⁶ *VP* (s) 1, 22 (translated by Ward 2003).

⁶⁷ *HM* 20, 7 (translated by Festugière 1961; Russell 1980).

⁶⁸ *HM* 20, 7.

⁶⁹ Augustine, *Sermones* 277, 10 (hereafter: *Aug. serm.*), edited in *Patrologia Graeca* 38. English translation by E. Hill in *The Works of Saint Augustine. Sermons. III/8* (New York, New City Press, 1994); see also Cox Miller 2005: 29.

⁷⁰ *VP* (s) 11, 31 (translated by Ward 2003).

Suddenly, he wanted to know how the child was positioned in its mother’s womb and killed the woman by slitting open her belly.⁷¹ The human eye could be intrusive and dangerous; it could wither, devour and rip the soul from the object of its gaze (Barton 2002; Cox Miller 2005: 30). According to Late Antique philosophy, sight is made possible by the bodily eye, but the act of *seeing* occurs only in the soul (Vance 2008: 16). Humans are free to choose whether their soul perceives truth or falsity. Whereas the bodily senses do not lie, only the soul has the power to cling to the truth so that it is able to govern them (Vance 2008: 22-23). Antony described the demons as “using changes of shape as in a theatre (as if you were trying to deceive naïve children by means of illusions on the stage).”⁷² In this context, Pachomius, when he saw a large number of demons, could simply close the ‘eye of his mind’ to them, and the enemies disappeared without accomplishing anything against him.⁷³ For Augustine, humans possessed two sets of eyes⁷⁴:

Shake up your faith, bring the eyes of your heart to bear, not your human eyes. You have ones inside, after all, which God made for you. He opened the eyes of your heart, when he gave you faith.⁷⁵

Even the illiterate hermit Mary of Egypt was to some extent aware of this division when she said, according to her *Life*, “Often I directed the eyes of my heart to her [the Virgin], . . ., praying to her without ceasing to help me in this solitude to repentance.”⁷⁶ Abba Isaiah of Scetis counted not guarding one’s sight as one of the four things which can defile the soul.⁷⁷ This is why Abba Arsenius, when coming to church, always sat behind a pillar so that no one should see his face, and he himself should not be distracted. When Abba Silvanus left his cell, he covered

⁷¹ *Verba Patrum* (Alphabetical Collection), Apollo 2, edited in *Patrologia Graeca* 65, cols 71-440; English translation by B. Ward in *The Sayings of the Desert Fathers. The Alphabetical Collection: Cistercian Studies Series 59* (Kalamazoo, MI, Cistercian Publications, 1975).

⁷² *VA* 43 (translated by Gregg 1980; White 1998).

⁷³ *G*¹ 19; similarly for Antony in *VA* 39.

⁷⁴ Patricia Cox Millar collected Augustinian passages on the eyes of faith, the inner eyes, and the eyes of the heart in her recent article on relics in Late Antiquity: *Aug. serm.* 329 (preference of mind and heart over the eyes), *serm.* 274 and 277, 1 (eyes of faith); *serm.* 275, 1 (inner eyes); *serm.* 277A (seeing in spirit); *serm.* 282, 2 (clear sight of faith), see Cox Miller 2005: 32 and note 26.

⁷⁵ *Aug. serm.* 286 (translated by Hill 1994).

⁷⁶ *VM* 19 (translated by Ward 1987).

⁷⁷ *Asc.* 7.

his face with his shawl. Other forms of self-inflicted visual restriction can be found in the *Sayings of the Desert Fathers*. The desert mother Sarah used to live for sixty years on the bank of a river, but never looked at the water. Similarly, Abba Helladius did not once in twenty years raise his eyes to look at the roof of his cell.⁷⁸ It was regarded as a virtue to restrict one's sight during journeys as well. A priest from Scetis, who returned to the cells after a visit to the bishop of Alexandria, could not tell his brothers what was happening in the city as he refused to see the face of anyone except the bishop.⁷⁹ Another traveling monk, who turned aside off the road when he saw some nuns coming, was harshly criticized by their abbess. "If you had been a true monk, you would not have looked to see that we are women."⁸⁰

Discussion and Conclusion

It is clear by now that there is a connection between the desert, as a notion more than as an actual reality, and the act of seeing, being seen and their inversions. Abba Ammon, who used to live with monks following the Pachomian rules before he became an anchorite, mentioned a similar practice in his coenobitic community, where he noticed an atmosphere "that you would think you were in the desert."⁸¹ Two hundred years earlier, Antony had marked the ideal of a perfect hermit as it was described in his *Life* by Athanasius. Soon after Antony's death in 356 CE, however, the majority of Egyptian monks had to face reality. Withdrawal into the desert as an imitation of Antony, a super-human, was a task only a few could fulfill. Nevertheless, the motif of the desert remained an important one in literary accounts. According to the descriptions of their lives, Egyptian monks found compromises regarding this harsh form of *ascesis* that could make them invisible in the eyes of society: they came up with an inversion of this problem. By controlling their own eyes and by the common practice of not looking at the persons they spoke to, ate and worked with, they perfected a method that ensured that the division between their personal solitude and society could be kept alive. By closing their eyes, society became finally invisible to them.

⁷⁸ See *VP (s)* 15, 10 (Abba Arsenius); *VP (s)* 3, 15 and 11, 28 (Abba Silvanus); *VP (s)* 7, 19 (Sarah); and *VP (s)* 4, 16 (Abba Helladius).

⁷⁹ *VP (s)* 4, 55.

⁸⁰ *VP (s)* 4, 62 (translated by Ward 2003).

⁸¹ *HM* 3, 1 (translated by Festugière 1961; Russell 1980).

List of Abbreviations and Ancient Texts

<i>Asc.</i>	Abba Isaiah of Scetis, <i>Asceticon</i>
<i>Aug. serm.</i>	Augustine, <i>Sermones</i>
<i>G</i> ¹	<i>S. Pachomii vita prima Graeca</i>
<i>Hier. VH</i>	Jerome, <i>Vita Hilarionis</i>
<i>Hier. VP</i>	Jerome, <i>Vita Pauli primi eremitaie</i>
<i>HL</i>	Palladius, <i>Historia Lausiaca</i>
<i>HM</i>	<i>Historia Monachorum in Aegypto</i>
<i>Hors. reg.</i>	Horsiesios, <i>Regulationes</i>
<i>MAe</i>	<i>History of the Monks of Upper Egypt</i>
<i>Oros. hist. adv. pagan.</i>	Orosius, <i>Historiae adversum paganos</i>
<i>Pach. reg.</i>	Pachomius, <i>Regulationes</i>
<i>SBo</i>	<i>S. Pachomii vita bohairice scripta</i>
<i>VA</i>	Athanasius of Alexandria, <i>Vita Antonii</i>
<i>VM</i>	<i>Vita S. Mariae Aegyptiacae</i>
<i>VO</i>	<i>Vita S. Onuphrii</i>
<i>VP (s)</i>	<i>Verba Patrum</i> (Systematical Collection)

Abba Isaiah, *Asceticon*, Syriac version edited with French, Latin and Greek translation by R. Draguet in *Les cinq recensions de l'Ascéticon syriaque d'abba Isaïe: CSCO Scriptores Syri 120-123* (Louvain, Secrétariat du Corpus Scriptorum Christianorum Orientalium, 1968), in *Abbé Isaïe. Recueil ascétique: Collection Spiritualité Orientale 7* (Bégrolles, Abbaye de Bellefontaine, 1985); by S. Schoinas in *Toῦ ὁσίου πατρὸς ἡμῶν ἀββᾶ Ἰσαΐου Λόγοι κθ.* (Volos, Hagoreitikes Vivliotheke, 1962); and by A. Guillaumont in *L'Ascéticon Copte de l'abbé Isaïe. Fragments sahidiques: Bibliothèque d'Etudes coptes 5* (Cairo, Imprimerie de l'Institut français d'archéologie orientale, 1956). English translation by J. Chryssavgis and P. Penkett in *Abba Isaiah of Scetis. Ascetic Discourses: Cistercian Studies Series 150* (Kalamazoo, MI, Cistercian Publications, 2002).

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2004); English translation by C. White in *Early Christian Lives* (London, Penguin, 1998), pp. 1-70; and by C. Gregg in *Athanasius. The Life of Antony and the Letter to Marcellinus: The Classics of Western Spirituality* (New York/Ramsey/Toronto, Paulist Press, 1980).

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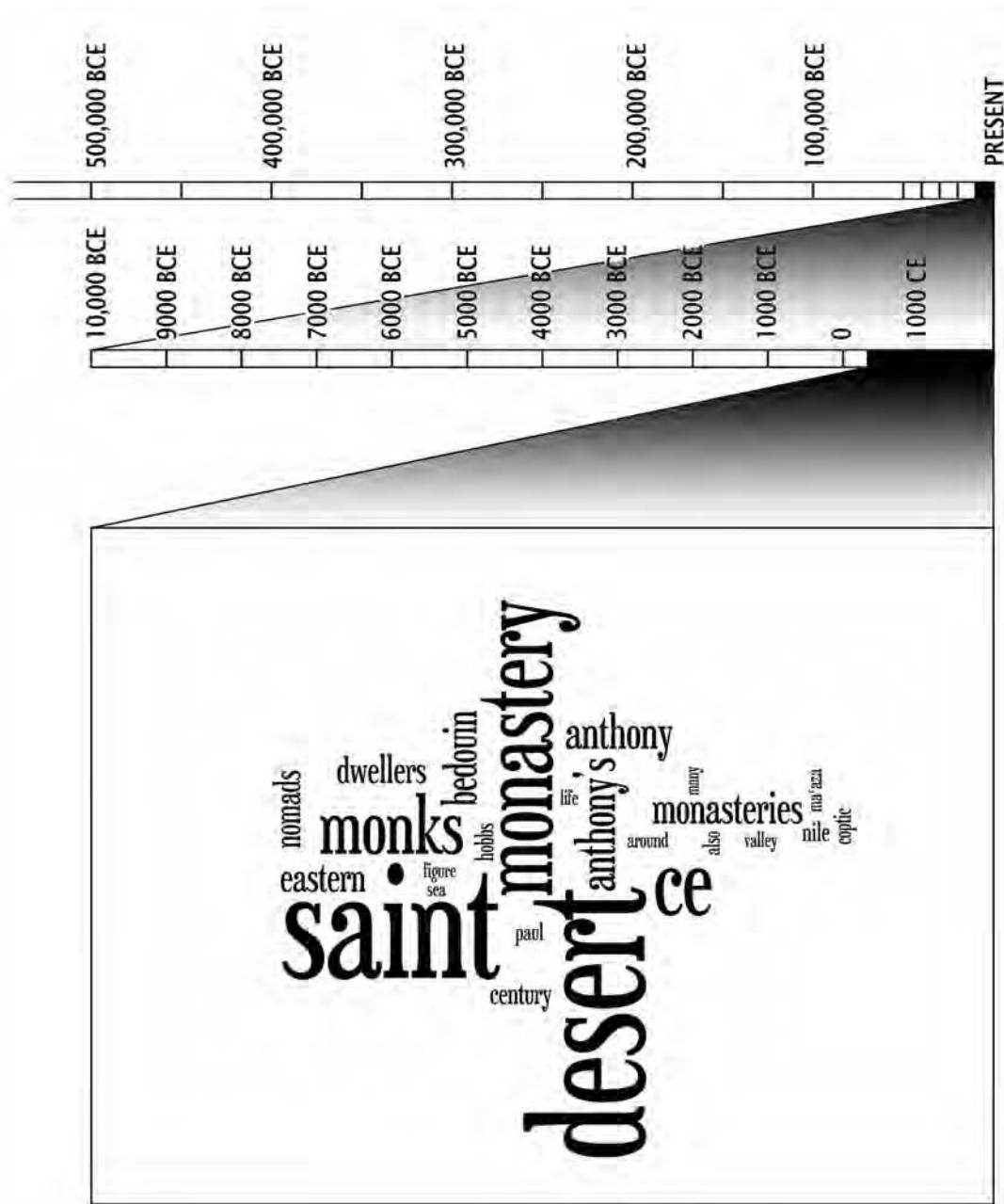
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Time line and word cloud created from Janet C.M. Starkey, *Desert Imagery: Bedouin, Monks, Demons and Hermits around Saint Anthony's Monastery*. Word cloud created by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 22



Desert Imagery: Bedouin, Monks, Demons and Hermits around Saint Anthony's Monastery

JANET C.M. STARKEY

THE AIM OF THIS CHAPTER IS TO EXPLORE travelers' descriptions of desert dwellers around Saint Anthony's Monastery in Egypt in order to identify the multiple relationships between monks and nomads in the environment of the northern part of the Eastern Desert, between the Nile Valley and the Red Sea. Travelers and religious authorities tended to use misguided metaphors with the imagery of primal chaos or of struggles with life when they described the desert, while they usually ignored or were generally antipathetic to the nomadic communities who lived there. For nomadic desert dwellers before the 14th century CE, the terms 'desert dwellers,' 'Blemmyes' or 'Saracens' rather than 'Bedouin' are used here.¹ Desert nomads are uncritically represented as deterritorialized subjects in the imagined desolate and the seemingly illogical open spaces of the desert. The complexities of domination, rivalry between nomadic groups and with the monks and hermits, as well as the mobility of pastoral life were forgotten; instead, the focus was on the ascetic solitude of 'the desert,' not the diversity of its 'inhabitants.' Travelers often feared and were fascinated by desert dwellers and provided romantic fantasies of the heroic self-willed nomad in the desert, the evocative image of the exotic other: flowing robes among shifting sands.

¹ See Starkey 2012 for further detail about Saracens and other relevant terminology.

The Monasteries in the Eastern Desert

Saint Anthony and Saint Paul are known as the 'desert fathers' of Christian monasticism (Goehring 1999: 267-285) and their monasteries are still places of pilgrimage and retreat for Coptic Christians who wish to emulate the spiritual, disciplined lives of these desert fathers. Despite their remote locations, these monasteries are not administratively isolated; the heads of both monasteries hold important positions in the Coptic Church. Along with the metropolitans, bishops and other members of the National Council of the Coptic Church, they have the right to elect the Coptic Patriarch (Fortescue 1913: 255), as do the heads of the four desert monasteries in Wadi al-Natrun west of the Nile Delta,² and of the monastic complex of Dayr al-Maharaq just west of the Nile Valley near Manfalut (about 60 km south of Asyut).

While Sinai was on the international route between Cairo and Palestine, with multiple attractions at Saint Catherine's Monastery and Mount Sinai, the Eastern Desert was a *cul-de-sac* as far as European travelers were concerned; few ventured south down the Red Sea littoral to visit the isolated monasteries of Saint Anthony's and Saint Paul's. European pilgrims and travelers who wrote about their experiences included Ogier VIII in 1395 CE, Ghillebert de Lannoy in 1421 CE (De Lannoy 1878), Pierre Belon du Mans in 1547 CE (Belon du Mans 1555),

² These are Dayr al-Baramus, Dayr al-Siryani, Dayr Anba Bishuy (Dayr Anba Bishoi) and Dayr al-Anba Maqqar (Dayr Macarius).

Figure 22.1. Front page of J.M. Wansleben's *Nouvelle relation en forme de journal, d'une voyage en Égypte en 1672 et 1673* (Paris) and the relevant pages (256-260) about Saint Anthony's Monastery.

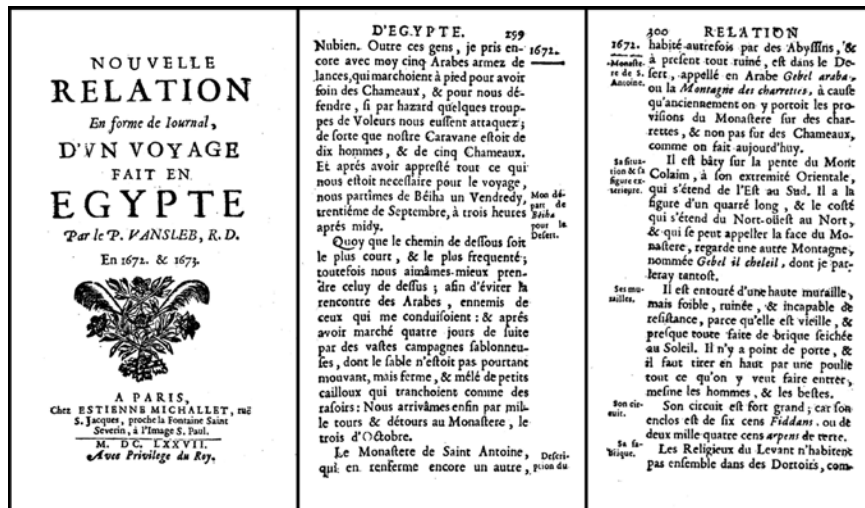
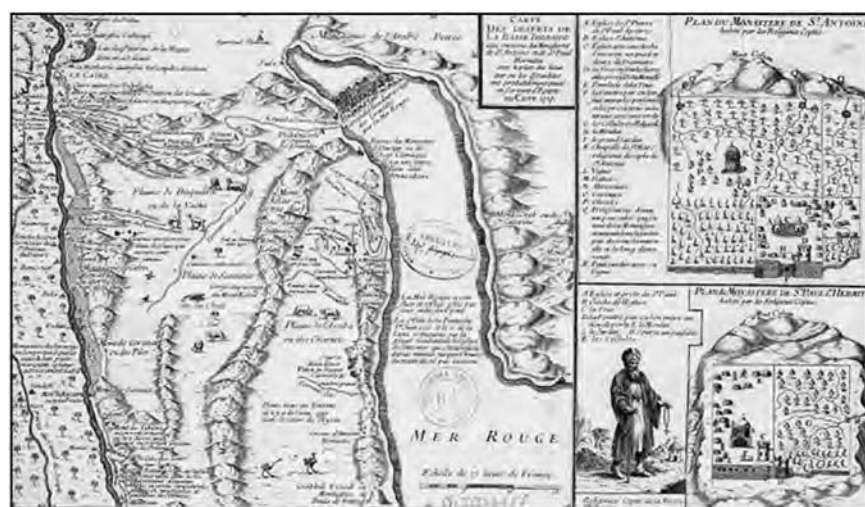


Figure 22.2. Claude Sicard, *Carte des déserts de la basse Thébaïde aux environs des monastères de St. Antoine et de St. Paul hermites, avec le plan des lieux par où les Israélites ont probablement passé en sortant de l'Égypte* (Cairo, 1717).⁴



Jean Coppin in 1638 CE; Johann Michael Wansleben (also known as Vansleb) in 1672 and 1673 CE, who made the first significant contribution to the study of Copts in the West (Figure 22.1), although he never seems to have particularly liked them (Hamilton 2006: 142); de Maillet in 1692 CE, the Lebanese Maronite scholar Giuseppe Simone Assemani and the French Jesuit priest Father Claude Sicard in 1716 CE (Figure 22.2), Comte de Forbin in 1817 CE, Sir John Gardner Wilkinson in 1823 and 1843 CE (Wilkinson 1832, 1847); Avraam Norov in 1834 CE, Dr Henry Tattam and his family (Tattam and Miss Platt 1841–1842); the Russian traveler Porphyrius Uspensky in 1850 CE; Grenville Chester in 1870 or 1873 CE; Georg Schweinfurth in 1876, 1877 and 1878 CE; Michel Jullien in 1883 CE; and Romilly Fedden in the 20th century CE (Fedden

1937).³ Samuel Johnson's 1759 CE novel *Rasselas, Prince of Abyssinia*, an amusing spoof on Orientalist travelers (Johnson 1823), locates part of its plot in Saint Anthony's Monastery. It was partly inspired by Pococke's description (Pococke 1743: 128), although most likely neither ever went there. According to Bell, Galland's *Arabian Nights Entertainments*, a book that was so influential to Romantic-era travelers in Europe from the early 18th century CE onward, identified four distinct types of persons—princes, monks, merchants and slaves—but hardly ever nomads or soldiers (Bell and Balbis 1832: 254). Recently there have been two major relevant publications by Bolman (2002) and Lyster (2008) about these monasteries in the Eastern Desert.

³ A more comprehensive list of European pilgrims to Saint Anthony's Monastery can be found in Meinardus 1961: 10-26.

⁴ From d'Anville's collection (Bibliothèque Nationale de France), on-line at <http://gallica.bnf.fr/ark:/12148/btv1b7759190h> (accessed

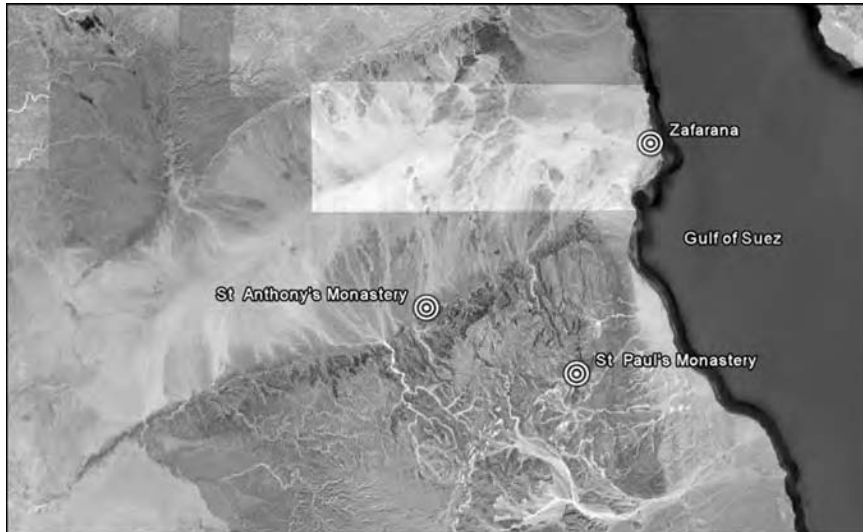


Figure 22.3. Satellite imagery showing the relative location of the monasteries of Saint Anthony and Saint Paul, Wadi Araba runs west-east towards the port of Zafarana. Courtesy of Google Earth.

While this chapter focuses on the monasteries of Saint Anthony and Saint Paul, there are some parallels with other monasteries, most notably with Saint Catherine's Monastery in Sinai (officially 'The Sacred and Imperial Monastery of the God-Trodden Mount of Sinai' (28°N 33' 20"/33°E 58' 34"), which was constructed by the order of Emperor Justinian between 527 and 565 CE and is now Greek Orthodox.⁵ The connections between nomads and the early Christian communities located around the Red Sea in the Eastern Desert, and in Sinai, are discussed in detail in a paper that complements this text (Starkey 2012).

Dayr Mar Antonios al-Kabir

There are two surviving monasteries in the Eastern Desert, one dedicated to Saint Antony the Great, known as Dayr Mar Antonios, Dayr Anba Antunius at Mount Clysma, Dayr al-Qiddis Antun or Saint Anthony's Monastery (San Antonio, Saint Antoine). The monastery is located in the Eastern Desert about 230 km southeast of Cairo (28°N 55' 26.4"/32°E 21' 02.3"), about 150 km east of Beni Suef, from which there is a modern road, and about 35 km south of the Red Sea port of Zafarana (Figure 22.3). The monastery of Saint Anthony is located at the foot of a vast Eocene limestone plateau (Figure 22.4), Jabal al-Jalala al-Qibliyya (900–1300 m above sea level), on the southern edge of Wadi Araba, a Lower Cretaceous sandstone valley about 30 km wide

June 21, 2011).

⁵ A fascinating study of Mount Sinai from many perspectives, including that of the 'tethered' Jabaliyya Bedouin, was published in Hobbs 1995.

north-south, which drains the area from west to east towards the Red Sea (Zahran and Willis 2008: 121).

Saint Anthony's Monastery in the Eastern Desert of Egypt is widely believed to be the oldest monastic establishment in the world. According to Christian tradition, monasticism was born in the Eastern Desert of Egypt, where the Monastery of Saint Anthony developed as a result of unique historical circumstances. Its monks are part of a long anchorite tradition, initially established by Saint Anthony. The monastery was founded between 361 and 363 CE, during the reign of the Roman Emperor Julian the Apostate (355–363 CE), though the earliest reference to a monastic organization in its location appears at the beginning of the 7th century CE.

Saint Ant(h)ony, the founder of the anchorites (Pearson 2004: 102), is also called Saint Anthony of Egypt, Anthony the Abbot,⁶ Anthony of the Desert, Anthony the Anchorite, Abba Antonius, Anbu Anduna, Antonios, the Father of All Monks and the Star of the Desert.⁷ His feast day is celebrated on 22 Tobi (January 30) each year. Saint Anthony the Great (Anba Antuna) was born in Coma (Qiman al-Arus), north of al-Maymun in Upper Egypt, as the son of a wealthy provincial landowner in Beni Suef. Anthony the Great is said to have lived for

⁶ Saint Pachomius (about 292–348 CE), the 'falcon,' is considered to be the founder of organized communities of monks under the leadership of an abbot.

⁷ According to Abu al-Makarim (Werthmuller 2010: 108). Another 'desert father,' the Coptic Saint Pishoy (Pishoi or Bishoy, 320–417 CE), born in Shansa, al-Minufiyya province and buried in the Monastery of Saint Pishoy in Wadi Natrun was also called 'star of the desert.' He was a contemporary of Saint Macarius and appears in a wall painting in the Church of Saint Anthony.

Figure 22.4. Satellite image of Saint Anthony's Monastery. Courtesy of Google Earth.



105 years (251–356 CE). He began his ascetic career in his own village when he was about 20 years old. According to Abu al-Makarim (Werthmuller 2010: 108), Saint Anthony set up his hermitage in the mountains to the east of Atfih, sometimes called Iftih, Tpeh or Petpieh, and the former capital of the Aphroditopolite *nome*.⁸ Pursued by enthusiastic followers, he moved into the desert in search of solitude, but was again harried by enthusiastic followers. When he was 35 years old, he moved again to live as an anchorite in a cave in the foothills of Jabal al-Jalala al-Qibliyya in the Eastern Desert, in order to commune with God in solitude. Saint Anthony relied upon charitable donations of bread for his survival. Saint Anthony cannot claim priority among the hermits but was certainly a founding “desert father” (Stebbing 1833: 221). According to the Coptic author Abu al-Makarim Sa’dalla ibn Girgis ibn Ma’sud (erroneously identified as the Armenian Abu Salih for many years, according to Werthmuller 2010), Anthony was the first monk to clothe himself in wool (and thus presumably was dependent on pastoral nomads in this desert environment to provide it) and was shown how to wear the monastic habit by an angel (Werthmuller 2010: 108).

After Saint Anthony’s death, his disciples, who were then a loosely organized group of hermits, founded a monastery in his name at the end of the third or the beginning of the 4th century CE. Monks continued to live anchoritic lives, but in cells within a walled compound. A friend of Saint Anthony, Saint Athanasius,

who died around 373 CE as Patriarch of Alexandria, wrote between 352 and 362 CE in his *Life of Anthony* (1957), “for there were not yet so many monasteries . . . in Egypt, and no monk at all knew of the distant desert; but all who wished to give heed to themselves practiced the discipline in solitude near their own village” (Ellershaw 1957: 196).⁹ By the early 5th century CE, numbers of Christian monks, recluses and hermits resided in the deserts. Some lived in solitude, but others formed Christian hermit communities (*laura*) competing for the limited resources of the desert (Sidebotham *et al.* 2002; Chatty 2006). Only his friends, Saint Athanasius of Alexandria and Saint Sarapion (who died around 360 CE) of Thmuis (Tell al-Timai) in Lower Egypt are said to have known the location of Saint Anthony’s body which was buried near his cave and none of his relics are to be found at the Monastery of Saint Anthony today. Legends record that his body was moved from his cave in the Eastern Desert to Alexandria around 361 CE and then on to Constantinople. From there the remains were later moved to Vienne, near Dauphiné in France (Meinardus 2000: 312). Relics of Saint Anthony are now kept in Antwerp, Arles, Bruges, Cologne, Rome and Tournay. Supported by wealth from Alexandria and trade in Persian slaves, Melkite monks occupied Saint Anthony’s Monastery until the 8th century CE. Melkites tended to be Greek-speaking city dwellers living along the Levantine coast and in Egypt. Their church was organized into three patriarchates: Alexandria, Antioch and Jerusalem. By the time of the patriarchate of John

⁸ Pharaonic Egypt was divided into *sepat*, or νόμοι (*nomoi* = districts), ruled by a feudal potentate now referred to as *nomarch*.

⁹ On-line at <http://www.fordham.edu/halsall/basis/VITA-ANTONY.html> (accessed May 31, 2009).



Figure 22.5. Saint Paul's Monastery seen from the east.



Figure 22.6. Satellite image of Saint Paul's Monastery. Courtesy of Google Earth.

VI (1189–1216 CE), however, the monastery was controlled by Coptic monks (Meinardus 2000: 259). Between the 12th and 15th centuries CE the monastic community flourished.

Dayr Anba Bula

The other monastery in the Eastern Desert is Dayr Anba Bula (Figure 22.5), Dayr Mari Bolos or Dayr al-Qiddis Bulus located about 15 km from the Red Sea (28°N 50' 51.0"/32°E 33' 02.1"), and about 25 km (a day's journey on foot) southeast of Saint Anthony's Monastery. It is dedicated to Saint Paul of Thebes (around 228–341 CE), who was also known as Saint Paul the First Hermit or Saint Paul the Anchorite. Saint Paul's Monastery was founded at the foot of the mountain where Saint Paul

is said to have lived as a hermit for 60 years at the beginning of the 4th century CE (Figure 22.6). Saint Paul the Hermit was born in the Thebaid about 225 CE and became a hermit around 249 CE to escape from the persecutions of Christians under Emperor Decius (249–251 CE).¹⁰ After his death, in order to perpetuate his memory, the followers of Saint Paul set up a community on the site of his tomb, which then formed the nucleus of the present monastery.

¹⁰ The Thebaid (Θηβαΐς or Θηβαΐδα) is the region between Aswan and Abydos, the 13 southern nomes of Ancient Egypt. In Graeco-Roman times, the Thebaid became a single administrative district with its capital at Thebes (modern Luxor). In Roman times, this area was split into two provinces, Upper Thebaid, with its capital at Thebes, and Lower Thebaid, with its capital at Ptolemais (modern al-Mansha, near Sohag).

The Desert

Arid desert surrounds both monasteries and forms a natural barrier around the isolated site. Rainfall is about 4 mm per annum on average, but there are occasional flash floods. There are extreme diurnal ranges of temperatures with hot summers (23°–46°C) and cool winters (14°–21°C). Relative humidity is 43% in summer and 65% in winter (Zahran and Willis 2009: 103). There are freezing winter winds and summer sandstorms. Desert nomads were the guides, the organizers of pilgrim and trading caravans for they were experts on the water supplies and the location of the few springs, wells and temporary pools to be found in this harsh terrain, as well as the experts on the vagaries of dust storms and whirlwinds.

This phenomenon of brief, localized rainfall, followed by profuse but spotty and short-lived plant growth, provides the basis for Bedouin life. Some of the water is absorbed into the ground and becomes groundwater, into which wells have been sunk since the Pharaonic period, some of which are still in use. The modern Bedouin rely mainly on rainfall for their survival, with few wells and fewer springs. Drip-water pools from cliff run-off are very highly regarded but uncommon. Rain-fed rock basins are important, and may last weeks or even years, but are used sparingly to preserve an important resource (Hobbs 1989: 47-48).

The desert has been constructed historically in diverse ways not only by Christians and Muslims, but also by those who lived in the desert as nomads. The term ‘Bedouin,’ meaning “a nomadic Arab of the desert” according to the Oxford English Dictionary, is a generic name for a desert dweller, including Arab nomadic groups and occasionally other non-Arab groups, such as the Beja. The term reflects a nomadic pastoral lifestyle that is now largely lost in the Eastern Desert. Historical texts dealing with Bedouin, the desert dwellers, have been written from the viewpoint of their sedentary neighbors, by monks in the monastery or more frequently by European travelers who have almost universally depicted them as pillagers and raiders; in short as ‘hostile others.’ Joe Hobbs has intricately described the Ma‘aza Bedouin of the Eastern Desert and the livelihood of its people (Hobbs 1989). He indicates that pastoral nomadism uses marginal desert land that would otherwise be uninhabited. Pastoral nomads have never been truly independent of settled communities (Hobbs 1989: 31), but instead live in a symbiotic relationship with settled communities. The inability of those who are not desert dwellers to cope with the desert, however, “is a frequent subject of Bedouin ridicule” (Hobbs 1989: 24).

For the monks and hermits, the desert was seen as a vacant space, a ‘pure’ but encroaching environment to be appropriated as a liminal aesthetic space for monks seeking solitude. The desert was thought to be vacant and available for hermits to imaginatively appropriate its empty space: never mind the desert dwellers. The silent waste of the desert was considered especially suitable for meditation. Nevertheless, the symbolic metaphor of the desert also reflected its physical reality in the lives of the monks of Saint Anthony’s Monastery as they experienced the desert’s harsh environment on a daily basis. This non-literal use of a word or sequence of words, the specific transference of a word from one context into another, known as metaphor, may be significant within an identifiable code. While the location of ascetic practices expanded in the desert in the form of monastic buildings and hermits’ cells, the desert encroached more and more on the portrayal of ascetic space. The question remains of what place was imagined for the desert dwellers in all this ascetic space.

Mobility of Monks

It would be easy to claim a simple dichotomy between settled monks and mobile nomads, but monks were less sedentary than might be expected. At the same time, the nomads probably moved less than the stereotype would indicate. Monks moved from time to time between monasteries and were involved in social transactions outside the region as well as within it. Over the centuries, Christians escaped into the Eastern Desert to form additional monasteries and communities (Sidebotham *et al.* 2008: 35). Disciples of Saint Anthony founded other monasteries, including Saint Macarius’s Monastery (30°N 17' 30"/30°E 28' 32"). This monastery was founded by Macarius the Great (around 300–390 CE) in Wadi al-Natrun approximately 360 CE after being ordered to do so by Saint Anthony (Abu Salih al-Armani 1895: 321).

Beginning his solitary ascetic life near a village, Saint Macarius later pioneered a life of contemplation in Wadi al-Natrun, where his disciples continued to live as hermits in almost total isolation. Saint Macarius visited Saint Anthony the Great twice, once in 343 CE and again in 352 CE. When Saint Macarius’s Monastery was sacked and the forty-nine monks massacred by desert plunderers in 444 CE (an event that is commemorated by the dedication of its much rebuilt Church of the Forty-Nine Martyrs that dates from the 7th century

CE), and again in 689 CE, by Berber desert raiders, Saint Anthony's Monastery became a place of refuge for monks from Wadi al-Natrun. Sometime before 1540 CE, Gabriel VII of Alexandria (Patriarch of the Coptic Church between 1526 and 1569 CE), who had been a monk at the Monastery of the Syrians (30°N 19' 04"/30°E 21' 16") in Wadi al-Natrun—a monastery founded by Syrians in the 6th century CE and occupied by them until its destruction by nomads in the 16th century CE—reopened Saint Anthony's Monastery (Bolman 2002: 183) by sending twenty monks there. He also sent ten monks to rebuild the Monastery of Saint Paul the Anchorite when that community was also damaged by raids by desert dwellers (Hamilton 2006: 67).

Nomadic Raids

According to Wendrich and Barnard, “nomads are often depicted as raiders or freedom-loving adventurers, while the intricacies of social organization, ethnic identity, loyalties and policies are rarely understood” (Wendrich and Barnard 2008: 10-11). Thus, in 374–375 CE, around the time that anchorites were becoming established in the Eastern Desert, the Blemmyes were reported to be raiding other communities as far north as Sinai. During the patriarchate of Anba Yuannis IV (777–779 CE), or later in 790 or 799 CE, it is thought that desert dwellers, or Coptic monks disguised as nomads, helped to steal the relics of the 4th century CE desert father John Kolobos (‘the Dwarf’), known as Saint John the Little, from the Melkite monks of Saint Anthony's Monastery (Bolman 2002: 115) for monks in Wadi al-Natrun. In 1454 CE, desert dwellers who worked as servants again plundered Saint Anthony's.

In the last decade of the 15th century CE, Saint Anthony's Monastery suffered badly from attacks by nomads. Disgruntled desert dwellers, who worked in the monastery as servants, massacred the monks, burned down the buildings and took control of the remains of the monastery (Meinardus 2000: 259). Subsequently desert dwellers were blamed for neglecting the buildings, allowing the plaster to fall off the walls and obscuring the wall paintings in the churches for “the fires they lit within the church added to the increasing layers of obscuring blackness” (Bolman 2002: xviii). Of course, the monks also burned incense and candles, the smoke of which added layers of soot on the walls of the church.

The life led by these recluses [the monks at Saint Anthony's Monastery] is a most dreary and monotonous one; they

never dare to venture into the desert, for fear of the Arabs, who bear a deadly hatred to them, and would enjoy as much pleasure in putting them out of the world, as they would so many wild beasts (Carne 1826: 216).

As late as 1989, Joe Hobbs described the perceived threat of hostile Bedouin at the Monastery of Saint Anthony's to its population of “Nile-minded Copts,” where “a monk complained to me of the Bedouin and barbarians who had troubled the settlement since its founding in the fourth century” (Hobbs 1989: 23).

Boundaries

At many Egyptian monasteries, including Saint Anthony's, Saint Paul's and Saint Catherine's, separation between nomads and monks was reinforced by a boundary wall. As Hobbs recounted, a monk explained that the wall had been built because the Bedouin “had always been ‘great thieves’ who caused ‘great trouble’” (Hobbs 1989: 23). Until recently, access to the monastery continued to be only via a large basket and wooden winch with the help of a pulley (Jones, this volume). As defense against attack, Saint Anthony's Monastery became a fortress (Figure 22.7, left). It was also common to find walls around nearby towns such as Suez, though by 1853 CE a Mr Levick wrote in a letter to Richard Burton: “The walls, gates and defenses of Suez are in a ruinous state, being no longer wanted to keep out Sinaitic Bedouin” (Burton 1855–1856). The fortified walls of Saint Anthony's Monastery were built as a response to raids by desert dwellers in the 8th–9th centuries CE when many monks were killed. By about 1454 CE, if not earlier, the monastery was protected by a 10-m high wall constructed by the monks to protect themselves against attack and plunder from nomads (Meinardus 2000: 259). During his visit in 1638 CE, Coppin (1698) described the wall as being 500 paces long and 26 and 27 foot high, and visitors were drawn up by a pulley (Coppin 1686; Bolman 2002: 179). Wansleben spent two weeks in Saint Anthony's monastery in 1672 CE: “There was no gate to the monastery, one enters in by a pulley, men and beasts are all drawn up over the wall” (Bolman 2002: 179). He described additional fortifications there (Figure 22.7, right) as follows:

In the middle is a dungeon and around about many houses where the monks live. . . . [T]here is a square tower, with stone walls very strong in this tower [where] the monks keep all their provisions, and their best movables, and they fly to it when the roguish Arabians threaten them. They

Figure 22.7. a: Keep and monastic cells at Saint Anthony's Monastery. b: Hoist and pulley forming the former entrance to the monastery.



then draw the bridge and beat them off with stones from the platform (Bolman 2002: 180).

Similar enclosure walls and large well-built fortresses (*qasr*) can be found in other Coptic monasteries in Wadi al-Natrun and there is a 12th-century CE tower at Dayr al-Maharaq. Despite the many physical boundaries and defenses around the monasteries that isolated and protected the monks from the dangers of the surrounding desert, there were more complex interrelationships and dependencies between monks and desert dwellers than might be supposed.

Multi-Resource Relationships

Few sources discuss the *multi-resource* relationship between the desert dwellers and the hermits and monks at Saint Anthony's Monastery in which both groups made use of several distinct supply strategies (Wendrich and Barnard 2008: 8). Contemporary writers celebrate "nomadology" (Deleuze and Guattari 1986) and the associated concepts of mobility and endless movement, for mobility is seen as resistance to bounded spaces. For postmodern cultural theorists, mobility is seen as a way of life invented by nomads in response to the challenges of their environment (Atkinson 2000: 96-97). More usefully, Wendrich and Barnard describe mobility as "an adaptation or a response to (often adverse) changing circumstances is an equally limited view of the different forms of movement and diverse motivations for mobility" (Barnard and Wendrich 2008: 11) and emphasize the fluidity of mobility (Wendrich and Barnard 2008: 8).

Resource Procurement

In terms of modes of resource procurement, pastoral nomads in the Eastern Desert depended on peasants in the Nile Valley just as these settled farmers relied upon products produced by pastoralists. In the northern Eastern Desert a similar economic and sociocultural relationship is found in microcosm around the two Coptic monasteries. The conditions for human habitation in the Eastern Desert are marginal. As Hobbs relates, for anyone living in an environment of uncertainty, resources including food, fuel and especially water, become a life and death issue (Hobbs 1989). From an earlier study on Suez, it is clear that for larger settlements, such as ports, quarries and mines, the resources necessary for survival had to be supplemented with imports from areas beyond the Eastern Desert, including the Nile Valley, the Sinai and the Red Sea (Starkey 2007: 173-182).

Although they could not organize provision of supplies on the grand scale needed by Red Sea coastal towns, Bedouin survived on grain they bought from the markets in the Nile Valley, for most of the Eastern Desert is too arid for the cultivation of wheat, barley, or *dura* (*Sorghum bicolor*), though the Ma'aza can occasionally cultivate barley, millet, maize, melons and other crops on plots in the hills that are watered by flash floods (Hobbs 1989). Burckhardt notes that if the harvest was poor the Huwaytat Bedouin, who lived north of the Ma'aza in northern Arabia and southern Jordan, would travel 14–15 days to Cairo for supplies of grain. Otherwise, Bedouin pillaged from settled

communities of settled farmers (*fellahin*) in the Nile Valley and from the monks in desert monasteries. As Burckhardt noted in 1816, "No strong tribes frequent the eastern borders of Egypt and a weak insulated encampment would soon be stripped of its property by nightly robbers" (Burckhardt 1822: 363).

It is the provision of supplies that requires mobility. Any importation of supplies of foodstuffs and other materials to the monastery before 1946 CE, when the Suez-Zafarana road was paved, was dependent on dromedary caravans run by Bedouin who controlled the routes and water supplies between the Nile Valley and the Red Sea. The monks and hermits received most of their supplies of grain and other provisions from the gardens of small satellite monasteries in the Nile Valley, one located near the market town of Beni Suef, and another, also called the Monastery of Saint Anthony (Dayr Mar Antonios) near Bush (29°N 08' 53"/31°E 07' 38"), just south of Atfih (Abu Salih al-Armani 1895: 160, 163; Chester 1873). Bush "has a large depôt of monks, which keeps up a constant communication with the convents of St. Antony and St. Paul, in the eastern desert, supplying them with all they require, furnishing them occasionally with fresh monastic recruits, and superintending the regulations of the whole corps of ascetics" (Wilkinson 1847: 281-282). Bush is at the start of the route from the Nile down Wadi Araba to bring goods by cart to the Eastern Desert monasteries.

Wansleben described two routes from small monasteries in the Nile Valley that supplied the desert monasteries (Wansleben [Vansleb] 1677-1678), a distance of about 95 km (60 mi) from the Nile: one from near Beni Suef and the other from Bush, a village still inhabited by Copts. The northern route took three days; it first went north along the Nile near Atfih (Abu Salih al-Armani 1895: 162), which is located about half an hour's walk from the Nile, and then turned east towards a deep well in the natural rock. There were then three easy stages to the monastery, though hostile nomads could be encountered. The second route, which Wansleben used, went southeast for a day and a half, and then turned due east in four easy stages (Butler 1884: volume 1: 343-344; Butler and Innemée 2004: 343). In 1823 CE, Wilkinson (Wilkinson 1832) and Burton (Burton 1822, Thompson 1992: 51, 56-60) used a route from Bayad al-Nasara (29°N 04' 00"/31°E 08' 00"), a village named after a nearby convent, to Saint Anthony's, a distance of 76.5 mi (Wilkinson 1847: 268). They traveled for

36 hours with a caravan of six riding and twenty pack dromedaries (Thompson 1992: 57), across various torrent beds to Wadi Araba, "a large valley, nearly 20 miles broad, which runs to the Red Sea between the ranges of the northern and southern Kalalla [Galala]. It has the advantage of several watering-places . . . the most convenient of which are at Wade el Areideh ['Ain Araida?, which could be Bir Urayyida] on the north and at Wade Om Ainebeh [?] on the south side. This desert belongs to the Maazee [Ma'aza] tribe of Arabs, whose camels or dromedaries may be engaged at Dayr Byad" (Wilkinson 1847: 268-269).

These supplies were brought to the parent monastery by caravans organized by desert dwellers, but communication by caravan was far from regular: "Occasionally it did not arrive in due time, and great famine of course prevailed among them" (Russell 1831: 419). It was in these circumstances that there could be violent clashes over water and nomads raiding the desert monasteries. On the other hand, the monasteries were charitable and would, in turn, have supported the local nomads during times of famine. In some monasteries at various times, they would even provide weekly meals to the Bedouin, as Burckhardt described on a visit to Saint Catherine's monastery in 1816.

The only habitual visitors of the convent are the Bedouins. They have established the custom that whoever amongst them, whether man, woman, or child, comes here, is to receive bread for breakfast and supper, which is lowered down to them from the window. . . . Fortunately for the monks, there are no good pasturing places in their immediate neighbourhood; the Arab encampments are therefore always at some distance, and visitors are thus not so frequent as might be supposed; yet scarcely a day passes without their having to furnish bread to thirty or forty persons. In the last century the Bedouins enjoyed still greater privileges, and had a right to call for a dish of cooked meat at breakfast, and for another at supper; the monks could not have given a stronger proof of their address than by obtaining the abandonment of this right from men, in whose power they are so completely placed (Burckhardt 1822: 554).

Managing Micro-Environments of the Desert

Using the definition of Wendrich and Barnard of *horizontal transhumance* (or *horizontal mobility*, Wendrich and Barnard 2008: 8), Bedouin sometimes "moved over a large area at approximately the same elevation" (Creswell 1993) to find resources in drought

conditions, though as Cresswell emphasized, mobility is based on much more than 'push and pull' factors. Scarce resources in the marginal environment of the Eastern Desert meant that Bedouin would relocate to the closest sources whenever local supplies of water, fodder or fuel failed, to follow winter rainfall, and to visit wells in summer (Hobbs 1989: 37-39).

For the Ma'aza and other Bedouin communities, management and protection of trees and plants, ibexes and gazelles forms a finely tuned ethno-conservation system, in order to limit exploitation of seasonal supplies. Caretaking resources are essential for their welfare (Chatty 2006: 21). As Hobbs discovered, the Bedouin knew the flora and fauna of the desert intimately (Hobbs 1989; Andersen, this volume). The fauna in the Eastern Desert includes domesticated sheep and goats, domesticated and feral dromedaries, hares, lizards, snakes, spiders, scorpions, rodents, insects and several birds, including brown necked ravens, houbara bustards (*Chlamydotis undulata*), partridges (*Ammoperdix heyi*), spotted sandgrouses (*Pterocles senegallus*), coronetted sandgrouses (*Pterocles coronatus*), desert larks, and white-crowned black wheatears. Rock hyrax (*Procapra capensis*) are also present and are considered very important by the Ma'aza Bedouin.¹¹ Larger animals, such as the Dorcas gazelle and the Nubian ibex are increasingly rare. Zahran and Willis describe the vegetation of the Wadi Araba drainage system in which the monastery is located (Zahran and Willis 2009: 121-123) and which has been used for grazing and fuel in the past. While much of the area is devoid of any plant cover, some plants are found in the desert valleys and sheltered mountain slopes. Tamarisk (*Tamarix aphylla*) and Acacia (*Acacia raddiana*) trees and *Panicum turgidum* grassland in Wadi Araba are relics of dense population that were destroyed by lumbering and overgrazing (Zahran and Willis 2008: 122-123). Ma'aza Bedouin claim that the area was once forested (Hobbs 1989: 97-98). It is unlikely that the Bedouins' depth of local botanical knowledge of the desert environment was shared by the monks, raised as they were in the villages and cities of the Nile Valley.

¹¹ A. Byrnes (2007), *Geography and Geology of the Eastern Desert* (citing Hobbs 1989: 62, 88, 91), on-line at <http://archaeology-easterndesert.com/html/geography.html> (accessed June 21, 2011).

Islands of the Blessed

The oasis of Saint Anthony's Monastery is like an island in a great sea, an inhabited place in the wilderness of the desert; indeed, the Greeks call the oases "islands of the blessed" in contrast to the privations and fatigue of the desert (Russell 1831: 393). In the 1830s the monastery was almost self-sufficient, while the hermits tended little gardens outside their cells.¹² The monks were supposed to be useful, laboring for their daily bread without neglecting their spiritual duties. Prayer was inseparable from labor. Perpetual occupation was the only way to prevent distractions and prevent the tediousness of solitude. An unoccupied ascetic might be harassed by innumerable demons. The monks at Saint Anthony's Monastery relied on a spring (*'ayn*) of sweet water now located within its walls. The spring, a karstic (fissure limestone) aquifer like those at Saint Paul's, is located 275 m below the cave of Saint Anthony, and is the only reliable source of water in a very large area. It flows from a narrow cave about 10 m long and is said to yield about 100 m³ per day.¹³ In 1638 CE, Coppin described a long vaulted passage 60 paces long to bring water from the spring, then located outside the enclosure of the monastery as it was in Wilkinson's visit in 1823 CE. If the water source really was outside the walls of the monastery, the question arises who really controlled access to the water (Jones, this volume). If it was the desert dwellers, did they charge the monks for access? If the well was controlled by the monks, as it was in later times when the spring was enclosed within the monastery wall, did they charge the Bedouin for water? How near to the monastery were the nomads allowed to encamp to water their animals and collect drinking water or did they have to rely on other water sources?

Saint Anthony's Monastery, like Saint Paul's Monastery, is surrounded with gardens with thriving orchards of dates (*Phoenix dactylifera*), rare varieties of olive trees (*Olea europea*), white mulberries (*Morus alba*), black mulberries (*Morus nigra*), figs (*Ficus carica*, *Ficus sycomoru*), pomegranates (*Punica granatum*), carob (*Ceratonia siliqua*), lemons (*Citrus limon*), apricots

¹² H.N. Barakat (not dated), *Monastic Gardens as Centers for the Conservation of Rare Varieties of Cultivated Plants*, on-line at http://www.egypt.strabon.org/culnat/abumena/scientific/monastic-gardens_en.txt (accessed May 31, 2009).

¹³ W.R. Halliday (2003), *Caves and Karsts of Northeast Africa*, on-line at http://www.ijs.speleo.it/pdf/2.12.32_Halliday.pdf (accessed May 30, 2009).

(*Prunus armeniaca*) and roses (genus *Rosa*). The garden, a metaphor for monasteries, appears as a romantic mirage of greenness in a barren landscape (Figure 22.8, top).¹⁴ According to Athanasius, Saint Anthony first created these monastic gardens.

He asked visitors to bring him a spade, an axe, and a little corn. And when these were brought, he went over the land round the mountain, and having found a small plot of suitable ground, tilled it; and having a plentiful supply of water for watering, he sowed. This doing year by year, he got his bread from thence, rejoicing that thus he would be troublesome to no one, and because he kept himself from being a burden to anybody. But after this, seeing again that people came, he cultivated a few pot-herbs, that he who came to him might have some slight solace after the labour of that hard journey (Ellershaw 1957: 209-210).

The gardens were readily described by Abu al-Makarim in the 13th century CE.

The monastery possesses many endowments and possessions at Misr. It is surrounded by a fortified wall. It contains many monks. Within the wall there is a large garden containing fruitful palm trees, and apple trees, and pear trees, and pomegranates, and other trees; besides beds of vegetables, and three springs of perpetually flowing water, with which the garden is irrigated and of which the monks drink. One feddan and a sixth in the garden form a vineyard, which supplies all that is needed; and it is said that the number of palms which the garden contains amounts to a thousand trees; and there stands within it a large and well-built keep. The cells of the monks overlook the garden (Abu al-Makarim Sa'dallah 2001: 160, see remarks with Abu Salih al-Armani 1895).

And again by Irwin after his visit in 1777 CE:

The desert which bounds the eastern side of the Egyptian valley, and stretches to the shores of the Red Sea, presents likewise to the philosopher several points worthy of consideration. Mr Irwin, who travelled from Kenneh [Qena] to Cairo by a road which passes obliquely through the northern part of this wilderness, found some delightful ravines in the hilly barrier, by which it is guarded, ornamented with beautiful shrubs, and affording a safe retreat to the timid antelope. Some tufts of wild wheat, a date-tree, a well, and a grotto, call to mind the old anchorites who chose in these solitudes to relinquish all intercourse with the sinful world. Two verdant spots of a similar character, near the Arabian Gulf, between Suez and Cosseir, contain the monasteries of St Anthony and St



Figure 22.8. a: The palm gardens at Saint Paul's Monastery. b: Mill and oil jars in Saint Anthony's Monastery.

Paul, surrounded with thriving orchards of dates, olives, and apricots (Russell 1831: 413).

Desert dwellers were experts in animal husbandry. The ownership of dromedaries, sheep and goats has social value. Dromedaries reflect tribal identity and prestige, and inevitably feature in Bedouin folklore and imagination (Hobbs 1989: 32-37). They would have provided meat, milk and clarified butter to the monks and their visitors from their flocks, although the Coptic monks rarely eat meat. Mills produced flour for bread and presses were used to extract olive oil (Figure 22.8, bottom). While monks usually produced enough for their own consumption, they could use any surplus to provide for pilgrims or to barter with the Bedouin in exchange for other goods.

Modern visitors to Saint Anthony's Monastery are offered bread and cheese, probably still made from milk from nomadic flocks, as well as honey. Wansleben described the fast days there when they ate once a day at three in the afternoon and had two meals on Saturday and Sunday (Wansleben [Vansleb] 1677-1678). At Easter

¹⁴ H.N. Barakat (not dated), *Monastic Gardens as Centers for the Conservation of Rare Varieties of Cultivated Plants*, on-line at http://www.egypt.strabon.org/cultnat/abumena/scientific/monastic-gardens_en.txt (accessed May 31, 2009).

they are allowed eggs and milk. Fish is not forbidden but now rarely eaten, though modern visitors to Saint Paul's Monastery may be shown its fishing boat, which was in use until relatively recently. Volney also found that the "Arabs seldom attempt fishing, at which they are far from expert" (Volney 1787: 216). Eating habits might (or might not) have been different at Saint Paul's Monastery: "The monks are Ichthyophagi, and go down in small parties to the sea, where a two days' fishing suffices to load a donkey, which they keep within their walls; rice, lentils, and bread, are their principal, if not their only other food" (Wilkinson 1832: 36). Similar severe culinary discipline is to be found in the Coptic tradition at Saint Anthony's Monastery where monks lead a quiet life of prayer, aestheticism and silence that revolves around an annual cycle of festivals and fasts.

Pilgrimage

While the nomads were the guides across the desert, the monks, on the other hand, were the guardians of holy relics. Saint Anthony's Monastery has been a place of pilgrimage for over 1500 years; the "earliest Christians, Roman soldiers, Fayoumi bishops, Crusader warriors, Ethiopian clerics, Frankish travelers, Byzantine artists, and Egyptian Copts have been making their way to this remote location" (Bolman 2002: ix). Saint Anthony's Cave (*maghara*), about 2 km from the monastery, became a focus for pilgrimage for settled devotees from the Nile Valley even before Saint Anthony died in 356 CE. This was the cave where Anthony spent the last 25 years of his life. It preserves medieval graffiti next to modern supplications (*tilbas*) from pilgrims. According to Abu al-Makarim, relics of Saint Anthony were secretly buried in the cave where he used to pray and where he defeated demons (Abu Salih al-Armani 1895: 160; Meinardus 2000: 312).

The valleys that bisect the mountains of the Eastern Desert and in Sinai provided natural routes for pastoral nomads and their caravans and for merchants and pilgrims. Religiously motivated traffic across the desert became the responsibility of the desert nomads who controlled the dromedary caravans along the lengthy routes in the Eastern Desert. No visitor was allowed to leave the monastery without the knowledge of one of the guards (*ghafir*), who had the right to a share in the profits of the escort. In Roman times the Via Hadriana (completed in 137 CE) ran from Berenike to Myos Hormos, near modern Quseir, and then on to Antinoë

(Antinoöpolis, present-day Shaykh Abada) in the Nile Valley (Murray 1925; Bell *et al.* 1984; Zitterkopf and Sidebotham 1989; Sidebotham 2002). From there it veered northeast, across the desert to the Christian monasteries of Saint Anthony and Saint Paul. This road system was later used to bring Christian pilgrims, both clerics and peasants, from Upper and Middle Egypt from Antinoë in the Nile Valley to the monasteries in the desert.

An early Christian and Muslim pilgrimage route linked Nuweiba with Saint Catherine's monastery in Sinai, after which it continued down Wadi Fayran to the Red Sea where there were other early monastic sites, such as that at Rhaithou (28°N 14' 11"/33°E 37' 31"). From there the pilgrims could travel across the sea to pilgrimage sites in the Eastern Desert and the Nile Valley. After the Arab conquest of Egypt in 640–641 CE until well into the 10th century CE, the number of pilgrims to the monasteries declined. During the persecutions by Sultan al-Hakim (1000–1017 CE) many Christians fled into the desert. Saint Anthony's Monastery was raided in the 11th century CE and again in 1169 CE, during the brief reign of Sultan Shirkuh, and at least 14,000 Christians in Egypt became Muslim to escape persecution. In the same troubled period (1099–1291 CE), Christian Crusaders took Jerusalem and established a series of Crusader kingdoms in the Eastern Mediterranean.

By the 14th century CE, the monasteries were again a destination for religious pilgrimage. Medieval Arab travelers who visited the monastery included Abu al-Makarim in the 13th century CE (Abu Salih al-Armani 1895), and al-Maqrizi who wrote between 1419 and 1441 CE. Christian pilgrims and desert dwellers alike recognized the virtues of pilgrimage for healing and for self-mortification (Bolman 2002: 178, 183). The relics of Saint Mark that are kept in the church in Saint Anthony's Monastery dedicated to him attracted the piety of the desert dwellers because of miracles associated with the saint. Oil from its lamps was supposed to improve rheumatism and rheumatic fevers (Meinardus 1961: 29). On occasion, monks provided medical treatment to the desert dwellers, and also solved personal problems and disputes among the local populations, as they continue to do until today.

Literary Treasure

A prodigious Arabic heritage in the form of manuscripts and books is preserved in monasteries; in contrast,

Bedouin traditions are largely preserved in their oral histories. Nevertheless, as the Reverend Michael Russell noted,

While the talent possessed by the Copts for writing and keeping accounts recommended them to their conquerors, and at the same time supplied the means of perpetuating their own race, the Arab [Bedouin], who knew no art but that of war, saw that he [the Bedouin] had an interest in preserving them (Russell 1831: 375).

The library of Saint Anthony's Monastery was rumored to contain over 1700 handwritten manuscripts. In 1672 CE Wansleben inspected the library, which consisted of three or four chests of ancient Coptic and Arabic manuscripts, chiefly devotional books. Wansleben was not allowed to purchase any of them because the monks feared excommunication from the patriarch, but he identified a liturgical manuscript and a Coptic lexicon. According to Wilkinson, Wansleben claimed that the lexicon was written by Ibn al-Assal, around 1190–1250 CE, and may well have been similar to a manuscript collected by Pietro della Valle when he was in Egypt in 1615–1616 CE (Wilkinson 1847: 269). The latter manuscript is now in the Vatican library collection of Coptic manuscripts (catalogue number *Vaticani Copti 71*, Hamilton 2006: 201). Abbé Assemani was luckier than Wansleben, for he found three chests full of manuscripts at the monastery; mostly prayers and homilies in Coptic and Arabic, but only three or four that he thought worthy of the Vatican Library. He purchased these secretly from the abbot, without the knowledge of the monks who would have opposed the deal (British Museum 1845–1846: 46; Hamilton 2006: 146). When Wilkinson visited the monastery in 1823 CE, he was not allowed to see the library.

In the 11th century CE, many manuscripts and paintings were destroyed by desert dwellers and other irate Muslims, and in 1454 CE desert dwellers apparently used many of the monastery's ancient manuscripts as fuel. They may well have been jealous of the monks' familiarity with the written word; elsewhere, in Saint Catherine's Monastery in the Sinai, the Bedouin thought that the *Book of Might* was kept in the monastery and that the monks buried it for part of the year in the earth (Carne 1826: 240–243). "They said this book had power, whenever it was opened and exposed to the air, to bring rain upon the earth, so their hearts were made glad and their deserts refreshed. But the priests, out of the malice they bore to the Arabs kept it in general buried deep; in

consequence, they were seldom blessed with any rain" (Carne 1826: 212). Most likely, Carne had been reading Sir Walter Scott's *The Lay of the Last Minstrel*, "His left hand held his book of might; A silver cross was in his right" (Scott 1805: 29), especially as Carne dedicated his travels to Scott.

Wall Paintings

In the 12th–13th centuries CE, Saint Anthony's Monastery was restored and the walls of the main church were decorated with paintings. These paintings have been ignored by Western scholars for centuries, but have recently been studied and published comprehensively (Bolman 2002).¹⁵ Some newly discovered paintings are now believed to date to the 6th–7th century CE. While rooted in the Christian tradition of Egypt, the paintings in the church of Saint Anthony also reveal explicit connections with Byzantine and Islamic art of the 12th–13th centuries CE. They are attributed to the Coptic painter Theodore, son of the bishop of Atfih. Later paintings date to about 1436 CE and to the 18th century. The wall paintings at Saint Anthony's provide the most complete iconographic program from medieval Egypt so far discovered (Bolman 2002: x). Few images of nomads have been recorded in these paintings. Given their desert environment and dependence of the monks on desert dwellers, it is perhaps surprising that the wall paintings do not include more images of the nomads.

There are many paintings representing saints on horseback, archangels, holy knights in bright colors, the hermit founders of the monastery as well as depictions of demons, dragons, devils, dog-headed cannibals (*Cynocephaloi*), and lion-headed creatures, but only a few of dromedaries, as in the detail under the painting of Saint Menas (Bolman 2002: 42, 121). Other paintings depict a journey Saint Anthony made across the epic landscape of the desert to find Saint Paul, during which he met two demons, a centaur and a satyr. The centaur was a liminal being, half horse and half human, and an excellent archer embodying untamed nature. The satyr, half human and half goat, haunted

¹⁵ This study is the result of a project started in 1996 to restore the wall paintings by the U.S. Agency for International Development Program (USAID), in association with the American Research Center in Egypt (ARCE). A pivotal figure in the restoration of the wall paintings is a senior monk at the monastery, Father Maximus al-Anthony, who was aware of the possibilities of restoration and made their survival his mission.

