

Traces of the cameleers: Landscape archaeology and landscape perception

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The history and archaeology of the Muslim cameleers is a relatively neglected area of research. The archaeology in particular has received very limited attention, especially when compared with comparable areas of research into ethnic groups such as the Chinese in Australia. Nevertheless, archaeological analysis of the landscape and sites relating to the cameleers has the potential to contribute an enormous amount to our understanding of the lives of these men and their families. There is also the potential for such investigations to contribute more broadly to Islamic archaeology, which is an area of growing interest globally. This paper details preliminary results of field surveys conducted across a series of cameleer sites in New South Wales and South Australia. It aims to provide insights into the archaeological signatures of the cameleers, how the cameleers organised and perceived space, and to demonstrate the potential that exists for further archaeological investigations.

INTRODUCTION

Camels were used as a major form of transport across much of mainland Australia. The camel handlers, known variously as *cameleers*, *Ghans* or *Afghans*, came to Australia on temporary work contracts during the second half of the nineteenth century and early twentieth century (Stevens 1989). Sites associated with the Muslim cameleers have been identified

across all mainland states and the Northern Territory, however they have to date been the subject of only limited archaeological analysis. This paper outlines the results of surveys undertaken in 1997 and 2007 in western New South Wales and northern South Australia. In particular, it focuses on the sites from Broken Hill across to Oodnadatta (Figure 1). These field results are preliminary in nature and are the precursor to a more comprehensive nationwide analysis of

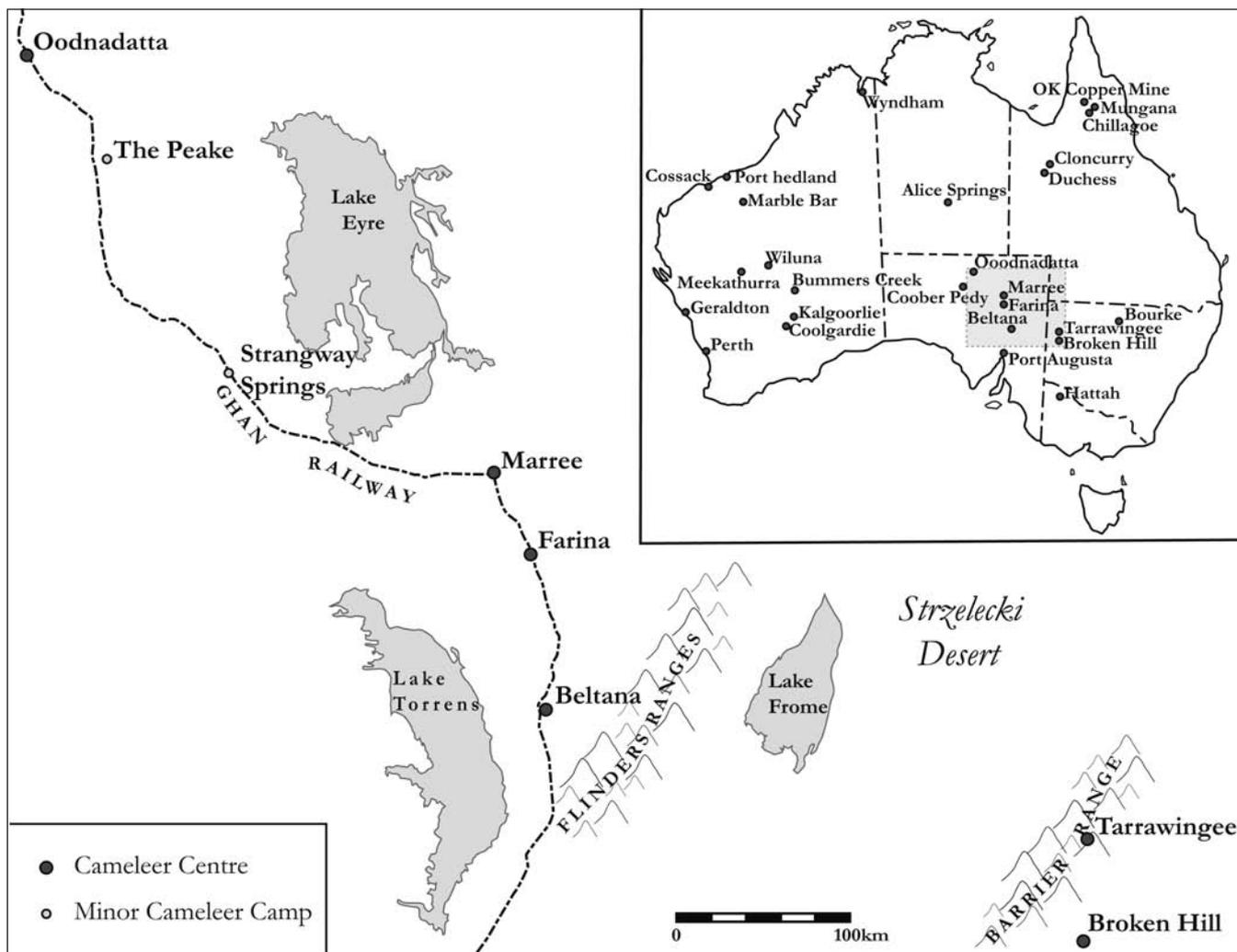


Figure 1: Map of cameleer centres and sites surveyed in New South Wales and South Australia.

