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**Mobile peoples - permanent places : the construction and use of stone-built architecture by nomadic communities in the Jebel Qurma region of the Black Desert (Jordan) between the Hellenistic and Early Islamic periods.**

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# 1 Introduction

There are probably few regions in the world that remain so poorly known in archaeological terms as the Arabian deserts. Telling in this respect are recent discoveries made through the study of satellite imagery and aerial photographs that have shed light on the sheer amount of ancient stone-built features in the Arabian deserts (Kennedy 2011; Kennedy & Bishop 2011). Such features (Fig. 1.1) were created from the basalt rocks that occur on the surfaces of the volcanic regions of Arabia – the so-called *harra*. The large majority of these features, whose quantity has been estimated to be over a million (Kennedy 2011), remain poorly documented and, equally, poorly understood. Looking at this vast amount of virtually unstudied remains, one immediately begins to wonder about the considerable gap in knowledge that must exist about the societies who once lived in these desert regions and, consequently, what these remains might learn us if properly studied. This fascination probably lies at the foundation of this study, although there are several other, less intuitive motivations, which are outlined in this introductory chapter. Obtaining a comprehensive understanding of the archaeological remains of the Arabian deserts is by no means to be covered in single PhD dissertation. Instead, this book focusses on a region in north-eastern Jordan known as the Black Desert (Helms 1981), and is confined to the archaeological remains dating between the Hellenistic and Early Islamic periods, during which the Black Desert was inhabited by communities of nomads. In a region part of which was rendered poorly inhabitable for certain times



(a)



(b)



(c)



(d)

Figure 1.1: Examples of stone-built features from *harra* landscapes in north-eastern Jordan, including (a) a cairn with a pendant tail extending towards the left, (b) a wheel or jellyfish, (c) a desert kite and (d) a series of enclosures. Aerial photographs by David Kennedy (a-c) and Matt Dalton (d), courtesy of APAAME.

of the year due to arid conditions, these people had a migratory lifestyle in which households moved in accordance with fluctuations in natural resources. These nomads are probably best known for the inscriptions and pictorial carvings they left behind on the desert rocks. While these have provided important insights into the people who created them, there are currently hardly any archaeological studies available that focus on nomadism in the Black Desert during historical times. As a result, there is still a poor understanding of how nomadic communities managed to survive in an environment that, at least today, looks bleak and uninviting. This dissertation is an attempt to shed light on some of the strategies employed by these nomads by investigating the desert landscapes they inhabited and modified.

## 1.1. THE BLACK DESERT: A HARSH AND INHOSPITABLE ENVIRONMENT?

### 1.1.1. Geography

The Black Desert of Jordan is a vast and seemingly inhospitable environment that today hosts hardly any permanent inhabitation. Except for a few small towns, most of the Black Desert is uncultivated and only occasionally visited by Bedouin families with their herds of goat, sheep, and camel (Rowe 1999). The name of the region derives from the dominant surface cover, comprising a blanket of sharp and darkly coloured basalt rocks that originate from volcanic eruptions that occurred more than a hundred-thousand year ago (Bender 1968). This basalt field, known in Arabic as the *Harrat al-Sham*, stretches

from the Hauran region – on the slopes of Jebel Druze in southern Syria – towards the south-east into the desert regions of north-eastern Jordan and northern Saudi Arabia, where it terminates at the oasis of Jawf (Fig. 1.2). These *harra* landscapes are surrounded by more easily accessible rolling plains and hillocks that are largely covered by gravels and desert pavements, and are often referred to as *hamad* landscapes. In Jordan, the *harra* and *hamad* landscapes are together known as the Black Desert (Fig. 1.3). Today the Black Desert receive less than 200 mm of average annual precipitation, although there may be years when no rainfall at all occurs, leaving the region extremely arid and without substantial vegetation (Al-Homoud et al. 1995, 58). The Black Desert is largely treeless, and hosts only a few per-