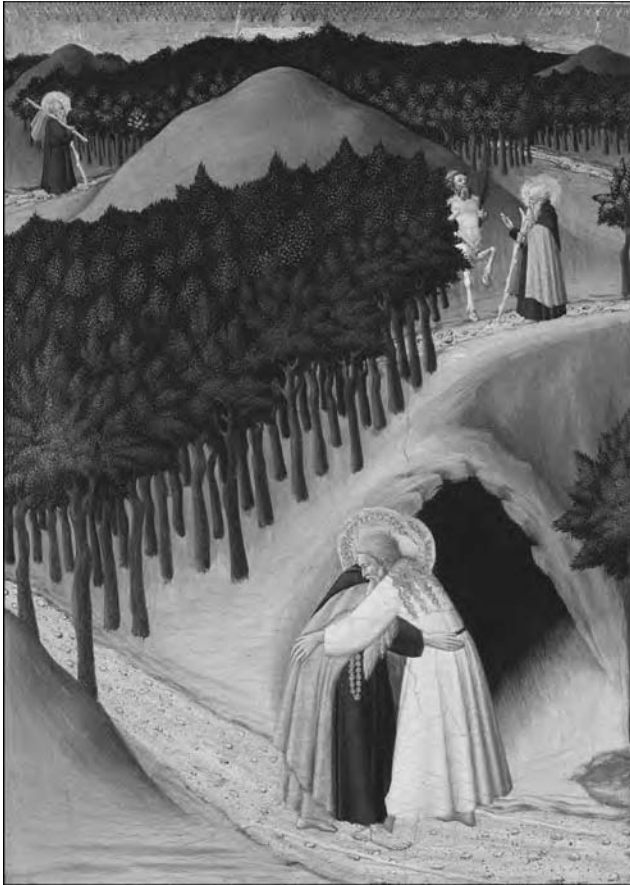


Figure 22.9. The Meeting of Saint Anthony and Saint Paul, painted around 1430 by the Master of the Osservanza (Sano di Pietro?). Samuel H. Kress Collection, National Gallery of Art, Washington. Courtesy of the Department of Visual Services, National Gallery of Art.

desolate places and was subversive and dangerous; this satyr declared himself to be a corpse but in the end gained Saint Anthony's blessing. These encounters, full of rich metaphor like others recorded in *Life of Anthony* (Vivian *et al.* 2003), were part of a series of otherworldly temptations that Saint Anthony encountered in the desert. Such contests with demons were a favorite subject of 15th–17th century European artists (Figure 22.9). As Evans noted, “The monks were wont to people the desert, and other lonely places in which they dwelt, with monstrous shapes or entrancing visions, like those which so sorely tempted St. Anthony, products of their own suppressed but ineradicable passions, and abortions of an imagination morbidly excited by asceticism and solitude” (Evans 1896: 317-318). Icons dating to the 18th century of Saint Anthony and Saint Paul, held by Saint Anthony's Monastery (ADP/SA 8 870 96, ADP/SP 37 81101 97, Lyster 2008: xiii, 1), and a portrait of

Saint Paul in the northern nave of the Cave Church both depict narrative elements in the monastic myths. They both show Saint Paul in a short tunic and Saint Anthony dressed as a Coptic monk, with a raven carrying a loaf of bread and accompanied by the two desert lions. The latter normally inhabited remote wildernesses far from civilization but helped Saint Anthony dig the grave of Saint Paul out of respect for the saint. They later asked Saint Anthony for his blessing (Lyster 2008: xv, 32-35, 224-225). The association of monstrous beings, mythical hybrid creatures, demons and wild animals with desert places continues through Bedouin folktales, while Saint Paul and Saint Anthony remain an important part of Coptic iconography.

Images of virtuous saints and equestrian martyrs commemorated the importance and chronology of Coptic monastic identity and impressed supplicants in their intercession with God. When Saint Macarius (around 300–391 CE) was working as a dromedary driver and smuggler, he had a vision that he and his followers would establish an Antonian community in the desert. He then became a disciple of Saint Anthony and founded a monastery in Wadi al-Natrun in which the relics of John the Dwarf still reside (Meinardus 2002: 35, 171). Saint Menas (285–around 309 CE) is also identified by his dromedaries and was known to be a great healer whose physical remains and images worked miracles (Bolman 2002: 42, 121). In an 18th-century wall painting in the Cave Church in Saint Paul's Monastery, Saint Menas rides his horse above a small dromedary caravan carrying his executed remains.¹⁶ In two paintings in Saint Anthony's church, its principal saint, Saint George of Cappadocia, on a prancing white horse holds a long spear towards a small person with a turban, thought to be a Saracen before the paintings were cleaned (Meinardus 1972: 318). This figure has now been identified as a Jew with a sack over his shoulder below the image of Saint George in the nave. On the painting of Saint

¹⁶ After being abandoned for 119 years, the wall paintings in the churches of John the Baptist and the Archangel Michael at Saint Paul's Monastery were executed by the earliest-known Armenian artist in Egypt, Yuhanna al-Armani (who died in 1786). He is credited with bringing Syrian traditions to Cairo. His mentor, Ibrahim al-Nasikh, decorated the new church of Abu al-Sayfayn at Saint Paul's Monastery in 1778. Monastic records indicate that gifts including icons of saints and martyrs were brought there by caravan. There had been little if any Coptic icon production between the 14th and 18th century CE (Guirguis *et al.* 2008: 18, 19, 42-43).



Figure 22.10. Wall painting in the Cave Church at Saint Anthony's Monastery showing nomads in the middle level in the palace of Nebuchadnezzar. Adapted from Bolman 2002.

George in the transitional room that separates the nave from the sanctuary (the *khurus*, a unique feature in Coptic architecture), this figure is now interpreted as the Christian General Euchius who destroyed many churches in Egypt. In the Turkish fashion, the turban was worn by civilian and military administrators rather than by nomads. One Saracen, however, can be identified on the only painting in the church that does not focus on sacred images (Figure 22.10). It displays Saint George next to the palace of Nebuchadnezzar, which is occupied by three tiers of 'forces of iniquity.' The Saracen is in the middle level.¹⁷ This elaborate and animated painting is in the current secular rather than a sacred style of the rest of the wall paintings at Saint Anthony's monastery and combines iconic and narrative art, urban myths and secular characters.

Likewise a wall painting in the dome of the Cave Church in Saint Paul's Monastery illustrates a posthumous miracle of the 4th century military saint and martyr, Ishkirun of Qalin (Killin). It depicts a Saracen with a jutting beard, wearing a striped robe and red cap holding a spear and tending at least four dromedaries to the right of the equestrian saint. These dromedaries were

¹⁷ This painting is part of a narrative of the Three Hebrews standing with an angel by a fiery furnace shown on the north side of the *khurus*.

all barren, so he asked for help from the saint and vowed to give the first-born of every dromedary to the Church of Ishkirun originally near Kafr al-Shaykh in the Nile Delta. The saint's prayers were answered and the Saracen kept his promise (Lyster 2008: 220-221, 244-245). Despite the nature of sacred art imported from the Nile Valley, it still seems surprising that the wall paintings in the Eastern Desert monasteries do not include more images of the nomads or the Red Sea nearby, given their desert environment and maritime location and the monks' dependence on desert dwellers for their continuing secular existence. Like the Blemmyes before them, the desert dwellers remain enigmatic, no more than a demonic construct by contemporary authorities.

Giving the Nomads an Identity

There are only two references to Saracens (that is, nomadic Bedouin) in Saint Athanasius's text: "And when Antony said, 'Who will show me the way for I know it not?'" immediately the voice pointed out to him Saracens about to go that way. So Antony approached, and drew near them, and asked that he might go with them into the desert. And they, as though they had been commanded by Providence, received him willingly" (Ellershaw 1957: 196). After accepting bread from his supporters, "the Saracens, having seen the earnestness of Antony, purposely used to journey that way, and joyfully brought him loaves, while now and then the palm trees also afforded him a poor and frugal relish" (Ellershaw 1957: 209-210). For the monks, the Bedouin seem to be nameless unidentified 'others,' but as individuals or communities they had identities, complex allegiances and associations. Although Saint Anthony's Monastery is located at the boundary between the Ma'aza and other northern groups, there are few reliable detailed studies on Bedouin in the northern part of the Eastern Desert (Burckhardt 1822, 1831; Murray 1935; Hobbs 1989). Perhaps surprisingly, Hobbs, who between 1982 and 1986 made a seminal study of the Ma'aza and Kushmann Bedouin of the Eastern Desert and their natural history, rarely mentions the relationships between nomads and monks, even though Saint Paul's Monastery is within Ma'aza tribal territory. On his visit in 1823, Wilkinson commented on the fluidity of tribal distribution:

They told us, that during the wars, which, before the present Pasha [Mohamed Ali] had established order throughout the Arab tribes, existed between Maázy and Abábde, these last often advanced as far as the convent [of Saint

Paul], alternately repulsing and being repulsed by their adversaries. . . . At present, thanks to Mohammed Ali, the monks have no longer any fears from the aggression of any tribe (Wilkinson 1832: 36).

Saint Anthony's Monastery lies on the northern boundary of the Tababna Ma'aza clan, which runs from the Nile at al-Kraymat along Wadi Sha'ayb to Wadi Araba at Zafarana on the Red Sea coast, within the Amarin tribal territory (Hobbs 1989: 5, 14). Bedouin, whose very livelihood depends on the community of the family, clan and the tribe, where ties of marriage and patrilineage are essential, thought the solitary "monks of St Anthony's and St Paul's monasteries were completely mad, living lives without wives and children, 'a life worse than death'" (Hobbs 1989: 11).

Settled people tended to think that nomadism was an escape from boundaries, yet desert dwellers' lives were demarcated by many boundaries or disciplined spaces. South of Saint Paul's Monastery lived the Ababda, a Beja tribe. Wilkinson thought the Ababda were noble and trustworthy (Wilkinson 1832), while his companion, Burton, thought them vindictive, ungrateful and avaricious (Burton 1822, Thompson 1992: 51, 56-60). Many Bedouin groups that can be identified in the region today migrated from Arabia between the 14th and 18th centuries CE, replacing earlier nomadic communities that roamed near Saint Anthony's Monastery, including the Ma'aza, known in the Arabian Peninsula as Beni Atiyya and called Atownee (singular Atweenee) by the Ababda (Wilkinson 1847: 269). In 1823 CE, according to what are probably Huwaytat sources, all migrated around the same time, about 1700 CE (Murray 1935: 267; Hobbs 1989: 12-13), after they had been defeated by the Huwaytat tribal confederation. According to Burckhardt, the Amarin (Amran, Wilkinson 1847: 269) were to be found west of Suez; Ahaywat and Howeit (Huwaytat) to the east; while Tarabein (Tarabin), the Bedouin of Tor (al-Tur on the Sinai coast), and Muzena (Muzayyina) were to be found in northern Sinai (Burckhardt 1831). Others included the Amarat, the Ayayde (al-Ayayda) to the east of Suez, who

sometimes encamp in the mountains between Suez and Cosseir [al-Quseir], but are more commonly found in the flat country not far from Cairo. . . . [T]heir minor tribes are, Salatene [Salatina], Djerabene and Maazy [Ma'aza], but these must not be confounded with others bearing the same name. The Ayayde [al-Ayayda] are perpetually at enmity with the Howeytát [Huwaytat]. Some of their

encampments are seen on the Syrian road, leading towards El Arish (Burckhardt 1831: II, 14).

The Howeytát [Huwaytat] derive their origin from the ancient tribe of Beni Atye [Bani 'Atiyya]; from whom likewise are descended the Heywát (also entitled Leheywát) [in Sinai], the Terabein [Tarabin], the Maazy [Ma'aza] and the Tyaha (Burckhardt 1831: II, 9-10).

Huwaytat Bedouin arrived in the area in the early 1800s, migrating north from the Hejaz Mountains. "Some continued . . . into western Sinai, pushing the Ma'aza Bedouin into Egypt's Red Sea Mountains" and had "become so degenerate in consequence" (Burckhardt 1831: 12).

The Maazy [Ma'aza]. These sometimes pasture their flocks near the Nile, but generally in the mountains between Cairo and Cosseir [Quseir]; they are most commonly employed in the transport between Cosseir and Genne [Qena]. . . . They were formerly stationed southward and eastward of the Omrán, about Moeyleh. . . . They are constantly at variance with the Ababde Bedouins, who reside on the south of the Cosseir route. Within the last twenty or thirty years, those Sherkye [al-Sharqiyya, in the Nile Delta] tribes have been rendered more numerous by the addition of the Hanády [al-Hanadi, a western Bedouin tribe now in al-Sharqiyya], a tribe of Moggrebyn Bedouins[,] . . . the Huwaytat [Huwaytat], Oulad Musa [Awlad Musa] and the Lebádye (Burckhardt 1831: 15-17).

About 1800 CE there was war between the Tuwara from the Sinai and the Ma'aza (Burckhardt 1822, 1831: II, 15-17). The ill-fated Palmer also mentioned the Lehewat (al-Hiwat, Palmer 1871: 297), the Amarin (Burckhardt 1831; Hobbs 1989), and other groups. An even more relevant list of Bedouin tribes was provided by Russell when he specifically identifies a group of nomads who were associated with Saint Anthony's Monastery:

The great wilderness of Eastern Egypt is occupied by different tribes of Arabs, who consider its different sections as their patrimonial inheritance. . . . [T]he Mahazeh [Ma'aza] . . . claim an authority as far as the parallel of Beni Suef. The desert, which comprehends the Isthmus of Suez, is in the possession of a fourth family, who are known by the designation of Hoo-at-al, and sometimes by that of Atoonis or Antonis, derived, it is probable, from the name of the saint whose convent gives celebrity to the neighbourhood (Russell 1831: 419).

This would imply a form of *tethered nomadism* (Wendrich and Barnard 2008: 7) where the Atoonis or Atonis Bedouin are dependent on the particular resources of the monks and hermits at Saint Anthony's Monastery,

just as the Ma'aza and Ababda were to be found at Saint Paul's Monastery during Wilkinson's visit there in 1823:

They added that the Abábde [Ababda] were very superior in behaviour to the Maázy [Ma'aza]; who were never known to express any thanks for the necessities given them, independent of their food; while the former, on the contrary, when provisions were let down to them, always returned thanks by kissing the rope, and immediately left their walls without offering any insult, or in any way molesting them. But the fact is, that the Abábde were in a foreign land; this desert, and the rock on which the convent [Saint Paul's Monastery rests], belong to the Maázy: who only tolerated it because it was convenient to them to have the means of obtaining provisions in that mountain (Wilkinson 1832: 36).

Jabaliyya were the "so-called serfs of the convent" of Saint Catherine's Monastery, "the lineal descendants of the four hundred Wallachian and Egyptian slaves whom the emperor settled in the peninsula. . . . Of these tribes the Saidu and the Aleyat are the recognised *ghufara*, or protectors of the convent" (Eckenstein 1921: 190).

Discussion and Conclusion

The concept of *tethered nomadism* is a useful one, indicating a dependence by nomads and monks on particular resources; in this case the dependence of desert dwellers on a particular social group, the monastic community. Desert dwellers are connected to features in the landscape, in this case the monastic complexes of the Eastern Desert as much as to the desert itself. However, the monks are also connected to the desert through communication links run by desert dwellers and through desert imagery in their own epic landscape. The symbolic meaning of landscape features around the monasteries of the Eastern Desert would be difficult to deduce without historic or literary sources. Although Saint Anthony himself did not organize or create a monastery as such, a community grew up around him, a 'city in the desert' based on his example of living an ascetic and isolated life. The biographical *Life of Anthony* was well known in Europe (Ellershaw 1957; Bolman 2002: 373), where its influence was so powerful that representation of heroes, warrior-saints, bishops and abbots there were also cast in a desert mold (Georgianna 1981: 34-35). Those who wished to follow him needed the company of others in order to survive the harsh desert conditions.

The link between reality and the symbolic power of the metaphor depended on a distinct division between city and desert. Even though the desert dweller is the classic stereotype of an antagonist to urban life

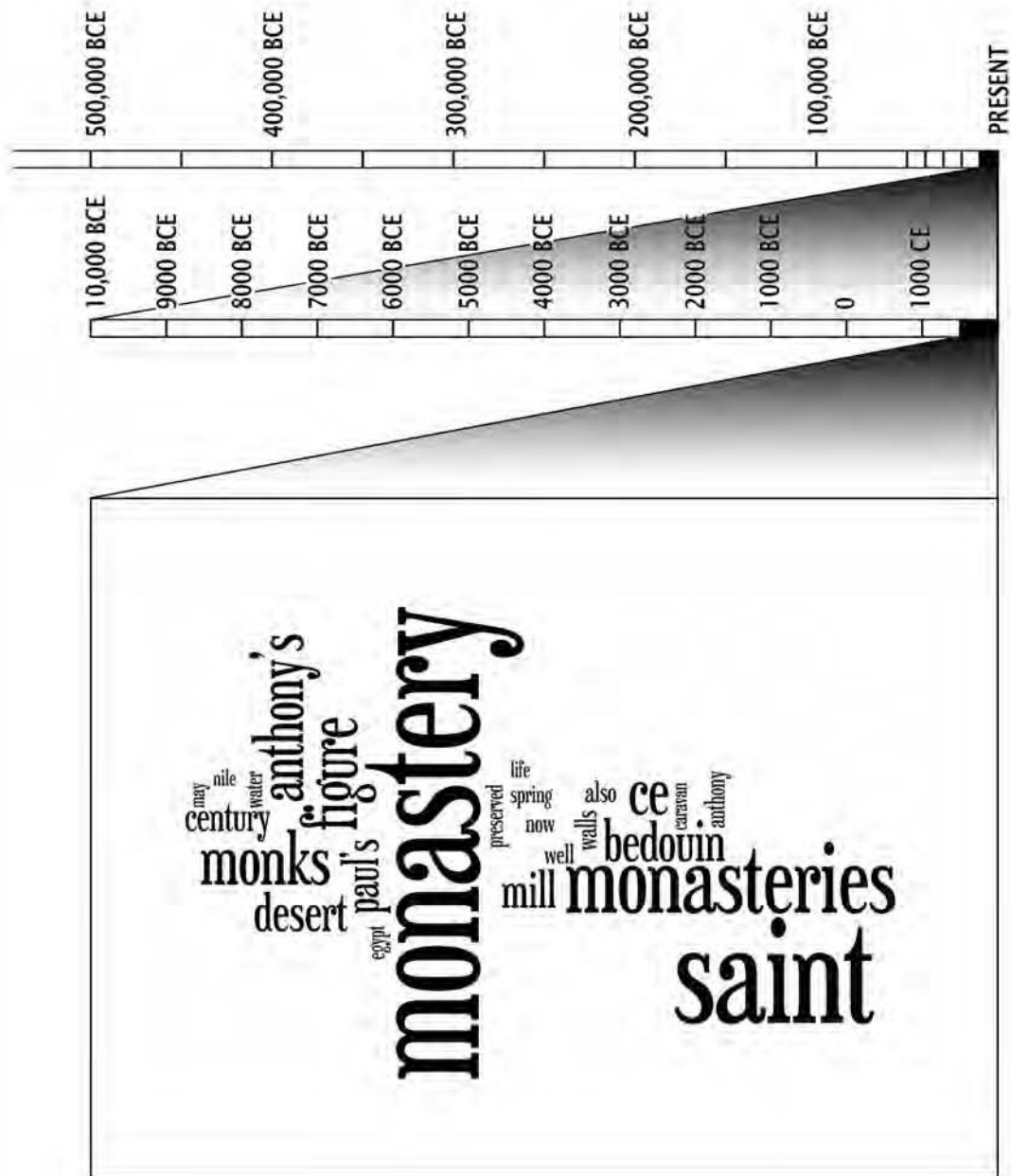
(Marzolph *et al.* 2004: 495), any interaction between nomad and monk is certainly more complicated than any perpetual struggle between 'the desert and the sown.' As early as 1972, these oppositional categories were dismissed by Irons and Dyson-Hudson as "assumed spatial homogeneities in which data of widely different dates were fitted together for descriptive (rather than historical) purposes, a simplistic style of thinking forged from the desire to generalize from incomplete data" (Irons and Dyson-Hudson 1972: 8). It would be a mistake to simplify this relationship as a dichotomy between the settled life of the monasteries and nomadic desert dwellers. Many oppositions, real or invented, were assigned to the relationship between the monks and desert dwellers, and their ways of life. As Goehring has described (Goehring 1993, 1996, 1999), the literary landscape of early Egyptian monasticism was dominated by the aesthetic hermit who spiritually, physically and metaphorically withdrew into the desert to find spiritual comfort in a barren landscape. Yet the traditional division into anchorites (the solitary ascetic) and monks who live in a religious community (cenobites) can be challenged (Goehring 1999: 4). Village-based monks were significant (Goehring 1999: 13-109) and monastic communities were not overwhelmingly located in the desert. As Goehring suggests, there was a literary reversal (Goehring 1999: 88). The ascetic movement was traditionally defined as an innovative and original desert phenomenon despite its village origins. Ascetic piety was connected with spatial withdrawal from the village or town, representing a decisive break from society. The desert became a literary metaphor of this withdrawal. Aesthetic desert communities existed alongside urban and village asceticism in the Nile Valley in the Byzantine period, so that Egyptian monasticism was never a totally isolated desert phenomenon (Goehring 1996: 268-269), yet ascetics who continued their life in settled areas were forgotten (Goehring 1999: 87-88). Egyptian 'monastification' underwent a kind of literary 'desertification' dominated by desert imagery (Goehring 1993: 296; Klein, this volume).

This chapter has explored the desert imagery and symbiotic relationships between monks and nomads in the Eastern Desert on many levels. After outlining the monastic communities, aspects of mobility in the desert landscape were discussed, before investigating multi-resource relationships and interaction through pilgrimage. Finally, an attempt was made to explore the

reports of travelers in order to provide identities for the desert dwellers around the monasteries of the Eastern Desert. Meanwhile “the monasteries of St Anthony and St Paul are still inhabited by Coptic monks, who, while they claim an absolute power over demons and wild beasts, are unable to protect themselves from the wandering Arabs—more formidable than either to an unarmed ascetic” (Russell 1831). While desert imagery provides metaphors to portray early Egyptian monasticism (Goehring 1999: 2-4), it does so without letting us observe the desert dwellers, those who survive

in the threatening and fantastical environment of the desert that surrounds the monasteries. This is all rather quaintly summarized by Wansleben:

The romantic picturesqueness of their situation, the boundless waste of barren sand that severs them from the world, the changeless sunshine that brightens their desolation, their loneliness broken only by sudden troops of marauding Bedouin, the yearly convoy of friendly camels, or the rare advent of pilgrims or wayfarers and when one remembers the true fairy-tales of the hidden treasures of the monks—not gold but books with their weight in rubies (Wansleben [Vansleb] 1677–1678: 289).



Time line and word cloud for Michael Jones, *Nomadism and the Monastic Life in the Eastern Desert of Egypt*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 23



Nomadism and the Monastic Life in the Eastern Desert of Egypt

MICHAEL JONES¹

THE MONASTERIES OF SAINT ANTHONY AND SAINT Paul have relied throughout their long histories on important support systems connecting them with their Bedouin neighbors and the Nile Valley. The monasteries are located approximately 25 km apart, on the north and south sides of the South Gallala Plateau, in the north of the Eastern Desert, roughly 130 km and 150 km from the Nile Valley, respectively, close to the west coast of the Gulf of Suez (Figure 23.1). They are within the territory occupied by the Ma'aza Bedouin, who may have migrated into this area from the Arabian Peninsula in the 18th century CE (Hobbs 1989: 12-13). They accommodate the only monastic communities now surviving in the Eastern Desert proper. The monks thus represent a significant, albeit specialized, group in the population of the region; a region that has witnessed wide-scale social and

demographic changes in the last two decades of the 20th century CE to which the monasteries and their monks have not been immune. Extensive touristic coastal developments, rapid improvements in the road systems, a greatly increased population of monks and a reduced nomadic population are the influential modifications. While the aspect of settled continuity combined with preserved ancient tradition is among the monasteries' most striking features, they are also active participants in the processes affecting their environments and their communities so that today they are salient reminders that survival depends on adaptation and the only constant is change.

Both Saint Anthony's and Saint Paul's Monasteries were the venue for architectural and wall painting conservation projects carried out by the American Research Center in Egypt (ARCE) from 1996 to 2005 (Bolman 2002; Lyster 2008), with funding from the United States Agency for International Development (USAID), in which I participated as project manager, although the research presented in this chapter was carried out independently. The monasteries trace their origins to their famous founders, Saint Anthony and Saint Paul, whose biographies were written in the 4th century CE by Athanasius and Jerome, respectively (White 1998: 1-84, Klein, this volume). These two works had an immediate and powerful impact throughout the Christian world from their sources in Egypt and Palestine, and spreading during the next three centuries to the farthest reaches of the Western Isles of Scotland and Ireland (Sharpe 1993: 58, 63; O'Neill 2005: 31, 55). They created a literary

¹ Many people have contributed to my growing understanding of the monasteries and their surroundings and without their support and patience I would not have been able to write this chapter. I am especially grateful to Anba Daniel and Fathers Makari, Tomas, Serapamun, Matta, Yoannis and Abadir at Saint Paul's Monastery; and Anba Yustus and Fathers Lazarus and Basilios, and especially Father Maximus of Saint Anthony's Monastery for generous hospitality and the privilege of being allowed to research the monasteries' history and traditions on the spot. Father Maximus also helped with the reading of the Arabic inscriptions included in this chapter and facilitated many aspects of my research. For care in the desert between the two monasteries our two Ma'aza Bedouin guides, Mutir and Aish, deserve special thanks. I am grateful to Jaroslaw Dobrowolski for his help in preparing the figures in this chapter.

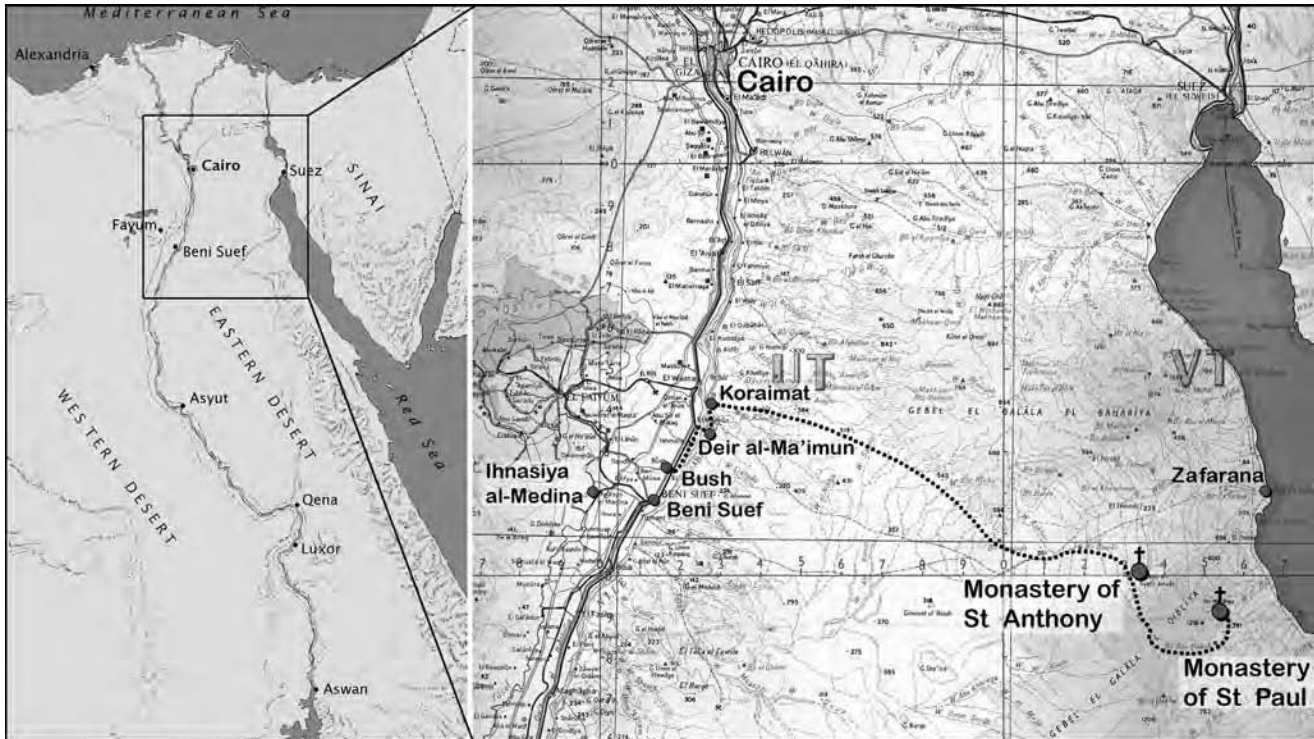


Figure 23.1. Map of Egypt (left) and the northern part of the Eastern Desert (right) showing the region discussed and locations mentioned in this chapter with the caravan route from the Nile Valley to the monasteries of Saint Anthony and Saint Paul.

model legitimizing the ascetic life of the desert hermit exemplified by Paul and connecting it with the vocation of the monk as practiced by Anthony. The monasteries that evolved at the remote but closely connected sites associated with their founders' lives and spiritual practices thus became integrated into both a local and an international cultural milieu whose legacy continues to this day despite the enormous changes that have taken place, mostly in relatively recent times. Information about the early histories of the monasteries before the modern period, starting around 1700 CE, is very sparse, based largely on Late Medieval sources and on inferences gleaned from rare travelers' accounts (Gabra 2002: 178-179; Hamilton 2008: 75-77; Swanson 2008: 43-53; Starkey, this volume). Nevertheless, from the first decade of the 18th century CE onward, there are good sources for the traditional life of both monasteries, in written form preserved in the monastery libraries and archives, and in the collective memory preserved orally by the monks. The oral history gains added credence because of the relatively recent modernization of both monasteries from the 1970s CE onward. Yet this finite resource is increasingly restricted and endangered with the passing years, and it becomes more and more important to document it while there are still monks alive who remember and value it. The material presented here relates most

directly to the period of the last 300 years and relies on published sources, unpublished documents kept in Saint Anthony's Monastery and information provided by the monks at both monasteries.

This chapter is the result of several lines of research into the monastic economy considering three ways in which the monks, their Bedouin neighbors, Nile Valley dwellers, visitors and pilgrims have participated in providing for each other's needs. The approach taken treats the monasteries, the surviving material remains of their histories, such as the springs that supplied water and the mills that ground flour for the monks' bread, as well as regenerated aspects of their heritage, such as the trees in the gardens, as integrated elements in a complex network of wide-ranging systems. This method provides a way of understanding the interdependent and complex ways in which artifacts, sites, human activities and landscapes coincide (Quivic 2008: 28-29). The monasteries emerge not as static settlements whose occupants have retreated into seclusion far from the civilized world, but as dynamic and interactive institutions with extensive contacts within Egypt and abroad. This is particularly evident in considering the well-preserved mills at both monasteries. The study also shows how ordinarily unadventurous Egyptians, usually

very wary of the desert, have taken up the specialized life of their vocation in this arid environment by integrating into the ecology of the desert while remaining dependent on and connected to the resources of the Nile Valley.

The patristic literature of Late Antiquity represents the Bedouin who witnessed the monks' arrival and settlement in the desert generically as 'Saracens' and 'barbarians,' particularly with reference to Scetis (Wadi Natrun) where they inflicted serious damage and casualties (Chitty 1999: 38, 60-61). More recently they have been portrayed as enemies of the monks whose hostility led to the periodic abandonment of the monasteries (Meinardus 1961: 44). In the late 1980s, Hobbs, in his account of the Ma'aza Bedouin, records his Kushman companion saying that "the Monastery of St. Anthony is surrounded by high walls and populated with Nile-minded Copts" (Hobbs 1989: 23). This statement suggests an antipathy between Bedouin and monks that might be seen as reflecting the mistrust or antagonism expressed in the early literature mentioned above. Confrontations certainly occurred, particularly in times of drought and famine (Swanson 2008: 53), and raiding was an established part of Bedouin life. But such generalizations must convey an imprecise image. The

general reality must have been rather different as survival in this harsh environment also depends on cooperation.

Monastery Resources Reserved for the Bedouin

Until the 1990s, when pipelines were laid to bring Nile water to Zafarana and the developing coastal resorts, both monasteries were dependent for water on the perennial springs that flow from the hillsides watering the small oases that are now the monastery gardens and nearby wells. The monks of Saint Anthony's Monastery have benefited from living beside two sources of water. Both the monks and their Bedouin neighbors depended on them for themselves and their livestock. Until the patriarchate of Kyrillos IV (1854-1861 CE), who was a monk of Saint Anthony's Monastery, both sources were outside the monastery walls and therefore freely accessible to Bedouin and to the monks so long as Bedouin did not hinder them. Kyrillos, however, ordered the nearer spring, known as the 'Spring of Saint Anthony,' enclosed within an extension of the southern wall of the monastery due to a complaint that Bedouin animals were contaminating this important source of drinking water (Figure 23.2). The mutual respect for the watering rights of both monks and Bedouin were



Figure 23.2. Aerial photograph showing Saint Anthony's Monastery in 1979 (reproduced by permission of Saint Anthony's Monastery). The *fatuli* is the winch with which people, animals and goods were raised into the monastery until well into the 20th century CE (Figures 23.4 and 23.5).

preserved. From then on, the Bedouin had access to the further source, known as '*ain al-samar*, for their animals, while still able to obtain drinking water from the now enclosed Spring of Saint Anthony. The name of the '*ain al-samar* derives from the name of the type of rushes, in Arabic *samar* or *samar al-husr* (*Juncus arabicus* and *Juncus acutus*, Boulos and el-Hadidi 1989: xi; Bedevian 1994: 341) growing around the spring, which were used by the monks for making mats.

A similar situation pertained at Saint Paul's Monastery, where the spring was outside the walls until a new enclosure was constructed sometime before the Byzantine Institute Expedition led by Thomas Whittemore photographed the monastery in 1931 (Lyster 2008: 18). A new courtyard containing the spring was thus attached to the west side of the older compound. It is accessible only from within the monastery via a doorway cut through the earlier enclosure wall. A channel conveys water from the spring into cisterns for drinking and to a longer canal leading to the garden. Outside the monastery, some 200 m to the south, is 'Miriam's Well,' which remained generally accessible outside the walls (Lyster 2008: 6, 7, Figures 4.5, 13 and 86). The Spring of Saint Anthony supplies a steady 90 liters of water daily. This limited resource placed a restraint on the population of monks so that distribution and consumption had to be carefully monitored. The spring also waters the monastery gardens within the walls where date, olive, carob (*Ceratonia siliqua*) and *nabq* (*Ziziphus jujuba*) trees as well as grapevines provide fruit that could be

eaten fresh or dried. Olives were an important source of oil as well as solid food. Particular trees in the monastery gardens were designated for the Bedouin who had the right to their annual yield. This system of classification, known by the monks as *mirth al-'arab*, 'an inheritance or birthright of the Arab(s),' fostered an important and enduring association between monks and Bedouin based on hospitality and sharing of resources. Drinking water allocated to the Bedouin, measured and shared from the spring, was also *mirth* as were other essential supplies, such as rations of food, particularly bread, and herbal remedies processed in the monastery by the monks from plants collected by the Bedouin in the desert. Saint Paul, in particular, was believed by the Bedouin to respond to their prayers in times of hardship and they traditionally came to his monastery rather than Saint Anthony's for the saint's healing powers. Both monasteries continue the custom in a contemporary vein by dispensing modern medicines from their well-stocked pharmacies. The model of the *mirth*, established by precedent and upheld for generations, could not be revoked at random. The system created and perpetuated a mutual reliance based on reciprocity that continued until the early 1980s. Today, however, with a much reduced Bedouin population and a far larger number of monks than ever before, estimated at about 110 in January 2009, the system has all but ceased and only one date palm now remains just inside the monastery entrance for the *mirth al-'arab* (Figure 23.3).

Figure 23.3. The garden of Saint Anthony's Monastery in the 19th century CE extension north of the monastery. The last *mirth* date palm is in the center of the picture. The *fatuli* room (Figure 23.5) is uppermost left of the *mirth* palm.



Caravans and Supplies from the Nile Valley

As has been pointed out (Caver 2002: 24), for monks to stay alive in the desert it was necessary for them to transplant many aspects of Egyptian village life, as anxieties surrounding production and supply of food that were common enough in affluent areas were far more acute in the desert. The area near Beni Suef has long been intimately associated with Saint Anthony through the nearby sites identified as his birthplace, his first retreat into the desert and as his point of departure with a caravan of ‘Saracens’ for the location that was to become his monastery near the Red Sea. This tradition is reflected in 19th century CE travelers’ accounts that refer to the region as the “Patrie de Sainte Antoine” (Meurice 2007: 124-125). Before the construction of the modern road system via Suez, Ain Sukhna, Zafarana and the coast, travelers intending to cross the desert to visit the monastery either joined caravans or organized their own and, using the ancient route through the Wadi Arabah, imagined themselves following in the saint’s footsteps. The 17th century CE traveler Jean Coppin describes the typical journey, sailing from Cairo to Beni Suef, where he collected camels and a Bedouin guide and set off through Wadi Arabah, arriving at Saint Anthony’s Monastery three days later (Sauneron 1971: 200-204).

It was also from the area near Beni Suef that important food supplies were obtained, especially wheat for the bread that formed a staple of the monastic diet and which was used daily in the celebration of the Eucharist. The farms at Bush (Figure 23.1) were part of the *waqf* that supported the monasteries. While the *waqf* system of property endowed to public and private institutions was adopted as an integral part of Islamic law (Hennigan 2003), it had its origins in Byzantine law and was related equally to Coptic institutions (Coulson 1978: 28, 199-201, 219). Successive rulers of Egypt, from Medieval times onward, have expropriated Coptic *awqaf*, thereby confiscating their wealth and successfully reducing and controlling the prestige and power of Copts (Philipp and Haarmann 1998: 267; Angold 2006: 500). The effect that this process had on the Coptic community by the second half of the 17th century CE, was observed by Edward Brown who, from his observations made while traveling in Egypt in the 1670s, remarked of the Copts that “these poor people may be justly reckoned among the most dejected and distressed nations in the universe” (Brown 1739: 320). Nevertheless, Coptic notables, the so-called ‘archons’ or *mu’allimin* in Arabic,

remained influential within their own community and despite the Copts’ apparent impoverishment, the 18th century CE saw an influential class of wealthy Coptic administrators generously supporting the building and restoration of churches and monasteries (Girgis 2000: 31-35). For example, when, in 1702–1705 CE, Saint Paul’s Monastery was reoccupied and renovated under Patriarch Yoannis XVI after more than a century of abandonment, it was in collaboration with the mu‘allim Jirjis Abu Mansur al-Tukhi, the greatest Coptic notable of the day (Swanson 2008: 54). The Patriarch, who had been a monk of Saint Anthony’s, ordered the *waqf* properties of Saint Anthony’s Monastery, including lands near Beni Suef, to which new endowments were added, to be divided between Saint Anthony’s Monastery and Saint Paul’s Monastery, with the latter receiving the smaller portion, thus ensuring the monasteries’ economic independence (Nakhla 2001: III, 101-103, Gabra 2008: 99-100).

The crucial reliance on their lands in Egypt meant that famine and economic problems in the Nile Valley were as serious a risk to the monks in the monasteries as harsh conditions in the desert. A manuscript in the library of Saint Paul’s Monastery referring to the ascetic practices of Murqus al-Antoni, a 14th century CE monk of the monastery, states: “How often it happened that the monasteries were empty of monks because the wheat supply was cut off” (Gabra 2008, 97). The text emphasizes the fragility of life in such a remote area 130 km from the Nile Valley and shows how dangerous the essential reliance on outside support could be. It further mentions how Murqus sustained himself on grass and water at such times and continues with his admonition that it is better for a monk “to feel ill, fall down and die of hunger inside his monastery, and never go to the countryside” (Gabra 2008: 97). Such resilience and asceticism were part of the monastic ideal, yet from a practical point of view, it is difficult to imagine by what means the monks might leave if the caravans stopped, or where they might go when their supplies ran out and when food was also scarce elsewhere. The nearby Red Sea may have provided an alternative food source, but again it is questionable how long this could last when water was scarce and there was competition with the Bedouin for the same resources. It may be significant here that the hermitages on the hills facing the Red Sea around the Roman site Bir Abu Darag, between Ain al-Sukhna and Zafarana, all appear from

the ceramic evidence to have been abandoned by the 6th or 7th century CE with no indication of resettlement (Fontaine 1960: 64-67, 81-83; Martin 1965-1966: 139-146; personal observations).

In ideal times wheat was supplied from the monasteries' farms at Bush near Beni Suef at harvest time in May each year. Camel caravans managed and led by Bedouin set out from the village of al-'Alalmah, near Koraimat, whence the journey to Saint Anthony's Monastery took three to four days, followed by an additional two to three days to Saint Paul's Monastery through the valleys (*wadis*) in the South Gallala Plateau (Figure 23.1). On arrival the caravan camped outside the monastery walls. As the monasteries had no entrances at ground level until the 20th century CE (Lacaze and Camino 2008: 155-161), the wheat was winched up by a *fatuli* and poured through a chute into the *diksar*, a large vaulted storeroom built at ground level in the terrace of the desert hillside (Figures 23.3 and 23.4). This arrangement of service facilities is still well preserved at Saint Paul's Monastery (Jones 2008: 127-134). At Saint Anthony's Monastery the winch is well preserved in a building that was constructed when the monastery enclosure wall was extended in the 19th century CE (Figures 23.2, 23.3 and 23.5), but the storage facilities that were once accessible beneath have been obscured by more recent alterations and are now inaccessible. From the *diksar* the wheat was supplied once a week to the mill for grinding into flour.

Well-preserved pairs of mills are preserved *in situ*, still in working order, in both monasteries. They are rare, possibly even the only survivors of a kind of animal-driven mill, attested in Egypt from the 18th century CE onward, that was once widely used for milling wheat and barley (Hanna 1983: 68, 70-71). The Napoleonic expedition (1798-1802 CE) recorded almost identical flour mills in Cairo (Jollois 1813: plates IX.3 and X.1; Jomard 1817: plates IX.8, IX. 9, IX.10 and X.1). Some 30 years ago, a mill of the same kind was recorded at Balat, Dakhla Oasis, where it was in use for grinding both wheat and barley (Hinerval 1996: 120-121, Figures 33, 34 and 35). In Dakhla a cow or buffalo was used to power the mill, but at both Saint Paul's Monastery and Saint Anthony's Monastery the mills were driven by a horse (Jones 2008: 130, Figure 7.4). There were two mills because if one were to be damaged and require repairs the other could be used until carpenters arrived with materials and spare parts from Beni Suef with the



Figure 23.4. The outer walls of Saint Paul's Monastery. The *fatuli* is in the covered room with the large balcony above the icon of Saint Paul. Photograph by Patrick Godeau, ARCE 97-1126-19.



Figure 23.5. The windlass operating the *fatuli* at Saint Anthony's Monastery (Figure 23.2). Photograph by Angela Milward Jones, 2007.

next caravan. As they are well preserved *in situ* and in working order, these mills provide a valuable opportunity to examine an otherwise lost archaeological resource by studying the materials from which they were made, the technology, and how they operated. The mills encapsulate aspects of former monastic ways of life by illustrating how skills that were transferred from village life in the Nile Valley were employed to construct and maintain a viable domestic economy at these outposts in the desert.

Each mill stands in a pit roughly 50 cm deep in the floor of the room and is made of two interconnected sections comprising the driving mechanism and grinding stones (Figures 23.6, 23.7 and 23.13). In the bottom of the open part of the pit, a horizontal spur wheel is fixed by wooden pegs to a vertical shaft that is pivoted at the

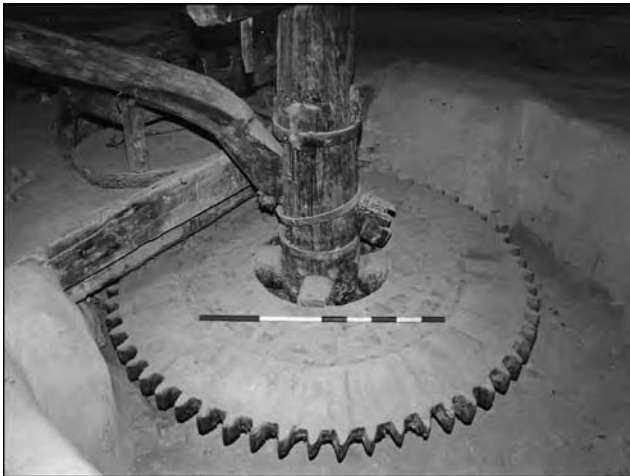


Figure 23.6. The mill in the western mill room of Saint Paul's Monastery, showing the spur wheel in the pit, the central post with harnessing pole and the millstone (scale = 1 m).

base in a wooden block in the floor and at the top in a cross beam spanning the entire width of the room. The cross beam is set into the walls and fixes the machinery in place. The spur wheel was driven by a horse harnessed to a wooden beam, cut from the branch of a tree and retaining its natural shape, which was slotted into the vertical shaft. The spur wheel, so called because of the teeth or spurs around the outer circumference, engage with a lantern gear under the static bed stone. The lantern gear is connected to the grinding stone that rests on the bed stone by a wooden spoke which projects upwards through a hole in the center of the bed stone, thereby

driving the grinding stone. The bed stone is square, has a convex upper surface and a raised lip around the edge forming a circular inner 'bed.' The circular grinding stone has a concave under-surface and fits over the bed stone, resting precisely inside the raised lip of the convex bed stone. As the machinery turned it set up a jerking motion and grain poured through a wooden table hopper was shaken into the hole at the center of the grinding stone. The flour was collected in a bag in a pit at the side.

The wooden hoppers were often ornately carved and inscribed on one side, such as the example in Saint Paul's Monastery with a short three-line text carved in relief (Figures 23.8 and 23.9) naming of a group of men who may have been the donors and carpenters:

<i>Barakat ibn Habash</i>	Barakat, son of Habash,
<i>Nasrallah ibn Habash</i>	Nasrallah, son of Habash,
<i>awlad Zakaris al-fallahin</i>	The sons of Zakaris, the farmers.

The front panel of another example at Saint Anthony's Monastery is decorated with an elaborately carved interwoven pattern and has an inscription containing a short prayer dedicated by the carpenter (Figures 23.10 and 23.11):

Rab yusr wala ta'assur Rab tamam bi'l khair
'aml Jirjis Fakayus barak ya Rab
 Lord, grant success not difficulty, Lord. Completed as a charitable deed.
 [It is] the work of Jirjis Fakayus; bless [it] O Lord.

The number 287, written in Arabic numerals at the end of the first line in the upper left corner of the inscription

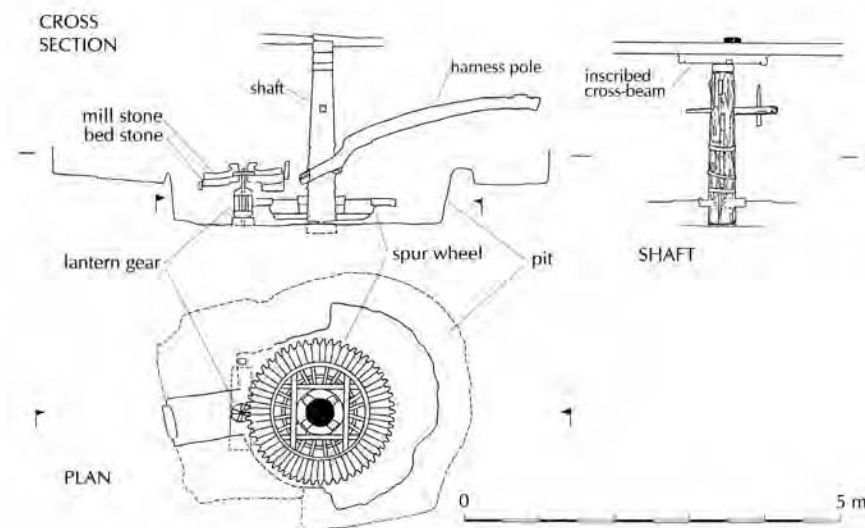


Figure 23.7. Schematic cross-section and plan of a typical mill, based on the eastern mill at Saint Paul's Monastery (Figure 23.6). Drawings by Angela Milward Jones and the author.

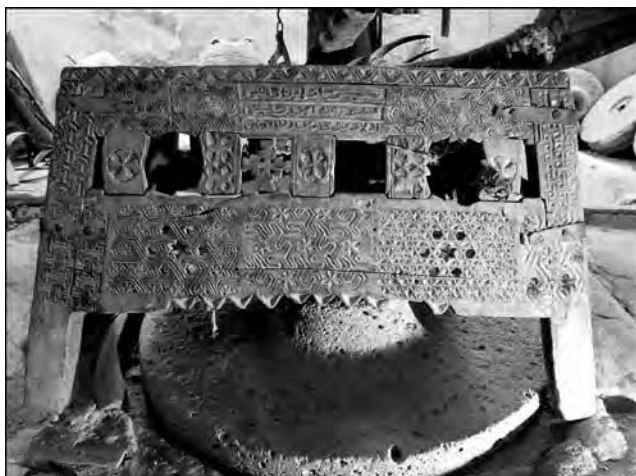


Figure 23.8. Carved wooden hopper over the millstone in the eastern mill room at Saint Paul's Monastery. Photograph by Patrick Godeau, ARCE 97-1130-17.

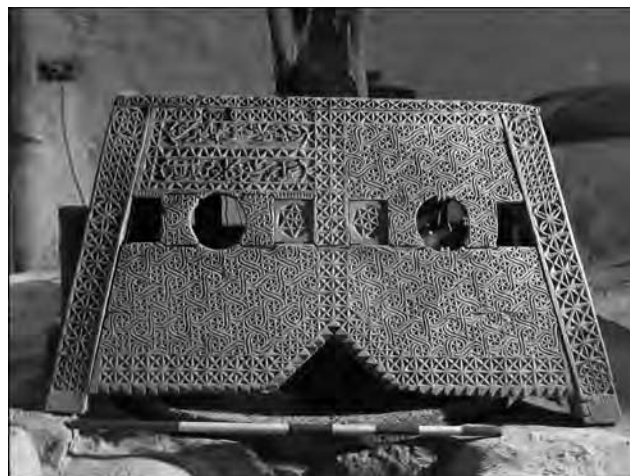


Figure 23.10. Carved wooden hopper in place over the millstone of the eastern mill at Saint Anthony's Monastery (scale = 1 m).



Figure 23.9. Detail of the inscription on the hopper at St. Paul's Monastery shown in Figure 23.8.

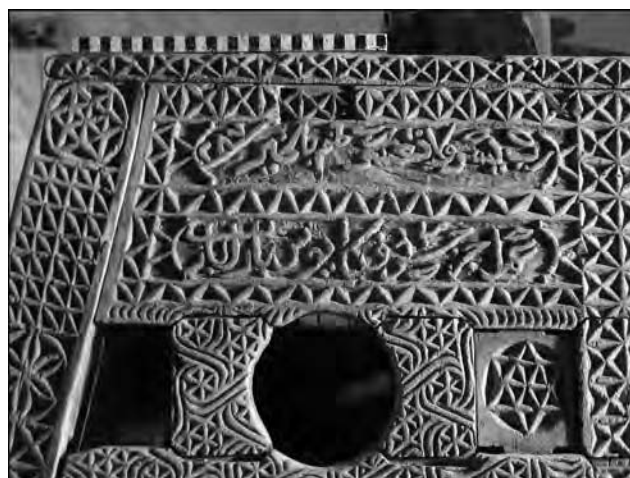


Figure 23.11. Detail of the inscription on the hopper in Figure 23.10 (scale = 30 cm).

may be a date representing a year 1287, as the long stroke under the numerals may denote the initial letter *sin* of the word *sana'a*, or 'year'. If this interpretation is correct, the most plausible reading would be 1287 in the Coptic Era of Martyrs (1571–1572 CE), although 1287 in the Islamic calendar (1870–1871 CE) might also be a possibility.

The bed stones of the mills are cut from slabs of quartzite that may have come from the ruins of the New Kingdom temple at Ihnasyah al-Madinah, close to the monasteries' lands at Bush, where quartzite was used for architectural fittings and statuary, and where there is clear evidence of extensive stone robbing (Petrie 1905: 5, 7, 10). Other *spolia*, reused architectural material at the monasteries (Kinney 2006), such as a black granite Corinthian column capital at Saint Anthony's

Monastery, reworked into a mortar (Figure 23.12), suggest an origin in Roman buildings in Fayum, perhaps at Ihnasya al-Madinah as well, and possibly even saved from disused churches. The grinding stones are all of vesicular basalt, which has been used for millstones in Egypt since Roman times. It does not occur naturally in Egypt and must have been imported either from the Eastern Mediterranean or from farther south in the Red Sea (Harrell 1996).

At Saint Anthony's Monastery both mills are in a single rectangular stone-built room with an adjacent stable for the horse (Figure 23.13); at Saint Paul's Monastery the original single stone-built room was subsequently remodeled in mud brick so that each mill is now in its own separate room with a corridor between them leading from the *diksar* to the kitchen and refectory



Figure 23.12. Millstones of quartzite (right) and basalt (left) and a broken spur wheel leaning against the mill building of Saint Anthony's Monastery (scale divisions = 10 cm). A mill shaft is lying on the ground flanked by a mortar (left), made from a Corinthian column capital, and an olive press (right), made from a red granite Pharaonic column base. Photograph by Patrick Godeau, ARCE 96-15-02.



Figure 23.13. Interior of the mill building at Saint Anthony's Monastery, looking east. Photograph by Patrick Godeau, ARCE 96-14-15.

(Figure 23.14). The mills at Saint Paul's Monastery were in use until 1973 CE when an electric mill was installed in a new building. Both the mills of Saint Paul's Monastery have inscribed cross beams, one of which, in the eastern mill room, records the date 1497 in the Era of Martyrs (1780–1781 CE). The inscription in the western mill names the benefactor Ibrahim al-Jawhari, another of the powerful and wealthy Coptic notables of the 18th century CE, known for his sponsorship for restoration of churches and monasteries in the 1780s (Figure 23.15). Although this beam could be a reused element in its present position, having been taken from

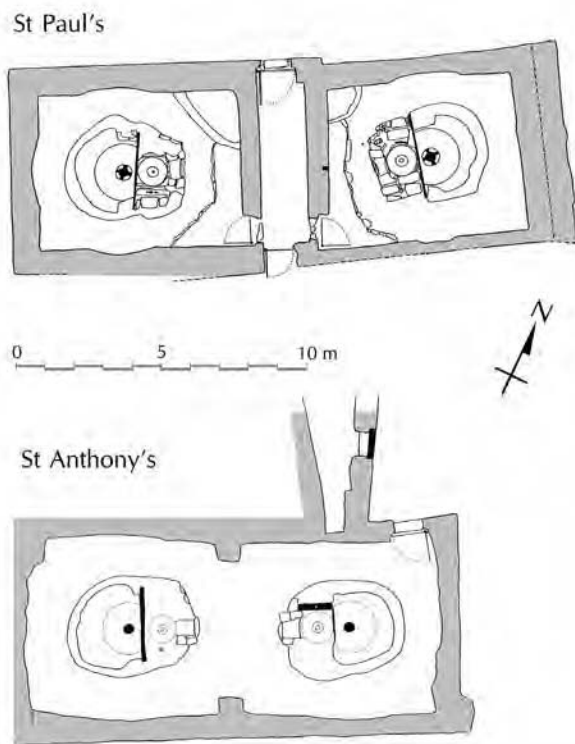


Figure 23.14. Plans of the mill buildings at Saint Paul's Monastery and Saint Anthony's Monastery. Drawings by Angela Milward Jones and the author.



Figure 23.15. Inscribed beam in the western mill at Saint Paul's Monastery. Inset: The left half naming Ibrahim al-Jawhari, Azza the carpenter and the master Nakhl al-Suwaifi. Photographs by William Lyster, 2005.

an older dismantled mill, it fits well enough to assume that it was originally placed in the same position in a mill of the same type donated by Ibrahim al-Jawhari. The inscription also states: "Remember O Lord your servant, the son of Bishara the carpenter." Bishara's son

is probably the 'Azza mentioned in the same inscription, "the builder of this building was 'Azza, carpenter to the Master Nakhil al-Suwaify" (Jones 2008: 131). Members of the same family were also apparently involved in the construction of the Church of Saint Mercurios in Saint Paul's Monastery, also supported by Ibrahim al-Jawhari, where the commemorative inscription on the lintel of the church door, dated 1780–1781 CE, tells us that the foreman was 'Azzar and the carpenters were Mikhail and his son, and Shenuda and Bishara of Beni Suef (Lyster 2008: 331). The pertinent mention of this group of craftsmen who participated in work in the monastery at Ibrahim al-Jawhari's expense, on two inscriptions dated in the same year, provides some insight into the monastery's human resources and their origins, particularly with the clearly stated connection with Beni Suef. This is further elaborated by the mention on both inscriptions of a priest, 'Abdu, who is described in the mill inscription as being "on the farm," probably referring to the monastery's lands at Bush in the province of Beni Suef, whence materials and personnel would have come for these construction projects.

In addition to the great wheat caravan, five more annual caravans crossed the desert to the monasteries and returned to Koraimat, coinciding with important feasts. The caravan leader carried an official letter, the *jawab al-qafilah*; literally the 'caravan letter.' These caravan letters all follow a set formula addressed to the bishop of the monastery, stating that the caravan is guarded by the Archangel Michael, listing the names of the caravaners, and providing an inventory of the consignment being transported. Typical of these are goats, donkeys, a horse for the mill, letters from relatives and food. Names of monks and others traveling to or from the monasteries are also listed. In the 1950s the camels were replaced by a lorry, which, a decade later was making the trip across the desert monthly. The same bureaucratic procedure continued, with the *jawab al-qafilah* accompanying the consignment containing the name of the driver together with the goods in his care.

Visitors and Pilgrims

Pilgrimage to both monasteries is attested sporadically from the 5th century CE onward (Starkey, this volume), beginning in about the year 404 CE with Postumianus, who visited Saint Anthony's Monastery and "the place in which the very blessed Paul used to live (Lyster 2008: 11; Swanson 2008: 43). During the Medieval

period western European visitors left their own pious dedications painted or carved on the walls of the monastery churches (Kraak 1997: 249-268). Many, such as Detlev Schinkel who carved his name and the date 1436 into the west wall of the old church of Saint Anthony's Monastery (Griffith 2002: 191-192), are known individuals whose peregrinations can be traced around the Mediterranean wherever the buildings they inscribed have survived. However, apart from these better-known international travelers, a steady but no less evident Egyptian pilgrimage also attended to the monasteries and the needs of the monks, as shown by the abundant graffiti, mostly in Arabic, that are written on the lower parts of the church walls in both monasteries (Griffith 2002: 185-189). Such visitors have always connected the monks with the world outside the desert and brought presents. One such gift was soil from the Nile Valley contributed by pilgrims as a devotional gift for Saint Paul. Over the centuries the monastery garden has thus accumulated some three meters of fertile soil in the desert area watered by the spring. In this way the now flourishing garden, which provided food for the monks and supported the *mirth* for the Bedouin, was physically enriched directly by the donations of pilgrims.

Until the early 20th century CE the only way to get to the monasteries was by camel and the caravans offered a relatively safe and reliable way to travel through the desert with the necessary guides and supplies. By 1930 CE visitors had started to arrive at Saint Anthony's Monastery in cars. Among the first were the members of the Byzantine Institute Expedition, led by Thomas Whittemore, whose caravan of cars was photographed parked inside the walls of Saint Anthony's Monastery (Bolman 2002: xxii, Figure 18). Several travelers described the arduousness of the journey in the monastery's visitor books, among them the architect Hassan Fathi who arrived by Oldsmobile on February 21, 1931, following much the same route as that taken by the camels. In the 1940s, King Faruq and Queen Faridah arrived by car from Suez and some 10 years later the first road was built linking Koraimat to Zafarana on the Red Sea coast, passing within 15 km of Saint Anthony's Monastery. A further indication that times were changing is recorded in the visitors book on December 6, 1955, signed by Capt. P.R. Zell, Cairo, TWA, Capt. W.F. Judd, Cairo, TWA, and Collette Judd. Against their names is written "First airplane to land at St. Anthony." Saint Paul's Monastery remained more remote well into the 1980s CE.

Today, the monasteries have become fully integrated into a wider social and political world in ways that have completely changed many aspects of monastic life and which put at risk the future preservation of much of the tangible and intangible legacy of the past (Angold 2006: 501-503). Nevertheless, like so much affected by globalization, the purpose and lifestyle of the monasteries are being reinvented as part of a continuous process of survival. This is no longer due to the difficulties of living remotely in the desert, but in response to an expanded definition and practice of the monks' traditions of hospitality and ministry. It is a consequence of the far-reaching effects of communications that began with the road system, increased with the development of Red Sea tourism and now reaches worldwide through the mobile telephone network and the Internet.

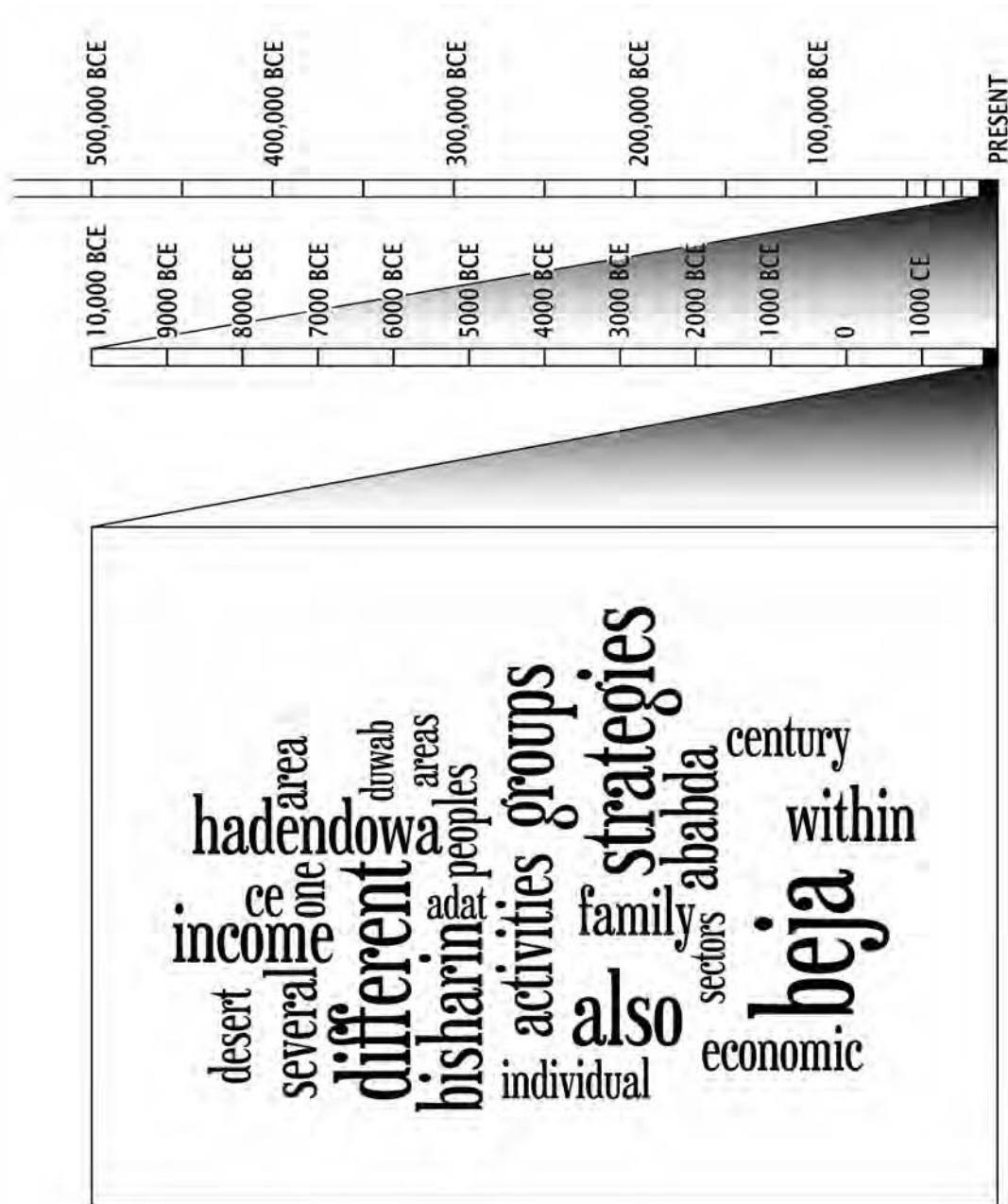
Large numbers of visitors come as part of a regular and well organized *rihla* (journey), a "modern form of pilgrimage" (Oram 2002: 204), quite distinct from traditional pilgrimages to the monasteries on feast days. In so doing they have introduced an innovative form of mobility to the contemporary desert. The *rihlat* take place on weekends, on national holidays such as 6th of October and during school vacations. The weekend trips typically begin on Thursday evenings when buses set off from the parishes throughout Egypt in order to get to the monasteries early on the first day of the weekend. By daybreak on Friday the crowds have arrived (Figure 23.16). They attend the Divine Liturgy celebrated by the monks in the monasteries' churches and then often make their own spontaneous worship, after which many of those at Saint Anthony's Monastery climb the steep path up to the Cave of Saint Anthony in the hills behind the monastery. Regular visits create a network of interconnections that support development in both the monastic and lay communities. Many of the visitors are young people. The brief release and relative freedom away from family elders and community pressures provides an atmosphere for introductions and friendships to develop and, according to Father Lazarus, engagements are common.