cameleer sites. It is hoped that this paper will encourage others to become more involved in the research and analysis of cameleer sites and that it might provide other archaeologists with new ways of understanding and interpreting the traces of the cameleers.

HISTORICAL CONTEXT

The voices of ethnic minorities are likely to be heard as mere whispers through history and as such it often becomes the task of the archaeologist to help tell their story. Within Australia, the cameleers are a classic example of just such a group, whose story is rarely recorded in the first person. Instead our historical records tend to document these people from the perspective of government and bureaucracy. They are described in passing as the handlers of the animals who revolutionised exploration and transport in the interior, in which documents there is usually more detail surrounding the camels than the men who made it all possible (Stevens 1989). With time, the presence of the cameleers is documented more systematically as immigrants whose residency must be validated, or as a group of people who become the subject of debate in terms of their place in a euro-centred society (NSW LANP 1892–1893). In rare cases there are letters and other documents from the cameleers themselves. Often however, the most widely available documents are the photographs that have captured moments in time.

Many of these sources, which are held in the National and State archives and libraries, have been the subject of various historical investigations that have provided some informative overviews of the cameleers' place in Australian history (Cigler 1986; Deen 1995; Jones and Kenny 2007; Rajkowski 1987; Schinasi 1980; Stevens 1989, 1990). Nevertheless, there is relatively little known about the lives of these men and their families. There are a few more famous individuals, such as Bejah Dervish and Mahomet Allum, whose lives are relatively well documented. For the vast majority however the story is largely unknown and the traces that exist in the archaeological record have received very limited attention. Some sites have been recorded as components of larger heritage surveys (AADA 1995; AAHR 2001; HRAA 2002; Donovan and Associates 1984), and there have been preliminary efforts to analyse cameleer sites at a more detailed level (Parkes 1997, 2001). The archaeology of the cameleers is overdue for systematic recording and analysis; it is a rich and complex area of study that merits specialised investigation similar to that which has been undertaken on other migrant groups such as the Chinese. As such, it is time we stopped and listened to what stories the evidence might tell.

History of the cameleers

Early attempts at camel importation were largely unsuccessful; few camels survived the sea journey from places as far afield as the Canary Islands (Eden 1875; Stevens 1989). In 1860, as part of the preparation for the ill fated Burke and Wills expedition, a radical new approach was employed. The camels chosen were imported from the border region between British India and Afghanistan, which meant a relatively short ocean voyage compared with those brought from the Middle East and Africa. More importantly, a group of camel handlers from Peshawar and Karachi were hired to care for the animals during the journey and to continue in those duties as members of the expedition party. This was the turning point in camel imports into Australia and it was the beginning of what was to become a significant Muslim community in a colony that was predominantly Christian.

The first substantial migration of cameleers accompanied a large camel importation organised by Samuel Stuckey and Thomas Elder of Beltana Pastoral Company in 1865 (Stuckey n.d.; Stevens 1989). Following the success of Elder's cameleer teams, other camel importations took place and further numbers of camel handlers came to Australia from places such as Afghanistan, Pakistan (the Punjab), Baluchistan, Turkey, Egypt and Iran (Fitzgerald 1984; Jones and Kenny 2007; Migration Museum 1995; Stokes 1983). In many ways the cameleers were treated as being of secondary importance to the camels, thus the records of camel importations are often more detailed than those that pertain to the Muslim handlers who made it all possible. Generally the cameleers came to Australia on short term contracts of one to three years (Stevens 1989). While some then returned home to their families, others chose to settle in Australia and married local women of both European and Aboriginal background, with their children usually raised as Muslims.

Due to the nature of the records pertaining to the immigration of camel handlers it is unclear how many cameleers came to Australia, although estimates put the figure at around 2000 (Jones and Kenny 2007). Similarly, there is uncertainty regarding how many returned home, how many settled permanently in Australia and how many died during their work contracts. This situation has been remedied to some extent by the work of Gabor Korvin (2003a, 2003b), who has compiled a database of Afghan and South-Asian Muslim migrants to Australia between 1860 and 1930.