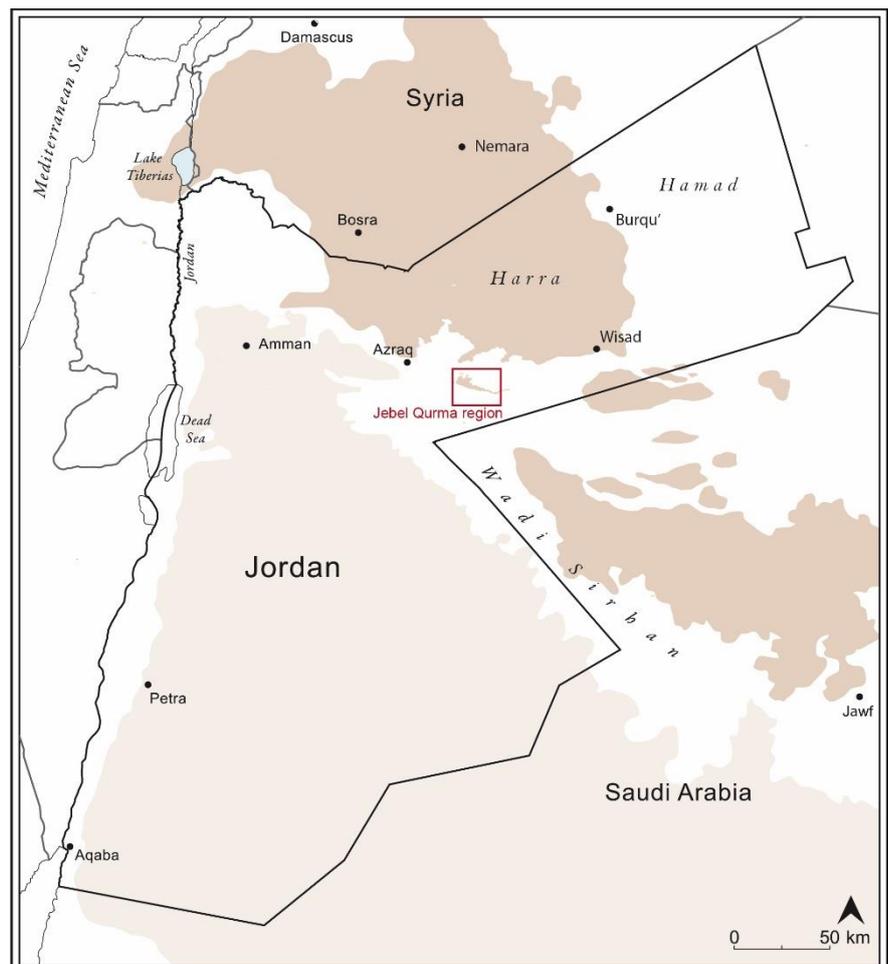


Figure 1.2: Map of modern Jordan indicating the extent of the Harrat ash-Sham basalt field. Drawn by Mikko Kriek.

manent sources of water, including at Azraq, Wisad, Burqu' and Nemara. It is perhaps not surprising, therefore, that many parts of the Black Desert remain uninhabited – unfrequented even – for large parts of the year, if not altogether.