The mobile Coptic faithful who travel to the monasteries on these organized tours have replaced the caravans operated by Bedouin who once supplied the monasteries and provided the means for communication, exchange, commerce and social contact with the world outside the desert. As a result, the secluded desert monasteries described by travelers, which survived into



Figure 23.16. Dawn, Friday, November 14, 2008; vehicles bringing Coptic faithful to Saint Anthony's Monastery parked in front of the monastery walls.

very recent times, no longer exist. Much of the historic fabric is preserved and remains in use, but is now a reminder of a vanished asceticism rather than a normal form of everyday life. Only the services in the historic churches continue relatively unchanged. The ancient walled enclosures now resemble medieval villages at the heart of new towns spreading across the surrounding hills, an analogy particularly vivid at Saint Paul's Monastery. With the encroachment of modernization, the old life with its interdependence on Bedouin neighbors and integration into the desert environment has disappeared. The religious lives of the monks have been altered and those who wish to practice a rigorously ascetic regime must now seek more remote hermitages in the mountains away from the monasteries themselves, just as Saint Anthony moved to the site now occupied by his monastery seeking isolation to escape the crowds who flocked to him once it became publicly acceptable to visit Christian holy men some 1700 years ago (Chitty 1999: 6). Today the desert is no longer a separate world for the monks living inside the walls and monastic life in the wilderness has assumed symbolic significance as the former physical restrictions and hardships have diminished. Outsiders may view these changes as representing a rupture in the historic tissue that connects the present with the past, or as overlays that obscure the authenticity of the monasteries and endanger the heritage they preserve. Nevertheless, it is important to remember that while the monasteries have assumed new roles, transforming themselves to support new dynamics in Egyptian society, what is valued from the past will be preserved while that which cannot survive can still be preserved through recording and documentation.



Time line and word cloud for Petra Weschenfelder, *Towards Variability: Cultural Diversity in the Economic Strategies of the Beja Peoples*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 24



Towards Variability: Cultural Diversity in the Economic Strategies of the Beja Peoples

PETRA WESCHENFELDER

A CRUCIAL FACTOR FOR THE LIFE OF AGRO-pastoral nomadic groups is their economic adaptation to their specific environment. The adaptation of the Beja peoples to the marginal environment of the Eastern Desert, however, is not merely a question of ecological determinism. Beja peoples create a wide variety of strategies for income-generating activities in several sectors. This way they can quickly compensate for a partial loss of income. The determining factor for adaptation is not merely how quickly one can access alternative approaches to react on drastic changes. The long-lasting effects of the alternatives are also decisive, in particular if they involve long-term investments. Therefore, Beja peoples created institutions that organize and regulate activities. These institutions balance diverse strategies as well as access to specific areas. Institutions of individual Beja groups thus provide the means for their members to live in a particular region. Not only do the areas that the various Beja groups are occupying differ; their individual cultural backgrounds also provide different means to adapt to political or logistical changes as well as ecological constraints. Therefore, cultural variability among different Beja groups is a feature of this adaptation. This cultural variability provides the options for the individual decision-making of the Beja peoples.

The development of alternative strategies is decisive, not just for mere survival but also for living in the

Eastern Desert of Northeast Africa. This desert, between the Nile Valley and the Red Sea Coast, is occupied by the Beja peoples, although not exclusively. There are also Bedouin with different affiliations in the Eastern Desert and many Beja have settled in the Nile Valley (Krzywinski, this volume). Productive adaptation of the Beja peoples toward the environment of the desert covers a wide choice of different tactics. This economic variability enables them to access possible alternatives in case of temporary or long-term failure of one source of income. This is a necessity to avoid or overcome any crisis that could originate from a discontinuation of resources. This means that, apart from the involvement in the agro-pastoral sector, the Beja peoples create additional income from other occupations to avoid critical situations in case of drought. The variability of economic strategies beyond pastoralism referred to as multi-resource nomadism is a widely known feature of nomadic societies (Salzman 1971: 186). Yet, this ability to change the basis of their economy is obviously marked by ecological constraints and geographical accessibility for members of different Beja groups. Despite these constraints a great diversity of planning towards income-generating activities exists between and within Beja groups. Their range of choices follows major trends marked by cultural traditions and sociopolitical strategies. Individual tactics aiming at personal goals are decisive factors as well. With additional income Beja people balance a main occupation in one sector by using

other sources to acquire products from another sector. This involves tactical planning beyond the savings for droughts. Therefore, activities diverge even within a single Beja group.

Several institutions on different levels back these approaches, regulate necessary interactions and balance their effects. The resulting cultural variation and its effects are demonstrated by data concerning viable activities during and after the severe drought that hit northeastern Africa in the 1980s. Several droughts with differing duration and effects on the Beja peoples occurred in the 20th century CE (Hjort-af-Ornas and Dahl 1991: 152-165; Krzywinski and Pierce 2001: 92-93; Fadlalla 2007: 30-33; Barnard 2008: 87). This chapter focuses on the consequences of the ecological crisis in the early 1980s because their effects were intensely studied. These data are compared with information obtained from studies of the 19th century CE. Through this comparison long-term strategies of different Beja groups are extracted. This shows how these strategies provided means to compensate for a failure or the abandonment of one income-sector. The economic approaches of three major Beja groups will be analyzed, including those of the Hadendowa, the Bisharin and the Ababda. General information about the Beja peoples and these individual groups will be presented alongside the most important sources. The variety of economic strategies among these groups will be another topic of discussion.

The Beja Peoples

Most of the agro-pastoral groups occupying the Eastern Desert between the Nile Valley and the Red Sea are collectively referred to as Beja. Sudanese Beja groups occupy the Red Sea Province in Eastern Sudan, which comprises three main regions. The Gwineb is a coastal plain with a salt marsh strip and a semi-desert strip. The Red Sea Hills, in a line roughly parallel to the coast, are rising up to 1500 m above sea level. The Tamarab, a plateau with scattered hills and shallow valleys (*wadis*) with occasional rivers (*khors*) that extends west of these hills towards the Nile Valley (Clark 1938: 2). Within these areas the climate varies with the rainfall. In the coastal plain winter rains prevail, yet only in limited quantities, while the Red Sea Hills catch a greater quantity of winter rainfall. The plains west of the hills receive summer rains. The surface drainage system of the Red Sea Hills divides the area. The wadis west of

the hills carry the rains through the plains towards the River Nile. East of the hills the rain water is transported to the Red Sea. Throughout the rest of the year the dry climate prevails. The vegetation mainly consists of drought-resistant and drought-avoiding species. They are supported by the fluctuating rainfall in the rainy season. These species greatly vary within the three outlined areas (Abdel-Ati *et al.* 1996: 42-58). The different areas thus provide different conditions for pasture. Animal husbandry and herding strategies have to be adapted to the various circumstances. The main animal species raised are sheep, goats and dromedaries, and some areas can also support cattle. These species greatly differ in their needs for water and fodder, but also in their exploitability and market value.

Traditionally the Beja peoples migrate following a seasonal pattern (Sadr 1987; Barnard 2008: 12-13). On the one hand these seasonal movements are marked by the search for pasture. On the other hand they follow the gathering and harvesting possibilities in the desert valleys. Apart from these sectors, Beja groups generate additional income in wage labor. But several instances in the recent past led to a prevailing trend of sedentism of the Beja peoples in general. Such developments were accelerated by the effects of several droughts that occurred in the last century (Krzywinski and Pierce 2001: 92-93; Barnard 2008: 87). Efforts by the central governments of Egypt and Sudan towards logistical and economic development of their area also affected the Beja groups. The major Beja groups are the Beni Amer, in the south towards and into Eritrea; the Amara, occupying the area around Port Sudan; the Hadendowa, living in the area from Sinkat towards the Gash Delta¹; the Bisharin, living just south of the border between Egypt and Sudan; and the Ababda who are their northern neighbors living in Egypt (Figures 24.1 and 24.2; Wilkinson 1835; Murray 1935; Paul 1954; Krzywinski and Pierce 2001; Wendrich 2008; Barnard 2009).

Apart from their traditional occupations within the agro-pastoral and pastoral sectors, the main common feature of these groups is their language. Tu-Bedawie, a Cushitic language, is the mother tongue of many

¹ The Gash Delta is approximately 100 km north of Kassala in Sudan. It was developed by the Kassala Cotton Company in 1926, but taken over by the British government in 1928. By 1979 castor oil replaced cotton as the main product. Since 1983 the main crop in the Delta is sorghum (*durah*, *Sorghum bicolor*; Abdel-Ati 1996: 110).

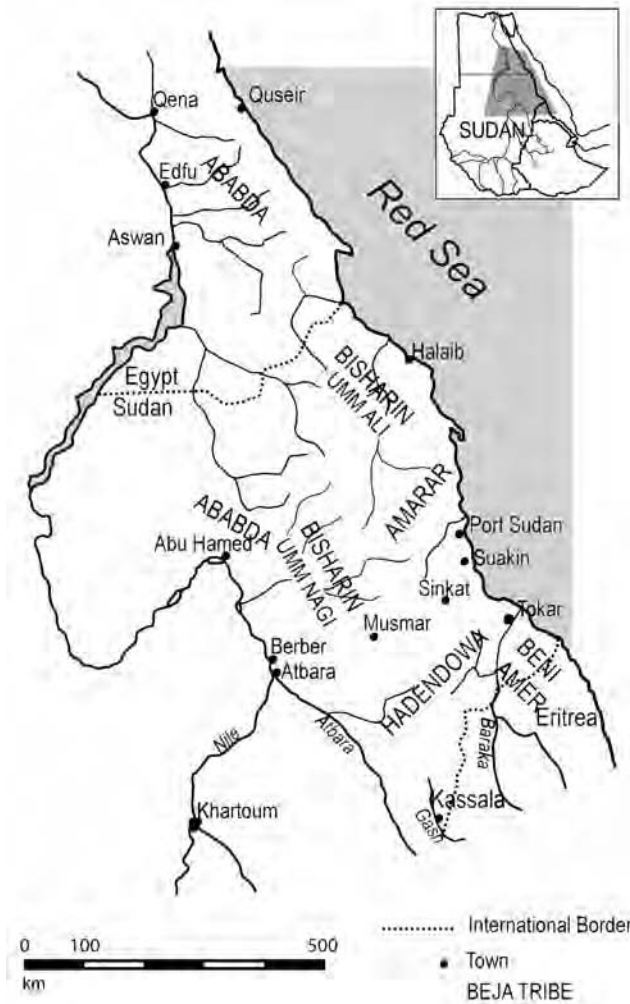


Figure 24.1. Map of the southern part of the Eastern Desert showing the approximate territory of the major Beja tribes. Adapted from Streck 1989: 109.

Beja, although many Beja in the south speak Tigre and others in the north speak Arabic. The cultures of the different Beja groups vary strikingly, as these are influenced by the areas that they occupy, the peoples they have encountered during their histories, their traditional systems of reference, their economic strategies, and so on. Nevertheless, the different Beja peoples are not separated from each other, but perform intertribal interactions. The Ababda are closely interrelated to the Bisharin by intermarriage (Murray 1923: 418). There are also common features of Beja life that several groups share. The Bisharin and the Ababda annually celebrate the Eid al-Kebir (the Big Feast), a festival at the tomb of Sheikh Shadli in Wadi al-Sheikh in southeast Egypt. Shadli, the reputed inventor of coffee, died in Wadi al-Sheikh on his way back to Morocco after a

pilgrimage to Mecca (Murray 1923: 422). Shadli is celebrated by both Beja groups because to prepare and drink *jabanah*, the main ingredient of which is coffee, is a major element of social interaction from the family level up to the intertribal level (Racy 1996; Baram 1999; Krzywinski and Pierce 2001; Barnard 2008; Wendrich 2008: 517-520).

The Hadendowa Beja live in the area from Sinkat towards the Gash Delta. The Hadendowa groups claim to descent from legendary ancestors named Barakwin and Hadat. Members of different lineages or *adat* (literally ‘branches,’ also referred to by the Arabic *qabila*, Fadlalla 2007: 181; Wendrich 2008: 512-514) claim ancestry from one of the seven sons of this couple and their descendants. An *adat* is further divided into *duwab*, sublineages that consist of different *dua* (camp clusters). Closely related people live in such camp clusters. This segmentary lineage system is the base of the tribal organization and is also true for other Beja groups. The main difference being in the ancestors from whom they claim to descend. Different lineages claim traditional rights to the region, which consists of two zones. One provides pastures within the hills. The other provides farmland and grazing grounds in the coastal area. The Hadendowa groups raise sheep, goats and dromedaries; some groups farther south also breed cattle. Cultivated crops include cereals, especially *durah* (*Sorghum bicolor*), and vegetables, mainly for subsistence. Cash crops such as cotton are also grown for market sale.

The Bisharin occupy the southern part of the Atbai, which is the area between the modern Qena-Quseir and Berber-Suakin roads (Krzywinski, this volume). In the past these were the main routes for the caravan trade; today they are major asphalt roads that connect the Nile Valley with the major harbors on the Red Sea coast. The southern part of the Atbai is inhabited by the Bisharin Umm Ali, one of the two major lineages of the Bisharin. The other lineage, the Bisharin Umm Nagi occupies the area east of the Atbara River. The area consists largely of desert, yet with fertile and even wooded valleys. In these valleys water can be available less than half a meter below the surface, especially towards the east. Depending on the season and the amount of rainfall, the valleys provide pastures or arable land (Gleichen 1905: 86; Krzywinski, this volume). The Bisharin tribal organization is marked by a segmentary lineage system. Their main branches, the Bisharin Umm Ali and the Bisharin Umm Nagi claim to originate from the wives

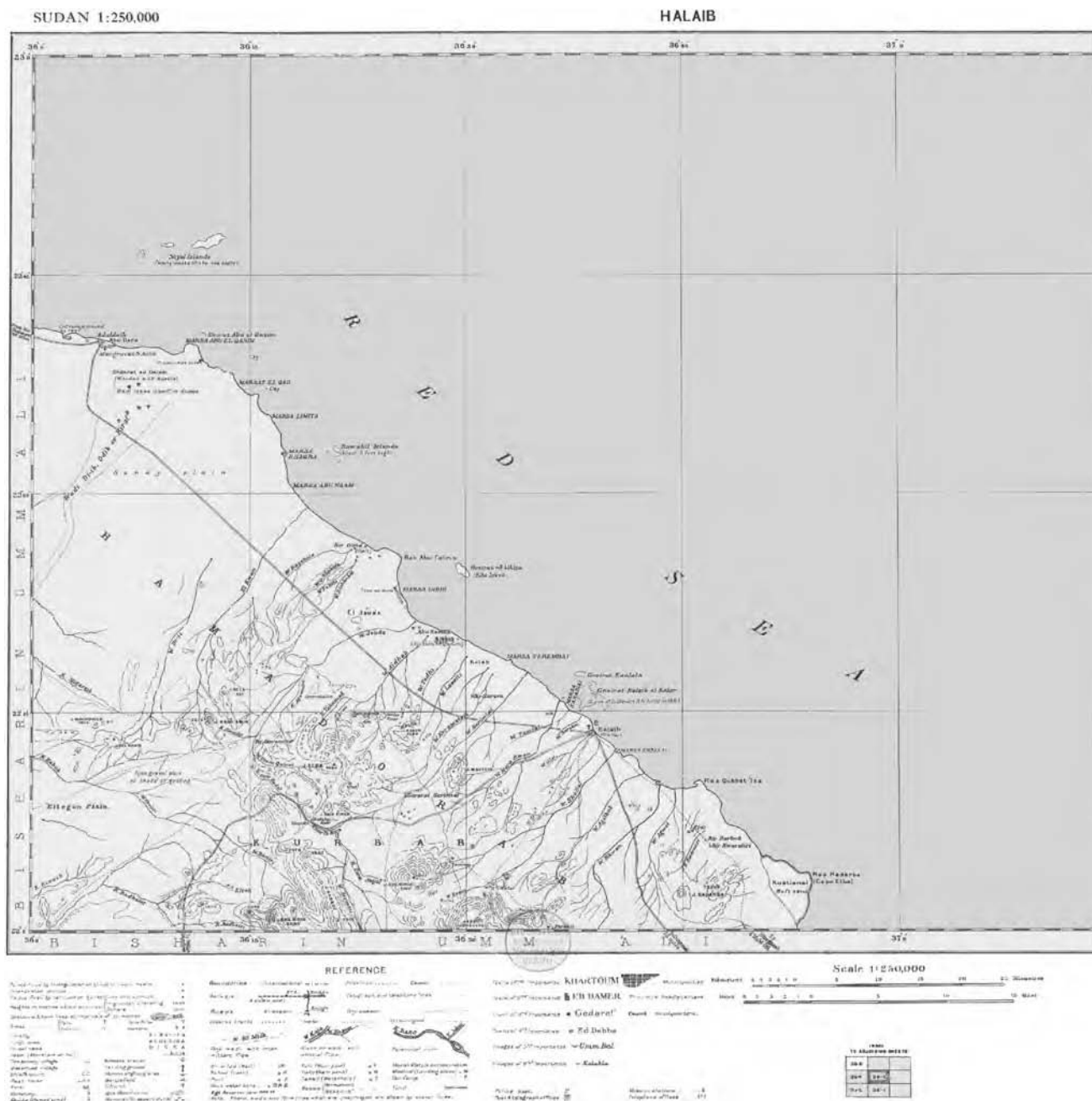


Figure 24.2. Map of the Red Sea coastal area around Halaib (surveyed and drawn by the Sudan Survey Office 1935), the territory of the Bisharin Umm Ali. Courtesy of the Staatsbibliothek Berlin.

of Ali Janan, great-grandson of their legendary ancestor Bishar. Further subdivisions of these branches are said to descend from the eight sons of Janan. The different branches of the Bisharin claim rights to defined areas within the southern Atbai. Within the constraints of their areas, they raise sheep, goats and dromedaries. In the coastal area they mainly grow cereals (Sanders 1933: 120).

The Ababda groups occupy the northern Atbai, between the Qena-Quseir asphalt road and the

Egyptian-Sudanese border to the south, with the Bisharin as their southern neighbors. One adat, the Meleikab, lives in the Berber region of Sudan (Figure 24.1). They had probably moved there before the 18th century CE to get involved in the caravan trade between Abu Hamed and Aswan (Sanders 1933: 146). The Ababda are widely connected to the Bisharin and the Amamar through intermarriage. The Ababda claim to descend from Abad. He was the son of Zubayr bin al-Awwam, one of the first followers of Mohammed. Through his father's and his

mother's line, Abad was related to the prophet (Nielsen 2003: 78f). The Ababda annually assemble at his tomb in Wadi Abad, near Edfu. The Ababda speak an Egyptian Arabic dialect mixed with Tu-Bedawie vocabulary (De Jong 2002). Economic developments since the late 19th century CE led to a trend of sedentism. This trend was facilitated by developments in irrigation in the upper Egyptian Nile Valley. This attracted members of the Fuqara and Milikab subgroups to the west bank where some actually were granted land for their supportive role as scouts in the Anglo-Egyptian Army against the Mahdists (Nielsen 2003: 81). A contemporary trend of sedentism prevailing on the east bank of the Nile is on the one hand supported by the permanence of water, due to the construction of the Aswan High Dam and accompanying medical installations. On the other hand it was provoked by the ecological crisis of the 1980s CE, which caused the loss of substantial amounts of herds. The trend was further supported by the Egyptian government through the establishment of schools and other social services (Cappers 2006: 38).

The Sources

A recent comprehensive study of Beja life is the main source of information for this chapter. The Red Sea Area Program (RESAP) analyzed the economic strategies of the Hadendowa Beja. RESAP focused on their tactics during and after the ecological crisis that hit northeastern Africa during the early 1980s.² A synopsis of the economic data collected within this program was published by Manger *et al.* 1996. Its detailed interdisciplinary analysis of Hadendowa income-generating activities will be considered here. Further studies resulting from this program (Vågenes 1989; Fadlalla 2007) focus on gender roles and their change during the drought, among other aspects. These are considered as far as they refer to economic strategies. For a comparison of such strategies with those of the recent past, studies of the 19th century CE will be taken into account. These are provided as reports of the British colonial administration and accounts of scientific travelers.

Sources from the British colonial administration reflect on different aspects of the different ways of life

² The Red Sea Area Programme (RESAP) was a joint project of the Universities of Khartoum (Sudan) and Bergen within the Norwegian development assistance program Environment and Development in the Sahel-Sudan-Ethiopia Countries.

of Sudanese peoples. In this chapter, three types of these sources will be used. Administrative data was collected to equip government officials with information about the peoples living in certain areas. Their commercial activities, social habits and political affiliations were documented by several officers and administrators. These reports were summarized and edited by Major-General Albert Gleichen in a publication that contains detailed information on Sudanese life around the turn of the 19th–20th century CE (Gleichen 1905). Intelligence of the geographical outline, the industrial and productive potential, and the political division as well as the climatic conditions in Sudan was published on 1:250,000 maps by the Sudan Survey Department. The third source from the colonial era is *Sudan Notes and Records*, published from 1918 onward. This journal contains information on various scientific topics. Colonial officers and scholars published articles on history, archaeology, sociology, anthropology and ethnography of the peoples in Sudan. They also discussed questions of economic, political and ecological developments in various regions of the country. Several articles from the 1930s provide insight into aspects of the Beja economy in this period.

Sudan was not only the focus of administrative research. By the end of the 18th century CE, European scholars started to show interest for the African continent and during the 19th century CE, Africa was under systematic scientific investigation. Reports of several expeditions, for instance Heinrich Barth's expedition to North Africa and Theodor von Heuglin's expeditions to northeastern Africa and the Polar region, were published in *Petermanns Geographische Mitteilungen*. Next to recording data within their own scientific fields, these scholars recorded a variety of other details. Georg Schweinfurth, for instance, not only collected zoological information, but also collected comprehensive information on the Ababda economy in the 1860s (Schweinfurth 1925). Carl Klunzinger, a zoologist and physician who specialized in tropical diseases also provided details of Ababda life in 1878 (Klunzinger 1878b, 1878a).

Ababda Variable Strategies in the 19th Century CE

Economic variability and the quick development of new occupational sectors is an important factor in the adaptation to marginal environments. Such a variety is by no means an invention of the 20th century CE. In

times past the Ababda already conducted different sorts of activities in various sectors. This is demonstrated by the developments during the late-19th century CE. Up to the end of 19th century CE, important sources of income beyond the pastoral or agro-pastoral sectors lay in long-distance caravan trade. Within this sector there were manifold options for gainful employment. One major caravan route through the Eastern Desert started in Qena in the Nile Valley and ended in Quseir on the Red Sea coast. The Ababda close to Quseir incorporated the advantage of this location into their income-generating activities. In addition to their occupation in the pastoral sector they were involved in small scale trade. In town they sold drinking water, milk, butter, meat and fuel such as charcoal and dromedary dung. They also went out fishing and collecting other sea products (Schweinfurth 1925: 17).

Some Ababda adat, sometimes referred to as Schora-Ababde (Klunzinger 1878b: 254), lived near the mangrove forests in the coastal region having their dromedaries browse the mangrove trees. These Ababda generated additional income by selling wood and catching fish that they sold salted. Other Ababda groups farther in the Eastern Desert mainly lived on animal husbandry. Additionally, they sold fuel materials, herbs and gum arabic, and provided services to the caravan routes, such as selling provisions or tending the pack animals but also by safeguarding the routes (Klunzinger 1878b: 256; Sidebotham *et al.* 2002: 222). Some were directly involved in the caravan trade as guides, guards or the guardians of animals. It remains unknown when they started to be involved in these occupations. First modern references to nomadic groups in the Eastern Desert were made in itineraries of Christian travelers.³ At the end of the 16th century CE, unspecified northeast African groups of the desert were still feared by Christian travelers for capturing visitors on the Red Sea coast and selling them into slavery (Sommers and Elisium [Martin Mayer] 1664: 43). In the 1670s CE subtribes of the Beni Ouasal, who lived in the Eastern Desert near the Nile Valley, provided the caravan supplying the monastery of St. Anthony. Groups of Ababda attacked the guides of those caravans because the Beni Ouasel were their enemies. Yet the Ababda left them to deliver the 55 dromedary loads of food and other supplies to the monastery before their attack. So it seems as if it was in their interest that the monastery got its supplies (Wansleben [Vansleb] 1794: 203; Starkey,

³ See Weschenfelder 2012 for a discussion of Beja groups in the Early Islamic Period.

this volume; Jones, this volume). About forty years later conflicts between these groups prevailed as was again stated by monks at this monastery (Sicard 1799: 140). The Beni Ouasel lived north of the Ababda in the Eastern Desert adjacent to the Nile Valley around Qena where the caravan route to the Red Sea started apparently at least until the 1820s CE. Yet during the 1820s CE, the Ababda nevertheless already worked as caravan guides for merchants as well as for tourists (Rifaud 1830: 102, 204). In that time the Ababda were holding a monopoly in caravan service for two major routes—one connecting the Egyptian Nile Valley with the Egyptian Red Sea coast and another between Korosko at the Egyptian-Sudanese border and the bend in the Nile near Berber (Rifaud 1830: 102; Lepsius 1852: 120). People directly involved in these services had a comparatively stable income. Several Ababda took advantage of new logistical developments and worked as dromedary riders for the companies in charge of the telegraph (Klunzinger 1878b: 256), or as guides and consultants in the Egyptian Desert Survey (Murray 1967: 44). Ababda engaged in the army, such as the Bedouin cavalry of the Turkish army in the 1820s CE (English 1822: 1), or as already pointed out as scouts in the Anglo-Egyptian army (Nielson 2003: 81). Ababda adat living in the western part of the Eastern Desert created additional income in the Nile Valley where they temporarily worked as farmers and laborers. Some even permanently settled there as farmers in small villages where they kept to themselves (Klunzinger 1878b; Krzywinski and Pierce 2001). These examples show the various ways that Ababda groups adapted not only to the ecological conditions of their immediate area but also to the intercultural contacts and logistical development of the times.

Involvement in the caravan trade was a complement of Bisharin income strategies as well. Prior to the 19th century CE, their engagement with caravans seems to be mainly based on their raiding them (Bruce 1790: 147). In the 1840s CE those Bisharin living in the inner parts of the desert were still feared by the travelers. Yet the groups living near the Berber region organized caravans and led them to Suakin (Combes 1846: 258; Mallinson, this volume). The same is true for the opposite direction where Bisharin men guided caravans of travelers accompanied by Turkish soldiers from Suakin to the Nile Valley (Bourchier 1834: 23; Mallinson, this volume). Guides of these caravans were perfectly familiar with the Arabic language, which facilitated their communication with the travelers (Combes 1846: 266). Providing

services to the caravan by selling water, milk and meat to the travelers meant an additional income for Bisharin agro-pastoral families, as mentioned before for the Ababda. The travelers traded these services and goods for items they brought along for this purpose, such as salt and tobacco (Pretyman 1892: 21), as well as grain and cloth (Bourchier 1834: 23, 28). Money was often necessary, however, for families to obtain grain in the Nile Valley. Some Ababda individuals went to the Nile Valley to buy grain that they then transported to different Ababda desert camps to trade for money or dromedaries (Belzoni 1820: 327).

Developments in the Early 20th Century CE

By the end of the 19th century CE, the caravan trade dwindled and eventually disappeared as a viable source of income. This development was accelerated by the construction of roads and railways through the desert by the British colonial administration. The Beja followed different strategies to adapt to this development. The Hamadorab of the Bisharin got into close contact with the Sudanese government at Halaib. Several members of this adat worked in the police or in the coast guard service since the turn of the 19th–20th century CE. Other individuals of this adat were engaged in breeding sheep and dromedaries that were known for their good quality. These they sold at the markets of Aswan or Daraw. With the logistical development of the area they started to also use the markets of Port Sudan and further north in Egypt (Sanders 1933: 145), thus greatly extending the range of their trade. The Gare'ib, an adat of the Hadendowa, profited from its proximity to Port Sudan. As this harbor city developed they engaged in its construction. They worked in railway construction and in the harbor. Today they are regarded as the most educated of the Hadendowa, being qualified as teachers, mechanics and drivers. This enables them to find work in different cities and only a few of them are currently involved in the agro-pastoral sector (Manger 1996: 142). In these ways several adat of different Beja peoples profited from the immediate effects of the logistical development of the Eastern Desert.

Other groups found other sectors to engage in. While the caravan trade grew less and less important, another sector opened up. A major commercial development that started in the Sudan during the British colonial period was the development for agriculture of the Gash Delta and the Tokar region. On the one hand this diminished the grazing areas of the Hadendowa. On the other hand this

development extended their options from the cultivation of grain for personal use towards the cultivation of grain and plants such as cotton as income-generating cash crops (Vågenes 1989: 23). Potential within this sector was not restricted to the growing and selling of cash crops, as illustrated by the example of the Jamilab discussed below. Their involvement as mediators in the trade ensured lasting profits. At first the Hadendowa were less engaged in agriculture. They apportioned their activities in favor of the pastoral sector. A man herded his animals in the Gash Delta in December, picked cotton in Tokar in February and moved into the Red Sea Hills to collect nuts for market sale in May. At first the farming in the newly developed areas was mainly done by West Africans. In the 1930s, however, 75% of the laborers in the Gash Delta were Beja laborers, 55% of them (more than 40% of all laborers) Hadendowa. This was a time when the cultivation of sorghum had already increased by about two thirds (Owen 1937: 207). Since then these trends have continued, further accelerated by the drought during the 20th century CE when the herds decreased forcing the Hadendowa to compensate their losses by engaging in sectors other than animal husbandry.

Cultural Variability in Economic Strategies

As discussed above a wide choice of alternative strategies is a decisive feature for economic survival. Peoples living in desert areas must be able to quickly choose among new income-generating occupations when others are failing. When options involve long-term investments, however, the sustainability of the alternatives is crucial. An analysis of the recent strategies that different Hadendowa lineages used during the ecological and economic crisis at the beginning of the 1980s demonstrates this (Manger 1996: 142-149). The Jamilab is the largest adat of the Hadendowa. By the mid-20th century CE they accepted the ideas of Ali Betai, one of their own, who founded a new Sufi religion. He formulated alternative strategies in the learning of the Quran and the spreading of the faith. This was combined with commercial activities and a neglect of animal breeding. Thus, his followers could profit from the cotton trade without being involved in the cultivation itself. The cotton was bought in Eritrean harbors at higher prices than by the government of Sudan. The trade routes of cotton from the Gash Delta and the Tokar region passed through the Jamilab area. They built commercial posts with mosques, connecting trade interests with religious

zeal. Successful traders became active as sheikhs. They now hold prospering Quran schools that are visited by other Hadendowa adat, other Beja groups and even by Beni Amer, their traditional enemies. In their center the Jamilab have a hospital as well as a veterinarian clinic.

Men of the Shera'ab, the second biggest adat of the Hadendowa, traditionally migrated from the Red Sea Hills into the Gash Delta during sowing and harvest times. Their families remained with the herds in the main camps in the mountains. When the Gash Delta was developed for large-scale agriculture, the Shera'ab shifted their center to their Gash territory. When still engaged in the agro-pastoral sector, they now set out from there towards the pasture area during the rainy season. Because their Gash territory is close to the region's biggest market in Waggar, many Shera'ab are now mainly involved in trade. Other Shera'ab found jobs as guards, either locally or in Port Sudan, and many Shera'ab have permanently settled. The semi-settled remainder of the adat do not have many animals, but work in the fields from August until January and produce and sell charcoal the rest of the year.

The Beshari'ab with their centers south of Sinkat and in the northern outskirts of the Gash Delta mainly bred sheep and dromedaries. In the past this yielded high profits. They are traditionally less involved in the commercial sector, as their area is rather remote from larger markets. This is the main reason why the Beshari'ab were severely hit by the decline of the herds during the 1980s. Due to their manifold activities within several sectors the Shera'ab as a group were less affected by this crisis. The same is true for the Gare'ib who engaged in various activities in Port Sudan and for the Jamilab who, by following a charismatic leader, could sort out different strategies in the sectors of trade, education, religion and policy. The proximity to markets appeared a decisive factor for the accessibility to potential economic sectors. This became a crucial point for getting through the crisis relatively unharmed. By now, many Beshari'ab families have moved to Waggar, in the northern Gash Delta. There they live in the suburbs and engage in the low-wage sector to try and gain a foothold in a greater variety of income-generating activities.

Sociopolitical Institutions to Balance Economic Variability

Restricted access to specific areas can be balanced by the choice of animals to breed and crops to

cultivate, or by favoring other activities suitable for the setting. These restrictions are further balanced by the interactions between the different duwab (Harir 1996). Sociopolitical authorities regulate the intra- and inter-lineage interactions on different levels. Political and economic questions within the duwab are negotiated by a sheikh who is also its political leader. An *omda* (mayor) regulates such interactions within a lineage as he is leading the lineage. For decisions that concern several adat the *nazir* (chief) is required, the political leader of all lineages. Justice is upheld according to *urf*, the body of traditional right, and *shari'a*, Islamic law, in which *urf* is usually preferred. Landuse rights and access regulations are based on *urf*. These regulations decisively influence the political relations of different duwab. Members of a duwab claim access rights to the resources of the land. This right is called *asl* and differs from *amara* right of use that non-members can achieve by contracts (table 24.1). Non-members can work the land of another duwab by giving part of the harvest to the duwab that owns the land. The rent can be as high as 50–80% of the crop. The amount depends on many factors, including whether members of the lending duwab reclaim the land for farming by removing roots and stones, or whether this task is carried out by the renting duwab.

Table 24.1. Glossary of important legal and social terms used by the Beja.

Local Term	Rough Translation
<i>adat</i>	lineage
<i>amara</i>	access to resources obtained by contract (see <i>asl</i>)
<i>asl</i>	inherited right of access to resources (see <i>amara</i>)
<i>dangit</i>	charitable lending of a herd of which the products may be kept (see <i>tait</i>)
<i>dua</i>	camp cluster
<i>durah</i>	<i>Sorghum bicolor</i>
<i>duwab</i>	sublineage
<i>durareit</i>	code of honor
<i>Eid al-Kebir</i>	yearly festival at the tomb of Sheikh Shadli
<i>jabanah</i>	hot drink of coffee, sugar and spices
<i>khor</i>	occasional river
<i>nazir</i>	chief
<i>omda</i>	mayor
<i>sakanab</i>	greeting ritual involving the exchange of information concerning conditions in distant areas in term of pastures or wages
<i>salif</i>	continuation of the traditions of the forefathers
<i>shari'a</i>	Islamic law
<i>tait</i>	charitable gift of a herd and its products (see <i>dangit</i>)
<i>Tu-Bedawie</i>	the Cushitic language of most of the Beja
<i>urf</i>	the body of traditional rights
<i>wadi</i>	valley, river bed

Amara rights of use are often long-term agreements. Sometimes a hiring lineage calls upon these long-term leases to demand changes to the land, which the lending duwab might or might not be willing to allow. This can even lead to armed conflicts that are regulated by one of the political authorities mentioned above. Such social interactions of different duwab balance the different sectors of income among the Hadendowa. Similar relations probably regulated interactions among the Bisharin in Wadi Diib around the turn of the 19th-20th century CE. Wadi Diib is the most important valley in the eastern Atbai. It ends in an open basin in which rich sorghum cultivation is possible. The map of Halaib shows that this basin also features acacia forests (Figure 24.2). Closer to the salt marshes grow mangroves. This area therefore provides ample grazing capacity. The Shantirab lineage of the Bisharin Umm Ali owns part of the country. In good years, however, they lease it to the Amrab and the Belgab, other Bisharin Umm Ali groups (Gleichen 1905: 87). The Belgab were mostly involved in animal husbandry as their hills provided good pasture and they cultivated to a much lesser extent than the Shantirab (Gleichen 1905: 87). The Hamadorab also possess arable land in Wadi Diib, though they are not engaged in cultivation themselves (Sanders 1933: 145). Although the specifics of the regulating entities are not mentioned in the descriptions, conditions of these interactions presumably were not less complex than the example of the Hadendowa discussed above. This is already suggested by a traveler's account from the mid-19th century CE that describes Bisharin access regulations to wells (Combes 1846: 287). Balancing strategies among different economic sectors and regional conditions were already important matters in the past.

Sociopolitical Institutions Controlling Economic Strategies

Among the Beja peoples sociopolitical institutions not only balance different activities, but hold the power to enforce cultural values. Members of a duwab with long-term agreements to use the land of another duwab by amara rights can demand certain changes on this land. Such demands will be considered by the political institutions of the lending duwab. Within these considerations, cultural values are important. A borrowing duwab has to ask for the permission to remove a tree from the land in order to increase arable land. Recently such permissions have been declined. With their leaves

and branches, trees provide browsing for goats and dromedaries (Anderson, this volume; Krzywinski, this volume). They are also a symbol for nomadic animal breeding. To remove them in favor of agriculture would mean to favor agriculture (Harir 1996: 87). Similar debates emerged among the Amara after the crisis where people having lost their herds preferred to cut down trees to use the land for planting millet, while others being able to restock their herds insisted on saving them (Hjort-Ornas and Dahl 1991: 168). These considerations could be read into these decisions, especially as they reflect the conditions after the ecological crisis of the 1980s CE.

It can be debated, however, whether such decisions against the background of this crisis exemplify strategies in normal times. It could turn out to be a countermovement against another trend that prevailed during that period. The growing urbanization of the Beja led to an increased demand of charcoal in the towns and suburbs (Krzywinski and Pierce 2001). In the past a short-term increase of such demand could be accommodated by the use of dromedary dung as substitute fuel (Klunzinger 1878b: 252, 254). Nowadays dromedary dung is less popular and also less easily obtained due to the loss of dromedaries. The Hadendowa used this increased demand in fuel as a source of income, not only during the crisis but also afterwards. Traditionally they acquired the necessary wood to make charcoal from dry brushwood and dead branches. The increased demand and their personal need for income during the crisis led them to massively overexploit their resources by killing living branches of acacias (Krzywinski and Pierce 2001). These, however, offered an important food resource for livestock. The circle of the sustainable resource management was thus broken, making the rebuilding of the herds even more difficult (Harir 1996: 87). During a crisis and its aftermath, cultural values could sometimes be disregarded as the system of social reference fails. Nevertheless, as an example of Bisharin economic tactics from the 1930s shows, the use of living branches is known in the past as well. One important industrial activity of the Bisharin was the tanning of hides for sale in Upper Egypt. For this activity the Bisharin cut off branches of the *arad*, an acacia species, which they then left to dry for further use in the tanning process (Clark 1938: 24). Thus the living branches were cut disregarding their potential to provide browsing. The safeguarding of trees among the Hadendowa could be interpreted as an ideal cultural value that is reinforced as a temporary countertrend against

prevailing overexploitation of resources. It shows that sociopolitical institutions not only balance major long-term occupation, but also intervene in short-term trends.

Decision Making towards Economic Strategies on Individual Levels

Sorghum cultivation is of great importance to Hadendowa groups, especially as durah porridge is their principal daily food (Harir 1996: 87; Barnard 2008: 87). The cultivation of sorghum is at present not only a sector with which additional income is generated, but it covers the immediate sustenance of the Hadendowa. Nevertheless, many members of an adat are not involved in agriculture. Traditionally, the Samarandiwab are occupied in the religious sector, and the Wailiab in the political sector. To illustrate their competence in these offices they refer to the abilities of the mythical founders of their respective lineages, who were distinguished in these sectors (Owen 1937: 184). The involvement of adat members within certain employment sectors, in their specific locality, has often grown over time. Within these adat, especially when involved in a variety of sectors including the agro-pastoral, other individuals decide their strategy according to their own personal goals (Harir 1996: 89). As animals are in the possession of a family, herding strategies are a matter of almost individual decisions. Herding activities require the consideration of regional conditions within the area that the individual duwab holds. Most households raise several species of animals. The southern Hadendowa in the Gash and Kassala regions herd cattle, while groups in the other regions have mixed herds of sheep, goats and dromedaries. Yet individual families also reflect on their short-term and long-term strategies in which the specifics of the different species are taken into consideration.

Goats live on shrubs and by browsing trees, need water every third day (less during the rainy season) and have a 6-month gestation period. They provide dairy products and their skin can be tanned. Often they are sold at the market. Sheep eat grass and fallen leaves; they need water every other day. Their milk is not processed and they are less often sold. Their skin can also be tanned. Both goats and sheep can be slaughtered for sustenance and ceremonial occasions (Wendrich 2008: 527; Krzywinski, this volume). Dromedaries can browse on shrubs and trees or be hand-fed. They need water every 6 to 9 days, or once every 2 weeks in the rainy season; they have a 12-month gestation period. Their milk is used

frequently, their meat rather seldom; they are mostly used a beast of burden. Their possession is prestigious and they are needed in intertribal transactions—for example as dowry. They have the highest market value, but are seldom sold. If a family has access to different grazing areas that provide for several species, they might consider various options. They might invest much time and effort into breeding a larger dromedary herd while living meagerly on the products of only a few sheep and goats. Another option is to get a larger herd of sheep and goats that can be easily sold and replaced by offspring while maintaining only two or three dromedaries.

Another point a family has to consider is whether to take their herd to a distant area if they get news about rainfall there. Often the area to cross on the way is barren and without any water. They therefore risk losing many animals on the way. Once they get there it may be difficult to return for several years. These possibilities were reflected upon by the Bisharin as early as the 1930s (Sanders 1933: 144). When engaged in the agro-pastoral sector a family will apportion each time of year to a different activity. Sowing and harvesting are obviously related to the seasons. A family must decide, however, whether to invest much time in the cultivation of cash crops, or to favor other activities and only grow some sorghum for sustenance. The crops to be cultivated have to fit their agenda. The same is true for additional wage labor, the market of which can also be fixed to seasonal request. Within these considerations traditional division of labor also plays a role. Men are involved in work outside the compound including herding, while women are engaged in activities inside the compound. Herding strategies thus require the availability of sufficient male workers.

Female activities can create income by producing sellable items, although some activities are taboo for women, such as the milking of animals. This has been reported in recent times among the Hadendowa (Vågenes 1989; Fadlalla 2007), but also among the Ababda and the Bisharin (Murray 1923; Wendrich 2008: 516; Belal *et al.* 2009: 143), and appears to be a widespread and long-standing tradition. During and after the crisis of the 1980s, however, the traditional division of labor failed. Several Hadendowa families were abandoned by the male head of their household and women had to engage in traditionally male activities to create income. Many female-headed households were thus created where women had to decide whether to engage in agro-pastoralism or to take up wage labor in the cities

(Vågenes 1989: 63-69). In general, crisis and need seem to be the factors facilitating public economic engagement of Beja women. Ababda women settling down near the permanent water supply created by Lake Nasser take up new responsibilities. Whereas women well established in families with access to a variety of income, via the activities of their husbands, create knowledge to improve those activities to meet these responsibilities, yet stay within established boundaries. It is widows and divorcees, being economically marginalized, that create completely new strategies, and start to open access to the public sphere such as markets (Briggs *et al.* 2003: 323; Belal *et al.* 2009: 141). An observation by traveler Linant de Bellefonds possibly points into the same direction (Linant de Bellefonds 1868: 160). Traveling through Bisharin country, he saw several Bisharin men in groups heading to Aswan to sell livestock and *senna*.⁴ Separated from such groups was an individual woman with her children heading in the same direction, also to sell *senna*. He then mentions the general impression of extreme poverty among the latter small group. Maybe the marginalization of women left behind to care for themselves and their children, and their search to improve their conditions by access to markets have a long tradition within Beda society.

Social Support for Individual Strategies

Several institutions provide compensatory support for individual strategies. As decisions concerning commercial activities on this level are family-based, so are the backing institutions. Support on this level is mainly based on family ties. If a family loses their animals, substitutes are usually provided by relatives (Harir 1996: 89), either as *tait* (the herd goes into the possession of the family) or as *dangit* (the herd is lent and the family may merely keep the animal products). This is part of a reciprocal system. Other elements of this system are to provide animals for the dowry of a young kinsman, or to donate an animal to an injured relative. This support does not result, however, in

⁴ Most likely *Senna alexandrina*, a shrubby plant native to southern Egypt and northern Sudan, 0.5–1 m high, with branched pale green stem, long branches bearing four or five pairs of leaves and big yellow to brown flowers. Its broad and flat legume fruits contain about six seeds. *Senna* is used as a laxative in the form of *senna* pods, or as a tea made from the leaves. Collecting and selling *senna* provides significant income for many Bedouin (Belal *et al.* 2009: 67, 81).

an one-sided benefit. A man who is able to provide such support for his kinsmen, gains in social prestige. Another possibility is to exchange labor, especially in large-scale herding of different animals, which requires several herdsmen (Vågenes 1989: 181). Naturally this reciprocal system depends on the general logistical and ecological conditions. During the crisis of the 1980s there were hardly any animals left. Therefore, there were no resources for providing substitute animals for kinsmen. Furthermore, each family had to hold on to their manpower to provide for their own survival. An extended family could decide to assign different activities to their members. Another strategy could be to generate income primarily in one sector, for instance breeding animals or wage labor. The lack of agriculture could be compensated for by the additional purchase of sorghum, using income from one of these sectors.

Cultural Values Determining Individual Strategies

The support of individual strategies is family based, as well as its regulation. Despite or because of the changes that occurred in recent centuries, the Beja peoples have a strong sense of tradition. A decisive value within these traditions is their code of honor, *durareit*. Embodied within this concept of honor is the defense of the land inherited from their forefathers who fought bravely to acquire it. To honor their bravery, the land has to be used according to their traditions. To perform *salif*, to continue the traditions of the forefathers, is a central aspect of Hadendowa life. Thus a strong feeling of identity on several levels is attached to the land (Harir 1996: 82, 84, 101; Krzywinski, this volume). Whether a person acts according to the code of honor is socially evaluated by kinsmen who mostly share the same land. Therefore, regional cohesion involves social cohesion. Affiliates cooperate in business activities. Yet they are also directly affected by the social behavior of their family members. Several crimes are punished by the payment of compensation. This compensation is given by the family of the person who committed the crime to the family who has been damaged. A family is therefore financially affected by the behavior of their kinsmen. Furthermore, the reputation of the family is at stake, because the criminal behavior of a family member resounds upon the family.

The recourse of the family, however, is decisive not only in the matter of compensating for criminal actions

of its members. A young man collects the dowry for the family of his future wife from his kinsmen. If a man is badly injured and incapable of working, his kinsmen help to compensate this disadvantage. Therefore, individuals try to ensure the support of their kinsmen by acting according to the code of honor. A man who is able to provide reliable support to his kinsmen increases his reputation. Thus social cohesion and regional cohesion are mutually dependent. This interdependence is further strengthened by the culturally prevailing preference of endogamy (Harir 1996: 85). Moreover, there are many ways to act honorably.⁵ One important institution by which honor is gained is to perform hospitality. Again, this is not a one-way gain. Entertaining guests involves the institutionalized exchange of information, *sakanab* (Morton 1988: 430-434), regarding pastures and rains, as well as favorable wage conditions. These conditions are marked by long-term trends, but could also quickly change following climatic developments and man-made changes (Krzywinski *et al.* 1996). This way a family receiving and entertaining guests profits from information concerning other areas in return. This information is of great importance to individual decision making.

In severe conditions such as drought, however, individuals decide their actions more opportunistically. Even in such conditions, however, social institutions still constitute a frame of reference. As mentioned above, women are expected not to be involved in certain aspects of animal husbandry, and the ruling principle of the female code of honor is to remain within the household. Therefore, although being the owners of animals, women only tend those near or in their compound and they are not expected to milk even those. Only when they receive the milk in their compound may women use and process it. Women are also not expected to go to public markets, which restricts their possibilities to sell items such as mats and agricultural produce. Another crucial element of female honor is to get and raise children. During the drought, many children died of malnutrition and disease. Several women became widowed while others were divorced or left by a husband who could not cope with the situation. To prevent their children from starvation, many women took up work in rural and urban areas or engaged in animal husbandry. Although this was not according to their code of honor, their cultural background provided

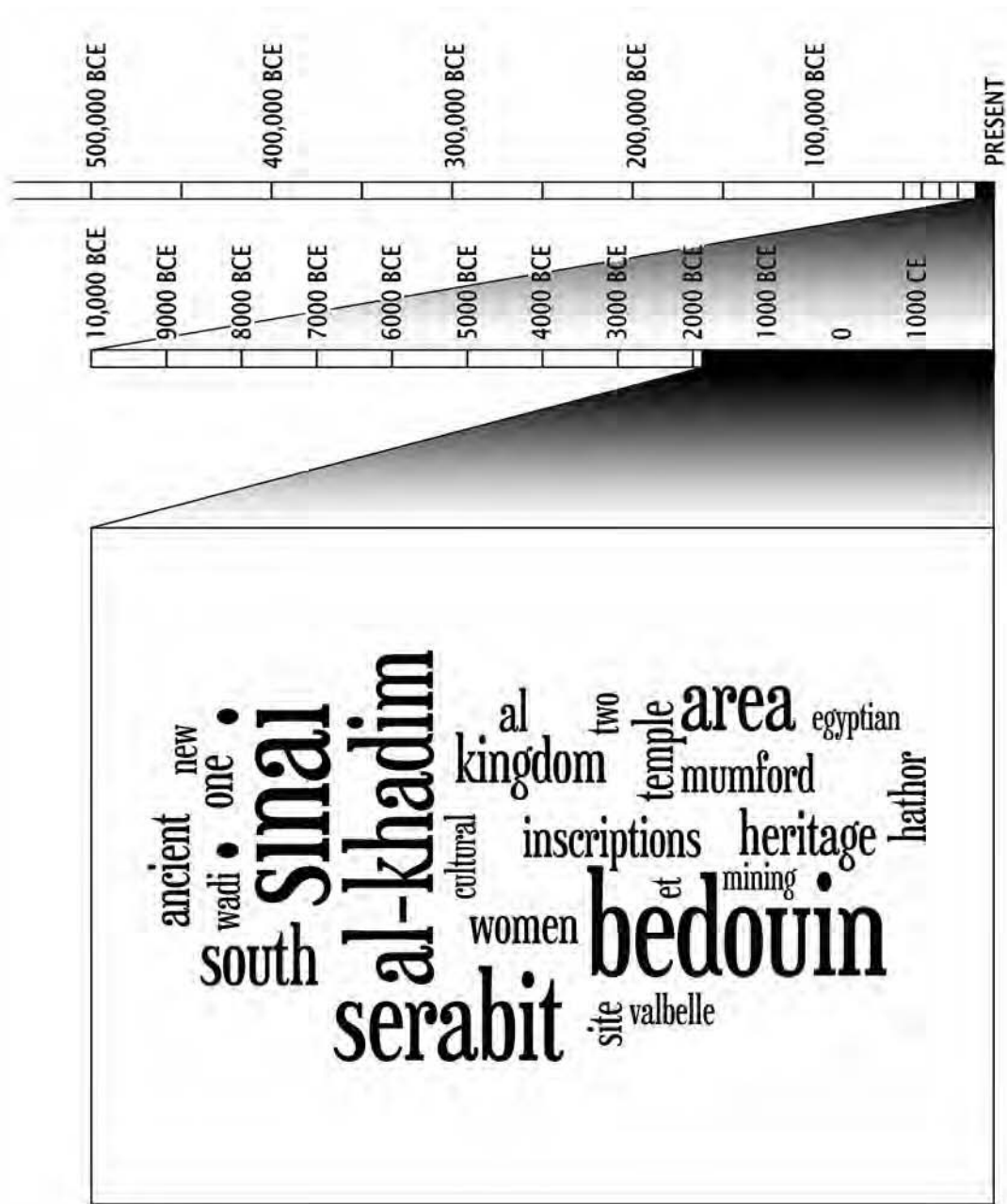
means to ease this predicament. These means are also embedded within the traditional system of reference. The mythical founders of the Hadendowa, Barakwin and Hadat, were, according to the tradition, persecuted by enemies. Hadat, her name meaning 'lioness,' fought bravely to secure the survival of her children. Therefore, in taking individual actions towards the well-being of their own children, Hadendowa women refer to Hadat and consequently ensure their female honor (Vågenes 1989: 63-69). The code of honor is a strong factor to control individual decision making. It leaves room, however, to be adapted in response to the unfavorable conditions that can be met in a desert area.

Discussion

To have a broad diversity of alternate sources of income within a variety of economic sectors is a crucial strategy to cope with the marginal environment of the Eastern Desert. This variety provides possibilities to quickly adapt to radical changes, whether man-made or ecologically determined. Several changes that took place during the last century were responded to by Beja groups with diverse strategies. These led to the great variety of income-generating activities that exists today. Which of the strategies are taken up depends on regional conditions such as the proximity to markets or the ecological possibilities for pasture and agriculture. However, variability in economic involvement is a framework. In this framework, sociopolitical institutions such as political leaders, as well as cultural values and rights of use balance the different strategies. Thus they provide the means for families to choose individual strategies according to their personal goals.

The larger institutions also regulate individual actions by providing an ethical framework. Acting according to the code of honor is evaluated by group members. The code of honor, however, proved flexible in case of severe circumstances, when actions to secure the well-being of family members require an easing of its strictness. Adaptation to the desert environment involves complex structures. To analyze these structures one has to look at the strategies at the different levels of the tribal organization. Each level has means to organize and balance the tactics of its members. Decisions on each level, however, influence the performance of the other levels. Therefore, an understanding of economic strategies involves the understanding of each individual level as well as the mutual interdependency of these levels.

⁵ A comprehensive study of the Beja code of honor among the Atmaan Amara is Hjort-af-Ornas and Dahl 1991.



Time line and word cloud created from Monica Hanna, Fatma Keshk and Sara Aboubakr, *The Documentation of the Cultural Heritage of the Bedouin of South Sinai: A Pilot Study in Serabit al-Khadim*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 25



The Documentation of the Cultural Heritage of the Bedouin of South Sinai: A Pilot Study in Serabit al-Khadim

MONICA HANNA, FATMA KESHK AND SARA ABOUBAKR

SERABIT AL-KHADIM (سرابيت الخادم , ‘HIGHLAND of the Slave’) is located in the southwest of the Sinai Peninsula. It comprises the remains of a Middle and New Kingdom turquoise mine, intermittently active between the early 12th and the middle of the 20th Dynasty (1938–1137 BCE), and a temple dedicated to Hathor, goddess of the desert and foreign lands. The Documentation of the Cultural Heritage of the Bedouins of South Sinai project aims to set a model for cultural resource management (CRM) for the cultural heritage of South Sinai through the survey, documentation, preservation and management of Serabit al-Khadim, with and for the local Bedouin. This project is funded by the South Sinai Regional Development Program (SSRDP) and is implemented by the Centre for Documentation of the Cultural and Natural Heritage of Egypt (CULTNAT).

The cultural heritage of the Sinai in general and South Sinai in particular have lacked thorough studies and sustainable development projects. The history of South Sinai is very different from the Nile Valley, and the area has rarely been studied comprehensively. No plans for CRM were carried out at the various sites. When studied in the past, research was carried out on the archaeology of the area, leaving behind the social

history of the inhabitants and their complex relation with archaeology and tourism. Our project aim is to study the entire cultural heritage of the region, represented in the tangible and intangible aspects of the region of Serabit al-Khadim, full documentation of the temple and the current inhabitants of Serabit al-Khadim, and finally putting forward CRM plans for the area, all carried with the purpose of providing a means of alternative economic solutions for the Bedouin in the area. In order to protect and safeguard the sites, CRM plans are being put forward with the help of the Bedouin and the Supreme Council of Antiquities (SCA).¹ The project works on three facets: complete archaeological documentation of the area, a social map of the inhabitants, and capacity building of the local population to enhance tourism, better accommodate their heritage and generally flourish in the area. These three facets are aimed at study of the area, including both its tangible and intangible heritage, improving the tourist experience and the Bedouin’s economic status, and preserving the cultural heritage of the region. We have chosen not to provide an exhaustive bibliography of the research here, partly because not all relevant sources are available in Egypt; we regret having to omit these from the current chapter.

¹Since January 2011 the Ministry of State for Antiquities (MSA).

The Archaeological Heritage of Serabit al-Khadim

The geographic position of the Sinai Peninsula and its geological formation defined its role in Egypt's foreign contacts, both commercial and military, since the dawn of Egyptian civilization. The Sinai consists of a triangular desert region, connecting two seas (the Red Sea and the Mediterranean Sea) and two continents (Africa and Asia). This strategic position made it one of the major crossroads between northern Africa and southwest Asia (Hassan 1998), and their hinterlands. The peninsula is abundantly rich in mineral formations in the central plateaus of al-Tih and Egma, as well as in the area of Gebel Musa further south (Mumford 2001). South Sinai has been a source of raw materials, mainly copper and turquoise, for millennia, while North Sinai acted as a conduit between the civilizations in the Nile Valley, Palestine, Jordan and Syria (Mumford 1998: 950). This fact is well attested during the Middle Kingdom (1775–1640 BCE) and the New Kingdom (1540–1075 BCE) in the preserved ancient routes, graffiti and records of expeditions.

The earliest human activity in South Sinai is attested in a group of sites located in the southeastern Sinai, in Wadi al-Qudeirat, which is a long valley running across the Sinai Peninsula from west to east. These sites, representing the oldest archaeological sites of South Sinai, are dated to the Paleolithic Period (Hanna 2012). There are Neolithic sites in South Sinai near Saint Catherine's Monastery that have been dated to the Pre-Pottery Neolithic A (PPNA) and the Pre-Pottery Neolithic B (PPNB; Hassan 1998). Some Late Predynastic and Early Dynastic pottery, around 3050–2686 BCE, was found in South Sinai, attesting the Egyptian presence at that time (Mumford 1998: 955). From the Old Kingdom (2725–2125 BCE) onward, the Egyptian activity in South Sinai mainly targeted the exploitation of the mineral resources, in order to extract metals and precious stones for cosmetics and jewelry (Valbelle and Bonnet 1996: 2). This interest is clear in the name *xtiw mfkAt* that they attributed to the mining area of South Sinai, most probably starting as early as the 5th Dynasty (Abdel-Raziq *et al.* 2006), which translates as 'Terrace of Turquoise' (Loret 1928). The Egyptian interest in the Sinai is also evident from the numerous routes that they developed in order to reach the Sinai. The archaeological evidence attests three main routes leading from the Nile Valley to the Sinai,

especially during the period from the 18th Dynasty until the Saite Period (1550–525 BCE, Mumford 1998). One leads from the Nile Valley through Wadi Arabah, in the Eastern Desert, to the Red Sea. Middle Kingdom texts at Ain Sukhna, located on the Red Sea coast some 120 km from Cairo, show how this location acted as a point of maritime departure for the expeditions going to the Sinai to mine turquoise and copper (Abdel-Raziq *et al.* 2006). A second route to the Red Sea, and on to northern and central Sinai, led through Wadi Tumaylat. The third route followed the Pelusiac Branch of the River Nile through the Eastern Delta to reach North Sinai (this route was known as the 'Way of Horus').

Since the 19th century CE, the ancient mining sites of South Sinai were visited by travelers and archaeologists such as Ricci in 1828, Lepsius in 1845, Palmer in 1869, Weill in 1904, Petrie in 1906 and Barrois in 1932. *Inscriptions of Sinai* (Gardiner and Peet 1955) is still considered one of the main sources for the study the Ancient Egyptian mining in South Sinai because of the inscriptions left by the miners listed and translated here. During the second half of the 20th century CE, archaeologists like Valbelle, Chartier-Raymond, Mumford and Tallet carried out work at sites in the Sinai. The archaeological evidence of South Sinai shows how intense was the mining activity was during the Old Kingdom, in Wadi Maghara (Tallet 2003) and Wadi Kharig (Mumford 2001), and during the New Kingdom, in Wadi Maghara, Serabit al-Khadim, Bir Nasb and Wadi Abu Gada (Tallet 2003).

Discovered by Seetzen in 1809 (Chartier-Raymond 1988), Wadi Maghara (28°N 54' / 33°E 22') is located just east of the Gulf of Suez, about 19 km from the coast (Mumford 1999a). This site has thus far not been comprehensively studied by archaeologists (Chartier-Raymond 1988). Explored by Ancient Egyptian expeditions, mining for copper and turquoise (Mumford 2001), Wadi Maghara is especially important as it is the site that bears the oldest evidence of Egyptian activity in South Sinai (Mumford 1999a). Old Kingdom inscriptions at Wadi Maghara, which date as early as the Third Dynasty (2650–2575 BCE), commemorate the work of mining expeditions starting from the reign of Pharaohs Sanakht, Djoser and Sekhemkhet (*Inscriptions of Sinai* 1-4, Valbelle and Bonnet 1996: 2). Other inscriptions cite the names of later Pharaohs of the Old Kingdom, such as Snefru, Khufu, Sahure, Neusera, Menkauhor and DjedKaRe Isesi, attesting the exploitation of the mines

of Wadi Maghara between the 4th and 6th Dynasties (Mumford 1999a). The Old Kingdom inscriptions in Wadi Maghara mostly illustrate the pharaohs together with various deities striking enemies (Gardner and Peet 1955: 25). These inscriptions, all done in *bas-relief*, can be categorized as three main types (Gardner and Peet 1955: 25): royal inscriptions accompanied by scenes or figures, royal inscriptions without scenes or figures, and private inscriptions with or without scenes or figures, including all other unofficial records. Already in 1906, it was noted that modern exploitation of the mines in Wadi Maghara caused the destruction of Old Kingdom inscriptions with the names of Snefru, Khufu and Sahure, among others (Petrie 2005).