In general terms, there is a good understanding of the areas in which the cameleers worked and the main centres in which they settled and established camps that often became known as 'ghantowns'. The cameleers worked right through the centre of Australia, transporting materials for the Overland Telegraph Line between Adelaide and Darwin and the railway between Port Augusta and Alice Springs, which was subsequently named after them as 'The Ghan'. Elder had initially imported camels to carry supplies north to remote pastoral stations and to transport wool clips south to Port Augusta. While this central area was where many of the first cameleers were employed, within a very short period of time there were camel trains serving communities right across Australia (Figure 1). Cameleer settlements were established throughout Western Australia, across the Northern Territory and well into the northern reaches of Queensland, while in the southeast they served settlements across western New South Wales and down into the salt lakes of north-western Victoria. Their employment also quickly diversified; cameleers were involved in scientific expeditions, transporting mineral ore from mining settlements, hawking goods and bringing in general supplies to all manner of remote settlements (Rajkowski 1987; Schinasi 1980; Stevens 1989).

ARCHAEOLOGY OF ISLAM

Since the majority of the cameleers were Muslims, some understanding of the archaeology of Islam is vital in terms of interpreting the archaeological evidence. This is a complex topic that cannot easily be summarised without making very broad generalisations. The following summary will focus on the salient aspects of Islam relevant to the archaeology of the cameleers, which will in turn provide an interpretive context for the discussion of the field results. It should be emphasised however that this summary does not do justice to the complexities of Islam and the ways in which it can be manifest in the archaeological record. Readers interested in a more detailed consideration of this topic are referred to publications that focus more specifically on the archaeology of Islam (Insoll 1999, 2001b; Parkes 2006).

Islam is a religion that provides guidelines for all aspects of life from birth through to death. While other religions might also provide general instructions on how to live, Islam is relatively unique in how specific those instructions are. In an idealised setting everything a Muslim goes about on a daily basis has an element of religious significance. For instance, prayer should be undertaken at prescribed hours five times a day and there are rules regarding diet. Furthermore, various activities, including prayer, slaughtering of animals, burial of the dead, defecating and urinating should be undertaken facing particular directions. That is, the first three should be done while facing *qibla*, the direction of Mecca, and the latter two should be done perpendicular to *qibla*. This has a number of implications for the archaeology (Insoll 1999; Parkes 1997, 2006), not least of which is the way in which space is organised.

Mosques

Mosques are undoubtedly one of the most obvious examples of a structure symbolic of Islam; they are also an excellent example of a structure in which space is organised relative to the direction of Mecca. They are normally oriented so that the short axis of the building is aligned towards Mecca, which enables long rows of worshippers to pray in unison while also ensuring that everyone present is as close as possible to the *qibla* wall (Hillenbrand 1994; Muslim n.d.:CLXXV). The *qibla* wall itself is usually indicated by a *mihrab*, which will either take the form of a small alcove in the centre of the wall facing Mecca, or as a symbolic feature painted on the interior of the wall (Pederson 1991). Another important aspect of the spatial organisation of a mosque is that there is a place to undertake the ritual ablutions prior to prayer, which are preferably done with running water but can also be performed with still water or clean sand (Frishman 1994; Sura IV¹:43; Muslim n.d.:XCIV). Regardless of which form of ablution is practiced, the act itself usually takes place on the non-*qibla* side of the mosque, before entry into the prayer hall. There is thus a virtual axis of sanctity, with the faithful ritually cleansing themselves before physically moving closer to God and undertaking prayer facing God's house in Mecca.

Graves

Rules concerning Islamic burials are relatively simple. The deceased should be buried wrapped in a white shroud and without grave goods. Graves should be oriented perpendicular to *qibla*; they should be at least waist deep for men and chest deep for women, with the deceased placed on their right hand side facing Mecca. Headstones and other grave markers are generally discouraged, although a mound of stones to deter animals from disturbing the burial is acceptable (Hillenbrand 1994; Lancaster and Lancaster 1993). Across the world there is considerable variety in Islamic grave markers, although the most common form is a low mound of stone, with or without pieces of stone or wood marking the head and foot of the grave. Other more elaborate forms are often associated with particular regional styles or trends peculiar to a particular period or type of grave, such as a saint's mausoleum (Dickie 1978; Insoll 1999).

Domestic Space

The organisation of domestic space does not have such explicit rules as those that apply to mosques and graves; nevertheless, it is relatively common for suburbs and houses in Islamic cities to follow similar alignments to that of the mosques (Bonine 1990, 2008; Parkes 2006). While this

commonality in building alignments might be explained in part by topographic constraints or established street alignments, there are additional explanations that make sense in terms of the requirements of Islam.