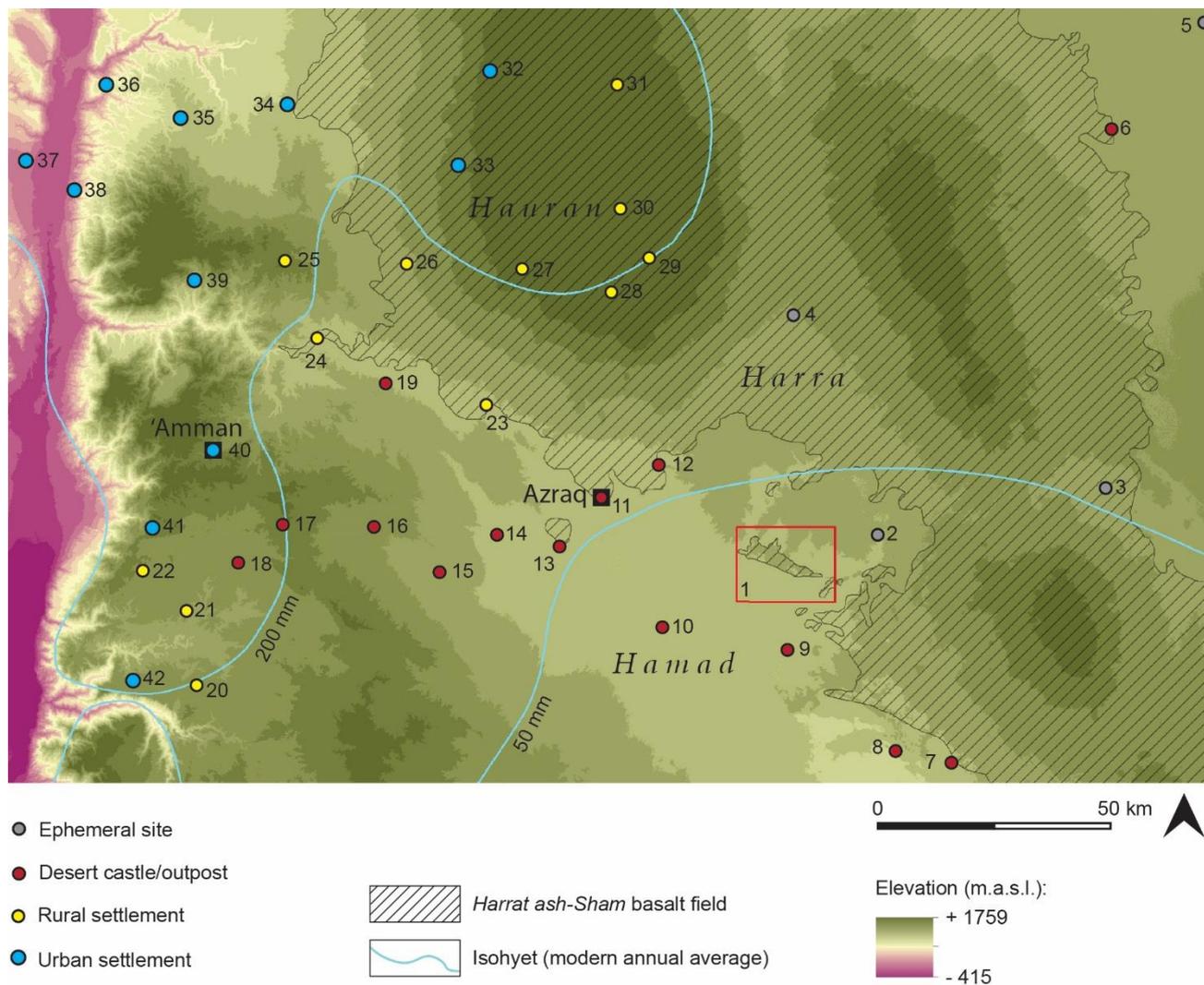


Figure 1.3: Map of the Black Desert and its surrounding, indicating the Jebel Qurma region (1) and sites referred to in this dissertation: 2) Maitland's Mesa; 3) Wisad Pools; 4) Cairn of Hani'; 5) al-Risha; 6) Burqu'; 7) Ithra; 8) Kaf; 9) Hazim; 10) Khirbet 'Umari; 11) Arzaq; 12) Usaikhim; 13) Uweinid; 14) 'Amra; 15) Kharaneh; 16) Mshash; 17) Muwaqqar; 18) Mshatta; 19) Hallabat; 20) Umm al-Rasas; 21) Nitl; 22) Madaba; 23) Hibabiya; 24) Khirbet al-Samra; 25) Rihab; 26) Umm al-Jimal; 27) Umm al-Quttein; 28) Deir al-Kahf; 29) Deir al-Qinn; 30) Imtan; 31) Sa'neh; 32) Suweida; 33) Bostra; 34) Deraa; 35) Capitolas; 36) Umm Qais; 37) Beth She'an; 38) Pella; 39) Jerash; 40) 'Amman; 41) Hesban; 42) Dhiban. Based on Ababsa (2013) and HydroSHEDs elevation data.