Mining activities in Wadi Maghara during the Middle Kingdom are well attested by many inscriptions, dating mainly to the reigns of Pharaohs Amenemhat III and Amenemhat IV (1818–1760 BCE), which testify the arrival of the mining expeditions. Two Hieratic graffiti, also from Middle Kingdom, were found in Wadi Maghara and a 12th Dynasty stele is located to the north of the site (Mumford 1999a). A New Kingdom inscription, dating to the year 16 of the common reign of Pharaohs Hatshepsut and Thutmose III, attests the use of the mines at the time (Tallet 2003). Another New Kingdom inscription, bearing the name of Ramses II, has been reported, but now cannot be confirmed (Mumford 1999a). Near the mining sectors of Wadi Maghara, there are some ancient settlement areas that were most probably used by the miners. These areas produced many of their daily tools, such as the tools they used for extracting the minerals, as well as pottery (Mumford 1999a).

The site of Serabit al-Khadim (29°N 02' / 33°E 28') is located in the southwest of the Sinai Peninsula (Figure 25.1; Pinch 1993; Valbelle and Bonnet 1996), about 10 km north of Wadi Maghara (Wilkinson 2005: 239). It covers a surface of more than 20 km² (Valbelle and Bonnet 1996: 46), at an elevation of 735 m above sea level (Mumford 1998, 1999b). Serabit al-Khadim is considered the most significant Ancient Egyptian site of South Sinai (Wilkinson 2005: 239), as it preserves ample evidence of Ancient Egypt. It represents the largest site of exploitation of turquoise, copper and malachite in the Sinai (Valbelle and Bonnet 1996: 46). Since its rediscovery in 1762 CE by Niebuhr (Mumford 1999b), the site has attracted the attention of many travelers and archaeologists. During the second half of the 20th century CE, several archaeological projects have

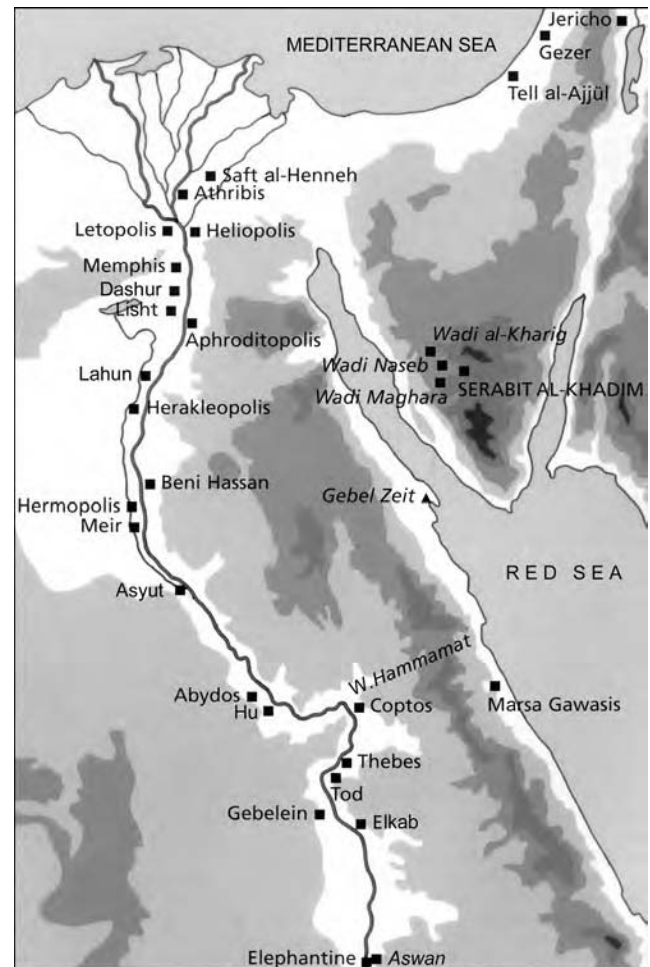
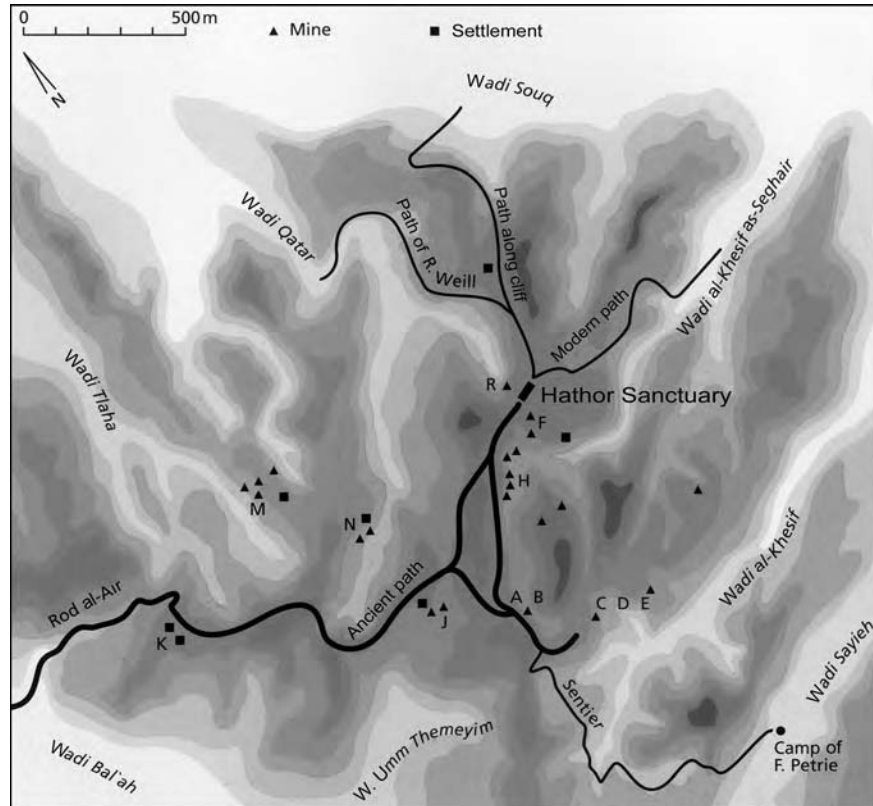


Figure 25.1. Map of the lower Nile Valley and the Sinai Peninsula. Adapted from Valbelle and Bonnet 1996.

investigated the site of Serabit al-Khadim from different perspectives. The most significant were a study of the Temple of Hathor (Valbelle *et al.* 1994; Valbelle and Bonnet 1996) and a study of the ancient mines (Chartier-Raymond *et al.* 1994). Since 2006, some sectors of Serabit al-Khadim and Rod al-‘Air are under renewed investigation by an expedition from the Institut Français d’Archéologie Orientale (IFAO), directed by Pierre Tallet (Tallet 2006). In Serabit al-Khadim (Figure 25.2), evidence for all the elements of a scenario are present, the place (the mines and the temple), the actors (the miners), the time (the Old, Middle and New Kingdoms), and the action (extracting turquoise), making Serabit al-Khadim a site that tells its own story.

The geological formations of Serabit al-Khadim mainly consist of basalt and sandstone (Petrie 2005: 58), rich in metals and mineral deposits. These metals and minerals have been extracted intermittently by the Ancient Egyptians for centuries (Valbelle and Bonnet

Figure 25.2. Plan of Serabit al-Khadim and its environs. Adapted from Valbelle and Bonnet 1996.



1996: 60); 17 major mining sites are now known in the area (Chartier-Raymond *et al.* 1994: 49), among numerous smaller operations. These can be divided into two large groups, a northern group and a southern group. The latter is near the temple and rich in inscriptions left by Egyptian expeditions (Chartier-Raymond *et al.* 1994: 49). The presence of Middle Kingdom expeditions in Serabit al-Khadim is commemorated by numerous rock inscriptions at the mines and by the monuments dedicated to the goddess Hathor in the temple. Although the name of Amenemhat I, the first Pharaoh of the 12th Dynasty, is the earliest found in Serabit al-Khadim, it seems that construction activities at Serabit al-Khadim started with his son Pharaoh Senusert I (1918–1875 BCE). His name is recorded on two stelae outside the temple, attesting the work of two mining expeditions during his reign (Valbelle and Bonnet 1996: 8). Around eight Middle Kingdom inscriptions at the mines give the dates of expeditions during the reigns of Pharaohs Amenemhat II and Amenemhat III (Valbelle and Bonnet 1996: 60). Mining activity during the New Kingdom is also well attested at many other sites in South Sinai, including Bir Nasb and Wadi Abou Ghada (Tallet 2003). In Serabit al-Khadim, around 150 inscriptions attest the activity of numerous New Kingdom expeditions between the reigns of Pharaohs Amenhotep I and Ramses

VI (*Inscriptions of Sinai* 58, 60, Tallet 2003). In the mining sectors of Serabit al-Khadim, not only traces of the exploitation of turquoise can be found, but also settlements, either near the mines or a bit farther afield (Chartier-Raymond *et al.* 1994: 49), in addition to areas of mineral processing and minor cult zones.

Turquoise that has been mined at Serabit al-Khadim is a type of hydrated phosphate aluminum with the general formula $\text{CuAl}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4\text{H}_2\text{O}$ (Lucas and Harris 1989: 460). It appears as a blue-green mineral in the fissures of sandstone in the shape of veins and nodules (Shaw and Nicholson 2002). It was used for jewelry by Egyptians since the Neolithic Period onward and it is clear that one of its main sources was the region of South Sinai (Lucas and Harris 1989: 460). The name *xtyw mfkAt* ('Terrace of Turquoise,' Loret 1928; Gardner and Peet 1955; Abdel-Raziq *et al.* 2006) can be read in most of the texts on the mining expeditions to South Sinai. For example, *Inscriptions of Sinai* 17, left at Wadi Maghara by an expedition in the second year of the reign of Pharaoh Pepy II (2300–2206 BCE), reads: "Royal Mission which was sent with the god's treasurer Hepy to the terraces of the turquoise" (Gardner and Peet 1955: 46).

Hathor is an important Ancient Egyptian female bovine deity (Shaw and Nicholson 2002: 119), which cult

existed since Prehistory (Vischak 2001). She had several roles, including the goddess of joy, music and happiness, the goddess of the afterlife, and the goddess of foreign lands and their goods (Wilkinson 2003: 139). She was also associated with the desert and its products (Shaw and Nicholson 2002: 119). It is still unclear, however, why the Egyptians chose Hathor to be worshipped in Serabit al-Khadim. A common opinion proposes that the reason lies in the relation between Hathor and the moon, as a moon cult existed in the Sinai before the Hathor cult (Gardner and Peet 1955: 41). Another idea suggests that she was chosen because of her role as goddess of the desert and foreign lands, and their goods, as which she could supervise the exploitation of desert resources and minerals (Wilkinson 2003: 143). Therefore, the association between Hathor and turquoise gave her the title *nbt mfkAt* (Lady of the Turquoise; Mumford 2001) and was the reason behind the existence of a temple for Hathor at Serabit al-Khadim.

The Temple of Hathor at Serabit al-Khadim is considered one of the more significant temples of Ancient Egypt (Figure 25.3), and it represents the largest remains of Ancient Egypt in the Sinai (Baines and Malek 2000: 188). In addition, it is considered the oldest preserved example of a partially rock-cut Egyptian temple (Pinch 1993; Espinel, this volume). Another important feature is that the sanctuary of Hathor at Serabit al-Khadim

represents the largest sanctuary left by a group of miners, ordinary workers, anywhere in Egypt. Parts of the temple date to the Middle Kingdom and to the New Kingdom (Valbelle *et al.* 1994). The earliest inscribed evidence at the temple is a base of a statue of the first pharaoh of the 12th Dynasty, Amenemhat I (Valbelle *et al.* 1994). The construction of the temple took place in three phases (Pinch 1993)—during the 12th Dynasty, the 18th Dynasty and the Ramesside Period—along two parallel axes (Aufrère *et al.* 1997), including a Middle Kingdom axis and a New Kingdom axis (Figure 25.3). The oldest, Middle Kingdom axis runs southeast–northwest. It contained many stelae on both sides of the main passage, most of them dating to the reigns of Pharaohs Senusert III, Amenemhat III and Amenemhat IV. The Kings’ Chapel was built during the reigns of Amenemhat III and Amenemhat IV. It has the aspect of a portico with four columns (Figure 25.3), with a part carved into the rocks. This axis was extended west in the New Kingdom. Fourteen additional New Kingdom rooms were constructed west of the court sometime between the reigns of Pharaohs Amenhotep III and Ramses VI. This court is placed in the center of the temple and gives access to three different directions: north, south and southeast. From the north, it leads to a cistern used to store rain water essential for the temple’s rituals. To the southeast, there is a direct pathway to the speos of

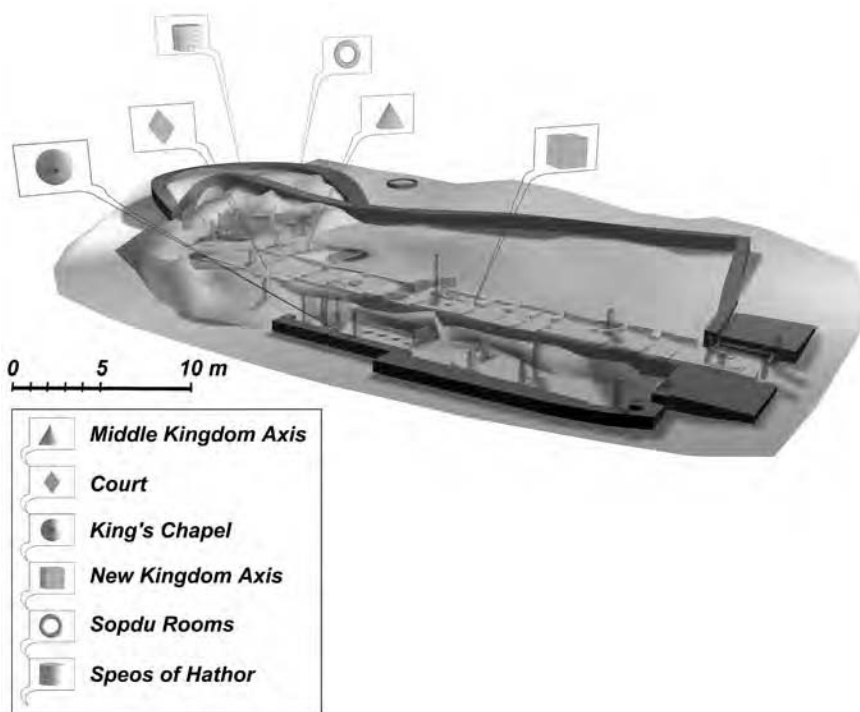


Figure 25.3. Three-dimensional reconstruction of the Temple of Hathor at Serabit al-Khadim. Drawing by Ibrahim al-Refai.

Hathor, through two rooms. From the south it opens into the room usually described as the ‘basin,’ which then leads to a small corridor opening into the three rooms known as ‘the Sopdu Rooms’ (Aufrère *et al.* 1997). The first two rooms give access to a third, which is located to the south of the Hathor sanctuary and is considered to be a sanctuary of Sopdu as they contain monuments dedicated to Sopdu, a solar deity usually associated with the desert and the frontiers (Valbelle and Bonnet 1996: 38). His name also appears in an inscription of the year 42 of the reign of Pharaoh Amenemhat III in Maghara (Gardner and Peet 1955: 36). The rooms must have existed since the reign of Pharaoh Amenemhat III (Gardner and Peet 1955: 36), although they witnessed alterations and additions over the following years and their final appearance dates most likely to the joint reign of Pharaohs Hatshepsut and Thutmose III.

Another interesting neighboring site of the temple is the passage of Rod al-‘Air (Figure 25.2), Arabic for ‘Valley of the (wild) Donkeys.’ This is one of the best places to understand the larger site of Serabit al-Khadim (Chartier-Raymond *et al.* 1994). About 5 km east of Wadi Nasb, the site was discovered in 1930 (Chartier-Raymond *et al.* 1994; Mumford 1998). It is clear from the graffiti and inscriptions of Rod al-‘Air that this site was one of the routes commonly used by mining expeditions to reach Serabit al-Khadim. Because rocks provide shade for a considerable portion of the day, it was used as a resting point on the way (Gardner and Peet 1955: 13). At least 23 graffiti representing numerous themes, but mostly boats, animals and people (Mumford 1999b), are preserved, most of them dating to the Middle Kingdom. Other graffiti at Rod al-‘Air is most likely dated to the New Kingdom (*Inscriptions of Sinai 520, 524 and 525*, Tallet 2003). In 2006, some 20 new graffiti were discovered in Rod al-‘Air (Tallet 2006). Near the area containing rock inscriptions is a site identified as an ancient campsite (Mumford 2001). The numerous scenes with boats at Rod al-‘Air may correspond to the ship remains found at the site of Ain Sukhna, if it is correct that the mining expeditions to Serabit al-Khadim departed from Ain Sukhna across the Red Sea. In the opinion of the authors, the graffiti at Rod al-‘Air tells its own story through two main repeated motifs: the boats and the mining axe. It seems that the ancient miner carving the message wanted to say, “I reached Serabit by boat in order to work in the mines.” The main focus in the archaeological heritage of Serabit

al-Khadim is the Temple of Hathor. The main stages of building are attested until the New Kingdom and the organized exploitation of the mines stopped around the end of that period.

Proto-Sinaitic inscriptions are a corpus of inscriptions in a Semitic script discovered about a hundred years ago at many sites in South Sinai (Briquel-Chatonnet 1998). Most of these inscriptions are near Serabit al-Khadim and Bir Nasb at the mines and on some statues found in the Temple of Hathor (Mumford 1998: 960). They are usually associated with the Second Intermediate Period (1630–1520 BCE, Mumford 2001). These inscriptions, to which scholars and researchers have not yet attributed a precise origin, represent one of the earliest examples of an alphabetic Semitic script (Valbelle and Bonnet 1996: 62). The script comprises 27 to 29 consonantals and many pictographic signs (Mumford 1999b). These have features similar to the Proto-Canaanite alphabet of around 1800–1500 BCE (Mumford 2001) and are at the same time clearly influenced by Egyptian hieroglyphs (Valbelle and Bonnet 1996: 62).

The Bedouin of South Sinai

As noted by Wickerling in 1991, the body of literature on the Bedouin of South Sinai is not very extensive (Wickerling 1991) outside the area of Saint Catherine’s Monastery, and this situation has not significantly changed since. In fact, research on the Bedouin of Serabit al-Khadim is virtually non-existent. This is perhaps due to the presence of the impressive Ancient Egyptian remains in the area. The articles and books on Serabit al-Khadim usually focus on the temple, with little or no reference to the Bedouin who have inhabited the area for hundreds of years. The Bedouin are often only mentioned as the workers who help with the expedition (Beit-Arieh 1982), while others have focused on the description of the ancient camps in relation to the history of the area (Mumford and Parcak 2003). Thus we had to rely in our research on the accounts left by the archaeologists who worked in the area previously.

In 1948, Henry Field, an eminent anthropologist, went through “great pains” to document the physical appearance, the names and the culture of the Bedouin, as he toured South Sinai (Albright 1948; Field 1948). He writes that they are dark of hair and eyes, “wiry and capable of great endurance on little food and water.” His expedition included Serabit al-Khadim, in particular the area near Bir Nasb, and led to his book *The Track*

of *Man* (1953). The University of California African Expedition identified the following Bedouin tribes residing in the Sinai: the Aleiqat, Awlad Said, Ferayin, Jebeliya, Laheiwat, Muzeina, Nekhlawis, Qararshe, Sawalha, Tarabin and Tiyaha. More than 30 years later, Clinton Bailey tried to date the arrival of the tribes of the Sinai and the Negev with the help of the records of Saint Catherine's Monastery and Bedouin oral tradition (Bailey 1985). Although this oral account provides an entertaining outlook on Bedouin history, as told by the inhabitants of Serabit al-Khadem, it requires further investigation of its accuracy. He concluded that "five tribes dominate this region—the Cawarmah, Awlad Said, and Gararshah (jointly known as the Sawalhah [Sawalha]), and the Ulaygat and Muzaynah [Muzeina]," while "two smaller tribes, the Bani Wasil and Hamadhah, antedate them, as do the Jaballyah [Jebeliya]." He also stated five more detailed points. The earlier inhabitants of the region, the Bani Wasil and Hamadhah, were intimidated by the Sawalhah and Nufaycat, respectively. The Sawalhah are so named because they migrated from the area of Salihyah, on the eastern border of the Nile Delta. The Ulaygat, originally from the coast of the Gulf of Aqaba, now reside in the region of the Nufaycat. The Sawalhah and Ulaygat fought a war that established the "present tribal boundaries in southern Sinai" and the services that each tribe was to offer to Saint Catherine's Monastery. The allies of the Ulaygat during that war were the Muzaynah tribesmen, "who were then newcomers from the Arabian tribe of Harb."

This history of South Sinai is concurrent with the composition of the current inhabitants of Serabit al-Khadim, most of whom are of the Ulaygat tribe, with some members of the Muzaynah. The tale of how these two tribes came to reside in the area is a popular one told by old and young alike. Hajj Radwan Abu Mohamed, of the Muzaynah tribe, recalls the tale with relish: "The Ulaygat were fighting vicious wars with other tribes, [mainly] al-Sawalhah and Beni Said, trespassing on their land. Muzaynah [Bedouin] were moving from below [probably Dahab and Nuweiba] looking for a place to settle. al-Sawalhah tried to form a pact with the Muzaynah, but the latter refused and instead formed an alliance with the Ulaygat that allowed the latter to win the raging war and become kin ever since." His wife described the alliance in one sentence: the two tribes agreed that "the land is one and the daughter is one," thus intermarrying and settling down together.

The Bedouin Image in Past and Present

While the term 'Bedouin' often evokes an image of nomadic people who depend on livestock and wander the earth for their livelihood, a more different definition could not apply to the Bedouin of Serabit al-Khadim. These Bedouin have permanent homes built of brick, and livestock that they mostly use for their own consumption. They have long settled in the area and now embrace tourism as their main source of income. To highlight the difference between the image of the Bedouin of the past and that of the present, it is enough to state that it only takes about 45 minutes of off-road driving, on a relatively bumpy road to reach the highway where cafes, grocery shops and even barbers can be found. Some of these cafes are owned by the Bedouin themselves. This is the case with our host Bedouin, who are of the Barakat family, one of the wealthier families in Serabit al-Khadim. They currently own a tourist camp (Camp Barakat), where our team resides, run by the younger generation of the family (Figure 25.4).

In search for the meaning of the word Bedouin, Sulayman Khalaf, facing the same discrepancy, stated that the "social life of the Bedouin today is not one of simple and total transformation, but rather of an ongoing dialectic of continuity and change, interplay between tradition and modernity" (Khalaf 1990). He adds that the Bedouin are adjusting rapidly to their current "material and political" life, while at the same time adhering to "a range of traditions" that defines them and their "Bedouin-ness." This term and its connotations became the focal point of later research that used the work of Khalaf to dissect the inherent meaning of Bedouin-ness



Figure 25.4. Camp Barakat with Kedre, one of the young Bedouin who help around the camp.

(Cole 2003). Cole concluded that the Bedouin have now settled down, made steady homes and acquired national ID cards. Some are rich, others are poor, but all have been affected by international geopolitics, such as “oil in Arabia and Libya, Arab socialist policies in Syria and Egypt” and the various wars in the area. Nevertheless, Bedouin-ness, as observed in Serabit al-Khadim, does stem from the intricate traditions still upheld by the people despite exposure to modernity, tourism and national and international politics. For example, it is still shameful to appeal to a regular court of law. Despite the presence and accessibility of state courts, most use *wafi*, tribal courts (Weschenfelder, this volume) instead, which are formed by the eldest of the tribe and witnessed by the families of the adversarial parties. All of these factors combined lead to today’s Bedouin, who wears both a flowing robe (jalabyyah) and (fake) Ray Ban sunglasses, maintaining the wiry build of his ancestors as described by Field. He is still limber with high endurance of the desert, distrustful of non-Bedouin, a perceptive businessperson whenever possible, and adherent to traditions of his own that are being challenged by today’s modern technology brought by cars, satellite dishes and mobile telephones. The nomadic Bedouin may have become extinct in the Sinai, but what has been created is quite intriguing and definitely worthy of a more profound investigation.

The Place and the Beginning

Serabit al-Khadim is about 7 km from the port of Abu Zenima port; Camp Barakat, where our team usually resides, is about 50 m across the road from the houses of the Barakat family and only a 5-minute drive from the Temple of Hathor at Serabit al-Khadim. Many of the Muzaynah men married into the Barakat family reside even closer to the temple. They represent the poorer members of the family. All nuclear families inhabit single-storey houses, built of bricks. These are usually congregated together according to family relations. Satellite dishes are sparsely scattered over the houses, which vary in size according to the wealth of the inhabitants. Both are indicative of the economic power and social status of the inhabitants. A wealthy household occupies three to four rooms, including a large reception hall. *Kelims* (woven carpets) are the standard furnishing, while lightweight mattresses serve as couches. Serabit al-Khadim is guarded by these Bedouin, whose grandparents already performed the

same task, in cooperation with inspectors of the Supreme Council of Antiquities.

How the environment affects its inhabitants can be readily observed through the Bedouin compass-like ability to navigate through the similar looking sandy patches and mountains of the desert, and their perception of distance. The Bedouin sense of distance is quite different from that of urban dwellers, for they have a different cognitive measurement of distances; because of their dependence on walking rather than the use of vehicles, long distances for urban dwellers appear short to the people of the desert. One relatively young Bedouin once told us of his trip to school when he was younger while pointing to two identical-looking mountains saying “*di farket ka ‘ab*,” which is an Arabic metaphor for ‘a short distance that can be easily walked.’ Our estimate of the indicated distance was 3 to 5 km.

The Female Bedouin of Serabit al-Khadim

<i>wahda billah</i>	One in the name of Allah (God)
<i>al-tania billah</i>	Two in the name of Allah
<i>al-talata billah</i>	Three in the name of Allah
<i>al-raba’a billah</i>	Four in the name of Allah
<i>al-khamesa billah</i>	Five in the name of Allah
<i>al-satta billah</i>	Six in the name of Allah
<i>al-saba’a billah</i>	Seven in the name of Allah
<i>saba’a gamal mahmelat ghala</i>	Seven dromedaries carrying seeds
<i>kul haba te’ul wallah</i>	Each seed says Allah
<i>wa al-kalema al-nekuz</i>	And the bad word
<i>nerodha billah wa al-aguz</i>	We return it with Allah and the old
(...)	(...)

This is part of a *rukia*, a chant that helps protect one from the evil eye or envy. The local ‘doctor,’ as she is commonly referred to and who asked to remain anonymous, performs this chant regularly when patients seek her advice. She explains the reasons behind her ability to heal: “It is Allah, not me.” She learned the craft from her mother at the age of 17 and in turn is teaching her daughters the secret ways of healing. The Bedouin women of Serabit al-Khadim have been rarely mentioned by scholars. Shilling provides a perspective on the life of women, describing their domestic lives and positions within the tribe (Shilling 2004). Two scholars have studied Bedouin women more thoroughly and have written extensively about the lives and cultures of the women of this unique people (Abu-Lughod 1988;

Wickering 1991). Both could focus on the female side of the Bedouin community because their own gender allowed them to live among them. It is important to note, however, that their writings were affected by their feminist bias. Wickering explicitly states that she tried avoiding the stereotypical idea of Western feminism while documenting the life of the South Sinai Bedouin, but one cannot help but notice traces of her ideals in her work. As for Abu Lughod, she documented the domestic lives, lyric poetry, marriage and divorce, and the social status of the Bedouin women of the Awlad Ali tribe in the Western Desert.²

The women's daily routine starts early, they wake up mostly between 5 and 6 a.m. to tend to their households. Young and old work together, with the seniority of the older women tangible in their mannerisms. The animals, mostly sheep and goats with the occasional cow,³ are let out of a makeshift barn to be fed along with the available poultry; dishes are washed, houses are swept and tea is always on the stove, available for any passing guest. It is interesting to observe how the cattle seem to follow the directions of the women, indicating the bond between humans and animals stemming from their interdependence. One of the most important early morning activities is baking bread. The Bedouin make a special kind of bread, commonly known as *farasheeh*. Made of flour, water and a pinch of salt on a hot dome of steel, this lightweight, malleable and hole-filled bread is quite tasty and used with almost every meal of the day. As the day goes by, the women may have time to sit for a while. As is the habit with all Bedouin, guests are always welcome. When home alone the women receive male guests on a wide porch built outside the house, furnished with *haseer*, a carpet made of tough (plastic) fibers to accommodate the weather of the Sinai. It is taboo for a woman to invite a male guest inside the house without the presence of her husband or son. Women also do not sit with strangers, especially not with men; they may accommodate tourists and take photos with them, but only under the supervision of their husbands. Prepubescent girls and married women are allowed to walk around in relative freedom, while girls, as soon as they reach puberty, are kept under close supervision of parents and brothers. They lose the ability to come and go freely until marriage. Children help around the house

and go to school; there is a primary and a preparatory school in Serabit al-Khadim. The boys have to go to Abu Zeniema to attend secondary school, while few girls are allowed this privilege. There are, however, exceptions to every case. Saeydia, one of the daughters of Sheikh Barakat and the sister of Selim Barkat, is an impressive woman who is currently raising four children on her own. She used to guide tourists around the temple as a teenager with her father's blessing, saying that "he never minded." Traditionally, guides are male, and so Saeydia rubbed shoulders with men on the job. She is very intent on educating her boy and three girls.

Marital conditions seem to have drastically changed over the last 30 years. Umm Saleem, the oldest woman in the family, whose face seems to be entrenched in time, talks about this. "Things have changed now. They marry for love. In my time, we did not see each other until the wedding day. I married Abu Saleem without knowing him. We did not talk to each other for a while. Then time passed, we had children together and *al-hamdullah* [praise be to Allah] life was good." She talks of her daughter-in-law and how she married her son for love. "Ah! Yes, they loved each other," she said while giggling away the severe protests of her daughter-in-law. One can never tell exactly how old the women are, probably because of clean living, constant movement and limited pollution, all which help them retain their health and looks. Divorce has also become relatively easy in these parts. "Young people marry for love nowadays," explains Umm Ismail, "so if the woman tells her husband she no longer wants him, he divorces her." However, that does not necessarily mean that all men adhere to this belief. She speaks of her daughter's unfortunate marriage and how her ex-husband, after her new marriage, tried to take the children away from her out of jealousy. Men are still territorial regarding the women of their household, even after a divorce.

The habit of taking more than one wife is declining. The married sons of Sheikh Barakat whom we have met have one wife each. There are several reasons, mainly economic, that no longer permit men to support more than one wife. Another reason is younger women's refusal to share a husband; unlike the older women, they mostly married for love rather than a sense of duty. For those still following the old ways, the first wife has a very special status in the household. She is the matron of the family and subsequent wives must follow her lead. She usually possesses more power over the husband

² The Awlad Ali tribe was Abu-Lughod's case study (Abu-Lughod 1988).

³ Cows are imported from other regions for feasting purposes.

and other wives can go to her for advice and favors. When asked about the problems of polygamy, Umm Ahmed said: “Of course it causes problems and fights and women demand divorce. But if the man is good, things go smoothly.” She recalls the time that her own husband told her he wanted to take another wife: “He told me before he married her, so I was fine with it and even attended the wedding.” There seems to be a special relationship between the two wives who now live side by side in separate houses.

The Bedouin women of Serabit al-Khadim are quite able craftswomen. While they use standard Sinai designs, they infuse these designs with their own creativity. Nylon and wool are used for weaving. Along with beads for bracelets, key chains and necklaces, they use turquoise for rings and different ornaments. Turquoise is one of the secrets of the place; the Bedouin never talk about how they find it or where, for it is their livelihood. The men extract it from the ancient mines and the women sell it, both in rough form as well as after it has been polished and varnished.

The Cultural Heritage and Development of Serabit al-Khadim

The Shasu of the Ancient Egyptian sources were not usually considered inhabitants of Egypt because of their different looks, activities and affiliation. *ShAs* in Ancient Egyptian meant ‘to wander,’ and probably reflected a social status related to the pastoral nomadic way of life of the ancient dwellers of the area, rather than an ethnic group. They were associated with the Levant, Canaan and parts of Egypt, besides being famous for their herding activities. In a way, the Bedouin were marginalized in ancient times similarly to today. Since Antiquity up to the Byzantine Period, the Bedouin were sometimes under Byzantine rule, and sometimes under Nabatean rule, forming a threat to the monastic and ascetic communities in South Sinai. Afterwards the monks of Pharan and Raithou appealed to Emperor Justinian, which led to the foundation of Saint Catherine’s Monastery in the 6th century CE. During the Medieval Period, the Sinai witnessed wars and construction of fortifications during the reigns of the Sultans Salah al-Din (1174–1193 CE) and Selim I (1512–1520 CE). Later, the Sinai was a strategic area for the French and English occupations of Egypt. Since the 1980s, the Bedouin of the Sinai have been marginalized as they were left to work meager jobs in the new tourist

areas of the Sinai, while the major jobs in those areas were always given to immigrants from the Nile Valley. These economic projects were funded by the Egyptian government under President Mubarak (1981–2011), benefiting a small group of businessmen, while most of the Bedouin were left out to live on the scraps of this growing industry. At the beginning of the 21st century CE, the Bedouin are still left out of development projects and are usually portrayed as living in very basic communities, ignorant and mostly herding a few goats. They were also recently accused of working in drug trafficking, as well as helping terrorist groups. Since the recent terrorist attacks on a few areas in South Sinai, the European Union has allocated a large fund for the development of the Bedouin of South Sinai.

Outline of the Pilot Study

The major economic possibilities of the area around Serabit al-Khadim are mostly related to a few daring tourists who come on safari trips—they are sold a few turquoise stones and the women’s crafts. These limited resources are not enough to maintain all households in the community and many people try to find jobs in Taba, Nuweiba or Sharm al-Sheikh. Unfortunately, the existing national and international development models have not given enough attention to cultural heritage as a means of inducing economic development, as they underestimate the impact that cultural heritage can have on the development process (World Bank 2001: 3). The Serabit al-Khadim area’s future economic prospects are directly related to its cultural heritage assets, which, when used in a proper way, will help create alternative developmental means for inhabitants. Development based on cultural heritage does not use culture as a commodity nor as a static academic resource, but rather is treated in a multidisciplinary method that includes the tangible and the intangible through investing in cultural self-preservation (World Bank 2001: 4). Currently, the cultural heritage of the area is threatened by neglect and the lack of educational facilities at the site, increasing the risk of vandalism and theft. If the archaeological site can be visited ‘in moderation’ and in a way that interacts positively with the daily life of the local inhabitants, the site will be protected by the local community. In order to realize a future in which the temple generates income for the local inhabitants and in return they preserve and protect it, a few interventions are being carried out. These include capacity building and education,

adequate signage, publicity and marketing, and finally construction of a visitor's center to exhibit the tangible and intangible heritage of the area.

The capacity building and education are designed to cater to three segments of the Bedouin population in the area. Men between 18 and 40 years of age attend a first module in order to become guides by learning all the historical, natural and geological information about Serabit al-Khadim, along with other important sites nearby, such as Bir Nasb, Jebel Mukkabar and many others. A second module is aimed at helping inspectors of the Supreme Council of Antiquities (SCA) by reporting any threat or preservation problems pertaining to the site, via detection of human or natural hazards and assessing their severity. The second segment, aimed at women and their training, is provided with the help of Sheikha Salima. Sheikha Salima is the first Bedouin who promoted the role of women in South Sinai when she turned the crafts of a few women into a commodity of international quality that is now exported around the world. Sheikha Salima's FanSina organization (comprising around 365 Bedouin women) has shops in Cairo and a few European capitals. She is involved in teaching the women of Serabit al-Khadim how to improve their products. The women's products are also being marketed, branding the products with the logo of Hathor to distinguish them from other products of the Sinai (Figure 25.5). The third segment comprises children who attend workshops to improve their historical knowledge and to learn about the cultural and natural heritage of the area (Figure 25.6). This is done through sessions of drawing, acting and other activities, all using themes of the area to enrich their knowledge and plant the seeds to someday become guides themselves.

The CRM plan also includes marketing of the area, such as informing tourism companies and hotels in the area and providing them with flyers and brochures. A map with geo-referenced information of the area was created to serve as a guide so that visitors can better understand the area and make their way through more easily. A guidebook for the region and its intangible heritage is currently being prepared to provide balanced information.⁴ Public lectures and exhibitions are being planned in Cairo in the final phase of the project to encourage more Egyptian tourists to visit the site.

⁴ The website <http://www.beithathor.org/> also provides information on the area, including summaries of ongoing research, and has an interactive map to aid visitors coming to the site.



Figure 25.5. Umm Mukhtar displaying the intricate handiwork of Bedouin women.



Figure 25.6. A group of eager young Bedouin children on their way to an educational session.

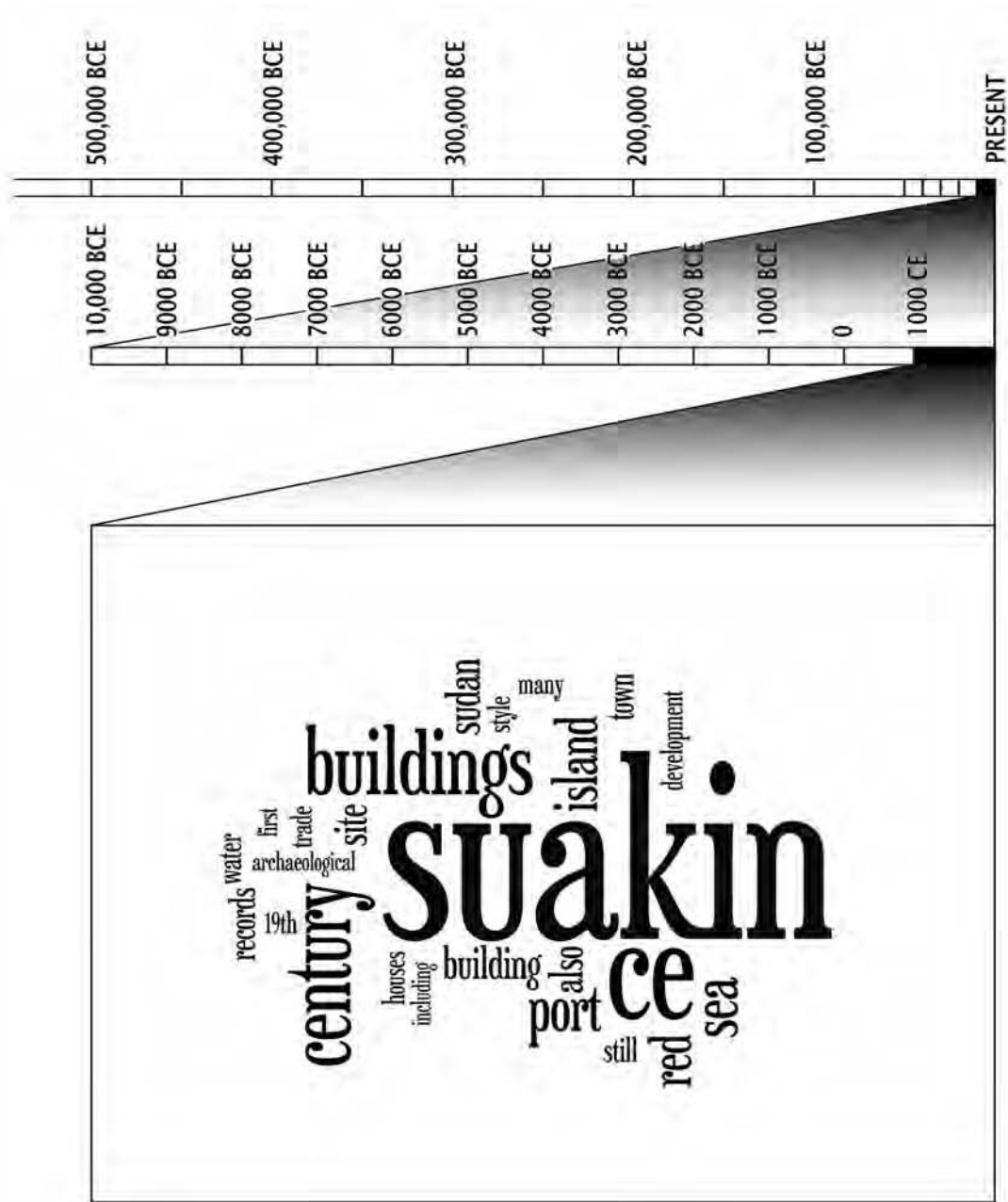
A heritage center called Beit Hathor (House of Hathor) has been designed to host two exhibitions on the tangible and the intangible. Vernacular architecture was chosen for this center, and the building will be constructed using locally available materials to reflect the environment and cultural and historical context of South Sinai. Many of the ideas for this project were

taken from homes in the region. Beit Hathor is intended to provide tourists with necessary information and a site for selling Boudoin crafts, and, most importantly, to serve as a heritage center for the Bedouin themselves. All possible ecological measures are being taken as far as financial resources permit for waste management and clean energy for the heritage center. In addition, a small library of publications on Serabit al-Khadim that will double as a training room is being set up to encourage further capacity building among the local inhabitants. The Bedouin of the area were consulted on where they wanted Beit Hathor to be built, what it should comprise and what it should look like. They proposed the training room and provided information on the training they wanted. In this way the training they want could be created and they showed a genuine interest once it had started.

The broader aim of the project is to develop Serabit al-Khadim in a way that benefits the Serabitis so that they will sustainably develop and safeguard the site. Consulting with the community under investigation should not be a lopsided dialogue between the people carrying out the study and the locals giving their consent to do the work, but rather brainstorming on the design and development of the actions involved (Greer *et al.* 2002). This dynamic interaction between both parties incorporates a range of strategies intended to involve the Bedouin in investigations and interpretation of the ancient history of Serabit al-Khadim to facilitate taking control of their future based on the past (Moser *et al.* 2002). The Egyptians have been excluded from Western scholarship for a long time (Wendrich 2010; Abdel-Qadr, this volume), and when they took control of their antiquities and museums, local communities were not involved in any of the processes. Only recently has

involvement of the local population in the study and preservation of their history become a priority, such as in Quseir al-Qadim and Berenike (Moser *et al.* 2002; Abdel-Qadr, this volume). The attitude towards the study of history and archaeology has also mostly been focused on tangible items, leaving behind the vernacular heritage of the people who are part of the social history of the place being studied (Hassan *et al.* 2008: 14). In our project, the Bedouin never thought to be subjects upon whom research was carried out (Moser *et al.* 2002), but rather partners whose intangible heritage was as important as the temple and the ancient remains being investigated.

The expected outcome of this project's intervention will have multiple interdisciplinary effects. The first two run in parallel directions. They comprise an attempt to reduce the poverty level of the inhabitants through increasing the number of tourists in the area and creating new jobs based on new economic activities. This is supported by a large proportion of skilled Bedouin men, women and children. The men will have more knowledge of the area and more skills in guiding and other income-generation activities. Women will be able to produce more handicrafts, with better quality control and fine finishing, selling either directly or through a third-party distributor. Children will be better educated and increase their knowledge of the value of the tangible and intangible heritage of their presence in the area. Third, thorough documentation of the current setting of the Bedouin is being carried out for future systematic social mapping and re-evaluating the area's needs. Fourth, a locally managed heritage center will be created to cater to the touristic cultural experience in South Sinai. This will provide the Bedouin with a sense of ownership of their local heritage and social history.



Time line and word cloud for Michael D.S. Mallinson, *Nominating Suakin a World Heritage Site*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 26



Nominating Suakin a World Heritage Site

MICHAEL D.S. MALLINSON¹

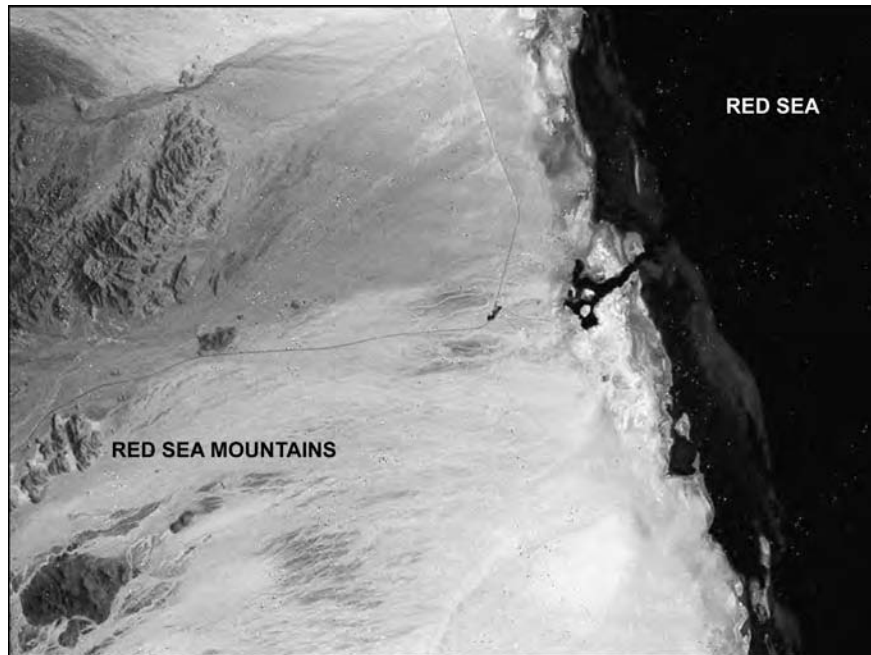
THE SUAKIN PROJECT WAS ESTABLISHED IN 2000 for the purpose of creating a future for the important historical site of Suakin. Its aim was to provide the necessary scientific research and create a suitable institutional infrastructure to help protect and preserve the site, and help the owners of the buildings and the land to restore the site following its destruction by earthquakes and neglect over the last century. As a part of this process Sudan's National Corporation of Antiquities and Museums has been seeking to have Suakin nominated for World Heritage Status since it was placed on the tentative list in 1994. This chapter explains why despite the evident destruction of many of the buildings for which Suakin is famous, the site still has a claim to such a role, and how its story is an integral part of world culture (Schweinfurth 1865; Crowfoot 1911; Robinson 1921; Bloss 1936, 1937; Roper 1939; Newbold 1945; Foster 1955).

Suakin in northeastern Sudan (19°N 06'44.3" / 37°E 20'14.4"; UTM Zone 37Q, 325101 E / 2114083 N) is the last remaining example of a city built in the Red Sea architectural style (Matthews 1953, 1955; Greenlaw 1976,

1995). The Red Sea Architecture of the town that made it famous was constructed of coral blocks between the 15th and 20th centuries CE and its fabric has been untouched since the 1920s when the port was officially abandoned in favor of the newly built Port Sudan. This architecture, however, is not all that Suakin has to offer historically. For a thousand years, Suakin was the gateway for Islamic culture into Sudan and the main African pilgrimage port towards Mecca (Hassan 1963; Insoll 2003; Power 2009). Suakin was also a vital trading port on the route between northeast Africa and Asia, through the Red Sea and the Indian Ocean, established in Pharaonic Egyptian times and maintained by Graeco-Roman, Byzantine and Arab traders ever since. The project's archaeological investigations have now shown that the entire island is a 2- to 3-m high archaeological mound with cultural remains from the level of the water to the existing ground level. Geographically Suakin is a unique example of a lagoon harbor (Figure 26.1). Over the centuries the town and port developed on a circular island site in the middle of a lagoon that was later connected to the mainland by a short causeway. The beauty of the port, its building and setting, was renowned: Suakin was the Venice of Africa (Greenlaw 1976, 1995). Suakin is at a unique crossroads of Islamic, Sudanese, Ottoman and other cultures. This is expressed in the Red Sea architectural style and the traditions of the island, which ethnographic research reveals remains preserved in the populations surrounding the town. Annual festivals include processions through the town by Beja tribesmen, traditional music festivals and dromedary races along the walls of Suakin. The Suakin Red Sea style has been acknowledged throughout

¹ The National Corporation of Antiquities and Museum's Suakin Project is directed by Hussan Hussein Idris, the head of NCAM, and comprises a team co-directed by Dr Laurence Smith, of the Cambridge Macdonald Institute of Archaeological Research (UK), and Michael Mallinson of Mallinson Architects (UK), with researchers from NCAM (Sudan), Cambridge University (UK), Khartoum University (UK), Ulster University (Northern Ireland) and a team of specialist conservators trained at the British Museum (UK). The project is also grateful for the support of H.E. Taha Eila, governor of the Red Sea State and his office.

Figure 26.1. Satellite image of northeast Sudan, showing Suakin on an island in a bay with a very narrow inlet. The asphalt road between Port Sudan to the north and Khartoum to the west, turning from the coast into the Red Sea Mountains near Suakin, is clearly visible.



the region as the best example of this creative style, comparable only to Massawa, in present-day Eritrea, which was almost completely destroyed by an earthquake in 1921. The ancient written records on the Red Sea are redolent with references to Suakin, including in the works of Ptolemy, Mas'udi, Maqrizi, Ibn Said, Abulfeda, Ibn Fadlallah al-Umari, Ibn Battuta, Ibn Khaldun, Francesco Suriano, Zorzi, Alvarez, Joam de Castro, Almeida, Lobo, Dapper, d'Anville, Lapanouse, Seetzen, Bruce, Burchardt and Valentia (Hinkel 1992: 216-218) and it features in many songs and other oral traditions of the Beja people. It was the focus of the historic struggles between the Sudanese people and the Ottoman Empire in the 19th century CE, and is considered by most Sudanese, and many other North African people, as a symbol of their link to Islam and their personal pilgrimage to Mecca. The biological diversity of the Suakin reefs and the lagoon wetlands are unique in their own right (Chekchak and the Equipe Cousteau in press).

The History of Suakin

Suakin may have been the site of a Roman port identified as Evangelon Portus by Ptolemy, which maintained links with the Nile Valley, Ethiopia and Arabia Felix. In the 9th century CE, a small gold rush resulted in waves of immigration from the Arabian Peninsula (Burckhardt 1822; Hinkel 1992). The new populations needed a port for access to their homelands. This early role of Suakin was shared with Aydhab farther north and Badi to the south (Crowfoot 1911; Paul 1955; Kwatoko 1993;

Power 2009), and it suffered with them from occasional invasions from Egypt. Suakin was a prominent city during the early Christian Kingdoms of Sudan (10th–12th centuries CE), when Suakin formed a hub in the Red Sea trade. According to al-Maqrizi (*Khitat* III, 257), the Arab writer Ibn Sulaym al-Aswani (975-996 CE) described Suakin as linked to the Nile Valley by a caravan route from Shankir, near Berber. Suakin was first mentioned by name in the 10th century CE by al-Hamdani (*Sifat* I, 40, 133; *Jawaharatayn* 24), who says it was an ancient town. At that time, Suakin must have been a small Beja settlement, but it began to expand after the abandonment of the port of Badi to its south. The Crusades and Mongol invasions drove more trade into the region; there are a number of references to Venetian merchants residing at Suakin and Massawa as early as the 14th century CE. For most of its early history, the port was in joint control of both the traders and local Beja tribes. The writers Masudi and Ibn Said (1208–1286 CE) refer to a tribe called al-Khasa, which comes from near Asmara, in modern Eritrea, as controlling the town. Townspeople were considered good Muslims, although, according to Yakut (III, 182), Christian traders were still present in 1224 CE. When John Lewis Burckhardt visited Suakin in 1815 CE (Burckhardt 1822: 433), he describes the population as emigrated from Hadramaut in Yemen, and that the Hadareb tribe was in control and Suakin was under the rule of Prince (*emir*) al-Hadherebe.

In the 14th century CE, Suakin was indicated on the map of the Genoese merchant Carignano, who spelled

it ‘Seueci.’ The increased importance of the town in later times can mostly be attributed to the destruction of Aydhab by Sultan al-Ashraf Barsbay (1422–1438 CE) around 1426 CE (Leo Africanus III, 837, Pory and Brown 1896). It was at this time that the al-Hadareb tribe took over in Suakin (Paul 1959), who had previously ruled Aydhab. This suggests that despite Leo Africanus’s reference to the governor of Suakin massacring the fleeing population of Aydhab, the population more likely moved south to Suakin, which may also be why Aydhab is also referred to as Suakin Gadeem or Old Suakin. In the 15th century CE, trading contacts included Indian and Venetian merchants. The first Hadendowa ‘Sherifs of Suakin’ traced their origins back to the end of the 15th century CE when, following the visit by al-Ashraf Barsbay in 1451 CE (Crowfoot 1955), they arrived and settled in Suakin. The town was controlled again by Egypt in 1517 CE, after the Portuguese tried to establish themselves in the Red Sea and Selim, the Turkish conqueror of Egypt, built a fleet at Suez to keep them out. By the 16th century CE the port was reported as having well-built houses. In the 17th century CE two small forts are recorded as being built on the mainland, which appear on maps until the 1870s. Only the small tower called Fort Fulla is still visible today (Figure 26.2). At this time the inhabitants are recorded as being under Turkish rule and many of their houses are apparently in a poor state of repair.

Having been under Egyptian Mamluk control in the late 15th century CE, Suakin was surrendered to the Ottoman Turks in 1517 CE and from then on had an Ottoman garrison until the 19th century CE. Used at first as a base for the fleet fighting the Portuguese it became, in 1540 CE, the supply base for the conquest of Abyssinia and a capital of the province (*eyalet*) of Habes. By the 1580s, it was joined with the *eyalet* of Egypt only to be transferred to the control of Jeddah shortly afterwards. Suakin was the main port for the Funj Sultanate (1504–1821 CE), ruled from Sinnar on the White Nile. In the 19th century CE control passed back to Egypt and the port once again prospered, especially after the opening of the Suez Canal in 1869 CE. The British general Charles Gordon was based in Suakin in the 1860s when he was governor of the Red Sea littoral and active repressing the slave trade. His residence here was short, but saw the building of most of the larger public buildings in Suakin as well as the short causeway to the mainland. During the Mahdi Revolt (1883–1898

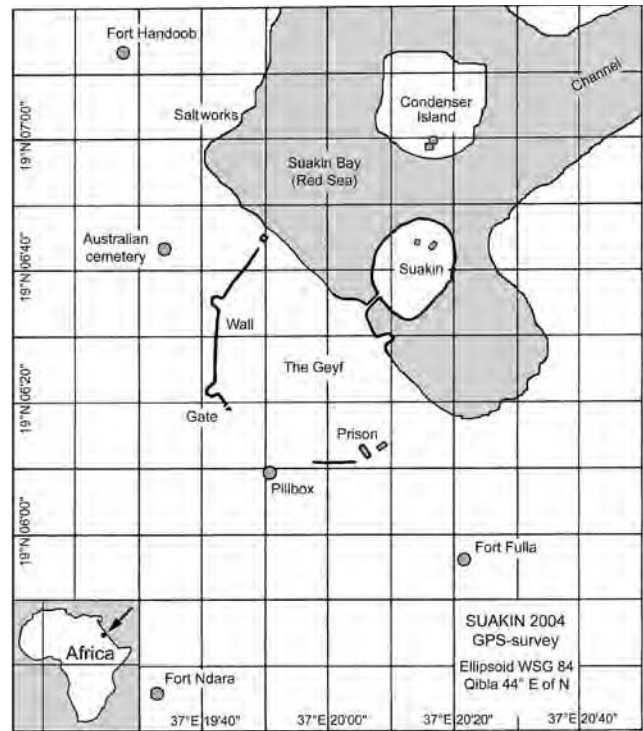


Figure 26.2. Map of the wider environs of Suakin, showing the current coastline and the preserved defensive structures. Surveyed and drawn by H. Barnard.

CE) the town was fortified by Commander (later Lord) Horatio Kitchener and never succumbed to the Mahadist troops under Osman Digne. A revival of the trade with Europe followed, but also led to the abandonment of Suakin as a new port, Port Sudan, was founded 60 km (40 mi) to the north in 1909 to serve as the terminal of the new railroad between the Nile Valley and the Red Sea coast. The majority of the houses of Suakin that were still standing in 1951, when they were surveyed by Jean-Pierre Greenlaw who attested to the rich history of Suakin (Greenlaw 1976, 1995). Their rapid deterioration is a great tragedy for Sudan and the local population.²

The strategic importance of Suakin developed because it offered a protected harbor at the northernmost reach of the trade winds from India. This made it a key location for long-distance trade in the Red Sea. Suakin’s history was also influenced by the caravans that passed through Suakin on their journey inland to northern emporiums in the Nile Valley. The Red Sea tribes carried the balance of power in the town; the sea traders had links to the Hadredeb traders in Jeddah but

² Suakin is a protected monument under the 1999 Archaeological Ordinances of the National Corporation for Antiquities and Museums.

the inland trade, and its dependence on local food and water, ensured that local tribes played a key part of the development of the town. The Beja people owned property in Suakin and many intermarried, resulting in the formation of the separate Artiga tribe whose chief (*omda*) still has great importance, both on the island and in the surrounding area. Alongside this economic development is that of the pilgrimage routes from mainland Africa to Jeddah and Mecca as northern Sudan increasingly converted to Islam. Suakin consequently developed links westwards as far as Darfur and Chad. The pilgrims traveled with the traders, and relied heavily on the same protection as the goods that they traveled with. The Omda of Suakin controlled the north–south route and access to Ethiopia.

Archaeological Research in Suakin

The Suakin Project, under auspices of the National Corporation of Antiquities and Museums (NCAM), has undertaken substantial archaeological research on the island of Suakin and its surrounding areas since 2002 (Mallinson *et al.* 2004, 2009).³ Previous to this the only other archaeological work recorded a supposed Roman cistern on Condenser Island, a second island just north of Suakin (Chittick 1982). The recent excavations in several areas of the site, including its center, peripheries and harbor, including underwater surveys, show evidence of occupation dating back to the 11th century CE. Recent radiocarbon analysis of organic samples from the bottom of a pit next to the Beit al-Pasha returned a date of 1066 CE. Most of the pottery, however, dates from times when Islam became the dominant religion in northern Sudan. The findings indicate that the settlement started with the building of simple huts that were later replaced by larger stone structures and a specific enlargement and reshaping of the island in the 19th century CE. Research has also identified a number of lost buildings, including Beit al-Mufti and Beit Osman Digne, as well as previously unrecorded parts of known monuments, including the internal layout of Beit Khorshid Effendi, previously unrecorded diwans in the courtyard of Beit al-Pasha, and an earlier mosque beneath the Shafai Mosque, the main mosque of the city (Figure 26.3).

³ This work was funded by Cambridge University, the University of Ulster, the British Institute for East Africa, and the Sudanese national government through the office of the Minister of Culture, Youth and Sport.

In places the island preserves stratigraphic layers of occupation of over 1.5 m deep down into the modern water table. These findings attest to a long period of settlement and development of the central areas around the later Beit al-Pasha and Shafai Mosque. Excavations also suggest that the water table is rising as earlier levels of occupation appear now to be under water. Our research also confirms the continued existence of many of the decorated elements that made the Red Sea houses of Suakin famous, including elements of doors, stone-carved door lentils and decorated *roshan* windows. These have been recovered and stored for future restoration. The richness of their style and the suitability of the architectural elements for living in the hot climate on the Red Sea coast are evident. During the 2004 season all excavation trenches existing at the time and the larger structures surrounding them were surveyed. To aid future survey work in the area, nine station markers were left in situ. The northeast outside corner of the restored Hanafy Mosque, opposite the “lion gate” of the customs building, was chosen as the grid origin for a coordinate system covering the entire site (Figure 26.4). A start was made with the mapping of the wider environs of the city and the Geyf (Figure 26.4), as well as additional survey work on Condenser Island and the recording of the present coast line of Suakin itself (Figures 26.2 and 26.4).



Figure 26.3. The Shafai Mosque in Suakin during restoration work in the spring of 2010. Built in the 17th century CE this mosque is the largest on Suakin Island. It was in a serious state of disrepair and its restoration, implemented by the National Corporation of Antiquities and Museums with funding of the British Embassy in Khartoum, is an important step towards the future recognition and rescue of Suakin's cultural heritage.

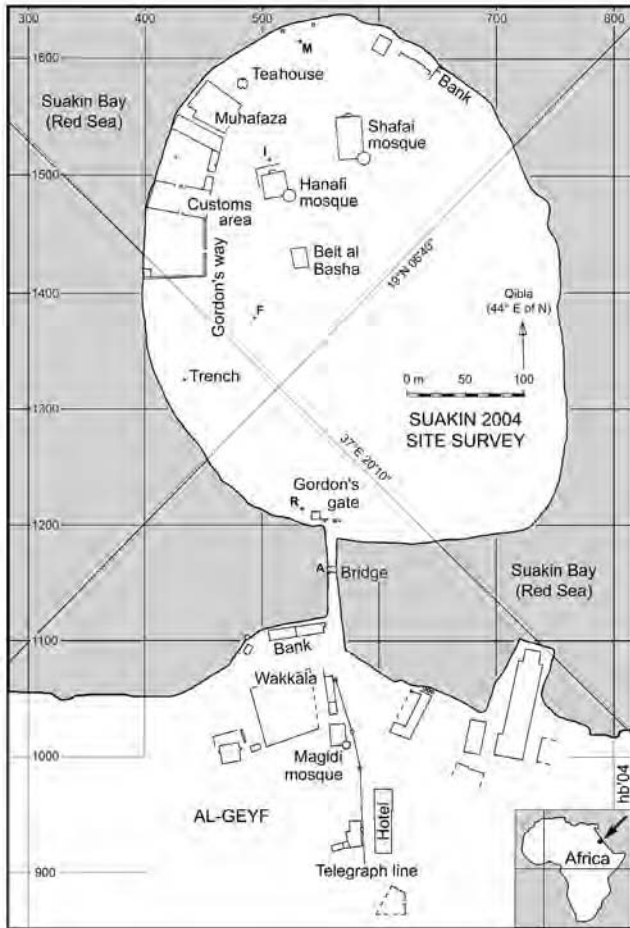


Figure 26.4. Map of Suakin showing the current coastline and the position of some of the main structures on the island and the mainland (al-Geyf). Surveyed and drawn by H. Barnard.

The Future of Suakin

Our historical research has resulted in a database of over 1200 photographs of Suakin from sources as diverse as the Sudan National Records, the Durham University Archive, the British National Records Office, the personal collections of Jean-Pierre Greenlaw and Sir Laurence Kirwan, and archived newspapers. The Greenlaw Archive has more than 100 drawings of the buildings as well as a model of the island as it was in 1924 CE. The photographic record is further supported by a series of books and narratives in Arabic, Hebrew, Portuguese, English, German and French, describing the history of Suakin at the end of the Ottoman Empire and the development of European contacts in the region. The information gathered records both the local history and gives accounts of trade and social relations going back to the 16th century CE and beyond. The records of travelers in Sudan particularly bring into focus the old

international links of the site: David Reubeni and Joam de Castro in the 16th century CE (de Castro 1745–1747; Hillelson 1933, 1935), Father Jeronimo Lobo in the 17th century CE (Da Costa *et al.* 1983), James Bruce in the 18th century CE (Bruce 1790), John Lewis Burchardt in the early 19th century CE, coming from Shendi in the Nile Valley spend two weeks here in 1814 (Burckhardt 1822), and numerous late 19th century CE visitors describe the complexities of trading in this area.