### 1.1.2. Archaeological and epigraphic remains

In stark contrast to its seemingly harsh and uninviting environments, the Black Desert manifests an unusually rich archaeological and epigraphic record. This has been known – although perhaps not widely – since the middle of the 19<sup>th</sup> century, when the first Safaitic inscriptions were discovered in the Black Desert, and subsequently deciphered in 1901. Over 30,000 Safaitic inscriptions have been documented since, and this number is probably equalled by the amount of pictorial carvings – or petroglyphs – that are often found in association with the inscriptions. Indeed, many of the inscriptions actually refer to these petroglyphs. Safaitic is conventionally dated between the 1<sup>st</sup> century BC and the 4<sup>th</sup> century AD, but this date is highly insecure, and a broader or more narrow date range is entirely possible (Al-Jallad

2015, 1-25; Macdonald 2010). The inscriptions and petroglyphs nonetheless provide a unique testimony of nomadic communities who carved these inscriptions and petroglyphs on the basalt rocks of the Black Desert, on which they are commonly found.

Equally spectacular, however, is the large amount of ancient stone-built architecture that is preserved on the surface of the Black Desert. The presence of such features was first vividly illustrated by British airmen who flew over the Black Desert during the British Mandate period in Jordan and made photographs of what they saw on the surface from their planes (e.g. Maitland 1927; Rees 1929). Nowadays, tens-of-thousands of stone-built features of various types – also known as “Works of the Old Men” (Maitland 1927) – have been documented through similar yet more advanced methods, such as the study of high-resolution satellite imagery (e.g. Kempe & Al-Malabeh 2010; Kennedy 2011; Kennedy & Bishop 2011; Meister et al. in press). Many of these features have been given enigmatic names such as *kites*, *pendants*, *wheels* or *jellyfish* (Fig. 1.1) which is illustrative of the fascination they evoked and, at the same time, the uncertainty about their exact purpose and date of construction.

Many of these uncertainties remain largely unresolved today. In part, this is the result of the relatively short history of archaeological research in the Black Desert. The initial discovery of the “Works of the Old Men” in the early 20<sup>th</sup> century was not immediately followed by an increase of archaeological research in the Black Desert. With few exceptions (see Müller-Neuhof 2014a), the Black Desert remained almost completely unexplored until the 1980s, when a number of archaeological field projects were initiated (e.g. Betts et al. 1998; 2013; Garrard & Byrd 2013; Helms 1981). The most significant contribution in this respect was made by Betts, whose extensive survey and excavation programme covered large parts of the *harra* and *hamad*. These pioneering studies were followed up on in the 21<sup>st</sup> century by a number of field projects (Müller-Neuhof 2014a).

In many ways, however, the archaeology of the Black Desert is still in its infancy. Most of the research carried out since the 1980s focused on the region’s prehistoric remains (e.g. Betts et al. 1998; 2013; Müller-Neuhof 2012; 2014b; Richter 2014; Rollefson et al. 2014; Rowan et al. 2015). Little effort has been put into the investigation of the inhabitation of the Black Desert in historic times or, more generally, developments over the *longue durée*. The *Jebel Qurma Archaeological Landscape Project* is exceptional in this respect, as it studies the development of settlement from the Palaeolithic up to modern times (Akkermans & Huigens in press; Huigens 2015). Without comparable research in other parts of the Black Desert, however, the long-term cultural and ecological history of the Black Desert largely remains to be written.

The relatively short history of archaeological research in the Black Desert, and its strong focus on prehistoric remains, has further resulted in an incomplete understanding of the various types of stone-built architecture that are found in the *harra* and *hamad* landscapes. For example, although it has been suggested that some of the *desert kites* were constructed already in prehistory for the purpose of hunting wild animals such as gazelle (Betts & Burke 2015), others have argued that at least some of the kites may have been constructed more recently (Macdonald 2005; Maraqten 2015), and that some of them were used for penning herd animals rather than hunting (e.g. Echallier & Braemer 1995). With the vast amount of desert kites of various different types, these issues remain to be further investigated (Crassard et al. 2015). Even more poorly understood is the chronology and function of *cairns* – stone heaps of varying configurations of which thousands must be present in the Black Desert (Kennedy 2011). Some of these have proved to be prehistoric tombs (Akkermans & Brüning 2017); others appeared to contain graves associated with Safaitic inscriptions (Akkermans & Brüning 2017; Harding 1953; 1978; Rollefson 2013); and some cairns may have served an entirely different purpose (Kennedy 2012a, 493). It appears that there may be many different types of cairns used for different purposes in different periods. At this point, however, a clear understanding of the use and chronology of cairns is lacking due to the scarcity of archaeological research. Equally enigmatic are *pendants* that are often

found in association with cairns (Kennedy 2011). The function and chronology of these features is completely unknown at this point. Although some of the pendants seem to contain small chamber-like features (Rowan et al. 2015), no evidence for their function as a tomb has been found so far.

These examples serve to illustrate that much remains unclear about the function and chronology of stone-built architecture in the *harra* and *hamad* landscapes of the Black Desert. This is important to acknowledge especially because of the remarkable context in which these landscapes developed, as is outlined below.

### 1.1.3. The Black Desert as a zone of nomadism

Much of the Black Desert's history of inhabitation is characterised by nomadism, which is defined here as a mode of existence in which communities engage in residential mobility on a regular basis (following Honeychurch & Makarewicz 2016, 347-348; Salzman 2002, 246). Others would reserve the term nomadism to an economic system based primarily on pastoral production in marginal environments that is facilitated through cyclical residential mobility of herds and households (e.g. Khazanov 1984; Spooner 1971, 199). This study, however, primarily engages with the relation between mobile communities and the organisation of space that may have related to a multitude of social and economic dimensions, only one of which may have been pastoral production. Therefore, a broader definition of nomadism seems to be in order – one that highlights the mobile character of the communities classified as nomadic rather than a specific system of production.

Archaeological research has indicated that already in early prehistory, i.e., during the (Epi)Palaeolithic and Early Neolithic periods, the Black Desert was frequented by mobile hunter-gatherer communities. In fact, some of the stone structures visible on the *harra* surfaces today even date back to this early period of inhabitation (Betts et al. 1998; Richter 2014; 2017). It was probably during the 7<sup>th</sup> millennium BC, i.e., during the Late Neolithic, that the herding of sheep or goat was added to the subsistence activities of these nomadic communities, who continued to inhabit the Black Desert at least until the end of the Early Bronze Age, in the 3<sup>rd</sup> millennium BC (Müller-Neuhof 2014a; Rosen 2017). Permanent architecture that was constructed in this period includes the *wheels* or *jellyfish* (Rollefson et al. 2016) but probably also some of the other stone enclosures (Akkermans et al. 2014; Huigens 2015) that are omnipresent in the Black Desert. Although more elaborate residential architecture has also been dated to this 'late prehistoric' phase of inhabitation – for example at Maitland's Mesa – these dwellings were probably inhabited on a seasonal base rather than year-round. While the environment was probably not as bleak as today, there is no evidence that it supported year-round inhabitation (Rowan et al. 2015; 2017).

There is some uncertainty as to what happened to the environment of the Black Desert and its nomadic communities after the Early Bronze Age. At this point, there is hardly any archaeological evidence for significant inhabitation during the 2<sup>nd</sup> and much of the 1<sup>st</sup> millennium BC, i.e. up to the Hellenistic period, except for a few isolated finds (Adams et al. 1977). This is remarkable as it is generally believed that the Arabian deserts opened up during the 1<sup>st</sup> millennium BC following the domestication of the (dromedary) camel and the development of both camel nomadism and camel-based caravan trade (Magee 2014, 259-274; 2015). More specifically, a number of Assyrian sources of the early 1<sup>st</sup> millennium BC refer to violent conflict with both settled and nomadic populations of northern Arabia (Hoyland 2001). One of these settlements is Jawf – or ancient *Adummatu* – but even here there is still no archaeological evidence for significant Iron Age occupation, despite serious attempts to locate them through excavations (Charloux & Loreto 2014; 2015). This strong discrepancy between textual sources and archaeological remains therefore remains to be further investigated. With respect to the Black Desert, an important question is whether the absence of archaeological remains from the 2<sup>nd</sup> and much of the 1<sup>st</sup>