The records that accompany these histories and narratives also attest to the development and change of the island, from a collection of simple huts to elaborate stone buildings, large port facilities and impressive defensive structures. The latest examples of the latter, built in the 1880s and 1890s, are detailed by full working drawings by the British War Office, including specifications for the first defenses designed for machine guns and trench warfare. Suakin was at the forefront of the development of colonial technology for much of the 19th century CE, seeing the introduction of water condensers, cotton gins, steam cranes and military ballooning. The first Australian war graves and memorial, dating to the Suakin Campaign of 1884, are to be found here as well (Figure 26.2). Suakin's cultural heritage value is vested in part in its intangible heritage. The songs and traditions of Suakin life are still alive in the oral record of the Beja and Artiga people; they continue to hope that Suakin will again become a center for their culture. The economic activities of the local people, such as fishing, boat building and trading, and the stories of the sea captains of the area, are part of this living tradition and are also being recorded. The hope is that this material can be more fully documented before the oldest surviving inhabitants have died.

The photographic records from 1888 CE onwards show a constantly evolving architecture in the domestic buildings of Suakin. The characteristic decorated wooden windows, called '*roshan*,' and doors, were frequently moved from building to building and remodeled in the process. The historic records of Suakin make frequent reference to the collapse of buildings. The historic record of seismic events shows them to be as frequent as five to ten per year since 1889, with major ones at least every half century (Ambraseys *et al.* 1994). The 1938 earthquake, 5.8 on the Richter Scale with its epicenter 90 km (60 mi) away, was stronger and closer than the one that destroyed Massawa in 1921, which was 5.7 on the Richter Scale and 140 km (90 mi) away. It did not cause

many casualties, as by then the port was closed and the buildings mostly empty. The references to collapse are supported by the archaeological work carried out by the Suakin Project. A number of building foundations from the 18th century CE were found under the later 19th century CE buildings among deposits of fallen blocks. Moreover, the edge of the island is constructed with layers of rubble from collapsed buildings.

Detailed examination of the process of building collapse, gleaned from photographs before and after the 1938 earthquake, and the state of *in situ* building materials, reveal four significant factors that have made the buildings vulnerable to seismic disturbance. First, the buildings were built close to the water table in friable porous materials such as coral limestone and mud mortar. Consequently, the buildup of moisture and the accumulation of salts within the lower walls of the buildings from damp within the ground eventually resulted in a fatal weakening that eventually caused slumping. Second, the decay of the timbers inserted in the walls to provide lateral strength compounded the problems of instability, as the timbers decay due to the moist and salty atmosphere. Third, the roofs of the buildings collapsed due to the decay of roof timbers and occasional heavy rains. Fourth, recent trials in reconstructing the coral walls of the Beit Khorshid Effendi using local conservation techniques has shown that the addition of salt water to make the lime mortar weakens its binding properties. This would have been common practice, as fresh water was in short supply and therefore expensive. All these factors contributed to an intrinsically unstable outer wall. Cracks in the walls that were not maintained or repaired led to collapse, either spontaneously or following an earthquake like the one in 1938, or the series of tremors between 1958 and 1962. The potential for destabilization was also compounded by adding storeys to existing buildings, encouraged by economic prosperity or family expansion. The architecture of the Red Sea style has built-in weaknesses that the earthquakes expose, particularly if left without suitable repair or reinforcement. This structural vulnerability needs to be overcome in any building restoration or conservation.

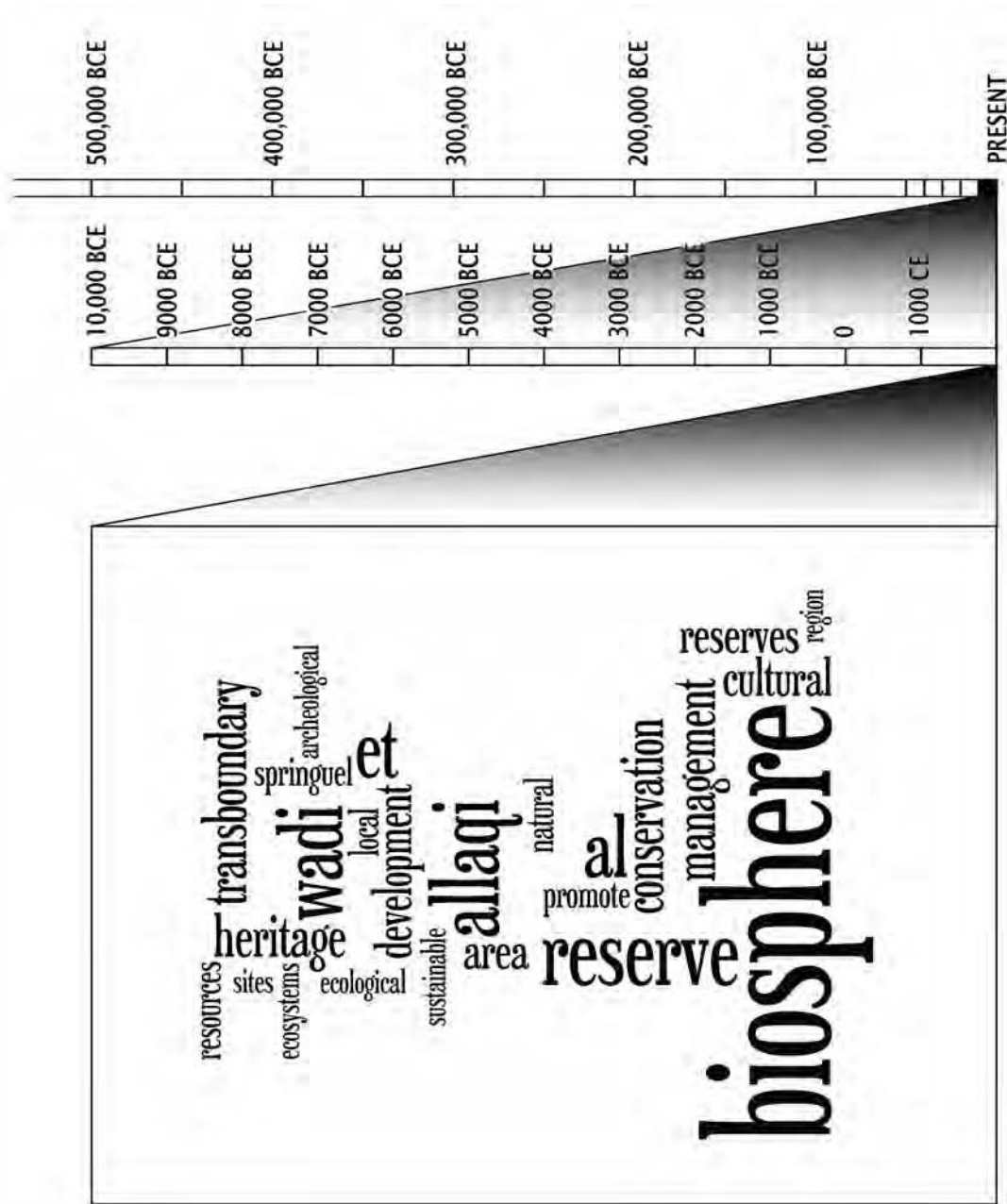
In 1972, UNESCO commissioned a report that fully endorsed Suakin as an Outstanding World Heritage Site, and made a plan for its conservation (Hansen 1973). At this time only 15 of the 140 major buildings were still standing. A further proposal for the protection of the site was prepared by Friedrich Hinkle, which maintained the hope of restoring several buildings (Hinkel 1992).

Shortly before the site was placed on the tentative list in 1994, UNESCO commissioned a report that recommended a Master Plan in cooperation with the United Nations Development Program. The optimism of the reports of 1968, 1972 and 1979 was based on the assumption that the remaining buildings and ruins could be restored and conserved. Although this may be true for a few of the key buildings, the majority of the houses need a more rigorous approach. Comparable historical cities like Lamu (in Kenya) and Zanzibar (in the autonomous region of Tanzania with the same name) were able to continue as living ports because although many fine houses have been conserved,⁴ others have been rebuilt using stronger materials. Even if the families who owned the houses would have had the resources, the restoration and conservation of all the houses would have been expensive, difficult and dangerous. Reconstruction with stronger structural materials, using the coral blocks and carved decorative elements from the original buildings as facings, presents a more practical and cost-effective solution, while the distinctive cultural style of the buildings and monuments can be preserved by using the historic records as guides.⁵ The rebuilding of the fallen buildings follows in the traditions and necessities of building on the island as established by historical and archaeological records. Most of the buildings are still owned by families and some can be encouraged to rebuild their homes as viable living units and also to develop new economic activities, such as tourism and diving. Modern structural techniques and infrastructure can be integrated to make the buildings safer and more suitable for the present, while still displaying an authentic Suakin, Red Sea style. In the words of Nasr al-Hagg Ali (first minister of culture of Sudan):

It is our duty towards the future generations of this country and global cultural heritage to preserve this crucial landmark, the gateway through which the life-line from the East steadily trickled in and accumulated the pool of our present-day culture and national makeup. These relics cannot be measured in terms of money, and they are invaluable in the development of this young nation.

⁴ Jeddah, Massaua, Qusier and Yanbu once had a Red Sea architectural style comparable to Suakin; these are all now either completely lost or built over.

⁵ This approach has been sponsored by the National Corporation for Antiquities and Museums in the restoration of the Hanafi Mosque and Gordon's Gate.



Time line and word cloud created from Mohamed al-Aawah and Costanza De Simone, *The Establishment of a Transboundary Biosphere Reserve in Wadi Allaqi, Egypt*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 27



The Establishment of a Transboundary Biosphere Reserve in Wadi Allaqi, Egypt

MOHAMED AL-AAWAH AND COSTANZA DE SIMONE

INTERNATIONAL COOPERATION TO PROMOTE PEACE and mutual understanding is at the heart of the UNESCO mission. UNESCO's Man and Biosphere (MAB) program provides an opportunity for increasing the understanding of ecosystem problems by involving people, especially local people, in conservation and research with a vital bearing on their own future. Biosphere reserves are areas of terrestrial and coastal ecosystems that are internationally recognized within the framework of the Man and Biosphere program.¹ Collectively, these biosphere reserves constitute a worldwide network. They are nominated by national governments and must meet a minimal set of criteria and adhere to a minimal set of conditions before being admitted into this global network. Each biosphere reserve is intended to fulfill three basic functions, which are complementary and mutually reinforcing: a conservation function, to contribute to the conservation of landscapes, ecosystems, species and genetic variation; a development function, to foster economic and human development that is socioculturally and ecologically sustainable; and a logistic function, to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development. Each biosphere reserve has three types of interdependent zones, a core zone, a buffer zone and a transition zone. The establishment of biosphere reserves helps preserve the integrity of cultural resources and heritage.

¹ Visit <http://www.unesco.org/mab/> for detailed information on this program.

Transboundary Biosphere Reserves

As borders between states are political and not ecological, ecosystems often cross boundaries and may be subject to different, even conflicting, management and use practices. Where the territory stretches over more than one country, a transboundary biosphere reserve can be established. Transboundary biosphere reserves provide a tool for a common resource management regime. The experience with transboundary cooperation in biosphere reserves has been largely positive throughout the world. The features of a transboundary biosphere reserve include favoring cooperation and joint management, creating a regional management body mandated to protect and manage the common resources, recognizing the effort at the international level, and instituting the political will for claimants to cooperate and commit in order to meet the common regional need. The Seville Strategy for the management of UNESCO biosphere reserves, including Wadi Allaqi, is recommended to promote and facilitate twinning of biosphere reserve sites and to foster transboundary biosphere reserves (UNESCO 1996).

Wadi Allaqi

The Wadi Allaqi region is located southeast of Aswan, in the southwest of the Egyptian part of the Eastern Desert. It covers an area of about 12,000 km² (Figure 27.1). The area is bounded to the west by Lake Nasser and to the east by the Red Sea. The length of the main valley is approximately 250 km, 200 km of which is in Egypt with the remaining 50 km in Sudan. The Wadi Allaqi region

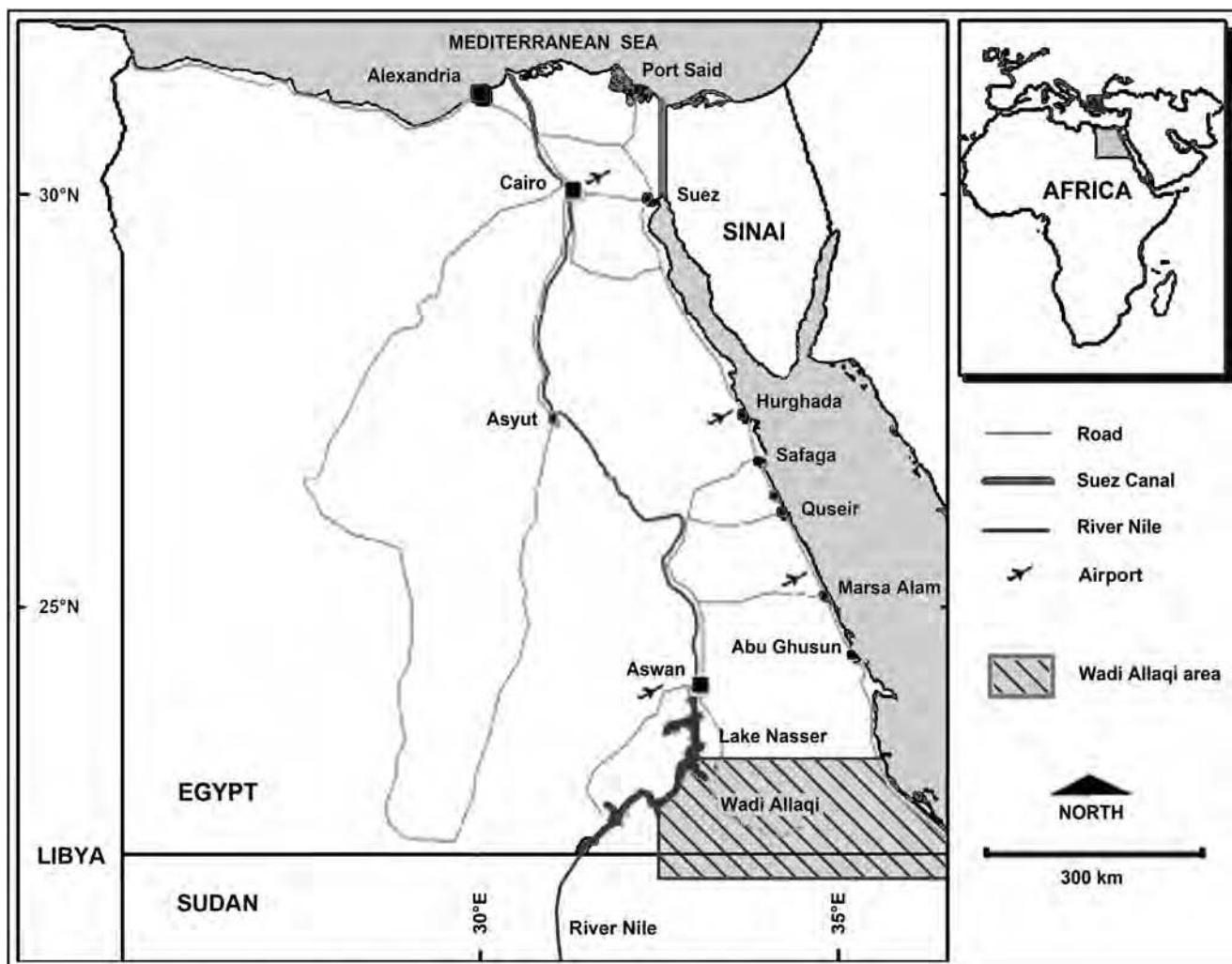


Figure 27.1. Map of Egypt showing the location of the Wadi Allaqi Biosphere Reserve.

was declared a National Conservation Area in 1989, and designated a Biosphere Reserve within the UNESCO Man and Biosphere program in 1993. It has since been subjected to intense investigation (Briggs 1989; Pulford 1989; Springuel and Murphy 1989; Abdel-Moneim and Dickinson 1990; Ghabbour and Mikhail 1990; Radwan *et al.* 1990; Sayed 1990; Abdel-Azeiz and Walmsley 1991; Abdel-Moneim and Briggs 1991; Briggs 1991; Dickinson 1991; Mohamed *et al.* 1991; Springuel *et al.* 1991; Belal 1992; Ghabbour *et al.* 1993; Moalla and Pulford 1993a, 1993b; Shaheen *et al.* 1993; Springuel *et al.* 1993; Springuel and Mekki 1993; White 1993; Springuel 1994; Marei *et al.* 1995; Solway 1995).

The contemporary population of Wadi Allaqi and its tributaries, Bisharin and Ababda Bedouin are unique in Egypt. They are related to the Beja cultural group (Murray 1923; Newbold 1935; Paul 1954; Dahl and Hjort-af-Ornas 2006; Sidebotham *et al.* 2008; Belal *et*

al. 2009, Krzywinski, this volume; Weschenfelder, this volume). The pastoralists living in Wadi Allaqi adjust to highly seasonal rains falling unpredictably over different areas by keeping mobile to take advantage of changes in availability of pasture. In traditional society, there is substantial mutual support through sharing (or giving) of grazing land, animals or their products. In a severe drought, nomads migrate farther into grazing land of other tribes or even into other countries.

Establishing a Transboundary Biosphere Reserve in Wadi Allaqi

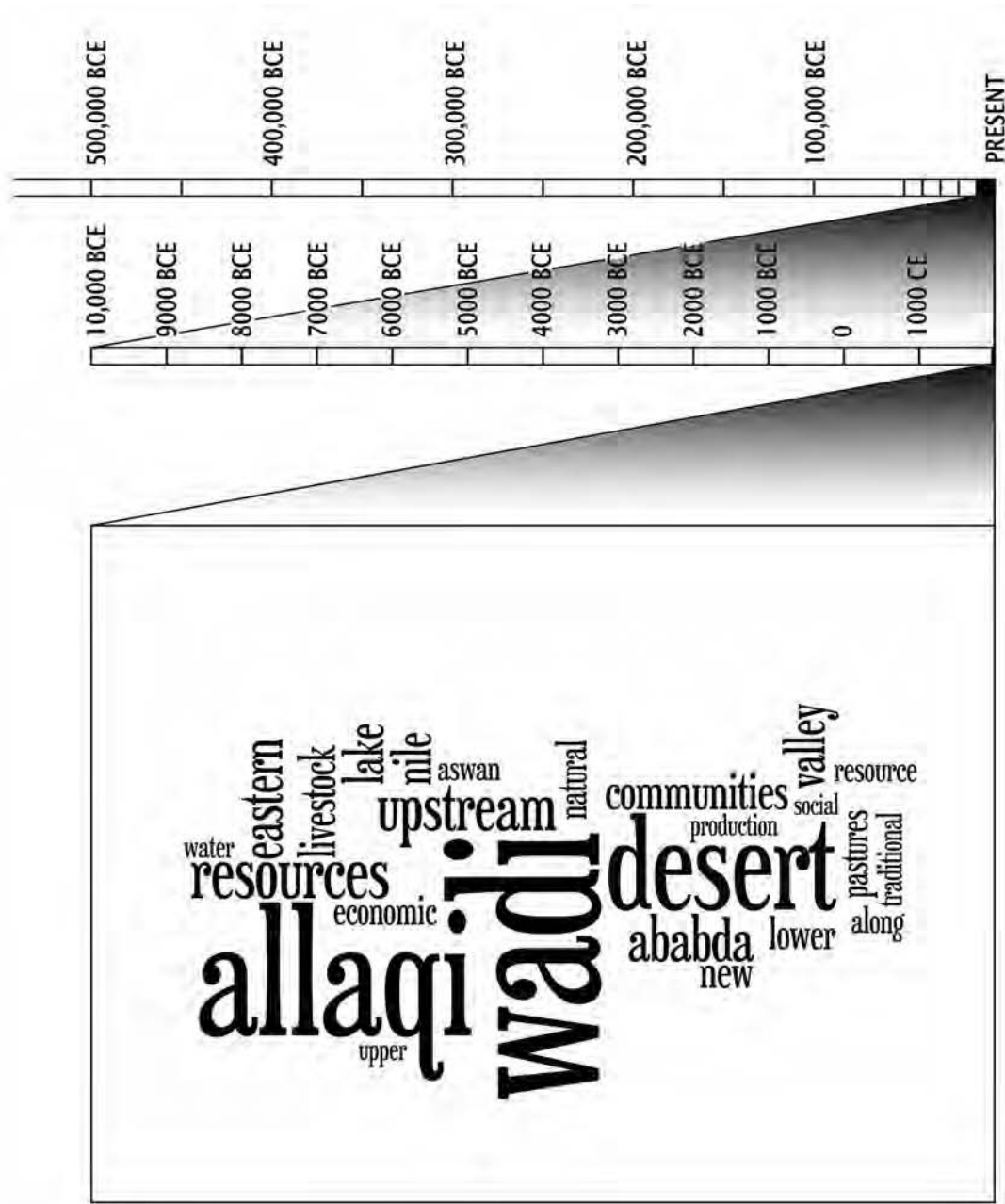
Archaeological investigations both in the Egyptian and Sudanese sides of Wadi Allaqi have proved the richness of the area in terms of heritage. This heritage has historical links that cannot be severed by modern political borders. In almost every tributary of Wadi Allaqi there are remains of settlements, the most ancient

dating back to the Neolithic Period (Sadr *et al.* 1994; Castiglioni *et al.* 1995; Sadr *et al.* 1995; Sadr 1997; Paris *et al.* 2006; Castiglioni and Castiglioni 2007; Gatto, this volume). A common management plan of the heritage resources of an area will lead to more efficient preservation. The establishment of a transboundary biosphere reserve in Wadi Allaqi will be the nucleus for management of natural resources and cultural heritage shared by the two sovereign states (Egypt and Sudan). It will enhance their cooperation through implementation of the biosphere reserve concepts summarized below (Table 27.1; Springuel and Belal 1999).

It is presumed that the establishment of a transboundary biosphere reserve in the Wadi Allaqi area would provide favorable prerequisites for sustainable social, economic and ecological development of the region through more rational control of natural resources and cultural heritage, thus ensuring better conservation of natural landscape ecosystems of the Wadi Allaqi. The nomadic indigenous population will benefit by easier management of shared natural resources and movement within a biosphere reserve.

Table 27.1. The biosphere reserve concepts.

Sustainable development	
Protect and enhance the quality of indigenous minority peoples	
Promote increased recognition and understanding of the cultural heritage and archeological sites of the region	
Promote demonstration sites to illustrate traditional sustainable practices of the regional economy	
Encourage development of innovative resource use and conservation techniques to explore new approaches to local resource issues	
Encourage development of appropriate nature-based recreation that is ecologically sustainable (eco-tourism).	
Conservation	
Support voluntary conservation measures to protect landscapes, habitats, archeological sites, species and genetic diversity in the area	
Promote increased recognition and understanding of the natural environment, and cultural heritage and archeological sites of the Wadi Allaqi Biosphere Reserve	
Preserve the ecological integrity of the protected wilderness and the historic and archeological sites of the area through appropriate management.	
Capacity building	
Develop and promote successful local examples of cultural, educational, ecological and archeological research and development in the region	
Develop opportunities for participation of students, teachers and community leaders in biosphere reserve activities to improve local awareness of cultural heritage and natural environment	
Support scientific research and monitoring of ecological systems socio-economic patterns of the biosphere reserve	
Facilitate the resolution of local issues and concerns, and identify opportunities for cooperation by bringing different sectors and perspectives to the table.	



Time line and word cloud for Alan Roe, *Beja Innovation and Responses to Environmental Change in the Southeastern Desert of Egypt*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 28



Beja Innovation and Responses to Environmental Change in the Southeastern Desert of Egypt

ALAN ROE

HUMAN ADAPTATION, FLEXIBILITY AND innovation, both in the acquisition of natural resources and wider livelihood strategies, are now recognized as key factors in the occupation of resource-scarce deserts and other environments where resources are highly variable in both time and space. Accordingly, ethnographic and anthropological evidence has largely dispelled the conventional perceptions of pastoral nomadic societies that depicted them as essentially conservative and unchanging. A considerable body of evidence now shows that many nomadic societies are innovative and adaptive, not only in their acquisition of key resources for production, but also in their complex engagements with surrounding economies and political entities (Salzman 1972; Hayden 1979; Cribb 1991; Khazanov 1994; Rosen 2003; Nāser 2005; Brands *et al.* 2006; Chatty 2006; Cole 2006; Barnard and Wendrich 2008; Rieger 2009; Szuchman 2009).

The construction of the Aswan High Dam and creation of Lake Nasser in Upper Egypt during the 1960s precipitated one of the most significant environmental shifts ever to have occurred in the Eastern Desert of Egypt and Sudan. This chapter examines the responses of the pastoral nomadic groups in these deserts to the resultant changes in the distribution and condition of natural resources. The discussion outlines not only how these communities have responded to the radically

changed environmental conditions, but also explores how the process of change has reshaped their engagement with the wider economy. While considering the reactions of the Eastern Desert population overall, key evidence is drawn from specific Beja communities based in and around Wadi Allaqi, who were the subject of a joint Glasgow University and University of the South Valley (Aswan) research project during 2001–2002.

Adaptation and Change in Pastoral Societies

Until recent decades, a great deal of emphasis in the study of nomadic pastoral economies was placed on continuity, rather than change. This was particularly evident in the writings of early travelers who perceived nomads as embodying the ‘unknown other’ (Starkey 2001), and of ethnographers and colonial administrators (Waller and Sobania 1994), who often viewed nomadic societies as primitive and obstacles to national development and progress (Weulersse 1946; Warriner 1959). Particularly in the Egyptian context, uncritical examination of written sources has led some authors to link contemporary pastoral populations directly to ancient inhabitants of the same area, emphasizing their perceived antiquity (Murray 1935; Arkell 1955; MacMichael 1967; Herzog 1985; Dahl and Hjort-af-Ornas 2006). However, in the latter decades of the 20th century CE, these views have been challenged with evidence from geographically and culturally diverse

ethnographic studies (Wobst 1978; Christides 1980; Zaborski 1989; Burstein 2008; Saidel 2008; Barnard 2009). Studies from the Arabian Peninsula have highlighted the degree of opportunism and the political and economic integration practiced by Arabian Bedouin in the midst of rapidly growing regional economies (Chatty 1996; Lancaster and Lancaster 1999; Cole 2006). By the latter part of the 20th century CE, broad economic diversification had occurred among Bedouin tribes of the interior of the Arabian Peninsula, with many households and individuals deeply engaged in trade or commerce or in service of the state. Particularly in the Arabian Gulf states, some tribes have built strong political and economic relationships with ruling elites. Many Bedouin families of the Arabian Gulf region have now settled and even though mobile livestock herding remains economically important to many communities, the organization of production has largely been commoditized. There is evidence that traditional Bedouin systems of social organization and value-based codes of behavior have been instrumental in mediating access to these new resources and economic opportunities (Chatty 1996; Lancaster and Lancaster 1997; Roe [Rowe] 2002).

In Africa, where opportunities for economic growth and diversification have been more restricted, many nomadic pastoralists remain primarily specialist herders with subsidiary engagement in complementary modes of production (Waller and Sobania 1994). Nevertheless, evidence shows that African nomadic groups have undergone considerable transformation over the last century, particularly during the creation of colonial and post-colonial states that dislocated many groups from their traditional resource bases. Simultaneously, new regional markets for animal products emerged. The adaptation of nomadic pastoralists to these new economic and political environments have included a shift from traditional networks of exchange to the supply of livestock products to regional markets, supplemented with small-scale agriculture or wage labor (Sperling and Galaty 1990; Barfield 1993; Weschenfelder, this volume). Perhaps the most significant changes, however, have been social and political. Political organization has been strengthened, for example, by the use of strategic clan marriages to facilitate reciprocal access to lands, and new clan hierarchies have emerged to interact with state governments (Rigby 1985; Barfield 1993). Although the combined impacts of drought and the loss of land have heavily stressed pastoral systems, herders utilize

social networks to transfer animals among geographic areas to spread grazing pressure and livelihood risks, and to improve returns (Barfield 1993; Krzywinski, this volume; Weschenfelder, this volume).

This new understanding of human ecology helps inform the interpretation of past occupations of desert lands, in particular the dynamic political and economic interactions between nomadic desert dwellers and neighboring sedentary communities. In some areas, there is historical and archaeological evidence for transitions in production and residential systems by populations along the desert margin. It is argued that sedentarization and nomadization can be driven by relatively minor shifts in political, economic or natural resources conditions, which either ‘push’ or ‘pull’ groups into new forms of land use and social, economic and political relationships (Salzman 1980; Finkelstein 1995). Indeed, some researchers suggest that adaptive strategies can result in oscillating settlement patterns, or a shifting ‘desert line,’ which challenges the traditional separation between the ‘desert’ and the ‘sown’ (Lewis 1987; Finkelstein 1995). This chapter reviews the wider context of this process of adaptive change in nomadic desert communities, drawing on evidence from the contemporary communities in the south of Egypt’s Eastern Desert. The discussion begins with a review of the physical and human attributes of the research area.

The Physical Environment: From Desert to Lake

Geologically, the southern part of the Egyptian Eastern Desert, south of 24°N, comprises the Nubian sandstone plain, extending eastwards from the Nile Valley to the Red Sea Hills that consist of igneous, metamorphic and sedimentary rocks (Said 1990; Barnard Introduction to this volume, Part 1). These hills form the watershed between the Eastern Desert and the Red Sea coastal plain. While the eastern slopes of these hills drain towards the coast, the western slopes and the sandstone plain beyond are dissected by *wadis* (channels and valleys eroded by water) that drain into the River Nile. Wadi Allaqi is the largest of these valleys in the southern part of the Eastern Desert, draining an estimated 44,000 km² (Ball 1902). It extends for more than 250 km along a northwest–southeast axis, from its highest tributaries in the Red Sea Hills to its downstream confluence with the Nile Valley, about 130 km south of the First Cataract near Aswan. The largest tributary of Wadi Allaqi is

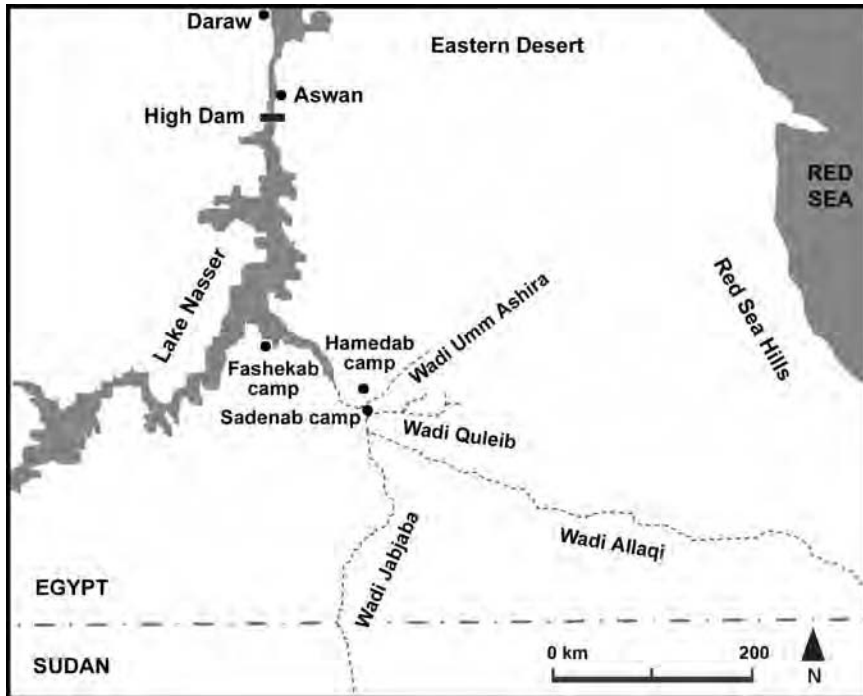


Figure 28.1. The location of Wadi Allaqi in the southern Eastern Desert.

Wadi Jabjaba, which runs about 300 km (185 mi) north through the Nubian Desert (Figure 28.1).

The climate of the Wadi Allaqi catchment area is extremely arid with only negligible rainfall. It lies in the arid transitional zone, between the regions receiving regular winter rainfall to the north and those with regular summer rainfall to the south. Downstream areas of Wadi Allaqi receive an average of less than 5 mm precipitation annually (Springuel 1997), while rainfall in the upper tributaries and the Red Sea Hills is significantly greater due to the effect of the mountains lifting moist maritime air to precipitate at higher altitudes (Andersen 1999). The rain is highly unpredictable and comes in cloudbursts that may cause Wadi Allaqi, or sections of it, to become a river, as it did in for ten days in 1994. Summer temperatures in the catchment basin often exceed 45–50°C (115–120°F), but have been known to fall below freezing in the winter. The ecology of the upper and middle parts of Wadi Allaqi is closely linked to the local topography, with perennial vegetation almost wholly restricted to run-off channels (*khors*). Water is received from across the catchment area and channeled into the alluvial sediments of lower Wadi Allaqi, meaning that moisture levels are considerably in excess of local rainfall (Ali *et al.* 1997). The dominant tree species in the Wadi Allaqi catchment area is acacia, *Acacia raddiana* throughout the area, *A. tortilis* in the eastern highlands and *A. ehrenbergiana* towards

the west. *Balanites aegyptiaca* is found at favorable locations across the Nubian Desert and there are remnant communities of *Tamarix nilotica*. *Salvadora persica* and *Salsola imbricata* are the dominant species in other areas. With *Zilla spinosa* confined to the upstream limits of the catchment basin, the most abundant short-life perennial plant in Wadi Allaqi is *Aerva javanica*. Annual species, stimulated by rainfall or run-off include *Panicum turgidum*, *Zygophyllum simplex*, *Crotalaria aegyptiaca* and *Stipagrostis plumosa* (Springuel 1997). Other than a “minor moist interval,” coincident with the first half of the first millennium CE (Butzer 1995), there is little evidence that the prevailing conditions of the Eastern Desert have altered significantly since the desiccation at the end of the third millennium BCE (Butzer 1976). During the latter decades of the 20th century CE, however, the environment of lower Wadi Allaqi and the adjacent desert was significantly modified as a result of the construction of the Aswan High Dam and the subsequent inundation of riparian Lower Nubia.

The construction of the Aswan High Dam commenced in 1960 and was completed by 1968. Lake Nasser, the reservoir formed behind the Aswan High Dam, extended over 500 km (300 mi) south along the original course of the Nile, flooding an area that at its first peak in 1978 exceeded 6500 km² (Mokhtar 1978). As the water level of the new lake rose along the Nile Valley during the 1960s and 1970s, it penetrated the previously hyper-arid

environments of the Eastern Desert, flooding Wadi Allaqi for up to 50 km (30 mi) upstream. Owing to the very shallow gradient of the desert floor, it has been estimated that a vertical fluctuation of 100 mm in the water level accounts for a 100-m lateral change (Springuel 1997). In addition to longer-term fluctuations, the lake water level is subject to a seasonal pattern of fluctuation following the annual flooding of the Nile. This change is typically in the range of 6–7 m (Briggs *et al.* 1993), resulting in lake water advancing up Wadi Allaqi during late summer and in the spring (Figure 28.2). This large area of temporary annual inundation constitutes a new ecosystem, a transitional zone between aquatic and desert environments (Springuel and Ali 1990). The creation of this large body of water in the Eastern Desert led to some economic development of lower Wadi Allaqi during the 1990s. An asphalt road now connects the area with Aswan and a combination of agencies, including the Aswan High Dam Lake Development Authority (AHDLLDA), has tried to encourage the establishment of commercial irrigated agriculture along the shores of the lake, with varying degrees of success. In 1993, Wadi Allaqi was designated a Biosphere Reserve within the UNESCO Man and Biosphere Program (Belal *et al.* 2009; al-Aawah and de Simone, this volume).

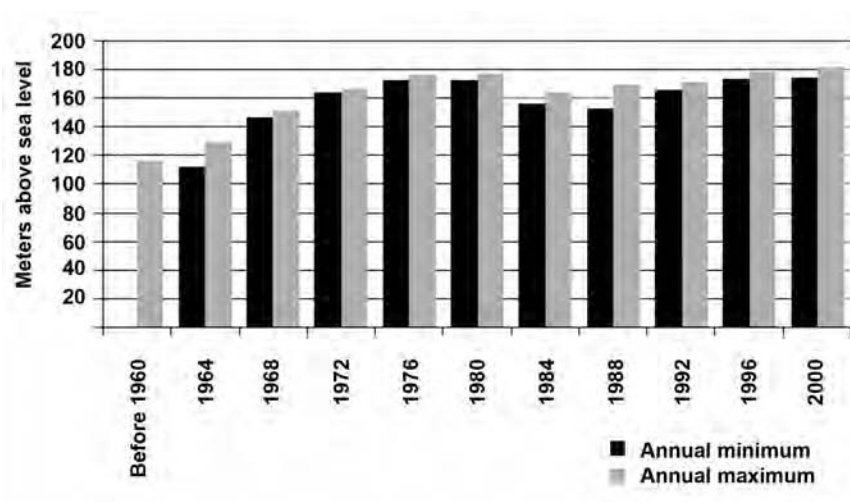
The Human Environment

Wadi Allaqi and the adjacent regions of the southern Eastern Desert are largely undeveloped and unpopulated areas without permanent settlements; the nearest center is Aswan in the Nile Valley (Figure 28.1). These desert regions were traditionally inhabited by Ababda and Bishareen tribes, both of which are assigned to the

Beja cultural group (Murray 1923, 1927; Paul 1954; Seligman 1959; Dahl and Hjort-af-Ornas 2006; Barnard 2009). The Beja are a people of east African Hametic origin, distributed along the Red Sea coast between southern Egypt and the Horn of Africa. Other Beja tribal groups include the Hadendowa, the Amara and the Beni Amer (Murray 1935; Owen 1937; Manger *et al.* 1996; Barnard 2008; Magid 2008; Wendrich 2008), which display cultural and linguistic affinities with the Ababda and Bishareen. Evidence from burial practices suggest that the Beja adopted Islam between the 10th and 14th centuries CE, and it is thought that shortly after this the current Beja tribal divisions took shape (MacMichael 1967; Krzywinski, this volume; Weschenfelder, this volume). The Ababda have since adopted Arabic as their principal language (De Jong 2002), although those in Wadi Allaqi and Eastern Desert interior also speak Tu Bedawie, the language of their Bishareen neighbors. The Ababda and Bishareen as a whole, however, remain culturally distinct from the Arab Bedouin inhabiting the lands to the north (Klunzinger 1878b, 1878a; Sanders 1933; Hobbs 1989). The contemporary Ababda residents of the Eastern Desert are organized into several lineage groups, known in Tu Bejawie as *badanas*, the most important of these being the Hamedab, Ashebab and Melaikab.

In 2001, the downstream population of Wadi Allaqi included Ababda minimal lineage encampments (called *hissas*), comprising 6–10 nuclear households of Hamedab, Fashekab and Sadenab. Encampments in remote upstream areas included those of the Hamedab Ababda and Hamdorab Bishareen. The standard dwelling at Ababda encampments is the *bayt bursh*

Figure 28.2. Recorded maximum and minimum water levels in Lake Nasser in selected years.



(Prussin 1994; Cappers 1999; Barnard 2008; Magid 2008; Sidebotham *et al.* 2008; Wendrich 2008), a small hut structure covered with mats woven from leaves of *Hyphaena thebaica* (doam palm), but now often replaced with lighter and more durable canvas. These residential structures are easily dismantled and reassembled after transport. Another common domestic structure of the desert encampments is the *afsha*, a simple shelter of piled wooden branches. The interior is used as shade from the sun and the roof used to store belongings and consumables out of the reach of livestock. Economically, the communities in Wadi Allaqi remain heavily dependent on the exploitation of natural resources, with livestock production constituting the most important activity, both for sale to markets and for domestic consumption. The primary livestock species herded by Ababda and Bishareen pastoralists are goats, sheep and dromedaries (Table 28.1). The system of pastoral production observed in Wadi Allaqi was found to be essentially similar to that practiced by the Qreijab Ababda elsewhere in the Eastern Desert (Roe in press).

Table 28.1. Attributes of the principal Eastern Desert herd species. Browsing = foraging on shrubs and trees; grazing = foraging on grasses.

	Dromedaries	Goats	Sheep
Reproduction	Biannually	Annually	Annually
Foraging	Browsing	Browsing	Grazing
Water needs	5–6 days	2–3 days	2 days
Sales	Rarely	Regularly	Infrequently
Lactation period	10 months	3–6 months	3 months
Other uses	Transport	Hair and hides	Hair and hides

In recent decades, forms of production utilizing sparse desert resources have become increasingly marginal relative to the fast-growing economy in the Nile Valley. This does not necessarily indicate, however, that Eastern Desert nomads have been isolated from wider economic activity and markets. Historically, there has been a long tradition of commercial activity throughout the southeastern desert. For example, archaeological evidence indicates that desert communities in antiquity were heavily involved in the extraction and transport of precious commodities, such as gold and later emeralds (Sidebotham 1995; Pierce 2001). During the Fatimid Period (969–1171 CE), Beja were granted control of the pilgrim caravan routes to the Red Sea (de C. Hamilton 1935). Later, during the 17th century CE, the Funj Sultanate awarded custodianship of trade routes between Aswan, near the First Cataract,

and Berber, near the confluence of the Nile with the Atbara, to the Ababda (Murray 1951). The Beja groups of the Eastern Desert should therefore be viewed as established participants in the wider regional economy. Clear contemporary manifestations of this economic integration are communities of Ababda and Bishareen ‘brokers,’ who have settled in the towns and markets of the Egyptian and Sudanese Nile Valley, receiving desert products and acting as agents on behalf of their desert kinsmen (Krzywinski and Pierce 2001; Weschenfelder, this volume). In Upper Egypt, large communities of this type can be found at the Bishareen district of Aswan and at the Daraw livestock market.

Available data suggest that at the start of the 20th century CE, the total population of Ababda in Egypt was equally divided between desert dwellers and those settled in the Nile Valley and along the east coast (Klunzinger 1878b; Murray 1951) By the mid-1980s, approximately 90% of those identifying themselves as Ababda were permanently settled, either in the Nile Valley or along the coast.¹ While the sedentary population of Ababda has more than tripled, the population deriving a livelihood from the natural resources of the desert interior has remained relatively static. This raises the point that there are limits to the size of population that can be sustained by natural resource-based forms of production in the Eastern Desert (Roe in press). In 2002, following several years of drought, the population of the lower Wadi Allaqi had dwindled to about 20 households and a population of probably less than 200 persons.

The creation of the Lake Nasser reservoir and the subsequent inundation of lower Wadi Allaqi have had a major impact on the natural environment and human population of the Eastern Desert. Ethnographic studies undertaken among the Ababda and Bishareen in the years shortly after the construction of the Aswan High Dam suggested that nomadic livelihoods were initially threatened as desert dwellers were dislocated from key resources (Mokhtar 1978). More than 20 years later, research was undertaken in Wadi Allaqi by Glasgow University and the University of the South Valley (Aswan). This presented an opportunity to investigate some of the more nuanced impacts of the inundation and also to explore how the utilization of natural resources and associated livelihoods has evolved over time. At the time of the research, between 2001 and 2002, there

¹ See <http://orvillejenkins.com/profiles/beja.html> (accessed March 2009).

was a relatively stable spatial distribution of Ababda encampments around lower Wadi Allaqi (Briggs *et al.* 1993; Springuel 1997; Briggs *et al.* 2002; Belal *et al.* 2009). Movements of individual households, or *hissa* encampments, were generally limited to relatively short movements within the same general area. While the Hamedab maintained their encampment in Wadi Umm Ashira, their distant kinsmen the Sadenab camped approximately 5 km upstream on a minor tributary of Wadi Allaqi. In 2001, the Fashekab moved into the area of Sayalla, approximately 40 km downstream, close to Lake Nasser on the southern shore of Wadi Allaqi (Figure 28.1). This relocation marked the outcome of a period of transition that had begun shortly after the inundation of Lower Nubia. To understand the course of this transition, it is necessary to first review how natural resources are managed and utilized among the communities of the southern Eastern Desert.

Natural Resources and Desert Livelihoods

Research in 2001 and 2002 revealed that among the desert Ababda the related concepts of ownership, management and use of natural resources were complex, and that different types of resources (even the same resources at different locations) were managed in different ways (Briggs *et al.* 2002; Belal *et al.* 2009). Concepts of resource access were commonly expressed in terms of levels of social inclusion, such as common property (universal access), group ownership at the level of the minimal lineage, or private property at the level of the household (Table 28.2). Natural resources, described as *m'aish* (sources of life) were deemed 'gifts from God' and therefore not to be monopolized by any individual or group. A distinction is made, however, between 'God-given' resources, which are available simply to be used, and those that require active management to sustain or 'create' them. Following this rationale, desert dwellers perceived annual pastures following rains in the upper Wadi Allaqi catchment area and the Red Sea Hills, together with naturally flowing or accumulated rain water, to be common property. By contrast, they recognized that the ecology of perennial vegetation in the valleys required careful and sustainable management, which under conditions of universal access was unlikely to be achieved. Accordingly, individual upstream tributaries of Wadi Allaqi were 'managed' by individual lineages. Likewise, the wells in these valleys required regular structural maintenance and were

therefore also the responsibility of individual lineage groups. Management practices such as these, which are based on specific indigenous ecological knowledge, are sometimes termed 'ethno-conservation' or 'lineage reserves,' and have been described elsewhere (Hobbs 1989; Briggs *et al.* 1993; Lancaster and Lancaster 1997; Springuel 1997; Andersen 2001).

Table 28.2. Reported resource ownership, management and use in Wadi Allaqi. Middle and upper Wadi Allaqi includes Qulayb, Haimur, Ungat and Eigat; downstream Wadi Allaqi includes Wadi Jabjaba.

	Resource	Location
Universal access	Annual pastures	Upstream Wadi Allaqi, Red Sea Hills
	Surface water (pools)	Upstream Wadi Allaqi, Red Sea Hills
	Lake water	Downstream Wadi Allaqi
Lineage management	Permanent vegetation	Middle and upper Wadi Allaqi
	Ground water (wells)	Middle and upper Wadi Allaqi
Private ownership	Agricultural land	Downstream Wadi Allaqi
	Crops	Downstream Wadi Allaqi

The notion of private ownership of resources at the individual or household level was found to be uncommon among the communities of Wadi Allaqi. It was only applied to agricultural lands or more specifically, to the crop products that were the outcome of individual labor in preparation and cultivation. Prior to the creation of Lake Nasser, the main area of regularly cultivated land under private ownership was the fertile alluvial bed of Wadi Jabjaba. The valley had been partitioned into demarcated agricultural plots to create small fields, to which each resource user returned on successive years. In practice, these distinctions in resource access rights were rarely so straightforward, particularly given the spatial overlap of natural resources subject to different forms of management. Groups holding customary rights to resources would seldom deny others access to these, unless this was necessary to ensure the long-term survival of the resource, such as under conditions of severe stress. Indeed, due to the spatial and temporal dynamics of resource availability in the Eastern Desert, migration over long distances to access available resources, often in the customary territory of other groups, was fundamental to collective survival.

Until the water level of the Lake Nasser reservoir rose to its first peak in the late 1970s, encampments of the Ababda Hamedab were spread between their primary wells in Wadi Abu Ashira, at that time more than 40 km (25 mi) upstream from the Nile, and wells a further 50 km (30 mi) upstream in Wadi Haimur. The Ababda Sadenab lineage reported that until about 1980, it was based in

the upper tributaries of Wadi Allaqi, at its permanent wells at Unqat. Similarly, the Ababda Fashekab lineage was previously resident in upstream Wadi Qulayb. Each of these sites was occupied under customary rights of tenure and utilized as permanent home bases within migratory multi-resource livelihoods. As part of a clear strategy to spread risks, these multi-resource desert livelihoods combined livestock production with opportunistic crop cultivation when conditions allowed, and some commercial charcoal production and sale of medicinal plants (Roe in press). Opportunities to exploit the various resources required for these economic activities were optimized through mobility.

The traditional migratory cycle of the Ababda to graze livestock commenced if autumnal or winter rain fell in the Red Sea Hills or other highland areas of the Eastern Desert. Annual desert grasses were regarded as the best forage resource for livestock, but even in years when rains failed, some perennial species in the upper valleys could be browsed. The fruits of acacia trees, locally known as *garud*, were particularly valued as a feed store and could be harvested to feed sheep and goats during years of drought. The most highly valued forage species of upper Wadi Allaqi are listed in Table 28.3. Winter migrations to the upper tributaries of Wadi Allaqi were often combined with the preparation of charcoal or the collection of medicinal plants. If no rain fell in the Red Sea Hills, Wadi Jabjaba in the south was a possible alternative destination for migrating groups. As well as providing opportunities for livestock grazing, the valley was renowned as a site for the rain-fed cultivation of sorghum or barley, and even watermelon if two successive years of rain had fallen. In good years, the Wadi Jabjaba was reported to attract nomads from across

Table 28.3. Highly valued forage resources in upstream Wadi Allaqi.

Systematic name	Local name	Livestock	Best locality
<i>Acacia</i> sp.	<i>Sont</i>	Dromedary, goat, sheep	Wadi Haimur, Wadi Umm Arqah
<i>Alhagi maurorum</i>	<i>'Aqul</i>	Dromedary, goat	Upstream Wadi Allaqi
<i>Astragalus vogelii</i>	<i>Tawil</i>	Dromedary, goat, sheep	Wadi Umreit
<i>Cyperus conglomerates</i>	<i>Ushab</i>	Dromedary, goat, sheep	West of Wadi Eiqat
<i>Heliotropium</i> sp.	<i>Natish</i>	Goat, sheep	Upstream Wadi Allaqi
<i>Indigofera arabica</i>	<i>Damra</i>	Dromedary	Wadi Ghazal
<i>Panicum turgidum</i>	<i>Shoush</i>	Goat, sheep	Upstream Wadi Allaqi
<i>Psoralea plicata</i>	<i>Murmeed</i>	Dromedary	Wadi Jabjaba
<i>Stipagrostis plumosa</i>	<i>Rooq</i>	Dromedary, sheep	Upstream Wadi Allaqi
<i>Trianthema salsoloides</i>	<i>'Arareeb</i>	Dromedary, goat, sheep	Upstream Wadi Allaqi

the Eastern Desert of Egypt and northern Sudan. As spring temperatures increased in the desert, and after 3 to 4 months of herding livestock, burning and selling charcoal, or cultivating cereals, nomads would return to their wells and sources of permanent water along Wadi Allaqi. At the time of the Nile flood in the summer, as the river waters started to recede, Allaqi nomads would again depart their desert wells and migrate down the valley to the riparian pastures growing along the banks of the River Nile. These herding encampments along the Nile Valley were the focus of activity until pastures became exhausted, or until news came of rainfall and winter pastures in upper catchment areas of the valley or elsewhere in the Eastern Desert highlands. At that point, the annual cycle of migration would begin again (Figure 28.3). The seasonal timing of Nile Valley and upstream grazing resource opportunities is shown in Figure 28.4.

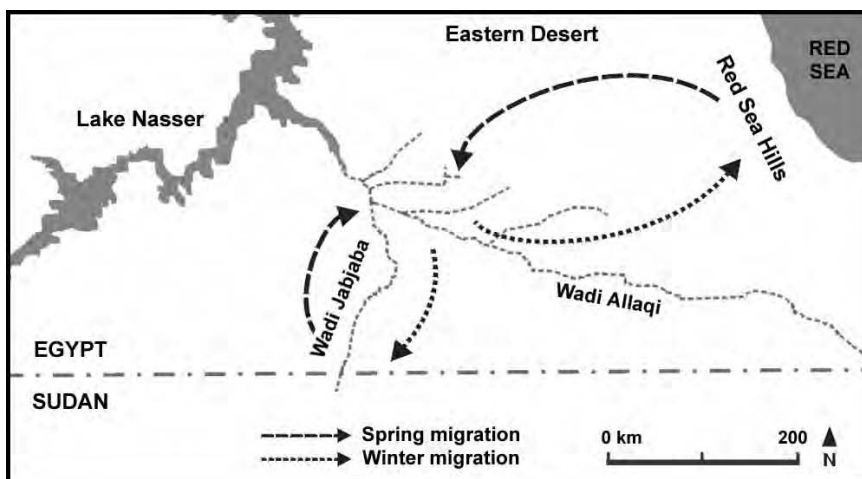
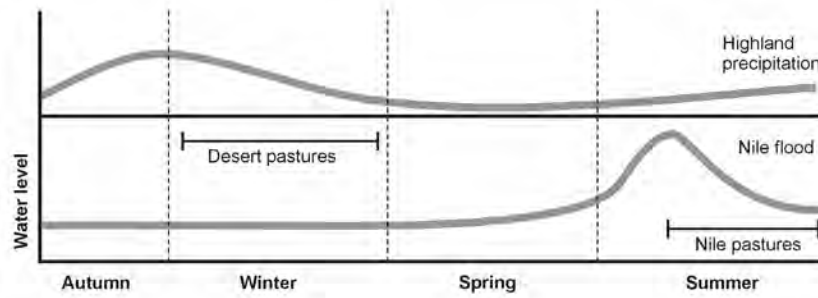


Figure 28.3. Traditional routes of migration for the pastoral nomads in the Wadi Allaqi region.

Figure 28.4: Traditional cycle of forage resource availability for the pastoral nomads in the Wadi Allaqi region.



Changing Resource Opportunities and Economic Adaptation

The initial impact of the inundation of Lake Nasser in the 1970s was to flood many of the pastures that had annually been exposed along the banks of the Nile in Lower Nubia. The shallow gradient of Wadi Allaqi meant that it was one of the few inlets where annual fluctuations in the water level of the lake still exposed significant areas of pasture. However, the exposed area was a significant reduction on that which had previously extended along the banks of the River Nile. Instead of hundreds of kilometers of annual inundation pastures, there were now less than ten along the narrow Wadi Allaqi. This loss of resources initially had a heavy impact on the nomadic groups of the southeastern desert, many of which were driven to other areas of the desert or to settlements in the Nile Valley (Mokhtar 1978). Because of their customary entitlements along Wadi Allaqi, the Ababda Hamedab, Ababda Fashekab and Ababda Sadenbab lineages still had access to exposed pastures where the lake annually receded down the valley. Indeed, the penetration of lake water more than 50 km (30 mi) up Wadi Allaqi into the Eastern Desert brought their summer pastures much closer to their desert wells, reducing migration distances. The opportunity afforded by lakeshore grazing attracted the Sadenab to abandon their upstream wells and settle in lower Wadi Allaqi, close to Wadi Umm Ashira. The wells of the Hamedab at Wadi Umm Ashira were later engulfed by the encroaching lake as waters rose in the late 1990s, compelling the community to permanently move their encampment to higher ground. Although the lakeshore pastures of the lower valley were conveniently located and reliable in their annual occurrence, the quality of the riparian grasses and exposed aquatic weeds were considered to be of lower quality than those of occurring after rain showers in the desert.

For 20 years following the initial creation of Lake Nasser, the communities of Wadi Allaqi were able to combine the seasonal utilization of resources in the eastern highlands, winter grazing, the collection of medicinal plants, the production of charcoal, and occasional farming, with the new opportunities offered by annual pastures along the lower reaches of Wadi Allaqi. The ‘new’ annual pastures along the valley and its lower tributaries were essentially the same species as those previously utilized along the Nile Valley (Table 28.4) and the timing of resource utilization followed the same general pattern as before the lake’s creation, winters upstream and summers downstream. One difference was the possibility for dromedaries to browse on dry rather than green lakeside pastures. This meant that dromedaries not required for transport were generally left unattended (*mafkook*) in upstream areas and only brought back into the herding encampments for the mating period of the winter season.

Table 28.4. Principal pasture species in downstream Wadi Allaqi.

Systematic name	Local name	Livestock	Best locality
<i>Glinus lotoides</i>	<i>Toroba</i>	Dromedary, goat, sheep	Wadi Allaqi
<i>Hyoscymus</i> sp.	<i>Sakaran</i>	Goat, sheep	Wadi Allaqi
<i>Najas horida</i>	<i>Shilbaeka</i>	Goat, sheep	Wadi Allaqi
<i>Panicum repens</i>	<i>Najila</i>	Goat, sheep	Wadi Allaqi
<i>Tamarix</i> sp.	<i>Tarfa</i>	Dromedary, sheep, goat	Wadi Allaqi

In the late 1980s agricultural projects began to be established along the fringes of Lake Nasser. They were concentrated at the sites of Sayalla and Abu Sku on the eastern shore of the lake. Commercial farms at these locations grow a variety of irrigated crops during two annual growing seasons, including tomato, melon and watermelon. Shortly after these were established, the Ababda negotiated with resident farm laborers to gain access to post-harvest residues and to weeds sprouting

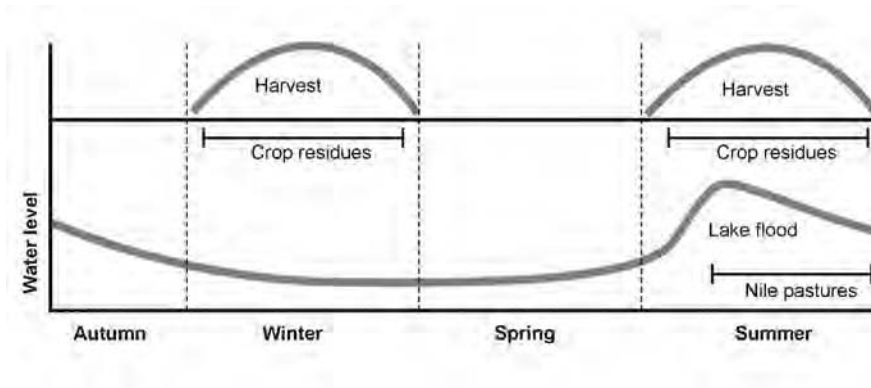


Figure 28.5. The recently modified cycle of forage resource availability.

between crops during the growing seasons. This arrangement held clear benefits for both parties, relieving farm workers of the need to weed and reintroducing organic matter into the soil when livestock grazed on fields after harvest. Occasionally brief disputes arose, usually concerning the predations of stray livestock on crops, or livestock losses perceived to result from pesticide-treated crops. Initially, opportunities for utilizing farm weeds and crop residues as preferable fodder alternatives to lakeshore grasses and aquatic weeds were integrated by livestock herders wherever possible into the continuing pattern of seasonal migration between the lower and upper tributaries of Wadi Allaqi. In the mid-1990s, however, the Eastern Desert underwent years of severe drought with the result that upstream pastures and agricultural opportunities failed. Between 1998 and 2002, none of the Wadi Allaqi communities made their seasonal upstream migrations and instead settled into a production system dominated by the new downstream resources of the valley. Livestock grazing sorties became restricted to localized winter forays into the tributaries of lower and middle Wadi Allaqi. The new seasonal feeding regime combined late summer lakeshore pastures with agricultural residue grazing after summer and winter harvests (Figure 28.5).

In some respects, this new pattern of resource utilization buffered against some of the risks associated with unpredictable and highly variable rainfall and the dependent pastures of the Red Sea Hills. Although many argued that in good years upstream pastures were qualitatively better than lakeshore grazing and agricultural by-products, the new regime offered improved stability in a marginal environment. The nutritional value of upstream pastures for livestock had been offset by the arduous migration there and back through the desert to reach them. Herders camping

in lower Wadi Allaqi also found they had better year-round access to regional livestock markets in Aswan and so were able to sell fattened animals more quickly. As the off-take of sheep and goats for sale increased, however, other economic activities that had previously occurred during upstream migrations, notably charcoal burning and medicinal plant collection, decreased in economic importance. Thus, the economy of lower Wadi Allaqi became more specialized until the increased sedentarization afforded greater incentive for men to enter into wage labor in Aswan. A further development in the economy of the Wadi Allaqi communities was the experimentation in small-scale agriculture initiated by some of the women in the damp soils left by the annually receding lake waters. Small plots of vegetables or cereals could be grown in these soils to supplement the household diet. These plots were carefully fenced off to protect crops from their own and neighbors' livestock. As the Ababda lineage encampments have become increasingly stabilized in lower Wadi Allaqi in proximity to the Aswan road, both the opportunity to cultivate crops at traditional sites on Wadi Jabjaba and the incentive to do so have diminished, due to the easier availability of cheap Nile Valley agricultural products.

Structural, Societal and Political Transitions

The communities of Wadi Allaqi have undergone considerable adaptation in natural resource utilization in the years following the creation of Lake Nasser. The inundation of Lower Nubia led to a fundamental shift in the availability and distribution of natural resources in the southern Eastern Desert, compounded by a synchronous period of sustained drought in the upper catchment basin of Wadi Allaqi. As discussed above, the most tangible outcome of the transition has been changes in migratory behavior and residential systems. New

opportunities and strategies, however, have also led to profound economic shifts with the previously diverse and multi-resourced nomad economy, which became more specialized in the commercial production of livestock for Nile Valley markets. Recognition of this recent change should be placed within the historical context of earlier cycles of engagement with regional markets and cannot necessarily be assumed to represent a final state. Other outcomes of the process of transition after the creation of Lake Nasser are less tangible and relate to societal structures and values. For example, the change from natural resources utilization based on the traditional upstream–downstream migratory system to one focusing increasingly on the resources of lower Wadi Allaqi has precipitated a structural reorientation in nomad groups. As noted, under traditional systems many key resources, such as individual valleys, wells or perennial vegetation systems, were subject to lineage group management. In addition to providing a basis for the long-term sustainable stewardship of these resources, the identification of individual kinship groups with particular places and sites provided a form of spatial expression for their shared social and political relationship. The reorientation of livestock production to lower Wadi Allaqi, however, placed greater emphasis on common property resources, lakeshore grazing and lake water, and private property, agricultural land owned by commercial farmers or by Ababda communities themselves. The notion of private, household ownership and individual property rights had not previously been common in Wadi Allaqi society. An inevitable outcome of this transition was a weakening of lineage interdependencies.

Prior to the inundation of Lake Nasser, the Eastern Desert supported a larger population of nomadic communities, and annual migrations tended to bring the Ababda Hamedab, Ababda Fashekab and Ababda Sadenab communities of Wadi Allaqi into regular contact with other Ababda or Bishareen neighbors. These contacts were sustained, while the communities continued upstream migrations into the upper Wadi Allaqi tributaries and Red Sea Hills. From the late 1990s onward, however, social interactions with other desert tribes and communities were much reduced, excepting occasional dromedary herds and their drovers passing along the valley to Aswan. Intertribal desert relationships had always been built on a shared value system mediated by protocols, such as those governing natural resources access, enhancing the utility of customary social

organization. The new relationships that the Ababda found advantageous to build in lower Wadi Allaqi fell outside of this customary system and was largely based on direct relations between individuals. Farmers and agricultural laborers who came from the Nile Valley to settle on the lakeshore commanded agricultural resources that were very important to nomadic herders. As they generally came from very different cultural backgrounds than the desert dwellers, however, customary institutions and desert protocols held little relevance for interactions with them. Consequently, the intermediaries who led negotiations for access to agricultural land in the Sayalla and Abu Sku areas were not in all cases traditional authority figures or lineage elders. Just as new types of natural resources and their utilization patterns have influenced the expression and function of Ababda societal structures, so too have these changes led to modifications in gendered knowledge and responsibilities. In the years prior to the Lake Nasser inundation, seasonal migrations along Wadi Allaqi involved the entire household, with women responsible for producing durable milk products from the herds in winter and spring. These products were then stored for household consumption later in the year. In the vicinity of the Red Sea Hills, women utilized the opportunity to collect valuable medicinal plants (Table 28.5), either for domestic consumption or for sale. They foraged widely in the upstream tributaries of Wadi Allaqi and developed extensive local knowledge of that area. Occasionally the women would encounter other Ababda or Bishareen herders and charcoal burners but, as neighbors within the same tribal customary systems, protocols existed to permit and govern these interactions.