millennium BC reflect a period of abandonment or something else, such as poor visibility, or simply a lack of attention for these remains.

What is certain is that by the end of the 1<sup>st</sup> millennium BC and the beginning of the 1<sup>st</sup> millennium AD – during the Late Hellenistic and Roman periods – the Black Desert was inhabited by nomadic communities. The clearest and most direct evidence for their presence comes from the Safaitic inscriptions and associated pictorial carvings, as mentioned above. Such rock art was carved out by communities who migrated through the *harra* and *hamad* regions on a seasonal basis (Macdonald 1992a). Indeed, although few Safaitic texts have been recorded in Nabataean and Roman towns to the west of the Black Desert, the overwhelming majority of the inscriptions is situated in desert regions, and much of their content deals with nomadic activities rather than sedentary life. There are numerous references to people camping in different places and to pasturing livestock — mainly camels but also sheep and goat and, incidentally, cattle (Al-Jallad 2015, 1-25; Macdonald 1993). These nomads, however, did not solely rely on pastoralism, as there are also references to other economic activities such as hunting, raiding, military services, and possibly small-scale and opportunistic farming (Macdonald 1993).

The nomads who carved the Safaitic inscriptions sometimes identified themselves as belonging to a specific social group. To a certain degree, but probably not exclusively, these social groups were organised through kinship affiliations, which are sometimes listed in the inscriptions as long genealogies (Al-Jallad 2015, 56-60). These lineage groups sometimes competed with each other, such as through raiding of livestock. There is no evidence, however, for all-out warfare between different nomadic groups (Macdonald 1993, 314). The nature of relations with communities beyond the Black Desert has been heavily debated. From the Late Hellenistic period onwards the western fringes of the Black Desert were increasingly populated by sedentary farming communities as well as military forces. The agricultural infrastructure in the southern Hauran region developed rapidly under the Nabataeans, who greatly invested in the region in the 1<sup>st</sup> century BC and the 1<sup>st</sup> century AD, and later by the Romans who had annexed the Nabataean kingdom by AD 106. Many towns, agricultural villages and *villae* emerged during this period in the Hauran (Villeneuve 1985), and the nature of the relations between these farming communities and nomads in the Black Desert has proved relevant. For example, it has been suggested that in the wave of agricultural development nomadic communities were slowly pushed out of the Hauran region, as former pasture grounds were transformed into agricultural plots (Villeneuve 1985, 116). Whether the nomads subsequently settled in the newly emerging towns and villages, or shifted their migratory routes into the Black Desert, remains unknown. It has also been suggested that pastoralism remained an important economic activities for the newly emerging towns in the Hauran (Rohmer 2011). Less clear, however, is the nature of pastoralist production: was it based on nomadic pastoralism, in which herds and household resided in the Black Desert for certain times of year, or was it restricted to direct outskirts of settlements?

During the same period, investments in the military infrastructure in this part of the Roman empire were carried out. Perhaps building partly on earlier Nabataean military works (Bowersock 1983, 154-158), numerous fortifications and watchtowers, connected by roads, were constructed on the western fringes of the Black Desert under Roman rule (Kennedy 1982; 1997). Various suggestions have been made as to the purpose of this roughly north-south line of defence. These include, firstly, the protection of trade routes between the empire and the Arabian peninsula through the Wadi Sirhan, which connected the Hauran to the oases of Azraq and Jawf (Bowersock 1983, 154-158). Secondly, it has been proposed that they defended the agriculturally important Hauran region from enemy forces (Sartre 2005). While both suggestions seem plausible, different views on who ‘the enemy’ was in this respect have been put forward. While some have proposed the rival Sassanian empire as a likely candidate, others have suggested that Roman territories and activities needed to be defended against a ‘nomadic menace’ (Bowersock 1983; Millar 1993, 435-436; Parker 1986). The latter view seems to be

based largely on ancient literary sources in which nomads are portrayed not only as uncivilised and unreliable but, moreover, also as hostile (Hoyland 2001, 96-97). It is likely, however, that such descriptions are mostly rhetoric rather than an accurate account of nomad–sedentary relations in the Hellenistic and Roman periods, as most scholars now acknowledge. Although violent conflict may have occurred from time to time, these were probably exceptions to a much more harmonious relation, defined by mutual benefit or even mutual dependency (Banning 1986; Fisher 2011, 108-109; Hoyland 2001; Macdonald 1993; 2014, 162).

The tradition of writing among nomads in the Black Desert seems to have come to an end in the Late Antique period at the latest, perhaps as early as the 4<sup>th</sup> century AD, as there are no clear indications that Safaitic or any other nomadic script was used thereafter. With an equal scarcity of archaeological data, direct information on nomadism during the Byzantine and Early Islamic periods largely grows silent. On this basis, it has been argued by some that in this period many of the nomads settled down, abandoning the Black Desert and their nomadic lifestyle for a life in the villages and towns on the desert fringes (e.g. Kennedy 2014; Villeneuve 1985; Walmsley 2005; 2007a; Zerbini 2013). It is indeed the case that the encroachment of sedentary farming communities set in motion in the Hellenistic and Roman period continued well into Late Antiquity. Towns and villages in the Hauran region reached a peak in prosperity between ca. the 6<sup>th</sup> and 8<sup>th</sup> centuries AD, and a general growth in population as well as the number of villages is well attested (Villeneuve 1985; Walmsley 2005).

Others have suggested, however, that this period of prosperity in village-life may not have come at the expense of nomads, and that they continued to roam the steppe and desert regions of eastern Jordan. In the Byzantine period, the defence of the eastern desert frontier increasingly depended on vassal rulers (*phylarchs*) and the local tribes united by them. In Jordan, this role was fulfilled by the client kingdom of Ghassan ruled by Jafnids. Based in the Golan region, the hegemony of the Jafnid dynasty probably extended over southern Syria and northern Jordan (Fisher 2011, 95-102; Hoyland 2001, 78-79). It has been argued that nomadic tribes were also included in this kingdom (Fisher 2011, 110), and that some of the Roman forts in the desert that were adapted during the Byzantine period may well have been used by local elites to meet with nomadic sections to secure their loyalty (Arce 2009; 2012). Furthermore, it has been suggested that this strategy was continued during the early caliphal period, when numerous old forts were refurbished and others were newly constructed (Arce 2009).

The archaeological evidence for the presence of nomads in the Black Desert is at this point very scarce. This may largely be the result, however, of limited archaeological research rather than limited inhabitation in the past. To what degree there was any continuation in the presence of nomads after the disappearance of the Safaitic writing tradition thus requires further investigation. Only then will it be possible to further investigate possible processes of sedentarisation, or the role of nomadic communities in imperial border policies.

## **1.2. LANDSCAPES OF SURVIVAL**

What has so far become clear is that during the Hellenistic and Roman period the Black Desert supported communities of nomads in an unprecedented way. After a period of seemingly very limited inhabitation, if not sheer abandonment, nomads were able to make a successful living in the desert once again, as observed in inscriptions and petroglyphs, historical references and, to a lesser extent, archaeological remains. It remains difficult to explain this story of relative success, as much remains unclear about the nature of these nomadic communities and how they developed through time. The mechanisms through which nomads were able to inhabit a region that appears to have seen very little activity during the preceding millennia remains poorly understood. To shed further light on nomadism in the Black Desert new research is required that is more directly informed, and thus relies on epigraphic remains and pic-