Table 28.5. Highly valued medicinal plants collected for domestic use or sale.

Systematic name	Local name	Medicinal use	Best locality
<i>Acacia</i> sp.	<i>Garud</i>	Disinfectant	Upstream Wadi Allaqi
<i>Balanites aegyptiaca</i>	<i>Hegleg</i>	Diabetes	Upstream Wadi Allaqi
<i>Casis senna</i>	<i>Salamika</i>	Purgative	Wadi Haimur
<i>Citrullus colocynthus</i>	<i>Handhal</i>	Rheumatism	Upstream Wadi Allaqi
<i>Cleome droserifolia</i>	<i>Owfeen</i>	Kidney problems	Wadi Murrah
<i>Convolvulus microphyllus</i>	<i>Shajar Ghazal</i>	Analgesic, fever	Upstream Wadi Allaqi
<i>Cymbogon proximus</i>	<i>Halfa bar</i>	Stomach problems	Upstream Wadi Allaqi
<i>Echium</i> sp.	<i>Henna</i>	Cleaning wounds	Upstream Wadi Allaqi
<i>Euphorbia geniculata</i>	<i>Sharba</i>	Purgative	Upstream Wadi Allaqi
<i>Hyphaena thebaica</i>	<i>Dom</i>	Pain relief	Upstream Wadi Allaqi
<i>Salvadore persica</i>	<i>Maswak</i>	Teeth cleaning	Wadi Eiqat
<i>Selonestorma argel</i>	<i>Harjel</i>	Stomach, cold	Wadi Umm Hebal
<i>Trichodesma ehrenbergii</i>	<i>Kharwaa</i>	Stomach, fever	Wadi Allaqi
Unidentified	<i>Ehleeq</i>	Diabetes	Wadi Eiqat

In the downstream Wadi Allaqi environment, this situation became modified for two reasons. First, few valued medicinal species grew in the vicinity of the lakeshore, and second, there were cultural strictures governing women’s mobility in these areas where they might come into contact with men from outside the desert community. Thereafter, women’s use of natural resources became largely restricted to herding sheep and goats on lakeside pastures near the lineage encampments, and to tending their small cultivated plots. For these reasons, and because protracted upstream migrations had not occurred for four or five years, young women in 2001 had little or no direct experience of the geography or the natural resources of traditional upstream migration areas. Even older women eventually valued upstream resources differently than men. Women’s herding activities were largely confined

to the pastures that formed where lake waters flooded Wadi Allaqi; they were inclined therefore to rank these more highly as feed sources for livestock. Men on the other hand, who took herds to agricultural lands and also to graze in the lower Wadi Allaqi tributaries, argued that it was upstream rain pastures that constituted the most valuable feed source. Like young women, knowledge among young boys of traditional upstream grazing areas and resources was modified by the changes in resource acquisition. Women and younger generations of the Allaqi population have, however, during their residence in this area, begun to acquire new types of knowledge about its natural resource opportunities (Figure 28.6). A good example is the emergence of lakeside cultivation, which requires a different set of skills and knowledge than the rain-fed agriculture previously attempted at Wadi Jabjaba.

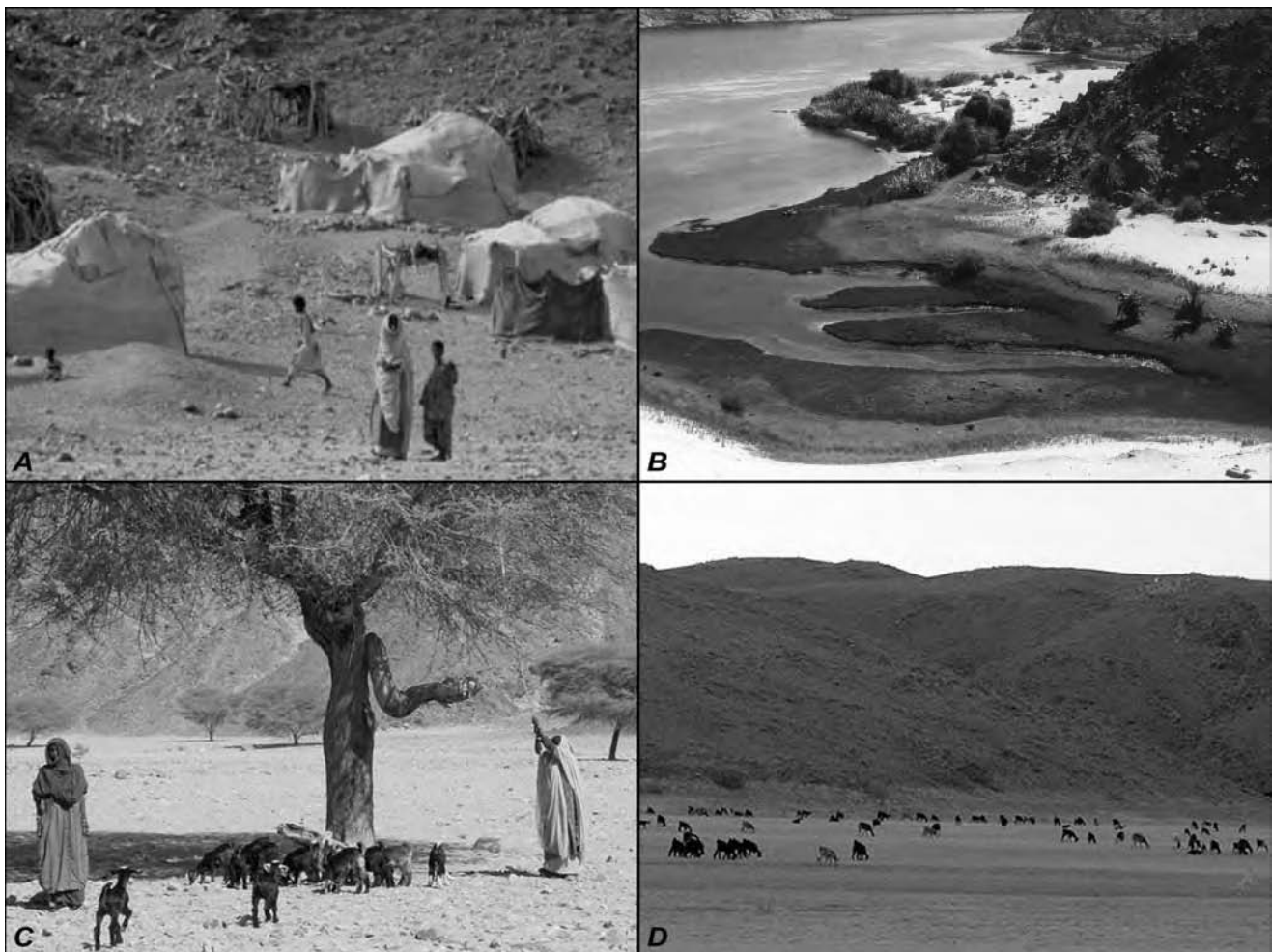


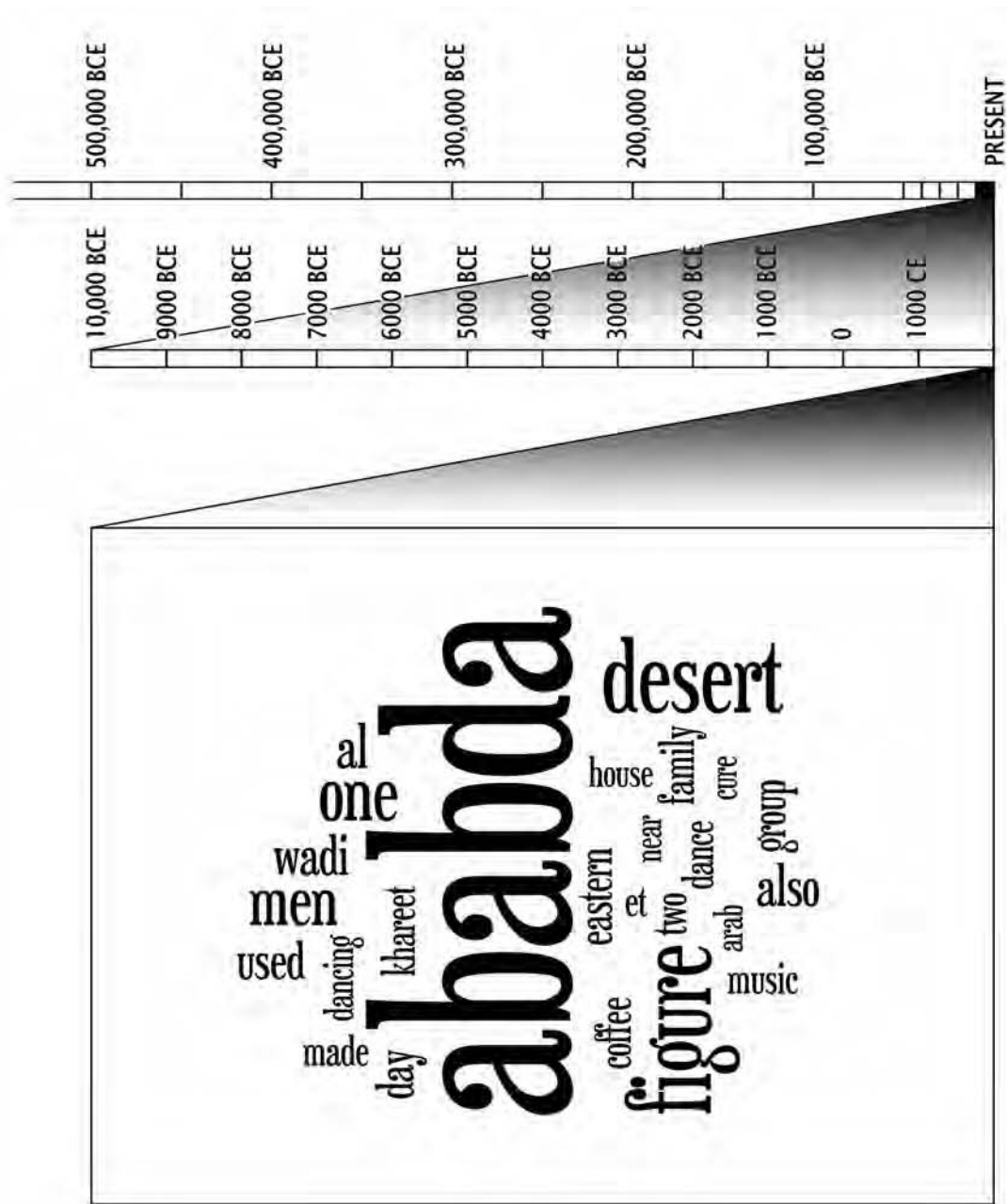
Figure 28.6. Bedouin life in the Wadi Allaqi area at the beginning of the 21st century CE. (a) Typical Bishareen encampment in upper Wadi Allaqi. (b) The new ecological habitat created by the waters of Lake Nasser. (c) Pastoral nomadic women harvesting seed pods (*garud*) from an acacia tree in upper Wadi Allaqi. (d) Goats grazing annual pastures created by the receding water of Lake Nasser.

Finally, changes in the ecology of the Eastern Desert and the accompanying infrastructural development have resulted in the Nile Valley centers of Aswan and Daraw becoming greater economic, social and political foci for desert communities. Prior to the inundation, Ababda and Bishareen had always supplied livestock, charcoal and other desert products to these markets via lineage representatives based there (Krzywinski, this volume; Weschenfelder, this volume). After the construction of an asphalt road into the Eastern Desert to service new agricultural projects, however, these markets became more accessible. Furthermore, because traditional upstream migrations to the Red Sea Hills had been abandoned, these markets now remained accessible throughout the year. This new accessibility meant that by 2002, communities of lower Wadi Allaqi could rely on receiving regular supplies of grain and other staples from Aswan throughout the year. Another stimulus for these developing ties with the Nile Valley came with the displacement of some lineages of Ababda and Bishareen from the desert into the New Nubia settlements north of Aswan in the 1970s and 1980s (Cappers 2006; Sidebotham et al. 2008; Wendrich 2008). After settling in the Nile Valley, these communities retained social and economic associations with their desert kinsmen. These ongoing links were manifest in the role that settled former nomads played in facilitating wage labor opportunities for a handful of their kinsmen from the desert, and also in mutual livestock grazing arrangements. If winter showers brought seasonal pastures, livestock would be herded from settlements in the Nile Valley to meet Allaqi herds in the Eastern Desert; reciprocally, some animals sent from Wadi Allaqi to Daraw would first be received by settled kinsmen for fattening on harvest residues before being brought to market.

Discussion

The penetration of Nile waters into the hyper-arid interior of the Eastern Desert in the late 1960s, as a result of the construction of the Aswan High Dam, precipitated an unprecedented environmental transition. The primary impact of this in the early years of the inundation was to dislocate some Beja desert communities from their

traditional resource bases. For other communities, the inundation has offered the opportunity to access and utilize new natural resources for new modes of production and to develop strong economic and social ties with Nile Valley communities. In the new resource landscapes of lower Wadi Allaqi, there has been a shift away from the seasonal utilization of desert rangelands as a resource for a wide range of traditional production activities, to the use of lakeshore resources and year-round Nile Valley economic opportunities to support specialized livestock production, lakeside crop cultivation, and even wage labor. These changes have had a widening impact on long-established Beja systems of social organization and inter-tribal networks, and have begun to alter their traditional indigenous knowledge. Customary lineage management of natural resources has been replaced with a greater focus on common property and private ownership, weakening traditional expressions of social and political relationships. These relationships have been further eroded by a lessening of social interactions with other desert tribes and communities through a reduction in traditional seasonal migrations. Strong new economic and social relationships, however, have been formed with sedentary kinsmen and groups outside the customary system, which are arguably more appropriate to the new resource conditions on which the Beja are now reliant. Another important impact of these changes has been a growing corpus of new indigenous knowledge among younger generations about lakeshore resources and activities and commercial livestock production. The evidence from Wadi Allaqi communities reveals a clear capacity for rapid social and economic adaptation in response to radical environmental change. Over just a single generation, major modifications have occurred in the way that natural resources are valued and utilized, with attendant impacts on Beja customary practice. Undoubtedly this change has continued since the completion of the 2001–2002 study. Although aspects of traditional social, economic and behavioral systems have been altered or even lost, these dynamic desert communities have necessarily evolved, as they have historically always done, to ensure their longer-term survival.



Time line and word cloud created from Mustafa Abdel-Qadr, Willeke Wendrich, Zbigniew Kosciński and Hans Barnard, *Giving a Voice to the Ababda*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 29



Giving a Voice to the Ababda

MUSTAFA ABDEL-QADR, WILLEKE Z. WENDRICH,
ZBIGNIEW KOSC AND HANS BARNARD¹

WE MET FOR THE FIRST TIME IN BARANEES (برنيس, ancient Berenike), the remains of a Graeco-Roman harbor town on the Red Sea coast in the far south of modern Egypt (Sidebotham and Wendrich 1995, 1996, 1998, 1999, 2000, 2007), which had been abandoned in the 6th century CE and had only been occasionally occupied by passing nomads since. Mustafa came from Wadi Khareet, a large sprawling village near Edfu on the Nile Valley (Figure 29.1). He had relatives on the Red Sea coast, and came with a couple of friends because he had heard there was work to be had with an archaeological expedition. Willeke and Hans were living in Cairo and moved their living quarters for three months per year to a remote camp in the desert near the archaeological site. Zbigniew visited the Ababda territories several times,² first in 1998 to work as a photographer for the archaeological project in Berenike, again in 2000 and 2002 (Kosc 2002) when photographing for the 2002 exhibition “Nomads between Nile and Red Sea” in the

Museum of Ethnology (*Wereldmuseum*) in Rotterdam (the Netherlands), and finally in 2006.

Most of the Ababda who worked in Berenike came every day to the site from surrounding settlements such as Arab Saleh and Manazig, but a group of young men traveled all the way from the Nile Valley and therefore stayed each year at the camp at Berenike. During a period of nine years of work in the region archaeologists and Ababda were not in a straightforward

¹ We would like to thank the Royal Netherlands Embassy in Cairo, and especially Marc Verschuur, Petra Stienen and Wieke Piët, for their ideas and their support for the preservation of the Ababda cultural heritage.

² My work in the Eastern Desert has been made possible in part by financial contributions of the National Committee for International Cooperation and Sustainable Development (NCDO) and the Foundation Fund for Visual Art, Design and Architecture, both in Amsterdam (the Netherlands); see <http://www.zbigniewkosc.nl/Ababda> for more details. I wish to express my special gratitude to Dr Willeke Wendrich, Dr Steven E. Sidebotham, Dr Medhat al-Menabawy, Gama’a Hussein and all my Ababda friends who facilitated my presence in Berenike and Wadi Khareet.

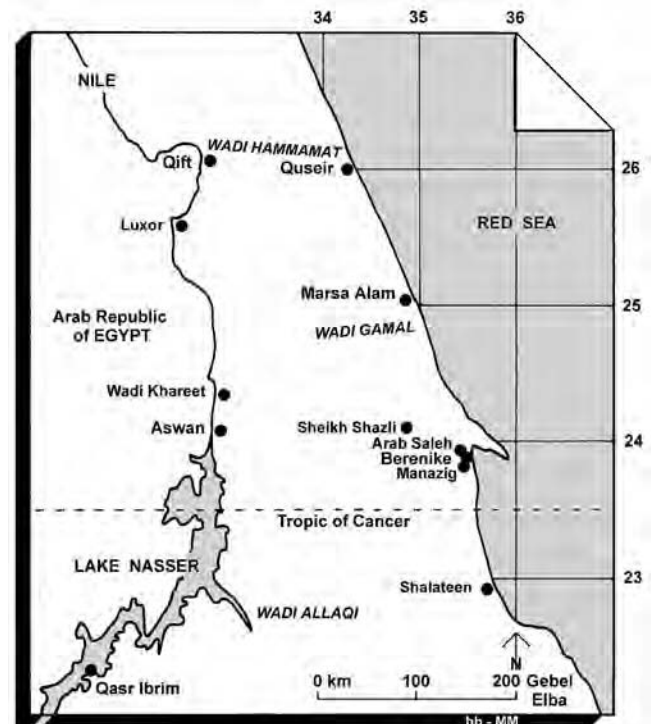


Figure 29.1. Map of the territory of the Ababda, in the Eastern Desert between Quseir and Gebel Elba.

employer–employee relation, but were involved in mutual training. The Ababda were taught excavation techniques and took pride in sorting finds, writing labels and helping with finds processing. When not working at the excavation they would find jobs as drivers or construction workers, while their female family members would tend the herds of sheep, goats and dromedaries in the Eastern Desert. The economic necessity to find paid jobs in ‘Egypt,’ as they would refer to all of the country outside the southern region of the Eastern Desert, did not mean that they lost the link with the land (Krzywinski, this volume). Their experience with the desert and their livestock clearly informed their view of archaeology. Most Ababda had a keen sense of different types and properties of sand, a valuable trait for any excavator, and they were ready to correct the archaeologists if they were about to miss a soil transition. Our textile specialists, J.P. and F.C. Wild, trained in Great Britain where the hair of sheep and goats are easily distinguished, were delighted with the help of Ababda assistants to sort coarse sheep’s wool and goat hair textiles, which were eerily similar to the untrained eye, but easily distinguishable for an Ababda herder. Most importantly, several of the older Ababda men worked as desert guides for the hinterland survey that Steve Sidebotham and others performed on Fridays and Islamic holidays. Their knowledge of the landscape, water sources, routes, rock art and ancient settlements hidden in the wide expanse of the Eastern Desert was invaluable to the project (Sidebotham and Zitterkopf 1996; Sidebotham 1999; Cappers 2006; Sidebotham *et al.* 2008).

In 1996 the interaction between archaeologists and Ababda was given a more formal context with a grant from the Royal Netherlands Embassy in Cairo, which awarded the Eastern Desert Antiquities Protection Project (EDAPP) two grants. The project entailed a continuation of the exchange of information and enabled the collection of present-day Ababda material culture, as well as the construction of a center in which the collection could be housed. A core group of twelve Ababda—divided evenly between members of the tribes living in Arab Saleh, Manazig, and the young men from the Nile Valley—were closely involved in building the collection, including selecting and recording the objects (Figure 29.2). Three exhibits were created, the first to go on display in one of the towers of the restored Ottoman fort in Quseir, a second to travel to the Museum of Ethnology in Rotterdam, and the third to be housed in

the visitor’s center at Berenike. As part of the project the core group was given cameras to photograph the context of these objects and whatever else they deemed important in their daily lives ‘back home.’ For some ‘home’ was somewhere in the desert (Figures 29.3 and 29.4), for others the government-issued houses in Arab Saleh or Wadi Khareet (Figure 29.5).

One of the young men from Arab Saleh, Sa‘ad Mansour, was known for his drawing skills, which he displayed mostly by drawing many types of cars. Instead of asking him to make photographs, he was provided with paper and color pencils, so that he could express himself in his favorite medium. He drew the pride of an Ababda youngster: riders on well-decked-out dromedaries, roaming along with the herd, wearing the clothing that discerns them from the ‘Egyptians.’ These are white cotton pants, a white chemise and a dark vest. The riders furthermore carry a shield, a sword and a whip (Figure 29.6). Their hair is wild and bushy with a comb stuck into it, which inspired the British epithet *fuzzy-wuzzy* (Kipling 1892: 140-142). The drawing conveys the quintessence of the local landscape: the mountains in the Eastern Desert, the wide sandy space of the mouth of a desert valley near the coast, dotted with occasional tamarisk or acacia trees. Another drawing, made by Mohamed Gama‘a, shows the practicalities of modern life: hunting gazelle, one of the major traditional male activities, not on foot or dromedary back, but rather using Toyota Hilux pickup trucks, the Ababda vehicle of choice (Figure 29.7).

It was especially the group of young men living in Wadi Khareet who were most fascinated by the effort to find information about the background, production, use and meaning of objects that they had seen lying around in their parents’ house. Some objects still had an important meaning for Ababda identity, such as the globular coffeepot (جبنة, *jabanah*) and the leather, decorated palm-leaf basket in which it is kept (كبوته, *kabutah*, Figure 29.8). The circular rope with a wooden knob at the end, either made of doam palm leaf or goat hair, was still very much in use to hobble dromedaries and as such is more or less a status symbol when hanging from the front bumper of a car. Many objects purchased for the collection, however, were unknown to the young men because they were no longer in use and apparently never discussed. The project thus grew into a generational exchange because several of the younger men, whose task was to fill out forms for each



Figure 29.2. Mohamed Gama'a, one of the museum team members filling out an object form. Photograph by W.Z. Wendrich.



Figure 29.5. The self-image of the Ababda, two family members of Mustafa Abdel-Qadr in the permanent family residence in Wadi Khareet.



Figure 29.3. The self-image of the Ababda, the wife and child of Mohamed Eid in their camp somewhere in the Eastern Desert. Adapted from Barnard and Wendrich 2008: cover.



Figure 29.6. The self-image of the Ababda, a drawing by Sa'ad Mansour showing the dreamscape of Ababda men herding plenty of dromedaries through a relatively green desert. Adapted from Wendrich 2008: 531.



Figure 29.4. The self-image of the Ababda, the friends of Ahmed Abdel-Rahman on their way to slaughter a sheep in Wadi Hamata.



Figure 29.7. The self-image of the Ababda, drawing by Mohamed Gama'a showing men hunting gazelles using their Toyota Hilux pickup trucks while their dromedaries are retired on the side.

object, had to go back and forth between the museum and members of the older generation to ask them about the name and function of objects such as the *zanad*, a curled bit of iron kept in a pouch with a flint stone, some textile and some dry grass. This assembly appeared to be formerly used to start a fire, by striking the stone with the iron and lighting the grass or textile. Long since replaced by matches and cheap lighters, this object had lost its function and was no longer recognized by many Ababda. Some of the younger men became irked by the fact that they had to admit that they were losing knowledge of their culture and made up stories rather than owning up that they had no idea; they were usually corrected by their team mates and sent off to talk to the old men. Gama'a Hussein, whose father lived in Wadi Khareet but had built his house as if it were a temporary compound in the desert, expressed how he grew to appreciate his father's longing for the past and his interest in the medicinal herbs growing in the sandy valleys of the Eastern Desert. He was so taken with the creation of the museum that he donated a beautiful wooden bowl (*awaani*), long used in his family for the communal meals of sorghum and later wheat porridge (Figure 29.8). Such a family heirloom should stay in the house and yet

this donation spoke about the importance of the project for these men and after being refused three times, it was clear that it had found a new home.

The composition of the collection was made under guidance of this core group of Ababda. The first things purchased were all the items needed to make jabanah, sweet coffee spiced with ginger: the globular coffee pot (also called jabanah, which is used along the East African coast in Sudan, Eritrea, Somalia and Ethiopia, Krzywinski and Pierce 2001: 39; Cappers 2006: 40; Barnard 2008: 92-93; Sidebotham *et al.* 2008: 269-270; Wendrich 2008: 517-520), its storage basket, the water jar (Figure 29.8), the homemade skillet in which the coffee is roasted fresh for each pot of coffee, the mortar and pestle to grind the coffee beans, the fan to rouse the fire, and the cups (dainty porcelain in their own travel basket)—a surprising amount of stuff for a nomadic people, all just for making coffee (Wendrich 2008). It attests to the importance of the coffee ritual in the social interactions of the Ababda (Birnbaum 1956; Baram 1999). The most important local Muslim saint, Sheikh Shazli, is said to have been the person who either invented coffee or brought it to Egypt. Sheikh Shazli is widely venerated by the nomadic people of the Eastern

Figure 29.8. Objects in the Beyt Ababda Museum. (a) *Awaani*: wooden bowl for mixing dough (note old repair). (b) *Abriq*, water container made out of scrap metal. (c) *Kabutah*, basketry container for a ceramic coffee maker (*jabanah*). (d) Hobble for a dromedary. Adapted from Wendrich 2008; Barnard 2009a.





Figure 29.9. The center of the Ababda universe, the tomb and mosque of Sheikh Shazli. See also Krzywinski, this volume; Weschenfelder, this volume. Photograph by W.Z. Wendrich.

Desert and the inhabitants of the Nile Valley alike. His *mulid* (مولد = annual festival), celebrated in an isolated valley in the middle of the Eastern Desert (Figure 29.9), attracts many thousands of pilgrims.

The second category to be collected was everything to deck out dromedaries: saddle, bridle, hobble, decorative saddlebags, different tassels made of intricately plaited leather or brightly colored cotton; and the sword, dagger, spear and shield worn while riding to battle, or for dancing at weddings. From the female side, a wedding saddle was obtained, which consisted of a structure of matting, covered with costly dark red velvet, and decorated with ostrich feathers, beads, silver amulets and kauri shells. It was part of a tent structure in which a bride would be transported, but could also protect a woman and her small children from sight at other occasions (Magid 2008). There was a real urgency to add these two main groups of objects to the collection, everything to do with coffee and dromedaries. After that, there were no particular priorities. Women's clothing, jewelry, including expensive gold hair and nose ornaments, stone cooking pots, copper pans, rotary grinding stones, and containers for cosmetics and hair pomade made of a hollowed-out gourd and adorned with leather straps, kauri shells and tassels.

The typical Ababda house consists of a frame of forked acacia branches, lined with goat hair or woolen carpets, woven by the women on a horizontal loom, covered with large plaited mats (بيت البرش, *bayt bursh*, Krzywinski and Pierce 2001; Cappers 2006; Magid 2008; Sidebotham

et al. 2008; Wendrich 2008; Barnard 2009a, 2009b). Everything that needs to be stored is hanging from the rafters, usually in large goat skin sacks, which can also function as knap sacks on trips that are expected to last for only a few days. Ababda society is highly segregated along gender lines. The women have a very independent existence, tending the herd where sufficient grazing can be found, while the husband is away in 'Egypt,' or with one of his other wives responsible for a different herd. It is the women who know how to build the house and weave the carpets for the walls and the bedding. Three women came to the site museum to build a mat house. Before the first forked stick was dug into the earth, sugar was strewn on the ground to invoke good luck for this house in this place. The entire construction took approximately 6 hours (Wendrich 2008). In 2002 the mat house was brought to the Netherlands for the exhibit in the Wereldmuseum together with a video of the women building it, which showed the museum staff step by step how to go about (re)constructing the house. In 2002, the southern Eastern Desert region was completely closed off for research. The Ababda collection in the visitor's center was therefore no longer accessible. In 2008 the Royal Netherlands Embassy enabled the construction of the Beyt Ababda (House of the Ababda) in the Wadi Gamal National Park (Figure 29.10), designed by Gabriel Mikhail, a Cairo-based architect with a great interest in the Ababda, the Eastern Desert and the preservation of the natural and cultural heritage of the region. He designed and built the Beyt Ababda in local stone, in the style of the nearby Roman desert settlements that were used for mining beryls (low grade emeralds, MacAlister



Figure 29.10. The Beyt Ababda Museum in Wadi Gamal that houses part of the EDAPP collection. Photograph by W.Z. Wendrich.

1900; Starkey 2001; Rivard *et al.* 2002; Sidebotham *et al.* 2004; Foster *et al.* 2007). The mat house that had returned from the Netherlands after the exhibition closed in 2003 was re-erected at the side of the house as part of a permanent Ababda cultural heritage exhibit.

The core group of Ababda who put the collection together consisted of Ahmed Abdel-Rahman (from Arab Saleh), Ali Amr (from Manazig), Eid Abdel-Qadr (from Marsa Alam), Gama'a Hussein (from Qaria al-Ababda in Wadi Khareet), Isa Ahmed (from Qaria al-Ababda in Wadi Khareet), Mohamed Auwdid (from Arab Saleh), Mohamed Eid (from Manazig), Mohamed Sa'ad Saleh (from Arab Saleh), Mohamed Gama'a (from Arab Saleh), Mustafa Mahmoud (from Qaria al-Ababda in Wadi Khareet). We had many discussions about the preservation of their material culture, their knowledge of the landscape, plants and animals of the Eastern Desert, as well as their songs and stories; in short the intangible cultural heritage. The Ababda within this little group had a very diverse reaction to the encroaching tourism and large-scale development of hotel complexes hugging the beaches, tourist villages that form islands of foreign management with a 'local' veneer in the form of dining room decorations, derived from Sinai Bedouin rather than Ababda traditions. Some members of the museum group (mostly those from Wadi Khareet, Marsa Alam and Arab Saleh) expressed the hope that the development would bring work and wealth into the area, while the group from Manazig was very skeptical and pronounced that they would retreat into the desert in order to keep their way of life rather than to be overrun by 'Egyptians.'

Based on their experience with describing the collection, all were concerned about how quickly knowledge can fade from one generation to the next. At some point one of the Ababda asked, "Can you not write a book about us?" Our reply was, "You should write that book; you already have many photographs and drawings, so now talk to your elders and write it down." Of the group of ten, Mustafa Abdel-Qadr actually went ahead with the idea. Below is his account, translated by Awad Awad, a graduate student in Arabic at the Department of Near Eastern Languages and Cultures of the University of California, Los Angeles. Mustafa Abdel-Qadr has no formal training as an anthropologist. He has finished primary school and was interested in learning how to work with computers. During his work for EDAPP, he was particularly interested in the archaeobotanical work, the sorting of desiccated plant remains and the selection

and identification of ancient seeds. He is curious and wants to learn, as is evident from his unabridged account on the Ababda. Mustafa discusses several subjects, including the (mythical) origin of the Ababda, in a section called "The tribe of the Ababda" (Murray 1923; Starkey 2001; De Jong 2002; Cappers 2006; Sidebotham *et al.* 2008; Wendrich 2008; Barnard 2009b), followed by their traditional main source of income and wealth, sheep, goats and dromedaries, in the section "Rainfall and livestock." He then put great emphasis on the rituals of childbirth and marriage, including descriptions of the dances, music and food, in the section "Celebrations of the Ababda" (Wendrich 2008; Krzywinski, this volume; Weschenfelder, this volume). His interest in botanical knowledge is expressed in the section "Herbal medicines," which is another important source of income for the Ababda (Briggs *et al.* 1993; Springuel *et al.* 1993; Barnard *et al.* 1996; Sidebotham *et al.* 2002; Cappers 2006; Belal *et al.* 2009; Roe, this volume; Weschenfelder, this volume). The account ends with a section on geographic names and an interview with a sheikh. Mustafa's contribution is followed by a description of Ababda song and dance by photographer Zbigniew Kosci, comprising the paragraphs "Plays and Dances," and "Biographies of the Singers." The chapter concludes with a description of the media files associated with the text and a short general discussion.

The Tribe of the Ababda (by Mustafa Abdel-Qadr)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the name of Allah, the Compassionate, the Merciful

The Ababda are one of the Bedouin tribes that inhabit the deserts of Egypt and Sudan along the Nile River and the Red Sea, stretching from the Suez down to southern Sudan. Today the majority of the Ababda in Egypt are found on the Red Sea coast and in Aswan, whereas the Ababda in Sudan are found in Port Sudan, Abu Hamad and Kassala. The tribes of the Ababda are split into numerous families, some of which include Anqarab, Aqda, Awadh Laab, Balalaab, Batran, Flameedaab, Harnaab, Ishb, Jabrnaab, Jahalaab, Kameelaab, Karjaab, Qeerjaab, Qurjaab and Zeedaan. There are also other tribes, or to be more precise smaller families within these larger families. The largest of the families in Aswan and the Red Sea are Bilaalaab, Harnaab, Jabrnaab and Karjaab. These four families together are considered among the largest of the families of the Ababda tribes

and are united under the word ‘Jama‘ab.’ The Jama‘ab as well as the Maheemdaab bring together a large number of families under their name.

The Ababda share a common descent through their grandfather al-Zubayr bin al-Awwaam. He is from the Arabian Peninsula and is one of the great horsemen who led the Muslims to victory during the time of our prophet Mohamed (*may the peace and blessings of God be upon him*). al-Zubayr is also one of the ten who were granted the glad tidings of paradise. He died a martyr in one of the battles. What this means is that the Ababda emigrated from the Arabian Peninsula during the Islamic conquest of Egypt and settled in the eastern deserts of Egypt and Sudan and in the Nile Valley. The Ababda take great pride in their descent from al-Zubayr bin al-Awwaam. This is because he was one of most courageous and greatest of warriors of his time. The Ababda have inherited these traits of courage and bravery from their great ancestor to the present day. Bravery is found in all aspects of Ababda present-day activities. They have lived in the desert all of their lives and have continuously raised dromedaries, sheep and goats in any area of the desert, whether in Egypt or in Sudan. They do not face any obstacles in this because most of them have either Egyptian or Sudanese citizenship. Others live in the desert free from any restrictions.

Rainfall and Livestock

As for the livestock, there are among the Ababda’s distinct symbols for the dromedaries, made by branding their legs or necks with fire. That is how the rest of the people of the tribe know where a particular dromedary came from and to what family another dromedary belongs. The brand names for which the Ababda are known include the *rasin* and the *habshee*. Every Ababda family also has a unique brand on their dromedaries in order to distinguish family ownership. For example, the *habshee* is used as a symbol by the Iqda and the Harnaab families. Within the brand is also found a symbol to distinguish between these two families.

The valleys (*wadis*) are divided into numerous pastures. Every one of these valleys is the territory of a specific family. The valleys are known by the names of the tribes to whom they belong. For example, the Valley of Shu‘ayt belongs to the Bilalaat and the Valley of Hayaat belongs to another tribe. In any given valley no tree may be cut or land be used for pasture without the permission of the tribe to which the valley belongs. If a

tree is cut or any destruction is done to the land, then an ‘Arab sitting’ is convened. The punishment for the one at fault could be a monetary fine or a warning, or something else of this nature.

Celebrations of the Ababda

An Ababda marriage includes *al-furta* (day 1), *wanisat-unisat* (days 2, 3, 5 and 7), *al-tanburt* (day 4) and *al-sabu‘a* (day 6). On the first day, the furta, the groom’s family arrives in the early morning and builds a house from mats, wood and other things from the nearby mountains. The groom then spreads a piece of cloth on the ground. On top of it are placed fresh dates, sugar and sweet sesame paste (*halawa*). The family of the groom and the family of the bride sit down around this. To be more precise, the groom’s father and his kin sit down alongside with the groom’s paternal uncles and his grandfather. As for the bride, it is the bride’s father that joins them as well as her paternal and maternal uncles. Also present could be an appointed representative from the bride’s family to witness the marriage contract. The groom’s father then speaks saying, “Oh *so-and-so*, father of the bride (or his representative), I am *so-and-so*, son of *so-and-so*, and I desire your daughter *so-and-so* according to the way (*sunna*) of Allah and his messenger (Mohamed).” The father of the bride then responds by saying, “I accept you (or have met you) and accept your son according to the sunna of Allah and his messenger.” Then he places his hand in the hand of the groom’s father. It is then sealed by the recitation of the *fatiha* (the opening verses of the Holy Quran) by them and all those present.³ Thus the marriage is made public. The sugar and *halawa* are then sprinkled on those present and the dates are distributed in joyous celebration of this wedding. The people rise and congratulate both parties by hugging each other in celebration of the occasion. Then sheep are slaughtered to mark this important night (Figure 29.3), perhaps three or four because everyone has to eat and drink spiced coffee (*jabanah*). *Jabanah* is

³ *Bismillah ar-rahmani r-rahim* (In the name of God, the Compassionate, the Merciful), *al-hamdu lillahi rabbi l-'alamin* (All praise is due to God, Lord of the Universe), *ar-rahmani r-rahim* (the Compassionate, the Merciful), *maliki yawmi d-din* (Sovereign of the Day of Judgment), *iybaka na'budu wa-iybaka nasta'in* (You alone we worship and You alone we ask for help), *ihdina s-sirat al-mustaqin* (Guide us to the straight path), *sirat al-ladina an'amta 'alayhim gayril magdubi 'alayhim walad dallin* (The path of those on whom You have bestowed Your grace, not of those who have earned Your anger, nor of those who go astray).

a type of Arabic coffee particular to the Ababda that is offered to everyone present after being freshly roasted and prepared in a special ceramic vessel also named jabanah. The coffee is roasted in a special coffee pan over an open fire and ground in a wooden mortar called the *hohn*. The coffee is drunk from small cups.

As for the bread, it is called *al-kirsa* and is made in a unique way. The dough is kneaded in a wooden bowl, called the *awaani* (figure 29.9) or something else. Afterwards wood is gathered and placed in a clean sandy spot. The fire is lit and when the logs begin to smolder it is time to bake the bread. This is done by placing the dough into the sand that is under the fire with the smoldering logs on top. Approximately fifteen minutes later the dough is turned and baked on the other side. After another fifteen minutes the bread is ready. The Ababda men are responsible for making this bread and it is delicious when eaten hot. As for the women, they do not engage in this activity. Rather they busy themselves preparing their elegant dresses and delicious perfumes. One of the perfumes is called *al-dilka* and it is a mixture of several plants, among which is *safr al-bahr*. This and other items are stuffed into a wooden container that is then sealed and allowed to sit anywhere between three and four months. It is then rubbed all over the woman's body producing an aromatic scent that can be detected from a great distance. Musk tree incense baths are also taken in enclosed areas. The musk tree is a beautiful tree with a penetrating scent. The process is as follows: the plants are gathered into an enclosed area and lit on fire. When the wood starts to burn it is extinguished. Smoke then fills the area from bottom to top. The woman stands naked in the smoke so that the scent can enter the pores of her body. In this way the woman will smell pleasant and attractive.

After the food is done, the *kisra* bread is broken into small pieces. The broth from the pot that the meat was cooked in is poured on top and this is served hot to the men, women, children and all who came to this big Abadi wedding. After the food and the jabanah are served, the groom's father rises and asks once or twice if everyone has eaten until he makes sure that everyone has eaten and drank the jabanah to their satisfaction. He does this because if any of those present is not given to eat and drink, then Arab justice needs to be served, so the person offended is granted their due from the groom's father or whomsoever is in charge of the wedding. His rights are great, because one of the customs of the Arabs

is to be generous to any guest and make sure that he sleeps relaxed. Then the groom's father calls out to the people, "Today we are at the wedding of *so-and-so*, son of *so-and-so*. Thanks for coming and I want you to put whatever differences you may have aside tonight. We want this to be a night free from problems and conflict. And if anyone touches one of his brothers he will receive great punishment, equivalent to having to pay for a dromedary. This commandment is directed to everyone and is to be kept in mind when dealing with one other so that no one falls into any misfortune." This is an example of a ruling when it comes to Ababda celebrations. If there are differences between people, this is not the time to act upon them because nobody wants this joyous occasion to be spoiled.

One of the things that people do at weddings is dance, and among the first dances or games performed is the sword game, *al-buqrab* and *al-kushait*.⁴ The sword game is performed in a beautiful way. Approximately ten to fifteen Ababda youth stand in a line. They clap and sing popular songs for this dance. Then one of the youth from within the line begins dancing with a sword and shield to the beat of the song. The sword, as is known, is made from steel. The shield is made of the hide of an elephant or a giraffe. It was previously used in battles to block a stroke and to protect the face and body from an enemy's sword. This game is played by the Ababda males, young and old, who laugh and taunt each other in the process. Once the people have finished playing, the groom's father rises and asks once or twice if anyone else wants to play. Depending on the response to his question they then move on to the next game, which is called *al-buqrab*. *Al-buqrab* is a game that has been handed down for generations and is only found among the Ababda; it is not found in any other tribe. In this game, seven to ten people stand in a line. There is an artist with a homemade lyre (*daf* or *tanboura*) in hand standing to the far right of the line. This artist begins to play, while singing in a loud voice. At this moment, the youths stand clapping and two of them walk out of the line and begin jumping high into the air to the beat of the *daf*. Each wants to jump higher than his comrade in order to prove to the crowd of spectators, both men and women, that he is more agile than his companion. This is proof of his manhood, agility, strength and energy. As the

⁴ These dances seem to have many different names (see Kosc below), either among different groups or to identify subtly different functions or appearances.

two youths leave the line, two more enter, until whoever wants to dance has danced. This dance's background lies in the fact that the Ababda are a desert people. Therefore they are naturally energetic while the harshness of the desert has made them strong. In following the rain, they travel long distances where there is no room for laziness. Thus this dance is a physical display of agility of movement and gracefulness of the body. At the end of each duel the girls cheer the person who jumped the highest by performing loud ululations. The girls love the one who is light and graceful in movement. His actions are evidence to all that he is the strongest, attracting the attention of the girls of the tribe in the process.

The kushait dance is similar to the dance above. There is an artist and a group of young men standing and clapping as before. The difference between the two dances is that now the girls are also dancing. For the kushait dance there are groups of people behind each other. For example, a group of youths from a certain family makes a line and behind them is another line of youths from another family. These families then compete against each other to prove that they are the best at dancing. The artist stands to the right of the males and introduces the girls and the boys, commenting and inciting throughout the game. The dancing continues until all are tired. At that time they call it a night so that the festivities can continue in the morning.

On the second and third day, wa nisat-unisat (good times), the guests dance and eat in the same manner as the night of the first day. The fourth day of the wedding is al-tanburt. This is an important day for the Ababda. Everything done on the first day, al-furta, is repeated. The fifth day is again wa nisat-unisat, as previously mentioned. The sixth day is al-sabu'a (the week). This day is the third of the three more important days. It is considered the end of the wedding, the meat of the slaughtered animals is finished and no more expensive gifts are exchanged; the next day and night are normal. The bride now goes to her husband and they have sex once after which they abstain for a period of forty days. During this forty-day period, the groom is not allowed to sleep outside of the house. If he does, then an Arab sitting is to be convened where the groom has to pay a fine to the bride's father. The groom is also not allowed to talk to his mother-in-law. She distances herself from him, not because she is angry but as a gesture of modesty found among the Ababda. After the forty days, the bride

and groom move into their permanent home and a special goat, known to the Ababda as *kareema*, is slaughtered.

Herbal Medicines

Medicinal mountain plants include the following:

al-half bar: Three or four doses of this plant are drunk to cure feverish chills and God is the One who heals!

al-harjal: This is mixed with dromedary milk to cure kidney illnesses and drunkenness; it is drunk all at once.

balah al-sukr or *shajar al-alooob*: This is used to cure drunkenness. It is boiled in water and drunk all at once.

al-damseesa: This is used to cure dysentery.

al-handhal: This is used to cure rheumatism.

shajar al-'afeen: This is used to cure pregnancy-related symptoms such as cramping.

al-laasif: This is used to cure migraine headaches.

shajar al-araak: The leaves are used to cure illnesses in the urinary passages and related problems.

al-'ashr: This is used to cure illnesses related to tooth decay.

shajar al-qalqala: This is used to cure hemorrhoids.⁵

All of these herbs are found in the Red Sea mountains (*jebel*), such as Jebel Huloos, Hamata, Frayid and Elba (near Halayib). They are also found in the valleys (*wadi*), such as Wadi Khareet, Lahma, Da'ib and 'Ilaaqee.

Cures from desert animals include:

Gazelle: The meat of gazelle can be cooked on stones in the Bedouin manner and eaten immediately before one sleeps. It is used to cure illnesses associated with urinary passages and dampness.

⁵ Like in all languages, common names for plants are ambiguous in Arabic, including the dialect of the Ababda. A single species may have more than one name (*Balanites aegyptiacus*) and different species can be indicated by a single name (*Imperata cylindrica* and *Lygeum spartum*), while some species have no common name at all. The plants mentioned here can be identified as follows: al-half bar (بر = wheat) = *Imperata cylindrica* (halfa grass) or *Lygeum spartum* (feather grass); al-harjal = *Solenostemma arghel*; balah al-sukr or shajar al-alooob = *Balanites aegyptiacus* (desert date); al-damseesa = *Ambrosia maritima* (ragweed); al-handhal = *Citrullus colocynthis* (bitter apple); shajar al-'afeen = ? (شجر = tree); al-laasif = *Capparis spinosa* (caper); shajar al-araak = *Salvadora persica* (salt bush); al-'ashr = *Calotropis procera* (Sodom apple); shajar al-qalqala = *Crotalaria retusa* (devil's bean).

Mountain goat: This is an animal that resembles a gazelle. Its meat is used to cure eye illnesses and to strengthen eyesight.

Dromedary: Dromedary milk is used for stress, drunkenness and illnesses associated with the liver.

bu'aar: This animal resembles a rabbit.⁶ Its meat is used to cure many illnesses, including those of the heart, trachea and lungs.

These animals can be found in the desert valleys and near the coast.

Geographical Names

The valleys in the Red Sea Mountains and Aswan where the Ababda are located are divided into two sections. The first part is called *sahilee* and drains into the Red Sea. The second is called *dihraaya* and drains into the River Nile. Valleys that drain into the Red Sea include A'adab, Abu Ghadhuun, Daa'eeb, al-Dibah, Hamraaween, Hawdhayn, Khuda'a, Lahmee, Magheej, al-Nakheel, Safaajaa and al-Sukraa. Valleys that drain into the River Nile include Abu Hamameedh, al-Baramiyah, Beeza, Ilmakaan, Khashab, al-Khareet, Matoweet, al-Meeyah, Natash, Qanaa, al-Qash, al-Qudaara and al-Ilaaqee, Sheikh Shazli, Shu'ayt and Zaytoon.

Interview with an Ababda Sheikh

I inquired from an Ababda sheikh about specific issues, his personal life and the life relating to his tribe. He said: I am *so-and-so*, son of *so-and-so*, from the tribe of *so-and-so*.

I asked: Where are the Ababda from?

He answered: They came from the Arabian Peninsula with their grandfather al-Zubayr bin al-'Awaam during the Islamic conquest of Egypt.

I asked: Where do you live now? Where were you born? And where were you raised?

He answered: I live in the desert of the Red Sea and have been in this place from the time I was born.

I asked: Do you have any children?

He answered: I have three boys and two girls. The boys are Umar, Wawdeed, Uthman and the girls are Fatima and Aamina.

I asked: What do you want from this life?

He answered laughingly: Safety and upholding the truth.

I asked: What do the Ababda like and dislike?

He responded by saying that the Ababda are a simple people and so are their dreams. The thing they like the most is rain because drought affects them the most.

I asked: Why do you live in the desert when you can live in the city or elsewhere?

He answered: We live in the desert because we are used to living in it. Even though it is a hard life, according to us it is better than living in the countryside or the city.

Finally, thanks to the sheikh for these beautiful words.

Ababda Music and Dancing (by Zbigniew Kosci)

Classic publications about life in the Egyptian Eastern Desert (Murray 1923; Schweinfurth 1925; Murray 1927; Sanders 1933; Murray 1935; Newbold 1935; Owen 1937; Clark 1938; Keimer 1951; Murray 1951; Keimer 1952a, 1952b, 1953a, 1953b, 1954a, 1954b; Paul 1954; Crawford 1955; Tregenza 1958, 2004) contain little information about the music of the Ababda. It is obvious to any visitor to the region, however, that music is present everywhere in their lives. Always in a group, the Ababda sing and dance, which gives them great pleasure. On my first day in Berenike, I witnessed a small boy at work humming a beautiful song in the quiet of the desert. At night, I heard the workers sing and I saw them dancing by the fire. Such performances were repeated every night. Later, in all the places that I visited in the Eastern Desert two things were offered: coffee and song (Figure 29.11). All this encouraged me to photograph them, to record their music and to search for more information in the accounts of other travelers in the region.

The Ababda nomads have no written music and no written history. Every song's text and interpretation are passed orally from one musician to another (Plumley 1976; Salvador-Daniel and Farmer 1976; Racy 1996; De Jong 2002). There are two main themes in traditional songs common to all Beja—love and animals, particularly dromedaries (Jacobsen 1998; Wendrich 2008). The songs about love praise the beauty and charms of particular women. Below is an example from Wadi Khareet:

*The Night*⁷

I saw the fate of Adam and I was eating from it

⁷ الليلة (the night) is the start of many Ababda lyric songs. After singing a sustained *al-lailah* as a prelude, the rest of the verse follows (Simon 1983).

⁶ Bu'aar = rock hyrax (*Procapra capensis*).



Figure 29.11. Ababda men singing and dancing (Sheikh Maleh, near Quseir, 2006). Photograph by Zbigniew Kosci.

(I felt) the foolishness
 Night, oh night, Allah, night, oh night
 Time withdrew me like it withdraws an orphan
 But I was thankful to God and I was patient
 Because of all miserable things
 And I kept my secret silent
 Love is hitting me with a burning stick
 Love is covering me like with a mask
 (translated from Arabic by Medhat al-Menabbawy).⁸

Songs about dromedaries relate to the Beja pastoral life and the importance of freedom in the desert; the animal forms a metaphor for freedom.

The Heart

Allah, my Lord—oh the Absent, oh father of the Silkhair
 Come to me!
 Mount the *maskal*,⁹ my origin—I don't remember it
 Come to me!
 Allah, my Lord, oh the Absent—oh the Father of the
 Silkhair
 (translated from Arabic by Medhat al-Menabbawy).

The Ababda play the five-string *tanbura* (طنبورة), a type of simple lyre. The instrument has a round, square or triangular resonator, sometimes made from carved wood. Two posts extend from the body, with a connecting crossbar at the end (Figure 29.12). While playing, the strings are plucked vigorously and the sides of the resonator are sometimes beaten when accompanying singing. Strings, now often made of metal, are attached to the body and to wooden tuning pegs in the crossbar. The tanbura is very similar to the instruments of other groups in the region; the Ethiopian *krar* or *kissar*; the Arab *kinnara*, and the *kinnor* of the ancient Hebrews;

the instrument of King David (Plumley 1976). Using different names the tanbura is known in Sudan, Kenya and Uganda (Warner Dietz and Babatunde Olatunji 1965). It can also be seen in the murals from the tomb of Khnumhotep II (approximately 1890 BCE) in Beni Hassan where a group of visiting nomadic traders from Syria, Palestine or Canaan is depicting (Shedid 1994). Early travelers interpreted these instruments as inspired by the ancient Greek lyre (*kithara*) taken up the Nile into Egypt, Sudan and other areas of eastern Africa well before 2000 BCE. It seems more likely, however, that they originated somewhere in the ancient Near East.

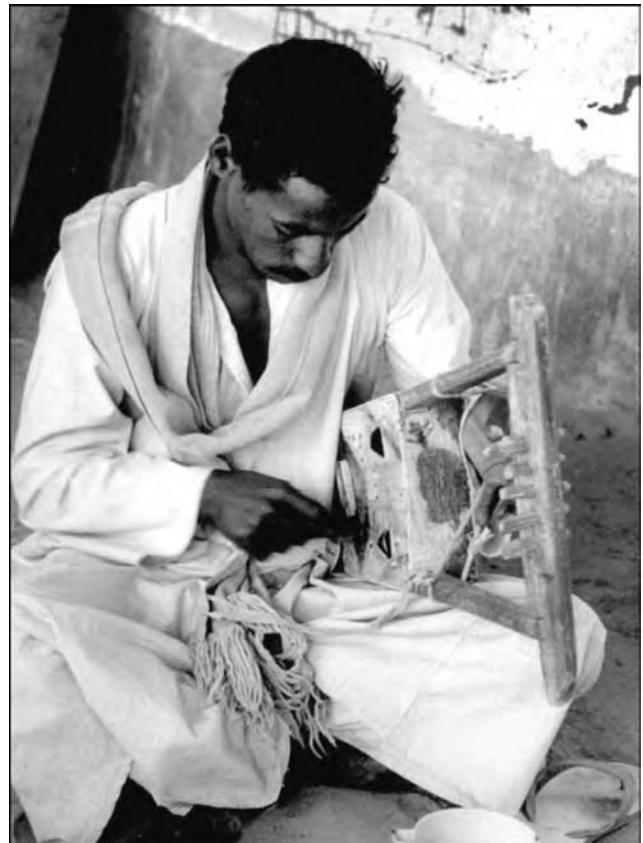


Figure 29.12. Ali Gama'a playing the tanbura (Wadi Khareet, 1998). Photograph by Zbigniew Kosci.

⁸ According to Daheb, a singer from Nubia (Simon 1983), most song texts are difficult to translate. Verses are usually in local dialect or contain expressions having unclear meaning for modern Arab speakers and for native singers as well. Winkler gives alternative translations of certain verses to illustrate these difficulties (Winkler 1936: 317).

⁹ *Maskal* refers to a fast or racing dromedary.

Almost every Ababda man knows how to construct his own tanbouira. Sometimes the instrument is elaborately decorated; more often it is roughly assembled from pieces of old wood and metal wires. The Ababda play the tanbouira not only to create simple melodies, but also for the ecstatic rhythms so important to their music, with dancing as its origin (Figure 29.13). Clapping hands and drumming create additional rhythmic sounds. Other improvised instruments are frequently used, such as plastic containers, empty cans, pieces of wood, and anything else that can fulfill the purpose. The most sophisticated rhythmic effects, however, are created by human voices accompanying the solo singing. This parallel chorus sounds like an additional group of instruments. The singing men produce pulsating vocal accompaniments, of which the rhythmic and vocal structure is specific to the different kinds of Ababda music (Figure 29.14). Because of the intensive rhythms, body movements and hyperventilating, this singing sometimes evokes a collective trance. In all music, additional shrill ululations (زغاريد , *zaghareed*) may be vocalized by women who normally remain apart from the exclusively male group of musicians. *Zaghareed* are heard during happy events such as weddings, homecomings and parties.

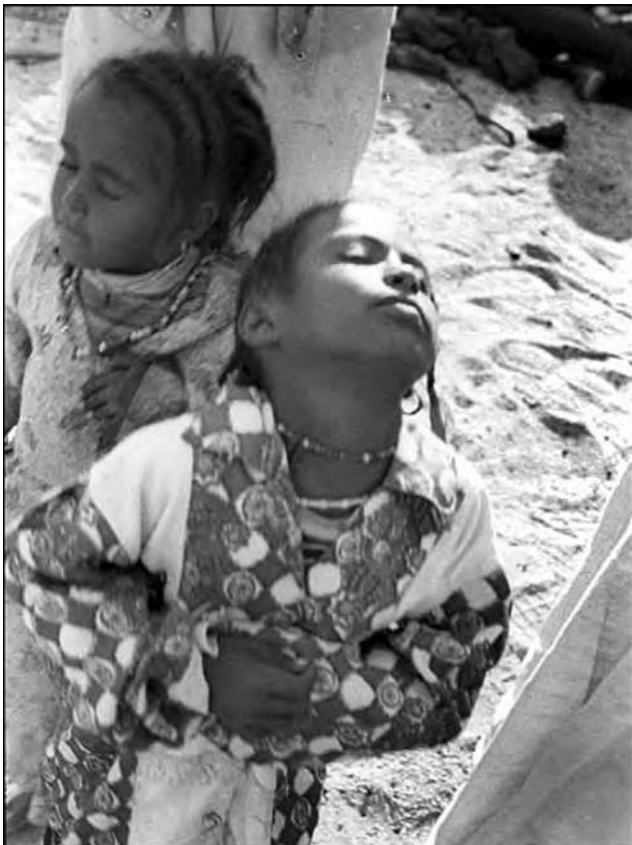


Figure 29.13. Ababda girls dancing (in Manazig, near Berenike, 2002). Photograph by Zbigniew Kosci.



Figure 29.14. Ababda singing and dancing (Manazig, near Berenike, 2002). Photograph by Zbigniew Kosci.

Plays and Dances

Most frequent among the Ababda are group stamping dances, popular in Arab territories and throughout Africa (Warner Dietz and Babatunde Olatunji 1965). They are performed in a circle or in a line formation, most often exclusively by men, although sometimes women participate as well. In the region around Berenike, on the Red Sea coast, two kinds of dancing are typical of the traditional desert communities: *hosheeb* and *shakreeb* (Murray 1935; Winkler 1936).¹⁰ In the early 1930s, Winkler described both dances as they can still be observed today.¹¹ *Hosheeb* and *shakreeb* dances are similar to those of other Egyptian Bedouin (Murray

¹⁰ Winkler's transcriptions have been replaced here with phonetic English versions. These dances seem to have many different names (see Abdel-Qadr above), either among different groups or to identify subtly different functions or appearances.

¹¹ Winkler does not name them dances, but rather plays. It is evident, however, that the essence of the Ababda play is dancing (Winkler 1936). In this chapter Abdel-Qadr, a native Ababda, uses dance, play and game almost interchangeably. Winkler's transcriptions have been replaced here with phonetic English versions.



Figure 29.15. Ababda men dancing shakreeb (Manazig, near Berenike, 2002). Photograph by Zbigniew Kosci.

1935), as well as the Beja in Sudan and Ethiopia and even the Sinai Arabs (Murray 1923). Their origin can likely be traced to ancient times, although no record of this is known. When dancing shakreeb,¹² Ababda men form a line with one of them playing a tanbouira while two others dance facing the line. They jump high to the rhythm of clapping hands, stamping and guttural sounds (Figure 29.15). It is a competition where each of them tries to out-jump the other. It is a manner of displaying strength and virile energy. Standing aside, girls and other spectators declare the winner with ululations.

Hosheeb is a type of sword dance performed during festivities and to welcome guests. It is also known as *maggad* or *sayf*.¹³ It occurs in local variations as a wedding dance or during other festivities (Wendrich 2008).¹⁴ A group of singing young men forms a line and in front two dancers perform a short simulated fight with their swords, or lacking these long rods, and sometimes leather shields as well. Facing each other, their swords are held high in the air as shaken with a quick movement of the wrist (Figure 29.16). Those in the line clap rhythmically as they stamp their feet and sing, repeating a simple verse. Here is an example of a hosheeb as noted by Winkler:

¹² Modern Ababda use *al-bugrab* instead of shakreeb, which not only refers to the type of dance, but also the type of music to accompany the dancing.

¹³ سيف = sword; a long, thin steel sword traditionally belongs to the Ababda garment (Winkler 1936; Sidebotham *et al.* 2008).

¹⁴ One variation is *al-kushait*, a dance similar to the shakreeb with girls dancing as well (see Abdel-Qadr above).



Figure 29.16. Ababda men dancing hosheeb with swords and rods (Manazig, near Berenike, 2002). Photograph by Zbigniew Kosci.

<i>Hosheeb, hosheeb</i>	This one with the bracelet is shiny
<i>Abu kustuban sabb</i>	The cutting edge makes a punch
<i>Fi'ssinn rabig el-habb</i>	A [crocodile] ¹⁵ of the island of
<i>Tumsah gazair el-kom</i>	Kom (Ombo)
<i>Ma 'arif ellom</i>	He knows no blame

(Winkler 1936, translated from German by Zbigniew Kosci)

As the music ends, the men lay down the swords and run away from each other with their hands up. At the start it looks like a real fight, but in the end it turns out to be all for fun.

Biographies of the Singers

The Ababda do not care much for modern European music, nor are they particularly enthusiastic about popular Egyptian music. The music of Sudan and other Beja is closer to their hearts and they frequently listen to it on their cassette players. These are traditional folk songs, but also contemporary popular hits, full of vows

¹⁵ Winkler has *Drache* (dragon), but 'crocodile' seems a more adequate translation.



Figure 29.17. Eid Abdel-Qadr (Manazig, near Berenike, 2002). Photograph by Zbigniew Kosci.

of love, longing and promises of future happiness. For the Ababda, their own musical tradition always comes first. Eid is a 44-year-old man (Figure 29.17). He lives in a house made of mats (*bayt bursh*; Krzywinski and Pierce 2001; Cappers 2006; Magid 2008; Sidebotham et al. 2008; Wendrich 2008; Barnard 2009a, 2009b) in the fishing settlement of Manazig, near Berenike. He accepts any job to support his wife and two children. He drives us around in his small Toyota pickup truck and knows all the tracks through the desert. He is smart and has a friendly smile. Eid likes music and sings all the time when driving. In Wadi Abuxum we meet his old mother, his sisters and other members of his large family. In the evening he invites his friends. We drink many cups of coffee (*jabanah*; Krzywinski and Pierce 2001: 39; Cappers 2006: 40; Barnard 2008: 92-93; Sidebotham et al. 2008: 269-270; Wendrich 2008: 517-520), and smoke a water pipe while the men sing and dance until late in the night. Eid is a very good musical director and an excellent singer who is regularly hired to perform at weddings and other festive occasions. Hassan is the neighbor of Eid and lives with his wife and small children (Figure 29.18). He assists Eid during our journey. He makes the fire, prepares tea and simple Ababda dishes for us and bakes flat round bread in the sand (Sidebotham et al. 2008: 265-267; Wendrich 2008: 527; Barnard 2009a). When Eid is singing, Hassan accompanies him with clapping or drumming on an empty jerry can.

Mahmed Abu al-Hawa lives in Wadi Khareet (Figure 29.19). He works in the sugarcane fields, a typical job in this area. The work is hard and poorly



Figure 29.18. Hassan and his family (Manazig, near Berenike, 2002). Photograph by Zbigniew Kosci.

paid, but there is no other possibility for him to support his mother, wife and children. In the evening, the young men come together to drink sweet tea and talk endlessly making plans concerning marriage or well-paid work abroad. They also play music and dance because it makes their present life more pleasant. Mahmed Abu al-Hawa sings and plays the *tanboura* excellently. He improvises using the same tunes as other Ababda musicians, but also follows the musical tradition of his Nubian neighbors imitating their vocal and rhythmic elements. Mohamed Gama'a Mahmud sells dromedaries at the market in Daraw, near Aswan. In Wadi Khareet he occupies a very special position in the community of young men. He is an eccentric person (Figure 29.20), a kind of Ababda hippie. His friends admire Mohamed's *cappella* singing. Although his music is melancholic and spiritual, Mohamed is a joyous person with a charming sense of humor.

Discussion

This chapter provides a glimpse into the life of the Ababda men and women who we met in the Eastern Desert around the turn of the 21st century CE. We have tried to do this from their perspective as best as we could, by providing them with the means to produce their own images, texts and collections, and by archiving some of their more important activities, such as singing, dancing and building a house. As an effort, this does not stand alone (Murray 1927, 1935; Newbold 1935; Murray 1951; Paul 1954; Morton 1988; Hobbs 1989; Abdel-Fatah and Azmy 1995; Briggs et al. 1999; Krzywinski and Pierce 2001; De Jong 2002; Tregenza 2004; Cappers



Figure 29.19. Mahmed Abu al-Hawa (Wadi Khareet, 1997). Photograph by Zbigniew Kosc.



Figure 29.20. Mohamed Gama'a Mahmud (Wadi Khareet, 2001). Photograph by Zbigniew Kosc.

2006; Sidebotham *et al.* 2008; Belal *et al.* 2009), but more work needs to be done without much delay as the area and its inhabitants are changing fast.

There is a popular and in our opinion rather naive notion that the life of Bedouin, or rather multi-resource nomads (Salzman 1972; Rosen 2003; Wendrich and Barnard 2008), in the desert has not changed in centuries,

or even millennia (Herzog 1985; El-Sayed 2004; Dahl and Hjort-af-Ornas 2006; Zibelius-Chen 2007), and that they are somehow frozen in time without history (Wolfe 1982). Instead they have always readily adapted to changes in their environment, be they climatological, political, ethnic, religious or simply material (Wendrich 2008; Barnard 2009b, 2009a). Major changes that have led to what is now perceived as typical Ababda cultural attributes include the introduction of the dromedary (Köhler-Rollefson 1993; Uerpmann and Uerpmann 2002), Islam and the Arabic language (Insoll 2003), the 'coffee ceremony' (Birnbaum 1956; Baram 1999), metal and plastic containers, cars and (mobile) telephones, as well as the influx of outsiders in the area, such as soldiers, miners, tourists and all the changes that this evokes. The influence of the successive Kushite, Pharaonic, Christian (the Kingdoms of Nobatia and Makuria), Islamic (the Sultanate of Sinnar), Ottoman, British, Egyptian and Sudanese overlords also left their traces, as did the constant movement of people from and into the Nile Valley as well as from and onto the Arabian Peninsula (Barnard in press).

It is obvious from our work and that of others that many rather fundamental changes have occurred during the last quarter century of the 20th century CE, and that more can be expected during the quarter century to come. Whether the most recent changes, and those yet to come, are beneficial for the Ababda or the region can be debated. For various reasons the preservation of ancient remains in the region is of great importance. The prevention of further destruction, such as happened, for instance, with the Late Ptolemaic/Early Roman *hydreauma* (fortified well) in Wadi Semna (Sidebotham *et al.* 2001), is an urgent and difficult task. Preservation of a living culture, however, is a very different matter and whether this is even desirable is a question. Nobody should deny the Ababda access to modern modes of transportation and communication, schooling or health care. On the other hand, the rapid development of the Egyptian Red Sea coast now denies the Ababda their traditional access to the coast, while some of the desert tracks have become inaccessible for their light pickup trucks as they have been churned up by dune buggies and large four-wheel-drive vehicles taking tourists on desert safaris. It is difficult for the Ababda to benefit from these developments (Cole and Altorki 1998; Grainger 2003; Hobbs 2006, 2007; al-Aawah and De Simone, this volume; Hanna, Keshk and Aboubakr, this volume;

Hassan, this volume; Jones, this volume; Starkey, this volume). Rather than hiring local laborers, developers and tour operators bring in better-trained personnel from the Nile Valley, as well as Bedouin from the Sinai. The latter have more experience in dealing with tourists and, with their Arab garb and iconic ‘black tents,’ better fulfill Western expectations. The Ababda occasionally gain an income by selling ethnographic objects, such as leather and basketry items, wooden and ceramic vessels, swords and shields, but supply is limited and the practice further depletes their cultural heritage.

Many Ababda respond to all these changes by moving away, either west, into the Nile Valley (Wadi Khareet), or south, into the restricted Halaib Triangle or Sudan.¹⁶ This is encouraged by the Egyptian government, which seems to be wary of mobile peoples, as most governments of nation-states are. Efforts are made to persuade the pastoral nomads to settle by offering drinking water and basic education in approved settlements, while making life difficult for those who are on the move. At the same time all of these developments have an inevitable and profound effect on the lifestyle of the Ababda, to the extent that the young men of today have difficulty remembering the ways of their fathers and grandfathers. They and we see the value of at least recording what remains before that too forever fades into the haze of history. This chapter aims to contribute to just that.

Contents of the Media Files

This chapter is illustrated with sound and video files recorded between 1998 and 2002 in the Eastern Desert and New Nubia. The sound recordings of Ababda singing and dancing (Table 29.1), available in mp3-format on the disk accompanying this volume and with

¹⁶ The Halaib Triangle (مثلث حلايب) consists of two areas on the border between Egypt and Sudan. The largest is roughly triangular, with one side formed by about 200 km of the 22°N parallel and a second by a stretch of about 150 km of the Red Sea coast towards the north. After the independence of Sudan in 1956, both Egypt and Sudan claimed the area. Egypt has effectively ruled the area since the 1990s as part of the Red Sea Governorate, although sometimes referring to it as the ‘Sudan Government Administration Area.’ A smaller, roughly rectangular area to the east, Bir Tawil, is located south of the 22°N parallel while touching the triangular area at a point on the 22°N parallel. Neither Sudan nor Egypt claims Bir Tawil. These areas are the result of the difference between the ‘political’ boundary, set in 1899 by the Anglo-Egyptian Condominium, and the ‘administrative’ boundary, set by the British government in 1902.

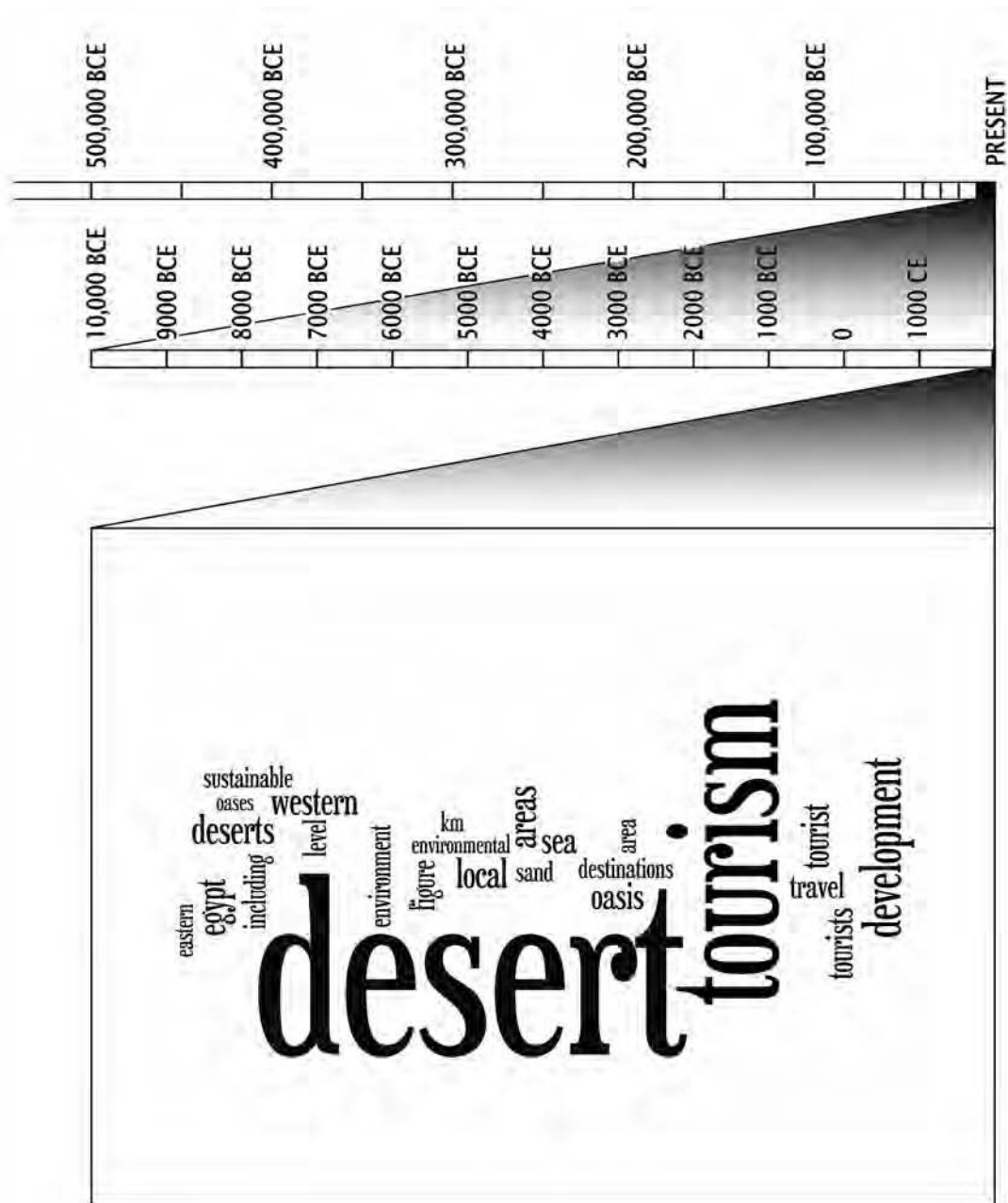
the rest of this volume at University of California’s eScholarship (<http://escholarship.org/>), were made by Zbigniew Kosci. The short films showing key elements of Ababda life (Table 29.2), available in mp4-format on the disk accompanying this volume and with the rest of this volume at the University of California’s eScholarship (<http://escholarship.org/>), were made by Willeke Wendrich, edited by Amanda Levensohn, and narrated by John Lynch.

Table 29.1. The audio files with this chapter.

Name audio file	Contents	Duration
Sheikh Maleh 1	Ababda men singing and dancing in Sheikh Maleh (Egyptian Red Sea coast)	01:40
Sheikh Maleh 2	Ababda men singing and dancing in Sheikh Maleh (Egyptian Red Sea coast)	01:43
Sheikh Maleh 3	The sound of a sword-and-shield dance in Sheikh Maleh (Egyptian Red Sea coast)	01:47
Wadi Gamal 1	Ababda men singing and dancing in Wadi Gamal (Egyptian Red Sea coast)	00:55
Wadi Gamal 2	Ababda men singing and dancing in Wadi Gamal (Egyptian Red Sea coast)	01:08
Wadi Gamal 3	Ababda men singing and dancing in Wadi Gamal (Egyptian Red Sea coast)	07:18
Wadi Gamal 4	Ababda man reciting poetry in Wadi Gamal (Egyptian Red Sea coast)	01:06
Wadi Gamal 5	Ababda man reciting poetry in Wadi Gamal (Egyptian Red Sea coast)	02:48
Wadi Gamal 6	Ababda man reciting poetry in Wadi Gamal (Egyptian Red Sea coast)	03:30
Wadi Gamal 7	Ababda men singing and dancing in Wadi Gamal (Egyptian Red Sea coast)	01:18
Wadi Khareet 1	Ababda men singing in Wadi Khareet (Upper Egyptian Nile Valley)	13:24
Wadi Khareet 2	Ababda man singing in Wadi Khareet (Upper Egyptian Nile Valley)	03:42
Wadi Khareet 3	Ababda men singing in Wadi Khareet (Upper Egyptian Nile Valley)	02:12
Wadi Khareet 4	Ababda men singing in Wadi Khareet (Upper Egyptian Nile Valley)	03:53

Table 29.2. The video files with this chapter.

Name video file	Contents	Duration
Gathering wood	Ababda men go out into Wadi Kalalat to select and cut forked branches for building a mat-house	01:34
House building	Ababda women build a frame of tree roots and branches to be covered with rugs and palm leaf mats into a mat-house	03:53
Dancing	Ababda men dance a sword-and-shield dance (<i>al-kushait</i>), while boys jump as high as they can (<i>al-bugrab</i>)	01:09
Colorful carpets	A carpet with distinct brightly-colored triangles is hand-woven on a simple loom by Ababda women	01:07
Dromedary	The pride of a young Ababda man is his dromedary with all its trappings made by the women of his family	01:47
Baking bread	Anywhere in the desert bread can be made in about half an hour by heating the sand and covering the dough with embers	03:56



Time line and word cloud for Suzan Bakri Hassan, *Sustainable Desert Tourism: A Tool for Competition*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 30



Sustainable Desert Tourism: A Tool for Competition

SUZAN BAKRI HASSAN

EGYPT IS PREDOMINANTLY A DESERT. AN AREA of only 35,000 km², 3.5% of the total land area, is cultivated and permanently settled. Most of the country lies within the wide band of desert that stretches from Africa's Atlantic Coast across the continent and into southwest Asia. The ancient Egyptians thought of Egypt as being divided into the 'black land' and the 'red land.' The black land was the fertile land on the banks of the River Nile, which can be used for growing crops because of the layer of rich, black silt deposited every year. The red land was the barren desert that protected Egypt on two sides. These deserts separated ancient Egypt from neighboring countries and invading armies. They also provided the ancient Egyptians with stone, minerals and precious metals. Current efforts aim to develop the Egyptian deserts as tourist destinations within a framework of sustainable development criteria. Tourism in desert destinations is a niche market, but in constant growth. Although the majority of tourists travel into the desert on their own, deserts or desert regions increasingly feature as destinations in packages, offered by tour operators and travel agents, attracting customers who are eager for new discoveries and sensations. Desert tourism is for travelers who seek solitude, authenticity, and different cultures and traditions, as well as encounters with local people and unspoiled landscapes. The size of the groups and the choice of travel method must be governed by rules that ensure a high quality of interaction, a good travel experience and customer satisfaction.

Deserts cover a third of the Earth's land area, about 50 million km². They are spread over two discontinuous zones on either side of the equator, generally in the inland regions of continents. In Africa they include the Sahara, the Kalahari and the Namibian Deserts; in Asia the Gobi Desert and the deserts in Turkmenistan and India; in the Americas the Mohave and Chihuahua Deserts and the Atacama; and in the Middle East the Arabian Desert (World Tourism Organization 2007). The Eastern Desert of Egypt connects the former (the Sahara) with the latter (the Arabian Desert). Deserts are now becoming a more and more popular tourist destination. The construction of new infrastructure, such as paved roads and airports, are opening areas to mass tourism destinations that used to be reserved to a few adventurers, backpackers and others who were able to pay the price of a long and difficult journey to visit deserts and their oases. Tourism in the desert began relatively late in comparison to other destinations, such as mountains, cities or famous historic monuments. One of the reasons for this was the lack of infrastructure and the danger associated with the desert. It is quite common for a destination to be first described by photographers, scientists, poets or writers, before being open to the tourist consumption, and deserts were described at first as dangerous destinations.¹

Day after day, the tourism sector, with all its branches and fields, is getting more and more attention due to its important role in boosting national economies and

¹ http://www.starlight2007.net/pdf/proceedings/V_Lefebvre.pdf (accessed November 3, 2008).

feeding hard currency reserves. As it is a sensitive sector, especially on the level of foreign competition, countries are constantly seeking to win over tourism stakeholders and renew facilities.² The rapid growth in tourist flows in recent decades has been accompanied by diversification, both geographically and in terms of tourism segments or products. Desert destinations have shared in the benefits of this double diversification process, making it an ever more pressing priority to define a sustainable approach to tourism development in desert areas. (World Tourism Organization 2007). Each of the world's deserts is unique and has its own cultural diversity, traditions and potential to develop and host new activities.³ Some, like tourism, have not always been suitably planned or implemented in a sustainable manner so that tourism in these regions can have an adverse impact, resulting in harm to desert ecosystems. Desert areas need to benefit from all opportunities created by tourism but, given their fragility, appropriate regulations and preservation mechanisms need to be put in place. Desert tourism can be a sustainable development solution if it is planned by professionals who are aware of and concerned about the impact of their activities. There is a need, then, to create and develop mechanisms to enable the different actors concerned, including governments, non-governmental organizations (NGOs), local communities, and the public and private sectors, among others, to work effectively together to find the balance required for sustainable development of desert tourism.

Definitions

Deserts can be defined as areas that receive an average annual precipitation of less than 250 mm (10 in), or as areas in which more water is lost by evaporation than falls as precipitation.⁴ A desert thus has sparse vegetation or in extreme cases no vegetation at all. The Sahara is an example of the latter, with mile after mile of plain sand, whipped into rippled dunes by the strong desert winds. The reason that few plants grow there is not only because there is no water or rainfall, but also because there is very little soil. Sand covers only about 20% percent of Earth's deserts. Most of this is in sand sheets and sand seas, vast regions of undulating dunes resembling

ocean waves.⁵ Tropical deserts have very high daytime temperatures; a high of 58°C (136°F) has been recorded in the Libyan Desert. Mid-latitude deserts have a wide annual range of temperatures with winter temperatures sometimes going below freezing.⁶ Sections of the world's deserts have been inhabited for thousands of years, with human knowledge and ideas creating opportunities and livelihoods, and even thriving desert economies (Krzywinski and Pierce 2001; Roe, this volume).

The term 'desert tourism' refers to a range of products, experiences and environments. There is no clear single desert tourism market, but rather a collection of markets that are characterized by their small scale and complex interactions with natural, social and cultural environments. At the broadest level, there are important differences between the tourism that incidentally occurs in desert environments and tourism where the desert environment is an integral part of the touristic experience. Either form can be seen as offering different livelihood opportunities for desert communities (Tremblay 2006: 10-15). Desert tourism is a subset of the larger category of nature tourism. It includes trips into the desert to experience its pristine and remote ecosystems. It depends on those ecosystems existing in their natural state and being only lightly visited (Hecht 2004). Deserts or desert regions are now being featured as new tourist destinations in packages offered by tour operators and travel agents, attracting customers who are eager for new discoveries and sensations (United Nations Environmental Program 2006: 2-44). Seven attributes that are strongly associated with desert tourism have been identified (Weaver 2001), including exceptional geological features and climatic conditions; wild flowers and other episodic floral displays; ancient, large or unusual vegetation; caravans, caravanserais or other signs of desert trekking; indigenous inhabitants; oases; and protected areas. The life of the people who live in the desert is closely linked to a deep respect and understanding for the natural environment (United Nations Environmental Program 2006: 2-44; Andersen, this volume; Krzywinski, this volume). Several civilizations have been born on the fringes of the desert, along its ancient watercourses, and around the trading posts of the great merchant caravans. The desert is

² http://toinitiative.org/fileadmin/docs/events_docs/press_release_5june06.pdf (accessed November 3, 2008).

³ http://toinitiative.org/fileadmin/docs/events_docs/press_release_5june06.pdf (accessed November 10, 2008).

⁴ <http://en.wikipedia.org/wik/Desert> (accessed November 3, 2008).

⁵ http://en.wikipedia.org/wiki/Desert#Desert_features (accessed November 3, 2008).

⁶ <http://www.blurtit.com/q683163.html> (accessed November 3, 2008).

an open-air museum that discloses the riches of these ancient civilizations (rock art, tools, crafts, weapons and tombs). Numerous sites are now being explored by tourists seeking to understand these civilizations and see artifacts and archaeological ruins dating back thousands of years. The special character of desert biodiversity makes these regions ideal locations for observation and analysis of flora and fauna; while their geology, with its exposed rock and soil, makes them the ideal place for studying the formation of the earth and studying fossils and meteorites.⁷

Features of Desert Travel

Desert tourism is for travelers who are seeking solitude, authenticity, cultures and traditions, encounters with local people and unspoiled landscapes. The size of the groups and the choice of travel method must be governed by rules that ensure a high quality of interaction, good travel experience and customer satisfaction (United Nations Environmental Program 2006: 2-44). Three market segments have been identified (Taylor and Prideaux 2006) that may offer the potential for different types of desert development and experiences. One segment seeks to explore remote areas and to conquer iconic desert tracks or destinations, while another segment uses four-wheel-drive vehicles to facilitate special interests such as exploring the special flora, fauna, geology or history of the region. The third segment is motivated by a desire to test the capabilities of the vehicle and the skill of the driver in negotiating difficult environments, such as steep sand dunes, boggy creek beds, and so on. The explorer segment appears most interested in desert travel, although there is usually an influence from the other segments. The travel motivations of the explorer segment have recently been investigated (Schmallegger 2007: 2-14). Schmallegger identified three high-level motivations related to experiencing the environment and environmental features, experiencing a sense of isolation and something different from the home environment, and learning about the history, environment, cultures and industries of the desert. The educational motive was identified by international and domestic travelers and was particularly strong among family travel parties. The main educational activities engaged in were non-commercial, reading interpretive signs and so on, but

there was some evidence of a willingness to purchase educational tourism products.

Today, desert tourism is an itinerant one; most of the tourists stay just one or two nights in the same place, moving from one camp to another, and in a hotel with comfort before and after. It is quite remarkable that tour organizers try to avoid the use of electricity in order to give a more authentic experience, while at the same time electricity has reached the smallest settlements making this attitude rather artificial.⁸ The main aim of desert tours is to allow visitors to discover the cultural and natural aspects of the desert. They are usually organized and staffed by specialist tour operators relying on local partners. They are rarely based on hotels or guest houses and travelers move around in vehicles, by riding, or on foot. Customers are often travelers who wish to get off the beaten track and are concerned about the impact of their passage. The journeys on offer, consisting of dromedary rides, excursions on foot or horseback and more adventurous expeditions, can last from three days to three weeks (United Nations Environmental Program 2006: 2-44).

Tourism is a major source of economic development, both regionally and nationally, in many desert destinations. It creates demand for accommodation, food, transport, labor and handicrafts, as well as an appreciation for the cultural and natural heritage. It also generates demand for the development of infrastructure, from which it is important that local communities benefit. Travel into the desert makes considerable use of local personnel, whose knowledge of the desert is particularly valuable in these circumstances. A large share of the economic benefits usually goes straight to the local communities (United Nations Environmental Program 2006: 2-44). Tourism is making a contribution to the socioeconomic development of desert regions, not least through the creation of temporary jobs that ease the poverty of desert inhabitants. Developing tourism in the desert can give rise to the following two types of employment. First are jobs that would be generated by any tourist activity and for which the skills required are not desert-specific. These include permanent or seasonal jobs associated with the activities of inbound travel agencies, such as agency staff, mechanics, schedule and service coordinators, or with the reception of tourists, such as personnel in tourism offices, airports,

⁷ http://www.toinitiative.org/fileadmin/docs/publications/desert_guide_e.pdf (accessed November 3, 2008).

⁸ Desert Tourism Architecture and Starlight, <http://www.starlight2007.net/pdf/> (accessed November 10, 2008).

accommodation facilities and restaurants. Qualifications are often the main selection criterion for employers. In some regions, skills transfer and training programs need to be organized so that these jobs can be made more widely accessible to local communities; this often requires joint action by the public sector and commercial operators. Second are jobs specific to the desert and to the kind of tourism conducted there, such as camel drivers, guides, cooks and vehicle drivers. Local people's in-depth knowledge of the desert, their confidence in that environment and their ability to impart their cultural heritage give them an indispensable role. Recruitment for these jobs should give precedence to the native inhabitants of these territories (United Nations Environmental Program 2006: 2-44).

Management of Desert Areas

The seasonal nature of tourism in the deserts, dictated by large temperature variations that preclude year-round travel, means that the pressure on the environment is limited to a few months per year. This seasonality, however, should not lead to an underestimation of the irreversible disruption that tourism can cause over just a few months in these fragile ecosystems, especially if it is not properly planned and controlled.⁹ Management of desert tourism must include several of the components of the larger context of desert ecosystems and tourism. These include the remote and fragmented attractions; nearby iconic mass tourist attractions (which drive many major tourist flows); self-drive tourists (who have an interest in many outback environments, including arid areas); the services components of the region (which play a role in explaining interest in the region in the first place and help explain actual pathways of tourists); the specific attributes and relationships between livelihoods, businesses and resources with the desert environment; and the relationships among the existing institutional design of the desert environment, natural resources management issues and the governance of tourism and its sociocultural impacts. Most core activities and issues identified in Figure 30.1 can be related to one of three stereotypical sets of stakeholders, consumers, producers (private and public sector based), and communities (of various scales and with distinct resource endowments). Local support for tourism development is often dependent on the perceived benefits that it can bring and a lack of

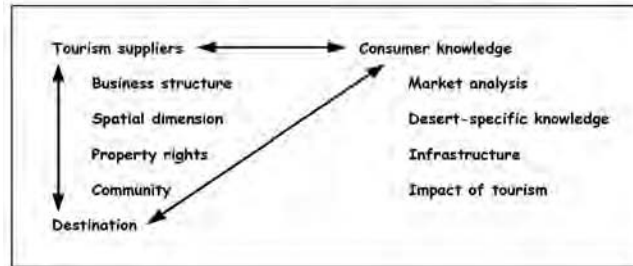


Figure 30.1. Relationships among various elements in desert tourism.¹⁰

local support has been regularly cited as an inhibitor of destination and market growth (Sirakaya *et al.* 2002).

Sustainable tourism development meets the needs of tourists and host regions, while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and esthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes and biological diversity (World Tourism Organization 1998). The new sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic and sociocultural aspects of tourism development and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability. Thus, sustainable tourism should make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes, and helping to conserve natural heritage and biodiversity. It should also respect the sociocultural authenticity of the host communities, conserve their built and living cultural heritage and traditional values, and contribute to intercultural understanding and tolerance. Finally, it should ensure viable, long-term economic operations, provide socioeconomic benefits to all stakeholders, including stable employment and income-earning opportunities and social services to host communities, and contribute to poverty alleviation.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation

⁹ http://www.toinitiative.org/fileadmin/docs/publications/desert_guide_e.pdf (accessed November 8, 2008).

¹⁰ Adapted from <http://www.desertknowledgecrc.com.au/publications/downloads/for-web-rep12-dts-20oct2006.pdf> (accessed October 5, 2008); drawing by H. Barnard.

and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and corrective measures whenever necessary. Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability and promoting sustainable tourism practices among them.¹¹ Innovation in regional and remote tourism destinations requires collaboration between businesses and other stakeholders, entrepreneurship, access to economic, social and cultural capital, and a well developed knowledge of the markets (Jacobsen 2005). Poorly planned tourism can be extremely destructive to its surrounding environment, cultures and economies. Thus, with the increase in projected tourist travel over the next decade, even greater attempts will need to be made to ensure that the natural and human communities at tourism destinations remain sustainable and not spoiled by being “loved to death” (United States Agency for International Development 2005).

Travelers' Descriptions of the Western Desert

In Egypt, the desert areas are divided by the Nile Valley, which runs approximately south to north, and these separate regions are most frequently referred to as the Western and Eastern Deserts. The desert and the Nile River emerged when an ancient sea that covered most of Europe and northern Africa around 45 million years ago shifted, forming the Mediterranean Basin. Fossils from this ancient sea can be found throughout Egypt. Egypt is surrounded by two deserts, the mountainous Eastern or Arabian Desert and the sandy Western or Libyan Desert. The geographical name Western Desert was used by the British to label their share of North African. No natural barrier distinguishes the Western Desert from the rest of the Sahara and the Western Desert only exists as a political demarcation (Vivian 2002: 4-22). As with the Sahara and other deserts that stretch across most of northern Africa from the Nile to the Atlantic coast, the Western Desert was once a savanna that supported a variety of wildlife (Wendorf *et al.* 1976; Van Peer *et al.* 1998; Riemer and Kuper 2000; Gabriel 2002; Kuper 2006; Kuper and Kröpelin 2006). The Western Desert is better known among those familiar with Egypt, mostly because of its relatively large oases (Kaper 1998; Vivian

2002).¹² It covers an area of about 80,650 km², over 60% of the land surface of Egypt.¹³ The Western Desert consists of the Libyan Plateau, The Qattara Depression, the Great Sand Sea, and the eastern and southern areas, including the Gilf al-Kebir (Rieger *et al.*, this volume).¹⁴ The Libyan or al-Diffa Plateau in northwestern Egypt extends from the border between Egypt and Libya to the Qattara Depression, north of 29°N, reaching a height of 215 m above sea level. It is a *hamada*, a gently sloping surface covered by stones and gravel, formed by the deflation of fine-grained sediments leaving behind a deposit of coarse stones. The area to the south of the Libyan Plateau is dominated by the Great Sand Sea. It sweeps down the western half of the desert joining the Great Selima Sand Sea in Sudan. The eastern and southern parts of the desert have areas of stony plateau surfaces and mobile sand, which are formed by aeolian geomorphologic processes. The areas of mobile sand are mostly oriented northwest–southeast.¹⁵ The ideal time to visit the Western Desert is in late autumn or early spring. In summer temperatures can rise as high as 50°C (125°F) and although there is little humidity, the heat can be withering. Winter is more pleasant with average daytime highs of 20–25°C (65–75°F), although it can get below freezing at night. Winds, particularly in April (known as the *khamseen*), can present great problems for desert travelers.¹⁶

There are seven major depressions formed in the Pliocene in the Western Desert (Bahariya, Dakhla, Farafra, Fayum, Kharga, Qattara and Siwa) and several minor ones, including Dungul, Gara, Kukur, Moghra, Paris, Wadi Natrun and Wadi Rayan (Vivian 2002: 4-22). These depressions mark geological boundaries and contain the oases of the Western Desert. Kharga Oasis occupies a depression in the southern part of the Western Desert of Egypt, about 200 km west of the Nile Valley, extending for some 180 km in a north–south direction and 15–30 km east–west. The lowest point in this oasis is more or less at sea level, while the highest

¹¹ <http://www.world-tourism.org/sustainable/top/contents.htm> (accessed October 10, 2008).

¹² <http://www.touregypt.net/featurestories/easterndeserta.htm> (accessed October 10, 2008).

¹³ <http://www.britannica.com/eb/article-43460/Egypt> (accessed October 11, 2008).

¹⁴ http://www.egyptmyway.com/tours/western_desert.html (accessed October 11, 2008).

¹⁵ http://www.fao.org/ag/agl/swlwpnr/reports/y_nf/egypt/e_wdsrt.htm (accessed October 11, 2008).

¹⁶ http://www.lonelyplanet.com/shop_pickandmix/previews/egypt-9-western-desert-preview.pdf (accessed October 11, 2008).

is at 400 m above sea level.¹⁷ Ain Umm Dabadib is a major ancient settlement located north of Qasr Kharga. It includes a Graeco-Roman temple, a Coptic church, numerous tombs and four underground aqueducts that run for 13 km with vents for cleaning and repairs at regular intervals. Dakhla Oasis lies at about 120 km northwest of Kharga Oasis, extending for approximately 50 × 20 km in a northwest–southeast direction at an altitude of 100–400 m above sea level. Dakhla Oasis offers the best-preserved ancient architecture of all of Egypt's oases, including a Pharaonic temple. There are also several fine oasis gardens. Farafra Oasis, between the Great Sand Sea to the west and the White Desert to the north, is about 450 km southwest of Cairo. Farafra is popular because of its charm and thermal springs. The gardens are nice and there are some traditional houses as well.¹⁸ Bahariya Oasis is about 365 km southwest of Cairo. It covers an area of over 2000 km², surrounded by black hills of ferruginous quartzite and dolerite. The oasis is provided with water by many springs, the most famous of which is a thermal spring with medicinal and restorative properties in the village of Bawiti. Wildlife is plentiful, especially birds, and the Valley of the Mummies is estimated to hold 5000–10,000 mummies. These mummies are covered with gypsum masks finished with a thin layer of gold.¹⁹ The Qattara Depression, in the northern part of the Western Desert, is the largest depression of the Eastern Sahara. Its origin is still enigmatic, the most likely explanation being wind deflation to a base level controlled by the groundwater. The Depression has an area of around 19,000 km² and an average depth of 60 m below sea level, the lowest-point part being 134 m below sea level.²⁰

Fayum is Egypt's largest oasis, populated by more than 2 million people. It is not an oasis like those in the desert proper, but a fertile depression fed by an ancient branch of the Nile. The capital city of the oasis, also called Fayum or Medinet Fayum, is 85 km south of Cairo. The region is known for its Graeco-Roman remains, including the famous mummy portraits

¹⁷ <http://whc.unesco.org/pg.cfm?cid=326&l=en&id=1808&&action=doc> (accessed October 11, 2008).

¹⁸ http://www.minamar.com/Bahariya_oasis.html (accessed October 11, 2008).

¹⁹ http://www.minamar.com/Bahariya_oasis.html (accessed October 11, 2008).

²⁰ <http://whc.unesco.org/pg.cfm?cid=326&l=en&id=1812&&action=doc> (accessed October 11, 2008).

(Hewison 2001). Fayum also has a number of Coptic monasteries, including Dayr al-Adhra (Monastery of the Virgin), Dayr al-Azab (Monastery of the Bachelor) and Dayr al-Malak (Monastery of the Archangel). Farther west, near the border between Egypt and Libya, Siwa Oasis has about 23,000 inhabitants, most of them Berbers still speaking their own language. About 560 km from Cairo, the oasis measures only 80 × 10 km in a depression reaching 18 m below sea level. It has beautiful oasis gardens, thermal springs and Pharaonic temples; the medieval fortress Shali is mostly ruined.²¹ Near Siwa Oasis there are three large salt lakes—Birket Maraqi, Birket Siwa and Birket Zaytun. Tourism has gradually created employment for many inhabitants of Siwa.

Moghra Oasis is a small uninhabited oasis, occupying an area of about 4 km², situated on the northeastern edge of the Qattara Depression, bordered by a brackish lake in the lower part of the oasis, 38 m below sea level. Sand formations are dominant in the western and southern edges of the lake, either in the form of dunes close to the lake, or as deep sand sheets away from it. The plant cover is a combination of reed swamps, salt marshes and sand formation vegetation. Wadi Natrun is a narrow depression just west of the delta of the River Nile, approximately halfway between Cairo and Alexandria. The area is about 23 m below sea level and is mostly fed by seepage from the Nile Delta.²² Paris or Baris, between Kharga and Dakhla Oases, is neglected by almost all travel agencies bringing tourists around the oases in the Western Desert. It has nice palm groves, but is now mostly abandoned and taken over by goats.²³ Kurkur and Dungul Oases are small uninhabited oases in the southern part of the Western Desert with spectacular escarpments from the Nubian Plateau. Kurkur Oasis is considerably larger than Dungul. The two oases and the area in between comprise a great variety of landscape features, habitat diversity and biodiversity, including dorcas gazelle (*Gazella dorcas*), and maybe also the rare sandcat (*Felis margarita*). The two oases also contain many important and well-preserved Neolithic sites.

²¹ http://www.minamar.com/Bahariya_oasis.html (accessed October 11, 2008).

²² <http://whc.unesco.org/pg.cfm?cid=326&l=en&id=1808&&action=doc> (accessed October 11, 2008).

²³ http://www.minamar.com/Bahariya_oasis.html (accessed October 11, 2008).

Travelers' Descriptions of the Eastern Desert and the Sinai

The topographic features of the region east of the Nile River are very different from those of the Western Desert (Said 1990; Kaper 1998). The relatively mountainous Eastern Desert, extending over an area of around 220,000 km², rises to elevations of more than 1900 m close to the Red Sea. Within 100 km, the upward-sloping plateau of sand east of the Nile Valley gives way to arid, defoliated rocky hills running northwest–southeast from the Nile Delta to beyond the border between Egypt and Sudan. In contrast to the Western Desert, there are no oases in the Eastern Desert and no permanent settlements, except for the harbors on the Red Sea coast. A single governorate, the capital of which is Hurghada, administers the entire region.²⁴ The region, sometimes referred to as the Arabian Desert, covers about 20% of Egypt.²⁵ The area preserves many rock drawings, which are important to our understanding of Egypt's prehistory, concentrated in the Central Eastern Desert (Espinel, this volume; Lankester, this volume), including Wadi Barramiya, Wadi Hammamat, Wadi Mueilha and Wadi Qena. The Eastern Desert has been a source for stone, gold and precious minerals throughout history. In Wadi Gerrawi, about 10 km southeast of Helwan, a 4th Dynasty stone dam presumably blocked the Nile flood from quarry operations. In Gebel Silsila, north of Aswan, were some of the more important sandstone quarries of the Eastern Desert. Granite and granodiorite quarries that were mined from early times onwards for building materials were located southeast of Aswan.²⁶

The triangular Sinai Peninsula covers an area of about 61,100 km². The mountains in the south of the peninsula, which include Mount St Catherine (at 2642 m above sea level Egypt's highest point), are a geological extension of the Red Sea Hills. The inland area of the Sinai Peninsula is distinguished by varied geomorphic units (Hegazy and Elbagoury 2002). The southern side of the peninsula has a sharp escarpment that subsides after a narrow coastal shelf that slopes into the Red Sea and the Gulf of Aqaba (Hanna *et al.*, this volume;

Hoffmeier, this volume).²⁷ To the north the elevation of the limestone plateau decreases, while the northern third of the Sinai is a flat, sandy coastal plain that extends from the Suez Canal in the west to the Gaza Strip in the east.²⁸ The Sinai desert is arid, but bears a complex ecosystem with plants that have adapted to this difficult environment. The heterogeneous fauna includes foxes, goats, rodents, gazelles, reptiles, raptors and various insectivores. The weather is hot and dry with significant temperature differences between day and night. In the mountains the temperature may vary more than 30°C (55°F) in 24 hours.²⁹

Profile of Current Tourism in Egypt's Deserts

Desert areas are predominantly located in developing countries that only recently started to compete in the tourism market. Egypt is located within the wide band of desert that stretches across North Africa, an area that can be developed for desert tourism. For the research summarized in this chapter, 200 questionnaires with 27 questions were distributed among desert guides to learn their opinion about the current situation of desert tourism in Egypt and possibility to improve it.

Tourists of the same nationality usually travel together (88%), with Europeans being the most frequent travelers into the desert. English appeared to be the most common language spoken on desert trips (43%; Figure 30.2), followed by German (18%), Spanish (9%) and Italian (9%). The preferred sites to visit are the oases in the Western Desert (41%, Figure 30.2), followed by Fayum (23%) and Sinai (20%). Tourists are relatively young (45% were between 21 and 45 years of age; Figure 30.3). More than half of the trips (56%) lasted less than 5 days (Figure 30.3) and over a third of the remainder (37%) lasted 5 to 10 days. Of the guides with a formal education, 54% have a diploma in tourist guidance, while 46% have a bachelor's of science in tourism. About half (55%) the guides had less than 5 years of experience, while more than a quarter (27%) have in excess of 10 years of experience (Figure 30.4). The usual group size appeared to be 10 to 20 tourists (57%; Figure 30.4), with only 15% of the groups larger than 20 tourists.

²⁴ http://en.wikipedia.org/wiki/Geography_of_Egypt#Eastern_Desert and <http://countrystudies.us/egypt/51.htm> (accessed November 3, 2008).

²⁵ <http://www.touregypt.net/featurestories/easterndeserta.htm> (accessed November 3, 2008).

²⁶ www.touregypt.net/featurestories/easterndeserta.htm (accessed November 3, 2008).

²⁷ http://en.wikipedia.org/wiki/Sinai_Peninsula (accessed November 3, 2008).

²⁸ http://en.wikipedia.org/wiki/Geography_of_Egypt#Eastern_Desert (accessed November 3, 2008).

²⁹ <http://www.allsinai.info/sites/desert.htm> (accessed November 3, 2008).

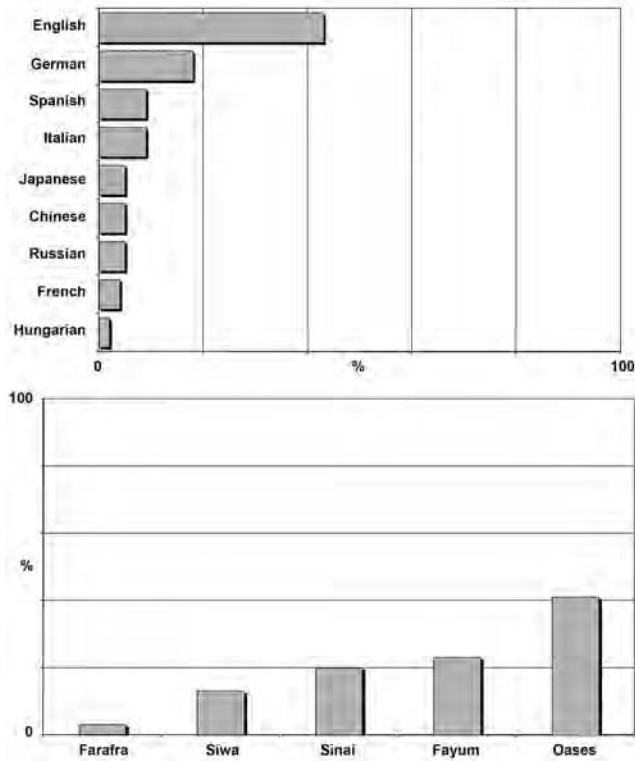


Figure 30.2. Preferred language (top) and destination (bottom) of desert tourists traveling in Egypt.

More than half (55%) of the desert guides asserted that there are laws for environmental protection, while 40% of them said there are no such laws (Figure 30.4). At the same time, 75% say that there are no procedures for the protection of plant and animals from tourists. The following suggestions were made to remedy this lack of procedure. Better legislation, including laws to improve environmentally responsible behavior, placing signs that indicate the importance and contents of the sites, placing more responsibility with the guides, and raising the awareness of the tourists. About equal numbers of the guides said that the application of environmental laws is weak, fair and good (Figure 30.5). Despite the fact that 79% of the guides asserted that they depend on the local community to provide tourist services (drivers, assistant guides, food providers, security, housekeepers, etc.), more than half (57%) of the respondents think that there is a lack of tourist awareness among the local communities (Figure 30.5). Only 19% of them see a high level of awareness. Infrastructure (asphalt roads, piped drinking water, telecommunication, etc.) and tourist services (public transport, accommodations, restaurants, etc.) were not available at most of the visited desert sites

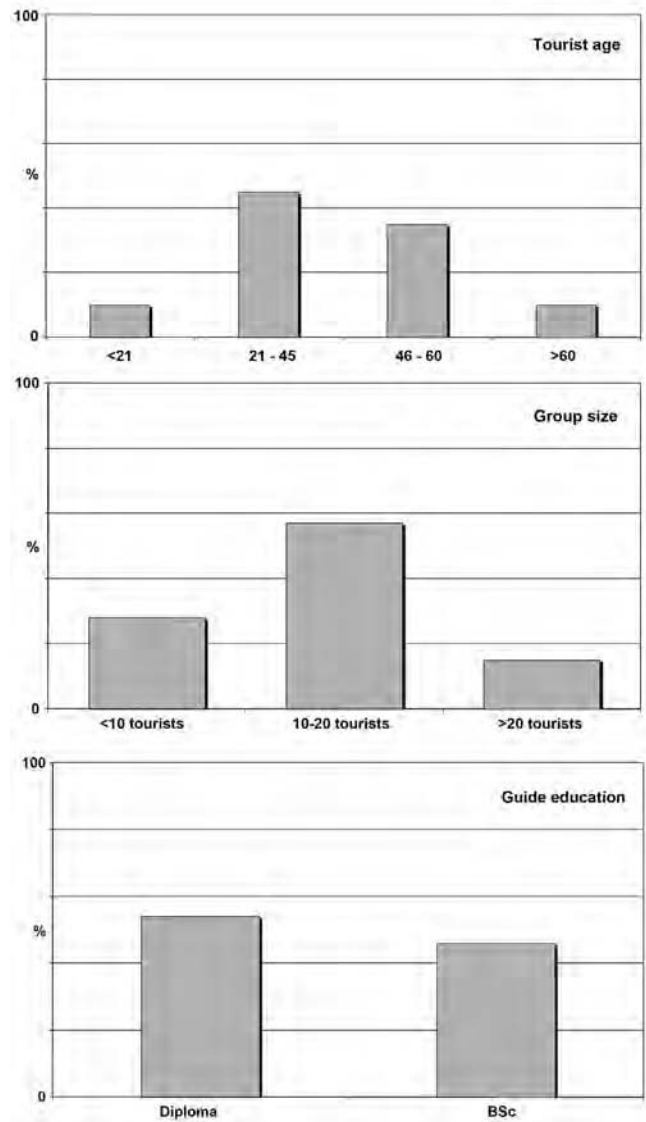


Figure 30.3. Age distribution and group size of tourists (top), and guides education (bottom) during desert trips.

(Figure 30.6); however, only 2% of the respondents said that tourist services needed to be developed in the area. On the other hand, 5% of the respondents asserted that there is a limited capacity for the sites in the desert and the reason given is usually proximity to military training areas or installations. Only at about a quarter of the sites (24%) had tools for the collection and disposal of waste (Figure 30.6).

In addition, 71% of the respondents mentioned that products such as carpets, baskets, wood products and stones were sold during the trips. The vast majority (93%) of the tourists think that the prices are reasonable, but only about half of them asserted that they are likely to

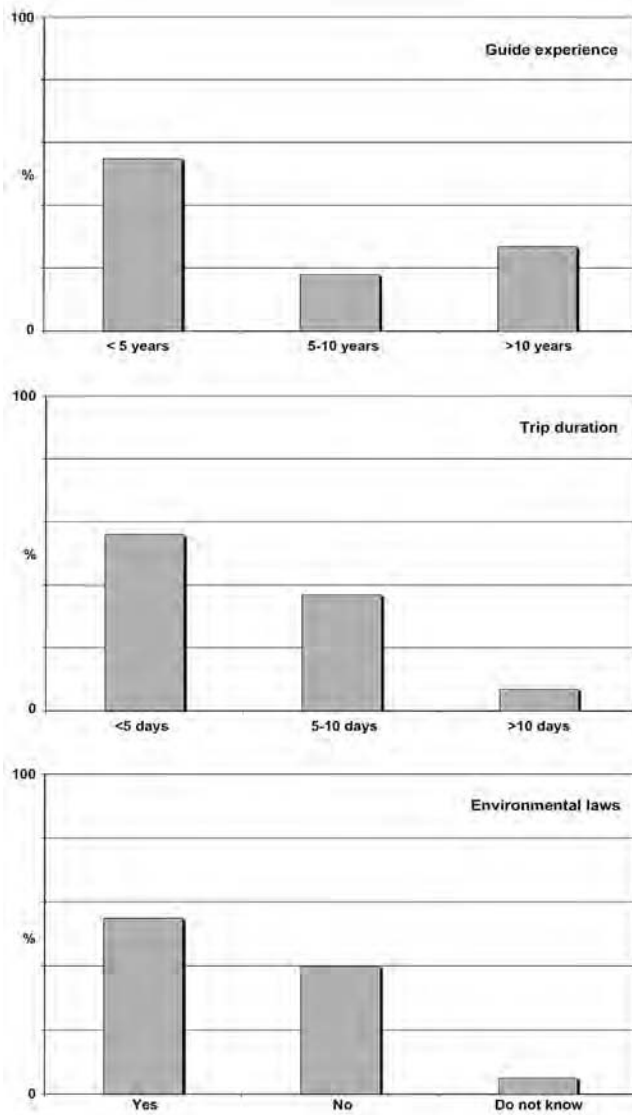


Figure 30.4. Guide experience (top), trip duration (middle) and awareness of environmental laws (bottom) during desert trips.

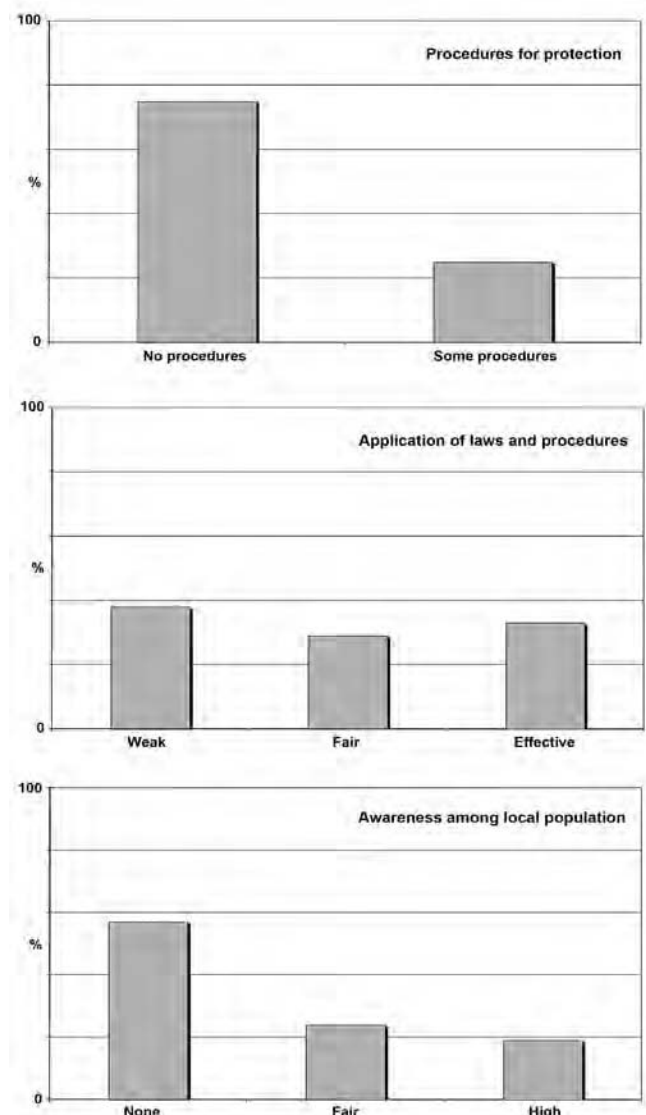


Figure 30.5. The existence of procedures for protection (top), assessment of the application of laws and procedures (middle), and awareness of tourism among the local population (bottom) during desert trips.

buy such products. Problems observed by the respondents included insufficient promotional programs for desert tourism in Egypt, permits and bureaucracy, fuel waste and other pollution, lack of security and insufficient medical services, below-standard infrastructure, interference by the authorities for security reasons, and weak telecommunications networks. The following suggestions were made to improve the economic viability and tourist experience of desert trips: increasing promotional campaigns of desert tourism in Egypt,

more publicity about desert treasures, development of infrastructure and accommodations, increasing awareness about the environment, operating charter flights to places closer to desert destinations, canceling permission regulations that hinder desert tourism, setting up new tourist enterprises in the destination areas, enhancing security and medical services in some areas, preparing a new generation of tourist guides specialized in this kind of tourism, encouraging Egyptians to visit these areas, and including desert trips in tourist packages.

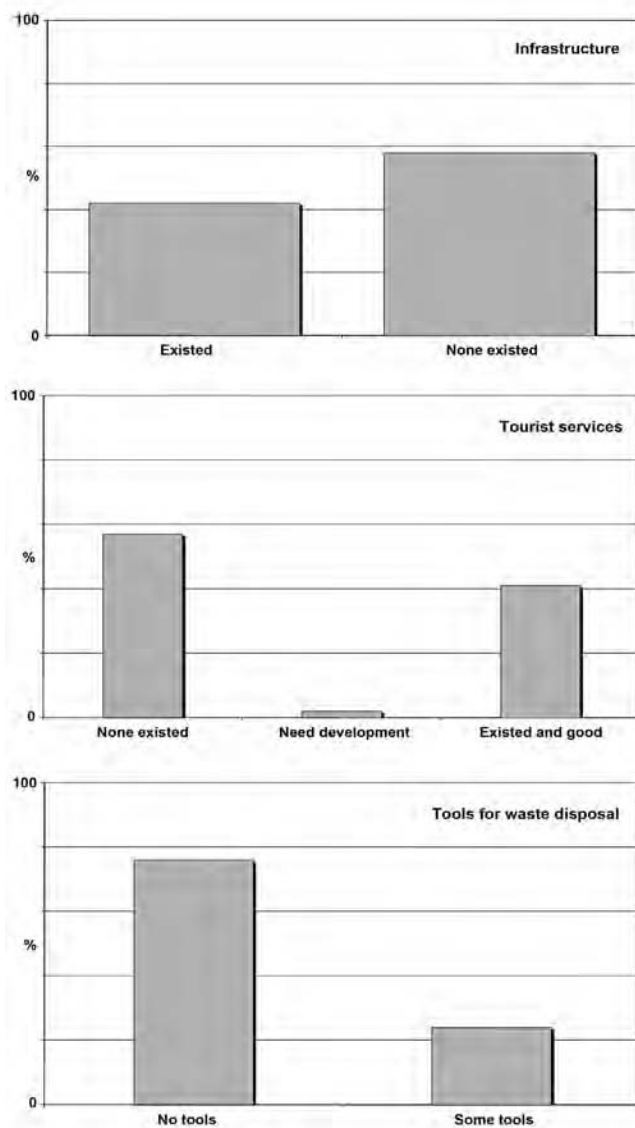


Figure 30.6. The existence of infrastructure (top), tourist services (middle), and tools for waste disposal (bottom) during desert trips.

Discussion

Tourism market niches are constantly proliferating, providing new opportunities for economic development and interventions. Desert areas are predominantly located in developing countries with limited resources. Thus it is important to obtain and provide support for all forms of local or regional ecotourism in these areas. Desert tourism has certain paradoxical qualities. If it is well managed and attentive to the highly specific and fragile character of desert ecosystems, it can provide a vehicle for development and poverty reduction. Poorly planned tourism on the other hand can be extremely destructive to its surrounding environment, cultures

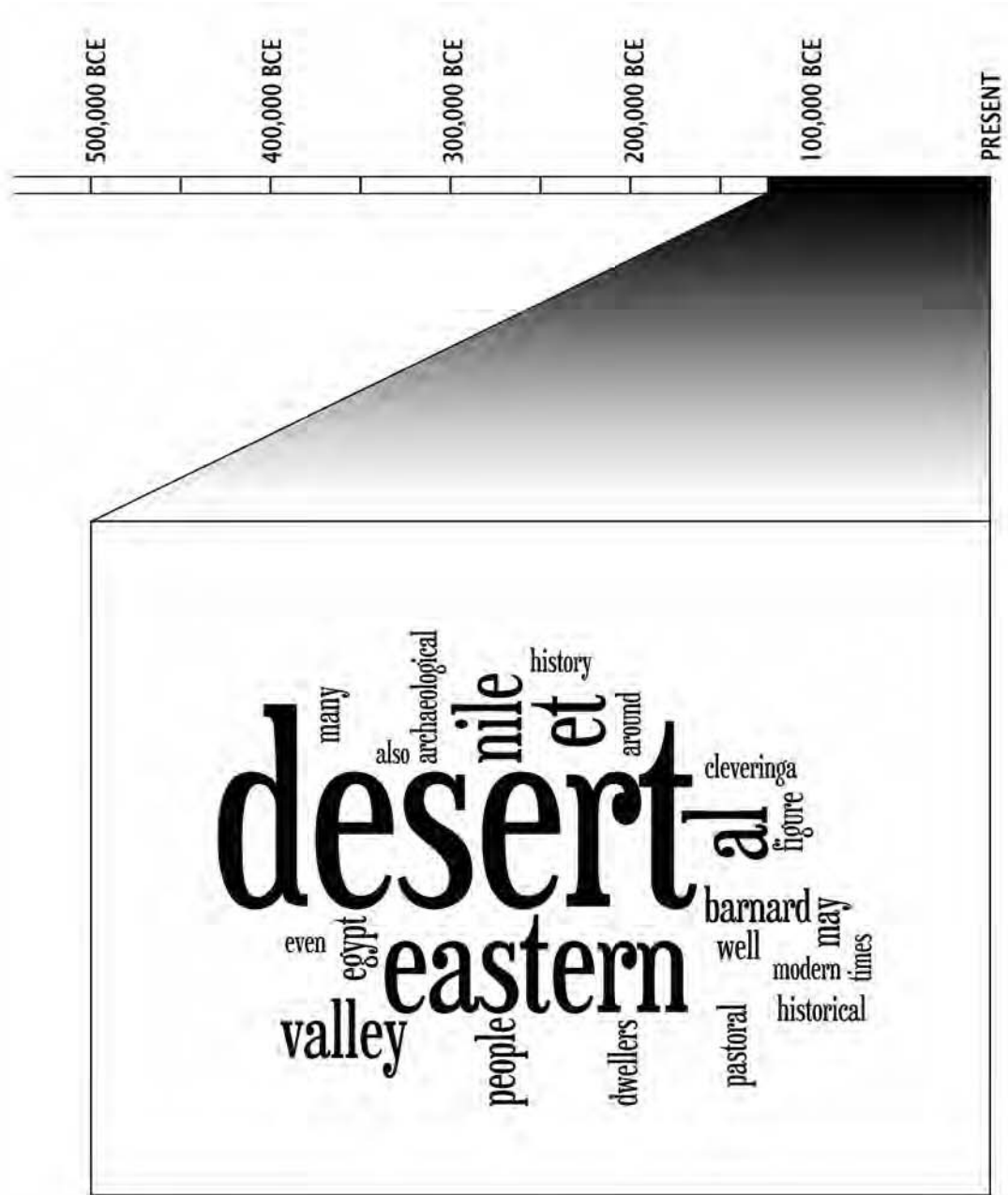
and economies; if not properly controlled, it can mean destruction for local ways of life and the natural environment. The environmental and human context for tourism in the desert is a fragile one. In the desert more than anywhere, with destinations still relatively untouched by the adverse effects that tourism can bring, sustainability represents a particularly critical challenge in enabling tourism to properly play its role as a vehicle for development. Tourism could be a major contributor to the socioeconomic development and betterment of the Sahara region. Socioeconomic development in the form of tourism need not be at the expense of conservation; indeed, the two can and must work hand in hand.³⁰ The economic future of the peoples of the Sahara, including the Eastern Desert, lies not in the traditional sectors of hunting-gathering, pastoralism, quarrying and mining, but in the long-term conservation of its unique physical environment and cultural heritage that tourists will always pay to come and see. The key concept should be environmentally sustainable development. The economic future of most desert communities is dependent on the conservation of their cultural heritage. When its mineral wealth has run dry, the veritable museums of prehistoric rock art and Graeco-Roman settlements in the Eastern Desert will still be able to attract paying visitors. Planning and regulation of ecotourism in desert areas should include knowledge of the market, planning of the infrastructure, assessment of property and access rights, monitoring the impact of tourism, stimulating small businesses and indigenous businesses, coordinating tourism supply and demand, and cross-theme generic issues, including managing ‘sense of place.’

To make desert tourism a success, the following steps need to be considered. A master plan for the development of desert tourism should be formulated at all levels by the stakeholders, including the local communities, the private sector, NGOs and the government. These should have a perspective and an agenda specific to desert tourism. Sustainable tourism to explore the unique desert flora, fauna and culture (ecotourism) should be aggressively promoted. A national plan for the formulation, institution and implementation of integrated conservation and destination management should be formulated; this includes putting a national planning and legislative framework in place. Community capacity to participate in and benefit from tourism, thus improving

³⁰ <http://www.psi.org.uk/ehb/docs/keenan-tourism-200302.pdf> (accessed January 15, 2012).

the local quality of life, should be built. Barriers to local small and medium enterprises, partly or wholly run by native desert inhabitants, should be removed, and training to create business and employment opportunities should be offered. Public transport, utilities, education and health infrastructure in areas affected by the tourism economy should be developed and maintained. Product development and tourism marketing should be linked to education and professional development through facilitation, awards and rewards. Opportunities for training and professional enhancement in business development, product creation and hospitality service sectors should be encouraged, especially within the local community. Design of desert trips, whatever their

destination or duration, must include travel and logistical arrangements that have the least possible impact on the environment. Forms of access should harmonize with the landscapes visited, there should be some control over the distances traveled and the time spent at sites, and measures should be taken to ensure direct and indirect benefits for the local communities. Trip quality should be monitored, including criteria to measure increased understanding of the visited landscapes and people. Finally, it is essential to survey the areas of operation before developing desert tourism and tours in order to have a baseline against which future developments can be evaluated.



Time line and word cloud for John L. Bintliff and Hans Barnard, *Concluding Remarks*. Word cloud by www.wordle.net, written by Jonathan Feinberg (IBM Research); the cloud shows the 25 words that occur most often in the text (typefont Sexsmith, all lower case), giving greater prominence to words that appear more frequently.

CHAPTER 31



Concluding Remarks

JOHN L. BINTLIFF AND HANS BARNARD¹

THIS CHAPTER IS THE RESULT OF THE CLEVERINGA Lecture held in Cairo on Thursday, November 27, 2008 as the final presentation of the conference, ‘The History of the Peoples of the Eastern Desert (between the Red Sea and the Nile in Egypt and Sudan) from Prehistory to the Present.’² Cleveringa Lectures are held in Leiden (the Netherlands) and many other places in the world to commemorate the courageous stance taken on November 26, 1940 by Dr Rudolph Pabus Cleveringa (Figure 31.1a), at the time professor of law at Leiden University, when he denounced the firing of his colleague Dr Eduard Maurits Meijers by the Nazi government of the Netherlands solely because of his Jewish upbringing (Hendriksen 1995). Dr Cleveringa was born on April 2, 1894 in Appingedam. In 1919 he received a doctorate in law at Leiden University and in 1927 he was appointed professor of commercial and civil law at the same university.

In May 1940, Nazi Germany occupied the Netherlands and appointed Arthur Seyss-Inquart (born Arthur Zajtich) commissioner of the country. Seyss-Inquart first tried to win the population over, but was soon convinced that firmer actions were necessary. He personally thought that the persecution of Jews would impede the ultimate victory of the Third Reich, but as an unwavering anti-Semite and a loyal civil servant he first ordered the marginalization and later the deportation to concentration camps of all Jewish citizens in the Netherlands. Victims

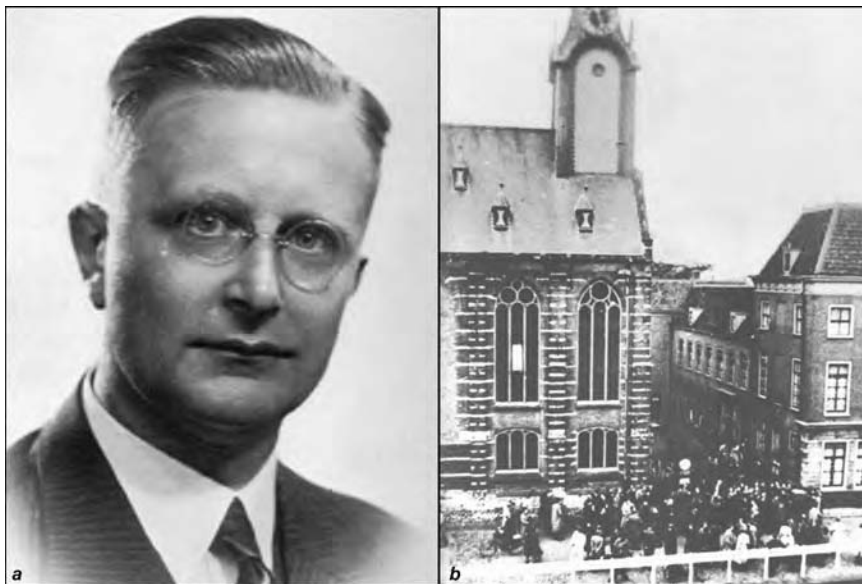
would include Etty Hillesum, Anne Frank and at least 105,300 others. One of the first steps in this process was the firing of all Jewish teachers and professors. In Leiden resistance against this act started with a series of lectures by Dr Johannes Antonius James Barge, professor of anatomy and embryology, explaining to his students the fallacies of the Nazi racial ideology. The breaking point, however, was the lecture given by Dr Cleveringa on November 27, 1940 (Figure 31.1b), in which he carefully explained the unlawfulness and amorality of the firing of his former supervisor and then colleague Dr Meijers.

In the confusion after the lecture (Figure 31.1b), student André Koch took Dr Cleveringa’s notes and, with the help of friends and lots of beer, he produced a number of transcripts that were circulating as early as the next day. On that same day, Dr Cleveringa was arrested and jailed until the summer of 1941. A strike by the students followed. This was only broken by those who spoke against Nazi rule and in favor of the position of Dr Cleveringa, such as Dr Lambertus Jacobus van Holk, professor of theology. Soon afterwards Leiden University was closed, only to be reopened in September 1945, after the war had ended. Dr Meijers was arrested in August 1942 and deported to the concentration camps of Westerbork and Theresienstadt. Miraculously he survived the camps and returned to Leiden in June 1945, when he was asked by the government to draft a new Civil Code. Around the same time Dr Cleveringa was reinstated as professor in Leiden, where he received the American Medal of Freedom in April 1953. Seyss-Inquart was put on trial in Nuremberg and executed in October 1946. Leiden University created the Cleveringa

¹ The authors are grateful to Noriyuki Shirai, Willeke Wendrich and two anonymous reviewers for their comments, corrections and advice on this chapter.

² <http://www.archbase.org/ED/> (accessed March 31, 2010).

Figure 31.1. Dr R.P. Cleveringa around the time that he delivered the lecture in which he denounced the firing of his Jewish colleagues by the Nazi government (left). Students are leaving the Academy Building in Leiden on November 26, 1940 (right), after the lecture of Dr Cleveringa. A few days later the university was closed for the duration of the Second World War.



Chair and the annual Cleveringa Lecture because of the very special way in which Dr Cleveringa interpreted the motto of the university *Praesidium Libertatis* (Bastion of Freedom). The events of 1940–1945 are likewise commemorated worldwide on or around November 27 by academic lectures named in honor of Dr Cleveringa.

The Eastern Desert

The strip of land between the Red Sea and the Nile Valley in Egypt and Sudan, the subject of this volume, is usually referred to as the Eastern Desert (Figure 31.2). With the end of the Holocene pluvial period, around 7500 years ago,³ this region started to desiccate, a

³ Despite the obvious importance in archaeology, anthropology, paleontology and history, acquiring and representing the age of an object or the date of an event is a somewhat ambiguous affair. This is partly caused by the wide variety of dating techniques used, ranging from historical accounts, numismatics and radiometric methods (including radiocarbon analysis), to dendrochronology and the determination of the ratio of stable oxygen isotopes or the degree of racemization of amino acids. Each of these methods has its particular application and limitations and each will produce a specific data-set, with its own precision, accuracy, error and resolution. Many research projects have used two or more different dating techniques in order to verify and refine the age of their material. Insights into the processes at the basis of the various techniques have furthermore changed over time, sometimes leading to the reinterpretation of existing data sets or new calibration methods, more often resulting in disparity between subsequent data sets. The ensuing uncertainty is reflected in some publications, while in others the exact details of the used dating techniques remain under-reported. All of these factors combined make meta-analysis a difficult to near impossible task. Like in

process leading to the desertification that continues through the present. The mobile hunter-herder-gatherers who left the region at the end of the Holocene pluvial period to settle in the Nile Valley are regarded as one of the driving forces behind the advent of Pharaonic civilization. The mineral wealth in the Eastern Desert on the other hand has attracted outsiders from early times onward, who in turn have been the focus of attention by historians and archaeologists. The same is true for the trade routes that connected the Nile Valley with sub-Saharan Africa, Arabia Felix, India and the enigmatic Land of Punt. Despite environmental degradation and scholarly neglect, the Eastern Desert has native inhabitants and a history of its own. The study of the Eastern Desert is hampered by limitations in the textual sources, by ambiguous ethnographic parallels and by the low archaeological visibility of the remains of the desert dwellers. Many studies have been biased towards Pharaonic and Graeco-Roman Egypt, disregarding Napatan, Meroitic, Nubian and Arabic sources. The vast majority of the historical sources were written by outsiders who never visited the area and who were

many other publications, most chapters in this volume, with a few notable exceptions but including this one, use the dates provided by the various research projects to compile a narrative, while purposefully or out of necessity leaving individual dates relatively ill-defined. Depending on the context, dates are given as Ma, ka, BP, BCE or CE. Any large comprehensive research project into the history of the Eastern Desert, as briefly discussed at the very end of this chapter, should include a component aimed at addressing the above issues for the region and bringing together the different chronological sequences.

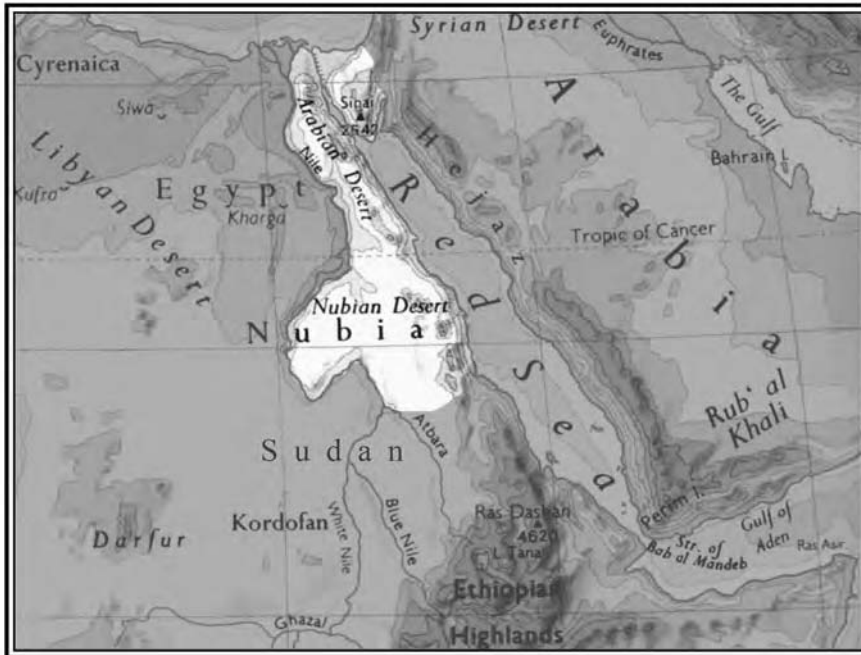


Figure 31.2. Map of the Eastern Desert, including the Sinai Peninsula between the Red Sea and the Nile Valley in Egypt and Sudan.

prejudiced towards a settled way of life. Ethnographic information on the region is limited and has been shown to provide only incomplete parallels between modern and ancient groups in the region.

Archaeological evidence on the dwellers of the desert is equally scarce. The emphasis of research has been on the more visible and easier-to-interpret remains of the mines, quarries, trade routes, and inscriptions left by outsiders. It has only recently been appreciated that sufficient archaeological remains may be present to allow conclusions on the lifestyle and culture of the native dwellers of the desert. Anthropological theories on the relationship between the settled majority and the mobile minority in the Near East have developed from the permanent conflict reflected by the historical sources, to a more symbiotic relationship. Furthermore, our current terminology with fixed categories for mobile and sedentary groups may not be applicable to the ancient situation. The study of the region and its inhabitants, ancient and modern, also brings into focus some ethical issues, especially appropriate in the light of the history of this Cleveringa Lecture. This volume aims to bring into the limelight peoples, cultures and ways of life that have been misunderstood or marginalized by history and archaeology in favor of the dominant civilizations around them. In a related way, current global concerns with environmental change and human impact have particular resonance in a region of climatic

and ecological extremes, with a long past of positive and negative human interactions with the Eastern Desert.

During the last Ice Age, between about 100,000 to 12,000 years ago, North Africa suffered increasing aridity, reaching a peak at the last glacial maximum, some 18,000 years ago. At this time life in the Eastern and Western Deserts was not sustainable, and even the river that is now the Nile almost dried up, reducing the current Nile Valley to a series of lakes blocked by great sand dunes. This was still the age of hunter-gatherers and the total inhospitality of the deserts saw no significant human occupation, whereas people could live off the game refuges around the Nile lakes (Phillips 1972; Wendorf and Schild 1976; Wendorf *et al.* 1976; Paulissen and Vermeersch 1987; Wendorf *et al.* 1993; Van Peer *et al.* 1996; Vermeersch *et al.* 2000; Vermeersch 2001; Wendorf *et al.* 2001; Kuper and Kröpelin 2006; Vermeersch *et al.* 2006; Vermeersch *et al.* 2007; Vermeersch 2008). Around 12,500 years ago the Ice Age began to give way to the first phase of the current Holocene climate, and the return of rainfall in the Tropics allowed the modern Nile to force its way through Egypt and begin its famous annual inundations. Actually, the early phase of our Interglacial Period, from this time down to around 6000 years ago, saw more rainfall than now, as the monsoon rains reached farther north and the Mediterranean rains farther south. This led to a long era of extensive lakes and savannah woodlands

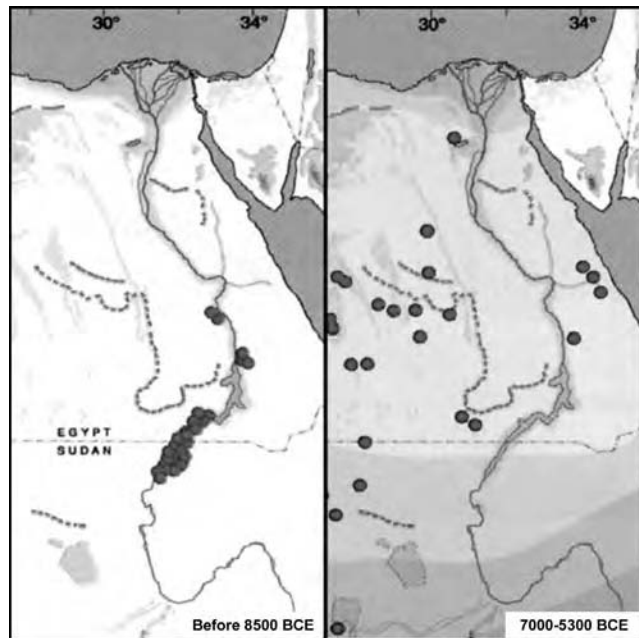


Figure 31.3. Site distribution in the northeastern Sahara before 8500 BCE (left) and between 7000 and 5300 BCE (right). Adapted from Kuper and Kröppelin 2006.

in the present-day arid zones in North Africa, sometimes referred to as the Aqualithic Age. Hunter-gatherers spread out all over the Sahara and the Western Egyptian Desert (Figure 31.3), where initial attempts at the close controlling of local wild cattle may have occurred. Domestication, however, is disputed, but initial attempts of herd control are possible (Wendorf and Schild 1994; Brass 2007). There are also ritual sites (Wendorf *et al.* 2001; Smith 2004). During this period only limited occupation has been attested in the Eastern Desert.

Sodmein Cave in the Eastern Desert, however, is one of the earliest places in Egypt to show the arrival of domestic sheep and goats from their original domestication in the Levant and Syro-Palestine. We can surely date the 6th millennium BCE as the beginning of the first period of pastoralism in the Eastern Desert, a region too arid for the early farming that soon afterward developed in the Fayum, the oases in the Western Desert and later also in the Nile Valley. Either in the understudied Early Holocene hunter-gatherer or Epipaleolithic Period in the Eastern Desert (but see Shirai 2010 for this phase in the Fayum), or in the early ovicaprid pastoralist phase in the Eastern Desert, many of the remarkable rock carvings of the desert, which seem to show both herding and hunting, may have been made. The predominance of bovids in the imagery is problematic, as cattle have so far

not been attested in significant numbers in archaeological animal bone collections until the 4th millennium BCE (Figure 31.4a; Winkler 1938; Dunbar 1941; Smith 1965; Žába 1974; Červíček 1986; Wendorf and Schild 1994; Gautier 2001; Huyge *et al.* 2001; Huyge 2002a; Morrow and Morrow 2002; Pluskota 2006; Huyge and Claes 2008; Huyge 2009; Huyge and Ikram 2009).

During the long Pharaonic Bronze Age, the 4th–first millennia BCE, it is evident that the sheep and goat pastoralists in the Eastern Desert are in regular contact with the emerging civilization of agriculturalists in the Nile Valley. This contact was initialized both by the pastoralists and the agriculturalists. Developments that impacted in a considerable way on the occupants of the Eastern Desert include the exploitation by the Pharaonic state of the resources of the Eastern Desert, mostly ornamental stone and precious metals, for which many relatively large mining communities were created. Routes through the desert connecting the Nile Valley with these communities and harbor installations on the Red Sea coast were established and maintained (MacAlister 1900; Gundlach 1977; Bell *et al.* 1984; Castiglioni *et al.* 1995; Sadr 1997; Harrell *et al.* 2000; Klemm *et al.* 2001; Klemm *et al.* 2002; Rivard *et al.* 2002; Bloxam 2006; Harrell *et al.* 2006; Bard and Fattovich 2007; Darnell 2008). Among the rich rock art galleries, there are many representations of Nile boats of both pre-Dynastic and Dynastic types and also figures who might represent gods worshipped in what we can now refer to as the Nile Valley farming heartland (Figure 31.4b; Chester 1892; Černý 1947; Bruyn 1958; Redford and Redford 1989; Huyge 2002b). The choice of boats is remarkable in the arid desert environment, especially compared to the more realistic imagery of cattle, ovicaprids and dromedaries (one-humped camels). Some of these boat petroglyphs may be associated with the long-distance trade across the Red Sea and the people involved in this. Others may have been the emblems of specific groups, denoting their profession or their political or clan affiliation. As many boat petroglyphs appear more or less directly related to religious imagery, these may have carried a specific spiritual connotation (Chester 1892; Červíček 1994, 1998). All three and possibly even more types of boat petroglyphs coexist in the Eastern Desert.⁴

⁴ Huyge, D. (2009), “Rock art,” in W.Z. Wendrich, J. Dieleman, E. Frood and J. Baines (eds.), *UCLA Encyclopaedia of Egyptology*, <http://escholarship.org/uc/item/4qx7k7pz> (stable resource, accessed March 31, 2010).



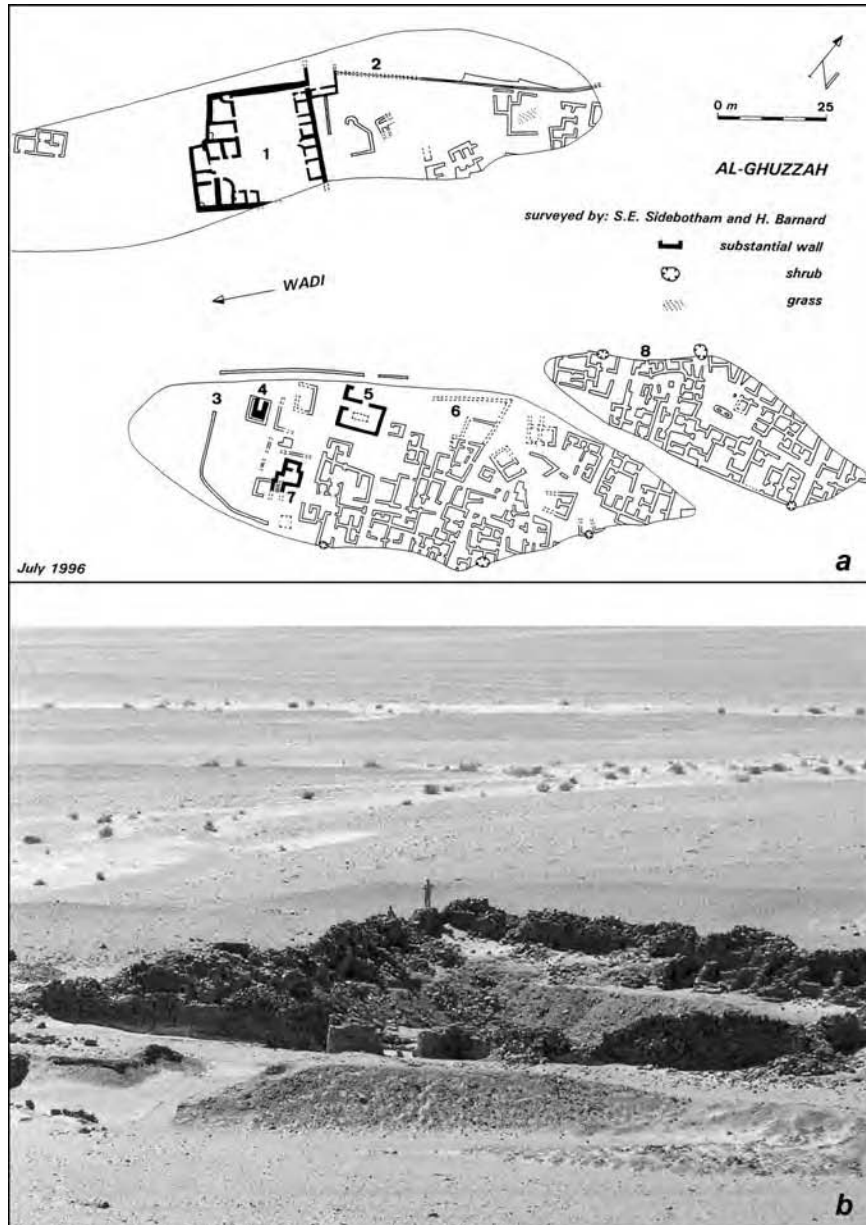
Figure 31.4. One of a series of Paleolithic petroglyphs depicting bovids near the Nile Valley between Aswan and Edfu (top; adapted from Smith 1965, 1976, 1985; Huyge and Claes 2008; Huyge 2009; Huyge and Ikram 2009). Two of the hundreds of petroglyphs depicting boats in the Eastern Desert (bottom; see also Espinel, this volume; Lankester, this volume).

With the Ptolemaic age of Greek dynasties in Hellenistic Egypt, the Eastern Desert becomes busier than ever, with numerous road stations established from the Nile Valley to the Red Sea and in and around the mines and quarries (Figure 31.5; Murray and Warmington 1967; Gundlach 1977; Casson 1993; Sidebotham and Wendrich 1995, 1996, 2001; Sidebotham 2002; Sidebotham *et al.* 2004; Sidebotham *et al.* 2005; Harrell *et al.* 2006; Sidebotham and Wendrich 2007; Sidebotham *et al.* 2008). We must assume that the pastoralists in the desert had close interactions with these intruders as well as continued to meet Nile Valley people through their exchange and labor in the Nile Valley itself. The absence of major fortifications or heavy military presence during the Hellenistic era may suggest that the native population was employed in the desert as guides, laborers and

security personnel to assist and protect merchants and miners in this difficult and potentially dangerous terrain, while some women may have engaged in prostitution (Cuvigny 2010). It is only in the Roman and Byzantine Periods that a steadily increasing body of archaeological evidence from the Eastern Desert allows us to match the equally more numerous text references to Eastern Desert dwellers. In Early Roman Imperial times these desert dwellers did occasionally cause trouble through raids requiring military action. This suggests that what may have been a situation of peaceful exchange and employment in the context of the Roman state and its citizens based in the Nile Valley, as well as in its way-stations and mining centers in the desert, could be interrupted by opportunistic banditry from elusive pastoralists. The scale of these incidents, however, seems low enough not to require a major permanent military presence in the Eastern Desert. By now the dromedary has become both a major form of transport and an important product that is being bred in the desert, while its military value was also soon appreciated both by Roman frontier forces and desert dwellers (Bulliet 1975; Wilson 1984; Köhler-Rollefson 1993).

In Late Antiquity the archaeological record of the Eastern Desert appears to multiply to a very extensive level, with many small and large settlements as well as burial sites, some of which can reasonably be associated with the native pastoralists. Others might be communities of desert monks and nuns, or *lavra*, despite their apparent simplicity in layout and building style. Late Roman historians seem to portray a scenario, in the later third century CE, with Roman power withdrawing from parts of Upper Egypt combined with a contraction of the power of the Meroitic Kingdom in present-day Sudan. Eastern Desert pastoral tribes may have stepped into this power vacuum, occupying parts of the Nile Valley in Upper Egypt. At the same time they gained full control of the desert itself, controlling the trade routes to the Red Sea as well as the mining sites in the Red Sea Hills. Recognized as formal allies, or *foederati*, by the Roman state and subsidized with financial payments, the Eastern Desert tribes appear in the sources to be an expanding people, or more probably a group of pastoral peoples, at their zenith of territorial influence. Not surprisingly, the same sources claim that social stratification exists within these pastoral communities, with chiefs and perhaps even a king (although the latter was probably a title copied from outsiders). Even if by the 6th century CE the desert

Figure 31.5. Plan of the Graeco-Roman gold processing settlement in Wadi al-Guzzah (top): 1. Administrative center. 2. Gold washing installation. 3. Wall-enclosing part of the settlement. 4. Disturbed cemetery preserving about a dozen graves. 5. Earthwork bank. 6. Well (remains of a much larger well are towards the southeast). 7. Row of cairns. 8. Two additional graves. One of the dozens of Graeco-Roman *hydreumata* (way-stations) in the Eastern Desert (bottom).



tribes withdrew again from the Nile Valley settlements, or had assimilated with the original population beyond historical and archaeological recognition, they retained control of their desert homeland. The association of extensive cemeteries of stone tumuli, small and large settlements of round and rectilinear houses, and dense finds of Egyptian Roman ceramics and imported Roman wares together with small amounts of distinctive handmade Eastern Desert Ware, seem to mark out a flourishing and populous Eastern Desert society (Murray 1925; El Gowhary 1972; Isaac 1979; Strouhal 1984; Updegraff 1988; Eide *et al.* 1994, 1996, 1998; Huyge 1998; Kaper 1998; Sidebotham *et al.* 2001; Sidebotham *et al.* 2002; Barnard and Strouhal 2004; Lassányi 2005;

Barnard 2005-2006; Barnard and Magid 2006; Cappers 2006; Peacock and Blue 2006; Barnard 2007; Barnard and Rose 2007; Peacock and Maxfield 2007; Barnard 2008).

With the Islamic conquest of Egypt in the 7th century CE, historical sources, supported by the more reliable detail of locally preserved archives, identify the people in the Eastern Desert as Beja, troublesome pastoralists who raid both the Islamic province and the Christian kingdoms in Nubia. Thus far the archaeological evidence of their presence becomes once more difficult to attest, until medieval and later Islamic graves dot the landscape and form important points of worship for Eastern Desert tribes even today (Insoll 2003: 99-105). The material

culture from the Late Roman era desert settlements is dominated by pre-Islamic ceramics and coins, but whether there is a real decline in population in the Eastern Desert is unclear. A general retreat into settled areas, however, is consistent with the trend in the Levant during Abbasid times, around the 8th–9th centuries CE. If the florescence of the Eastern Desert in Late Antiquity is primarily a consequence of the assertion of a periphery over a weakened core, then the opportunities for economic expansion and territorial expansion may have again disappeared in this period. The chain of events can only be reconstructed in any detail from the last 200 years, with the increased reporting and mapping by European travelers and colonial bureaucrats. They again make the pastoral groups of the Eastern Desert, often grouped together as Beja, into marginal peoples inferior to those in the densely populated societies in the Nile Valley and the coastal emporia on the Red Sea.

At present most of the Eastern Desert is inhabited by a loose conglomerate of different tribes and clans of pastoral nomads, herding sheep and goats, semi-nomadic cattle herders and settled agriculturalists and labourers, collectively referred to as Beja.⁵ Many Beja speak Arabic, as their first or second language, next to the Cushitic (Afro-Asiatic) *Beja (To-Badawi)*, or *Tigre (Xasa)*, another Semitic language. Other inhabitants of the Eastern Desert include Ma‘aza and Rashaida Bedouin that entered the area from the Arabian Peninsula during the 18–19th century CE (Murray 1935; Newbold 1935; Paul 1954; Hobbs 1989; Krzywinski and Pierce 2001; Barnard 2008; Magid 2008; Sidebotham *et al.* 2008; Wendrich 2008; Barnard 2009a). Although the nomadic Beja are usually identified as pastoral nomads, many of their activities are better described as multi-resource nomadism (Salzman 1972; Rosen 2003; Wendrich and Barnard 2008), and most Beja will go back and forth between a settled and a mobile lifestyle depending on circumstances.

The general history of the Eastern Desert sketched above, and more elaborately in the introductions to the two parts of this publication, is not fundamentally disputed in the presentations during the conference or in the chapters in this volume. The scholarly discussion concerns the interpretation of the available information centered on four larger issues. The first is whether the

data in hand reflect continuity over time, with life in the desert basically unchanged for centuries or even millennia, or whether the history of the area and its inhabitants is more dynamic, with the native cultures and peoples in constant flux. The second is the understanding of the ethnicity of the people living in the desert and how we can glean knowledge of this from the historical and archaeological records. The third is the question of the reliability of the written sources and the meaning of archaeological finds, and the possibility or impossibility to connect the two into a comprehensive narrative. The fourth and final issue is of who should be considered ‘insiders’ and who ‘outsiders,’ and what the value of the information provided by, or otherwise learned from these two groups, is for our understanding of life in the desert.

These four issues are obviously intertwined and taking a position in one will inevitably influence the position in others. All speakers and authors again agree on the fact that much more research is necessary. This is impaired by the difficult logistics of doing research in the desert with its extremely limited infrastructure as well as administrative and military restrictions. Apart from this there is also the issue that the focus of many researchers has been on the settled cultures in the Nile Valley and beyond, and their expansion into the desert. This did not necessarily result in an appreciation for the Eastern Desert as a region worthy of research in its own right. Another problem is that many research projects have inadequately collected, recorded and stored the raw data, and that publication of their interpretation is still absent or difficult to access. New research projects should not only entail archaeological excavations and survey, now possible using remote sensing without the inevitable need to enter the area, but also the new or even first study of readily available materials and texts. For this it will be important to step away from a site-oriented approach and combine information on a regional or temporal basis to come to a more complete understanding of phenomena with an otherwise relatively low profile.

Continuity and Change

Much more is known about the periods of history during which Nubia, the border area between modern Egypt and Sudan and adjacent to most of the Eastern Desert, was under Pharaonic control than about the periods when the region was controlled from the south (Adams 1977), or was more or less independent. The archaeology of Egypt has long been overshadowed by the wealth of textual

⁵ The larger groups making up the Beja include Ababda, Amarrar, Arteiga, Ashraf, Beni Amr, Bishareen, Hadendowa, Halenga, Hamran, Hassanab, Kammalab, Kimmeilab, Melhitkinab, Morghumab, Shaiab and Sigolab.

sources and the fact that Egyptian archaeology was initially perceived as a technique to find more such texts and objects of museum quality, while archaeological observations were readily explained from the textual data. Only slowly has the archaeology of Egypt become a specialization in its own right, generating its own specific data-sets, although it is often still haunted by legacies of the past (Bietak 1979; Rosen 2006; Wendrich *et al.* 2006; Barnard 2009b, 2009a; Wendrich 2010b, 2010a). The dearth of independent archaeological data is even more significant in areas that are not more or less comprehensively covered by the texts, such as the Eastern Desert where we are confronted with extremely limited historical data. Despite the fact that these sources are mostly written by outsiders and biased towards settled life in the Nile Valley, they have nevertheless dominated the interpretation of the very limited number of archaeological finds (Barnard 2007, 2009b, 2009a).

In contrast with the situation in the Nile Valley, the interpretation of the historical and archaeological data tends towards an emphasis on the continuity of the population and culture in the desert (Dahl and Hjort-af-Ornas 2006; Zibelius-Chen 2007), rather than a series of migrations, the explanatory model proposed by early archaeologists working in Egypt (Wendrich 2010b), such as K.R. Lepsius (1810–1884), W.M. Flinders Petrie (1853–1942) and G.A. Reisner (1867–1942). As with interpreting all changes in culture as proof of migration, presuming continuity over centuries or millennia entails a simplification of reality and at the same time denies the local population their history and development (Rosen 2009). There are no reasons to assume that the Eastern Desert was any different concerning the progress of history and cultural development than any other region, and the rather naive interpretations characterized above must be attributed to researcher bias. There is evidently an undeniable tendency among individuals and peoples towards stability, and when not taken in its strictest sense continuity may be observed in many cultural phenomena. Usually these have seen, however, subtle changes in form or interpretation over time. Easter eggs and Christmas trees, for instance, have been symbols for aspects of religion for millennia, but their exact meaning has certainly changed over time. Such changes may historically be evident, but would archaeologically probably be invisible. This would leave the question open of whether discovering that people in Europe at the darkest time of year sit around lighted evergreen trees,

and eat colored eggs when the days again become longer, should be interpreted as proofs of a general continuity of culture or people.

The physical structure of the temple at Karnak, near Luxor in Egypt, for example, has been in place for almost 4000 years. The meaning of the stone buildings, however, has changed from a local temple, to one of the centers of the religious and spiritual universe of the Pharaonic civilization, to a church, to a ruin, to a mosque, and finally to a national icon and a major source of income from tourism for the modern state of Egypt. Many of these changes were reflected in minor or major changes to the actual structure,⁶ and it is likely that all changes to the structure were somehow related to changes in its interpretation. The temple of Karnak is thus something different to different people in different time periods. It is not to be defined as the first or the last incarnation of the structure, or any one in between, but rather as an abstract, almost Platonic concept which encompasses continuity as well as almost continuous change. In some ways this can be compared to the Darwinist evolutionary perspective where species can be identified even though each individual animal, including each human, is incrementally different from the previous generation. Many such small changes in especially the teeth, skull, fingers and toes of an animal that is identified as *hyracotherium* (or *eohippus*) turned its species into *Equus caballus* (domestic horse), passing through or past stages called *orohippus*, *epihippus*, *mesohippus*, *miohippus*, *kalobatippus*, *parahippus*, *merychippus*, *hipparion*, *pliohippus*, *dinohippus*, *plesippus* and *Equus stenorionis* on the way (MacFadden 1988). The modern horse is not the endpoint of this development, and the continuity we infer in the concept of its species, is nothing but a phase in a process of incessant change, just as the temple of Karnak, or the Eastern Desert, is in constant flux.

Since the end of the Holocene pluvial period the Eastern Desert has become increasingly arid resulting in slow ecological degradation. Giraffes disappeared from southern Egypt at the beginning of the Pharaonic period (Figure 31.6a, Reed 1970; Davis 1978; Arnold 1995), elephants were last reported in northern Sudan in the first centuries CE (Figure 31.6b, Scullard 1974; Casson 1993; Eide *et al.* 1998), while ostriches were last seen in the area around the beginning of the 20th century CE

⁶ <http://dlib.etc.ucla.edu/projects/Karnak/> (accessed March 31, 2010).



Figure 31.6. Prehistoric petroglyphs of giraffes (top) and elephants (bottom) near the Nile Valley between Aswan and Edfu.

(Davis 1978; Arnold 1995; Manlius 2001). The reason for increasing aridity is primarily the retreat of monsoon rains southwards since the Middle Holocene era, later increasingly combined with anthropogenic influences. Medieval Arab and early modern European travelers mention tree and plant species now rare or completely absent from the Eastern Desert (Burckhardt 1822; Linant de Bellefonds 1868; Colston 1879; Floyer 1893; Vermeeren 2000; Krzywinski and Pierce 2001; Magid 2008). Relative newcomers in the area include sheep, goats and donkeys, which were introduced by humans around 5000 and 4000 BCE, respectively (Williams and Faure 1980; Zeder and Hesse 2000; Beja-Pereira *et al.* 2004; Pedrosa *et al.* 2005; Kuper and Kröpelin 2006; Rossel *et al.* 2008). The dromedary (*Camelus dromedarius*) was probably domesticated around 2000 BCE on the Arabian Peninsula (Bulliet 1975; Midant-Reyes and Braunstein-Silvestre 1977; Hoch 1979; Wilson 1984; Ripinsky 1985; Rowley-Conwy 1988;

Köhler-Rollefson 1993; Uerpmann and Uerpmann 2002), from where the species spread north until it was brought into the Nile Valley by Persian invaders in the 6th–4th century BCE. The spread of dromedaries back south, on the western littoral of the Red Sea, appears slow, and dromedaries were not a common sight in the Nile Valley and the surrounding deserts until the first centuries BCE–CE. What is certain is that around 300 CE, the use of dromedaries had empowered the pastoral nomads and caravaneers of the Eastern Desert enough to allow them to contribute to the collapse of the Meroitic Kingdom and to threaten the peace of Byzantine and Islamic Egypt (Adams 1977; Updegraff 1988; Eide *et al.* 1998; Insoll 2003; Lassányi 2005; Dijkstra 2008; Barnard 2009b, 2009a).

The population of the Eastern Desert not only had to adapt to the changing environment, but also mixed culturally, ethnically, or was completely replaced by other peoples entering the area from the outside. These included in historical times the Egyptians, Hyksos, Assyrians, Axumites, Noba, Arabs, Banu Kanz, Ottoman, Funj, French, English, Ma‘aza and Rashaida (Adams 1977; Barnard 2009a). Such historical names and the groups that they refer to are not without epistemological problems, but their use indicates the movement of cultures, and maybe also the people that create them, as there was obviously a need to tell one from the other. At times the desert was furthermore temporarily invaded by miners, traders and quarrymen, often as part of one or more larger economic projects (Chitty 1966; Castiglioni *et al.* 1995; Kaper 1998; Cappers 2006; Sidebotham *et al.* 2008). These had a considerable impact on the landscape of the desert and likely also on its native inhabitants. At other times the desert seems to have been abandoned. There is mounting evidence that the region was only intermittently inhabited during the Pleistocene and the early Holocene (Moeyersons *et al.* 2002; Kuper and Kröpelin 2006; Vermeersch 2006). Also in later periods, many or all desert dwellers may have left the region as only minor fluctuations in the climate will have rendered life in the desert very difficult to impossible. The Semna Dispatches (1818–1770 BCE) contain reports of the Egyptian military in Nubia describing the influx of people from the desert because ‘the desert is dying of thirst’ (Smither 1945; Giuliani 1998). The arrival of pastoral peoples (the Biblical ‘Israelites’) in the Nile Delta and their subsequent departure, as described in the final chapters of Genesis and the beginning of Exodus,

if these have any historical basis, could possibly be interpreted as the movement of people out and back into the desert because of shifting push and pull factors (Hoffmeier 1999; Rosen 2009; Russell 2009). There are remarkable similarities between the Exodus story and the history of the Benu Kanz (Adams 1977, summarized in the introduction to the second part of this volume), including leaving a settled society for a nomadic life in the wilderness, followed by settling down again within another society and eventually seizing power there. Such movements in no way imply that the almost or completely empty desert was later repopulated by the same group or groups that had left decades or centuries earlier, even if the historical accounts state that this is exactly what happened in order to justify claims on the land and its resources.

Comparing the modern Beja with the Medja or the Blemmyes of the historical sources (Dahl and Hjortaf-Ornas 2006; Zibelius-Chen 2007) is like comparing the inhabitants of modern Italy with those of the Roman Republic. Next to far from exact geographical and linguistic similarities, there are other significant differences. Most of the elements that are now considered characteristic of the 'traditional' Beja culture have been introduced gradually into the region over the last 6000 years. These include, more or less in chronological order, sheep, goats, domesticated cereals, donkeys, dromedaries, rice, sugar, tea, coffee (Birnbau 1956; Watson 1983; Racy 1996; Baram 1999; Saidel 2008), Islam, Arabic (Hassan 1963; Plumley 1975; Haiman 1995; Oman *et al.* 1998; De Jong 2002; Insoll 2003), tobacco, tomatoes, and metal and plastic containers (Krzywinski and Pierce 2001; Cappers 2006; Barnard 2008; Sidebotham *et al.* 2008; Wendrich 2008; Barnard 2009a). Taking any of these elements away from the modern Beja would leave them with quite a different culture, so likewise their gradual introduction must have changed the culture of the desert dwellers at least incrementally.

Traditions as confirmation for cultural or ethnic continuity are often invented, re-invented, or re-interpreted, such as the wearing of dresses (*kilts*) displaying a family pattern (*tartan*) by men in Scotland (Stewart *et al.* 1980; Trevor-Roper 1983), the Shinto wedding ceremony in Japan (Suga 1995; Shida 1999), and dromedary racing on the Arabian Peninsula (Khalaf 2000). Given the lack of resources, the number of ways to dispose of the dead while roaming the desert is limited

and it seems that in the Eastern Desert each new group continued to use almost the same method, which was only slightly adapted to fit different beliefs and burial customs. An additional advantage of this was that some or all of the existing graves could be reinterpreted as belonging to the forbears of the new arrivals in order to provide a historical perspective to their presence in the area. The age and history of current pastoral nomadic customs as ecologically sustainable resource management techniques, is equally unclear. Given the delayed feedback and the ever changing physical, economic and cultural environment they are unlikely to have taken place with solely this particular goal in mind and they may have been reinterpreted as such only with the rather recently emerging environmental awareness among desert dwellers and scholars.

Mobility and Ethnicity

In the 19th–20th centuries CE, until the closure of the dams at the First and Fourth Cataracts, near Aswan and Hamdab, the dwellers of the Eastern Desert moved between the Mediterranean winter rains in the northeast, the tropical summer rains in the south and southeast, and into the Nile Valley during and after the harvest (Sadr 1987). Although these events in principle followed a seasonal pattern, the unpredictability of the rainfall in the desert, both in quantity and location, made the movements of people rather erratic. They will have stayed in specific parts of the desert for years during relatively wet periods, or have left the desert completely during dry spells, as hinted at in the above mentioned Semna Dispatches and Exodus narrative. The drowning of a large part of the Nile Valley, in the 1960s and the early years of the 21st century CE, changed the movement patterns away from inhabited regions towards the newly irrigated flat lands deep in the desert (Belal *et al.* 2009). Here the desert dwellers cannot, however, help with the harvest in return for money, part of the yield, or the right to graze their flocks on the stubble, but rather have to engage in agriculture themselves or feed their animals on wild plants. It is not yet clear how the new dam at the Fourth Cataract will affect the movements of the desert dwellers, but they will certainly adapt, as they have done throughout history. Although pastoral peoples around the world can potentially live entirely from the products of their own flocks, as established by ethnographers, it is usually the case that they exchange meat, dairy products, wool and hides with farmers to

obtain grain, bread and other plant foods. This symbiosis is likely to have characterized the pastoral economy in the Eastern Desert ever since the Neolithic package of farming and herding established itself across Egypt. Eastern Desert dwellers will have traveled into the Nile Valley to exchange their products with farmers, and perhaps merchants came into the desert to carry out such exchanges.

Archaeology and Texts

With the exception of rock art (petroglyphs) and graves, which are found throughout the Eastern Desert dating from the Paleolithic Period to the present, archaeological remains that seem associated with more or less defined dwellers of the Eastern Desert in a rather specific period are limited. They include the so-called pan-graves, which are dated to the Second Intermediate or Hyksos Period (1630–1520 BCE) and have been mostly found at the edges of the Nile Valley (Bietak 1966; Strouhal and Jungwirth 1984; Bietak 1987; Williams 1993), and pottery identified as Eastern Desert Ware (Barnard *et al.* 2005; Barnard 2005–2006; Barnard and Magid 2006; Barnard and Rose 2007), occurring throughout the desert in the Late Roman or Byzantine Period (4th–6th century CE). Another group of artifacts encountered in the Eastern Desert are stone tools (Bomann and Young 1994; Sadr *et al.* 1995; Van Peer *et al.* 1996; Vermeersch *et al.* 1996; Vermeersch *et al.* 2007; Lanna and Gatto 2010). The earlier Paleolithic artifacts were manufactured by hunter-gatherers rather than pastoral nomads and deposited before the end of the Holocene pluvial period, which marked the beginning of the formation of the current desert landscape. Neolithic artifacts were made and used by hunter-gatherers, herder-gatherers and pastoral nomads, respectively, and represent an industry that, in the desert and elsewhere, survived into medieval times as a form of tool manufacture, despite of course major changes in assemblages (Kuijt and Russell 1993). Stone artifacts, and especially surface finds, thus have little bearing on the desert dwellers in historical times (after roughly 3000 BCE).

Petroglyphs are abundant in the Eastern Desert (Winkler 1938; Dunbar 1941; Hellström and Langballe 1970; Žába 1974; Červíček 1986; Morrow and Morrow 2002; Huyge 2009), but they are notoriously difficult to date and interpret (Smith 1985; Huyge 1998; Espinel 2000; Huyge 2002a; Kleinitz and Koenitz 2006; Pluskota 2006). Some were obviously left by groups temporarily entering the desert from the outside, such as miners, traders

and quarrymen, while others are likely the handiwork of long-term inhabitants of the region. The latter include images of sheep, goats and dromedaries, as well as signs and symbols resembling animal brands (*wasm*, plural: *wusum*) that are generally interpreted as markers of tribal ownership. It would be erroneous, however, to assume that all petroglyphs that display images known from the Nile Valley were made by people from the Nile Valley and not instead by desert dwellers who adopted or developed similar cultural or religious values. After all, most modern dwellers of the Eastern Desert adhere to Islam, independent of their real or imagined links to the Arabian Peninsula. The more than 700 boat scenes in the Eastern Desert may well be understood as the result of the adoption of that powerful symbol of the regeneration of the Sun, and life itself. In Late Antiquity official agreements were made to allow at least some of the Eastern Desert pastoralists access to the Isis temple at Philae, even after the rest of the Roman Empire had accepted Christianity as its official state religion (Eide *et al.* 1998; Dijkstra 2008).

Simple graves consisting of a single burial in a shallow pit covered with a more or less elaborate superstructure of dry masonry are found throughout the Eastern Desert (Sadr *et al.* 1994; Sadr *et al.* 1995; Magid *et al.* 1997; Krzywinski and Pierce 2001). Many of these graves have been disturbed by natural events or human actions, while few have been scientifically excavated or studied. Attempts have been made to come to a chronology of the different types of graves in the Eastern Desert, but more systematic research, including excavation and radiocarbon dating, is necessary before firm conclusions on the ownership of these graves and their cultural significance can be reached (Liszka 2012).

Similar to other regions, the Eastern Desert has seen its share of migration, possibly starting as early as 90,000–70,000 years ago when anatomically modern humans came ‘out of Africa’ (Vermeersch 2001; Derricourt 2005; Oppenheimer 2009). Paleolithic sites have been found on both the western and the eastern littoral of the Red Sea, including New Qurta, Wadi Abu Had, Wadi Bili and Sodmein Cave (Smith 1976; Bomann and Young 1994; Van Peer *et al.* 1996; Derricourt 2005; Vermeersch *et al.* 2007; Huyge and Claes 2008). These indicate the interest of humans for the region in very early times. Numerous sites indicate that humans were living in the Eastern Desert, either continuously or intermittently, from at least around 10,000 years ago onward (Sadr *et al.* 1994; Sadr *et al.* 1995; Gatto 2006; Lanna and Gatto 2010). The

desiccation of North Africa at the end of the Holocene pluvial period apparently drove most of the mobile herder-hunter-gatherers inhabiting the area into the Nile Valley (Kuper 2006), where they settled and seemingly made a significant contribution to the emergence of Pharaonic civilization. As Pharaonic Egypt developed, any communal memory of the past quickly disappeared and was replaced with respectful apprehension for the vast arid areas referred to as *desheret* (the red land) and a deep affection for *kemet* (the black land), the fertile Nile Valley. As a consequence, the inhabitants of the desert were usually mistrusted. The fear of the desert and the marginalization of its inhabitants carried on into modern times, in Egypt and beyond. On the other hand, there were frequent contacts between the population of the Nile Valley and the desert dwellers, at times hostile but more often friendly.

It remains unclear who exactly the historic permanent residents of the desert were and how they can be compared to the pastoral tribes of today that are referred as the Beja. The historical sources give tantalizing clues, not at all easy to interpret, and the academic discussion continues on the identification of the peoples named, where they lived and what their way of life was. The most common name for the mobile pastoralists of the Eastern Desert in Dynastic Bronze Age times appears to have been Medjay; in Graeco-Roman times the commonest name for these desert dwellers seems to have been Blemmyes; and Islamic sources call them Beja. Some scholars now use these names as a synonym for the pastoral nomads in each period, without defined ethnic connotations, while others reject them completely. Apart from rather accurately naming another people, ancient ethnic names can be descriptive, often in a derogatory way, somehow contrived by the author, or loaned from another language. A contemporary example of the latter is the name Eskimo, which is either from Algonquian for 'eaters of raw meat' or Montagnais for 'speakers of a different language,' but anyway a pejorative term loaned into English from a third people (Mailhot 1978). The word 'barbarian,' on the other hand, is from an ancient Greek derogatory onomatopoeia with no previous meaning in any language.

The difficulty of defining clear and fixed properties for the ethnicity of a group is illustrated by the problems during the Nazi Congress of 1935, which failed to establish criteria to determine who was Jewish and who was not. Only months later a set of guidelines was accepted that were partly based on religion, which

can hypothetically be changed at will, and partly on lineage, which does not solve the problem but only shifts it back one or more generations (Kershaw 1998: 563-572). Learning the outcome of the debate, Joseph Goebbels (1897–1945), the Nazi minister of public enlightenment and propaganda, wrote, "a compromise, but the best possible one." When the terrible effects of these guidelines had become clear, and survivors had made their way to the new state of Israel, various groups that identified themselves as Jewish did not recognize each other as speaking Hebrew or even practicing the Jewish faith (Sabar 2008: 111-116). Given that ethnicity is so difficult to define in our contemporary world, it will obviously be far more complicated when dealing with a more distant past (Dolukhanov 1994; Jones 1997; Barnard 2005; Burstein 2008), and some have questioned whether it is possible at all to trace ethnicities across centuries or even millennia (Wobst 1978; Smith 1986; Banks 1996; Bernbeck 2008; Smith 2008). Self-definition is a different manifestation from shared cultural features and neither defines ethnicity. The only real solution to these issues was provided by Vienna Mayor Karl Lueger (1844–1910) when he said: "Wer Jude ist, bestimme ich" (I decide who is a Jew); a solution famously employed by Hermann Göring (1893–1946), Reichsmarschall (commander-in-chief of the Nazi armed forces), when he appointed Erhard Milch (1892–1972) field marshal of the air force despite the fact that he had a Jewish father (Carr 2007: 326-327).

Insiders and Outsiders

The issues of continuity, mobility and ethnicity have a direct bearing on the issue of insider and outsider sources of information. It can be debated to what extent a native desert dweller who is leaving petroglyphs displaying Nile Valley imagery or letters in (pidgin) Greek is to be considered still an insider or already an outsider. The same is true for the quarrymen, miners and especially the monks who came into the desert to stay for a considerable time and who did develop their own specific adaptations to the environment. The desert monasteries of St Anthony, St Paul and St Catherine are now integral parts of the desert, with complicated and sustainable relations with their surroundings, as is the sanctuary of Sheikh Shazli, which is a center of pilgrimage for insiders around the tomb of an outsider (Sidebotham *et al.* 2008; Wendrich 2008). The same may in time happen with the new tourist resorts along

the Red Sea coast (Salzman 1980; United States Agency for International Development 2005; Hobbs 2007; World Trade Organization 2007). We should also reflect on the extent that archaeologists, anthropologists, linguists and ethnographers are outsiders, connoisseurs or insiders; and on our own impact on the desert and its inhabitants.

Towards an Explanatory Model

More research in the area as well as in the laboratory and the library is obviously necessary, but a different methodology may yield better results towards a better understanding of the ancient pastoralists in the desert (Bintliff and Snodgrass 1988; Cribb 1991; Rosen 1992; Bintliff 1997; Barker *et al.* 2007; Adriansen 2008; Wendrich and Barnard 2008). The common site-oriented approach should be abandoned and information should be combined on a regional or temporal level to enable a more comprehensive narrative. Future research should furthermore be more firmly embedded in an archaeological or anthropological theoretical model (Holdaway and Fanning 2008; Wendrich and Barnard 2008; Holdaway *et al.* 2010; Wendrich 2010b). In an influential study on long-term regional developments in the upland, marginal landscape of the European Alps, much older insights from the 18th century CE pioneer of historical demography Thomas Malthus (1766–1834) were rather successfully used to explain the external relations of largely pastoral peoples (Viazzo 1989). If we take the Eastern Desert as a marginal zone for dense food production and population density, as a periphery adjacent to a heartland of agriculture and population (the Nile Valley), we may assume that it followed a similar path of dramatic contrasts in its visibility in history, as well as its wealth, political complexity and power in relation to its neighbors (Kuznar and Sedlmeyer 2008). The revised version of Malthus provides the following oscillatory model of the historical demography of high upland or otherwise marginal regions (Table 31.1).

Table 31.1. The two alternating modes of demography in marginal regions.

Mode A: closed	Mode B: open
Late marriage, low birth rate	Early marriage, high birth rate
High celibacy rate	High marriage rate
Low populations, low emigration	High populations, high emigration
Few external connections	Many external connections
Economics mainly internal, independent	Economics dependent on external income

Viazzo demonstrated how detailed case studies of historical mountain communities in Europe and elsewhere largely bear out the insights of Malthus of developing into one of these two dominant modes of demographic and economic behavior. He does, however, point out that demographically marginal communities are never, in practice, cut off from the richer heartlands, so that the ‘closed model (mode A)’ is a predominant result of limited interaction, in contrast to the dominance of intensive external interaction in negotiating overpopulation in the ‘open model (mode B).’ The many and varied ways in which naturally disadvantaged regions grow into dependence on core lands are worth listing, as they can be repeatedly observed in the historical ‘boom–bust cycles’ of such regions. They include raiding by marginal people, overland or by sea, at times developing into the conquest of heartlands, enhancing their local economies through seizure of portable wealth and foodstuffs, as well as emigration on a temporary, seasonal or permanent basis from the periphery into heartland regions, through hired labor, mercenary service, export of slaves, removing surplus population, or bringing in additional wealth. It can be seen that conditions favoring such interdependence are likely to be unstable, with the expected result that the demographic history of marginal regions is one of ‘punctuated equilibrium,’ long periods of a closed economy and demography that are interrupted by shorter episodes of dramatic population overflow and the eruption of peripheral peoples into the life of the people in the core region. This model could perhaps be considered a specialized case of a core–periphery relationship where the main stimulus may in fact come from the periphery.⁷

In the Pharaonic Period, we may be seeing the normal, mode A form of core–periphery interaction, with the dominant partner, the Pharaonic state, penetrating the Eastern Desert for mining, quarrying and the maintenance of trade routes. In response, the native inhabitants of the area exchange their pastoral goods, possibly both at the edge of the Nile Valley and other meeting places in the desert itself, for grain and manufactured items. As often happens in such situations, emulation of the more powerful and affluent core culture can lead to cultural borrowing, and perhaps Egyptian cults were adopted in the Eastern Desert now, or even in pre-Dynastic times.

⁷ For further discussion of this model and its application to Greece, see Bintliff 1997.

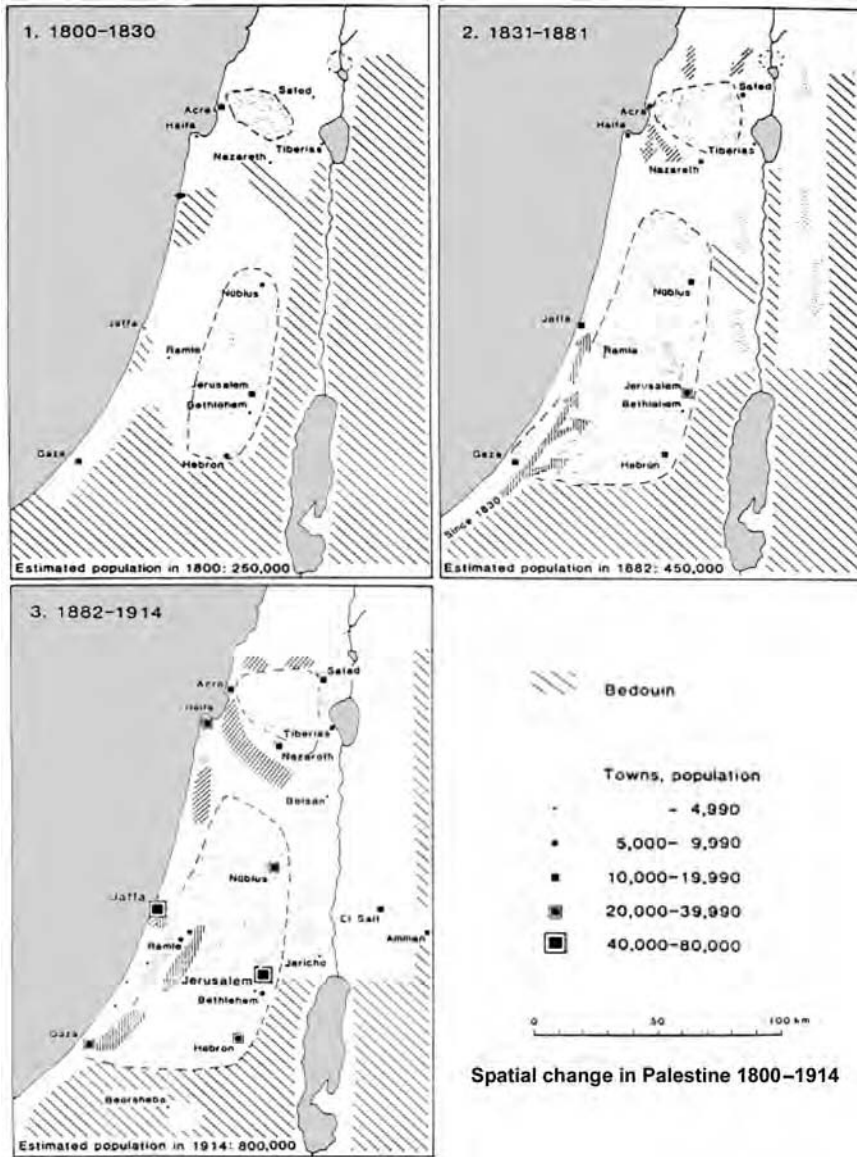


Figure 31.7. The process of spatial change in Palestine between 1800 and 1914 CE showing the influx of outsiders (Christian and Jewish immigrants and colonial representatives) followed by a settling or retreat of mobile groups (Bedouin). Adapted from Kark 2003: 539.

Employment in lowly roles within the elaborate social hierarchy of Pharaonic Egypt, as volunteer or forced laborer, seems indicated and fits the model of imbalanced economic and political relations. Perhaps Eastern Desert dwellers were also part of the workforce in the mines and quarries in the desert and assisted the trade as guides, guards or provisioners. Mode A apparently also characterizes the subsequent Hellenistic Ptolemaic and Early Roman Imperial eras. Also characteristic for mode A, with its political and economic inferiority to the state society of the core agricultural land adjacent, is the portrayal of the marginal desert people as ‘barbarian’ or even only semi-human. This is most evident in the portrayal of the Blemmyes as roaming the desert without a head, their mouth and eyes attached to their

chest (Belçaguy 1982; Satzinger 1985; Dafa’alla 1987; Updegraff 1988; Barnard 2007; Burstein 2008).

With the relative decline of regional Roman power as well as that of its southern neighboring states from the third–7th centuries CE, a shift occurs towards mode B. The population of the Eastern Desert rises to take advantage of the weakening states in the Nile Valley. Native desert people apparently took control of the lucrative mines and trade routes formerly belonging to the Nile Valley states and ultimately entered and occupied parts of the Nile Valley itself. The increasing power and wealth of the desert dwellers is perhaps linked to the first clear evidence of a strong elite hierarchy within these pastoral peoples. It may of course have arisen earlier, perhaps in response to contacts with the

highly stratified Pharaonic and Hellenistic states, but in the core–periphery model it is also very common to observe that a radical change in external relations, which offers great potential to peripheral people to exploit to their advantage, can destabilize political systems and encourage the emergence of leadership structures. In modern times this phenomenon is well described in late Ottoman Palestine (Figure 31.7), with the expansion and contraction of Bedouin tribes. Models such as these aid the emerging archaeology of mobility, which aims to develop special methods and apply these to the study of otherwise difficult to investigate mobile people (Barth 1961; Irons and Dyson-Hudson 1972; Bar-Yosef and Khazanov 1991; Cribb 1991; Finkelstein 1992; Rosen 1992; Veth *et al.* 2005; Barker *et al.* 2007; Barnard and Wendrich 2008; Szuchman 2009; Holdaway *et al.* 2010).

Final Remarks

The conference in December 2008 that is at the basis of this volume provided a wonderful opportunity for interaction with representative men and women of the present-day inhabitants of the Eastern Desert and its fringes (Figure 31.8). These peoples are step by step losing their dependence on sheep, goat and dromedary pastoralism, as they shift closer to the towns, the Nile Valley, and the Red Sea coast. The audience of enthusiastic questioners was led to admire the resilience of the visitors from the desert. On the one hand, these visitors were fully aware of their cultural traditions and

indeed were very proud of them. The once sustainable and ecologically sensitive desert pastoralism, their skills in herbal healing, the low punitive resolution of conflicts, and the rich social interaction within and between tribes were discussed in some detail. On the other hand, an irresistible combination of declining rainfall and localized environmental deterioration, and the appeal of modern urban life with all the modern conveniences such as hospitals, schools, television and the Internet has drawn the pastoralists to live closer or within the Nile Valley and to replace full-time herding with a range of other forms of employment. It seemed, however, that these people were aiming at compromise rather than weary resignation to conquest by Westernized commercial society. They aimed to preserve important aspects of their culture and way of life, where possible, while accommodating themselves to the advantages and relief offered by settled modern Egyptian society.

Boosting these opinions and ambitions of the Eastern Desert dwellers themselves are several schemes from the Egyptian state, cooperating with international development organizations or the European Community. On the Egyptian-Sudanese border, for instance, reservations are being set up to protect the desert plants and animals, many of which are endangered. Because traditionally local pastoralists are vital to plant management, however, they should not be excluded from such project zones. In the Sinai there are active schemes to create craft workshops and other forms of



Figure 31.8. Conference organizer Hans Barnard (left) and colleagues engaged in a discursive seminar with modern occupants of the Eastern Desert during the conference on the history of the Eastern Desert in Cairo, November 2008.

new employment, alongside improved housing, schools and hospitals for Bedouin groups, where an almost complete absence of rainfall has removed the basis of a viable traditional pastoral economy. Eco-tourists as well as leisure tourists could bring much-needed income to the people of the desert as their traditional pastoral way of life becomes more and more restricted, geographically and economically, and increasingly only a part-time source of income. Many expressed concern that uncontrolled expansion of tourism into the Eastern Desert might lead to further environmental decay, and the siphoning off of income to city entrepreneurs rather than local former pastoralists. Employing local people and the close monitoring of the physical and social effects of tourism will hopefully remove the worst dangers of such development. It should be kept in mind that archaeologists, ethnographers and historians are also a kind of tourist satisfying their need for the exotic during expeditions into regions so different from their homelands. The impact of such expeditions is even stronger if they result in the destruction or removal of material remains, or are not followed by publication of the findings in a timely fashion.

A final aspect of the Eastern Desert that has had a lasting impact on world history is desert monasticism. It is interesting to compare the historically and archaeologically, unintentionally invisible people in the Eastern Desert during Pharaonic and Graeco-Roman times, with pioneer Christian ascetics, like St Anthony and St Paul in the third century CE, who sought a new home in the Eastern Desert, in order to become invisible to their contemporary urban society in the Nile Valley.

In practice, however, their actions served rather to provide them with an everlasting, worldwide celebrity. Now the desert monasteries act as spiritual sources of inspiration to Coptic Christian communities throughout Egypt, and beyond, in the same way that the tombs of Islamic sheikhs in the Eastern Desert, such as that of Sheikh Shazli, remain places of communal pilgrimage for Islamic communities irrespective of their tribe.

While the discussions during the conference and in this volume on the future of the environment and peoples of the Eastern Desert appear to be a mixture of hope and anxiety, the appeal to encourage the reinstatement of a pre-modern way of pastoral life is surely quite unrealistic and even undesirable. Rather, all efforts should be directed to a rational form of managed change. As for the more scholarly aims of the conference and this volume, what seems necessary is a large-scale interdisciplinary project, where archaeologists, historians, geographers, anthropologists, heritage managers and development specialists work together in order to unravel the long-term history of settlement and land use as well as the cultures and political systems that developed in the area. Excellent examples that could serve as inspiration are the UNESCO Libyan Valleys Archaeological Survey (Barker *et al.* 1996a, 1996b), and the Wadi Faynan Landscape Survey in Jordan (Barker *et al.* 2007). For this endeavor to succeed we must, like Dr Cleveringa and so many courageous others, in the first place have respect for all people, including people in the past without history, regardless of their physical or psychological features, their culture or their religion.

CHAPTER 32



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1664 *Johann Sommers: See- und Land-Reyß nach der Levante: Das ist: Nach Italien / Candia / Cypern / Rhodis / Egypten / Syrien / Gelobten Lande / Constantinopel und von dar wider nach Ungarn / Italien und Teutschland nach Mittelburg nach Hauß: Wobey alle diese Insulen und Landschaften ihrer Gelegenheit und Beschaffenheit nach / auch was drinnen von seltsamen Antiquitäten / schoenen Gebaeuten und andern denkwuerdigen Sachen zusehen gar umstaendlich beschrieben sind: Samt einem leßwürdigen Bericht von der Türcken Ursprung / ihrer Regierung / Kirche / Faste / Beschneidung / Priestern / Moenchen / Ehrerbiethung gegen dem Mahometh / Schulen / Heuraths-Pacten / Wallfahrten / Almosen / Opfern / Testamenten / Zeremonien by den Todten / Kriegshaendeln / Gehorsam gegen den Groß-Tuerken / Kleydung / und wie sie mit den gefangenen Christen-Sklaven umgehen / welches alles ein Christ / so 13.Jahr unter ihnen eine Sklave gewesen, fleissig aufgezeichnet hat: Welchem noch beygefügt die unglueckhafte Rueck-Reyß des Niederlaendischen Schiffs Arnheim / welches im Jahr 1662 unter Wegs auß Ost-Indien erbaermlich zu Grunde gehen / die Leuthe aber theils auf der See eine weile herum schweben /*

- und sich auff der Insul Mauritiues kuemmerlich nehmen muessen biß ihnen Gott wunderlich wider nach Hauß geholffen: Wie auch Eine eigentliche Beschreibung der Ost-Indischen Kuest / Malabare genannt / und wie selbige im Jahr 1663 in der Niederlaendischen Ost-Indischen Compagnie Gewalt gekommen: Allen zur Verkürzung der Zeit und zur Nachricht fuer die Reysenden gar anmutig und nutzlich zulesen / mit unterschiedlichen Kupfer-Figuren gezieret / und auß der Hollaendischen in die Hoch-Teutsche Sprache uebersetzt durch Philemerum Irenicum Elisium, Frankfurt am Main, Wilhelm Serlin.
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