Prayer should be undertaken five times a day. Daily prayer should be undertaken wherever the faithful find themselves at the prescribed hour, as opposed to the noon prayer on Friday, which should be undertaken in the congregational mosque. In keeping with the fact that prayer must be undertaken multiple times each day and in a variety of locations, the Prophet Muhammad indicated that all the world is a mosque and anywhere that one prays is a mosque (Saabiq n.d.: vol. 2:67). As such, it is logical that each place or building in which Muslims go about day to day activities will have a *qibla* side that is faced when the time comes for prayer (Parkes 2006). This should theoretically be particularly applicable to domestic space, where so much of daily life takes place and prayer would presumably be repeated in specific locations. Furthermore, Stevens (1989:258) indicates that cameleer houses were organised so that beds could be aligned in the same way as their graves (i.e. facing *qibla*), which again indicates that one side of a house should theoretically correspond with *qibla*. Finally, there is the fact that urination and defecation should not be done while facing *qibla*, they should ideally be done perpendicular to that direction, which suggests that toilets should be oriented accordingly.

Qibla

A question that is rarely asked of the archaeology is how people worked out the direction of Mecca. While there has been considerable research into the history of Islamic science, and this has yielded significant insights regarding the methods of determining *qibla* and the ways in which direction might be perceived in Islam (e.g. King 1979, 1982, 1983, 1985, 1987, 1993, 1999; Schimmel 1991), there are relatively few archaeologists who have pursued this line of investigation. The most detailed analysis of building and street alignments to date have been undertaken in North Africa (Bonine 1979, 1990, 2008; King 1984; Rius 2000) and Spain (Jiménez 1991; Parkes 2006; Rius 2001).

While it is well beyond the scope of this paper to discuss the intricacies of how people have perceived and defined the direction of Mecca, suffice to say that *qibla* appears to have often been treated as a relatively fluid concept (King 1985, 1999; Parkes 2006). It appears on the basis of treatises on the subject and the results of analysis of various building and settlement alignments, that the intent to face Mecca is of primary importance. Secondary to this is the importance of facing an appropriate interpretation of that direction which might correspond to (King 1985; Parkes 2006; Rius 2000):

- a) a cardinal or intercardinal direction (e.g. west or northwest in Australia);
- b) a precise mathematical calculation based on longitude and latitude;
- c) a folk interpretation based on astronomy, wind directions or local geography.

FIELDWORK

The preceding summary of some of the more explicit ways in which Islam might be evidenced archaeologically demonstrates some of the potential that exists for identifying cameleer sites and interpreting the evidence in terms of religious practices. Both these themes have been a central component of the research on which this paper is based. Fieldwork was conducted over two seasons, the first in 1997

and the second in 2007. Initially the research aimed to characterise the archaeology of Muslim cameleer sites in terms of settlement location, types of structures evidenced, artefact assemblages, and location, orientation and styles of graves. During the second season however, the aim was to gain further understanding of the sites in terms of Islamic practices and to evaluate whether these sites might fit into broader global patterns for Islamic landscapes.

The 1997 field season

The initial focus of research was on recording the larger known cameleer sites and characterising the archaeological signature. Surveys of architectural remains, surface scatters of artefacts and graves were undertaken at Broken Hill in New South Wales and Beltana, Farina and Marree in South Australia (Figure 1). An additional component of the 1997 research was identification of the location of a fairly substantial cameleer camp at Tarrawingee, north of Broken Hill, where only limited historical information was available regarding the site. Tarrawingee was thus used as a case study for testing the archaeological signature of the cameleers.

The 2007 field season

In 2007 all of the previously recorded sites were revisited and an additional survey was undertaken along the Oodnadatta Track between Marree and Oodnadatta. The aim of revisiting sites was manifold. First, there was the interest in how these relatively ephemeral and fragile sites had been impacted over the past ten years by natural processes such as wind and water erosion and cultural processes such as tourist visits. Second, there was the question of what new insights might be yielded from recent research into Islamic landscapes. Third, and related to the second point, was the question of whether there was also additional field data that needed to be collected.

During the 2007 field season additional data was also collected from minor cameleer encampment sites at the Overland Telegraph Stations at Strangway Springs and The Peake and from a large cameleer camp at Oodnadatta. The aim of this aspect of the survey was to use the results from Oodnadatta to augment the database of information regarding major cameleer settlements. Survey work undertaken at Strangway Springs and The Peake was a preliminary exploration of whether the observations made at the larger cameleer sites might aid in identification of the smaller and even more ephemeral sites. This component of the fieldwork is the first step towards undertaking a nation wide analysis of cameleer archaeology; in particular it was a means of exploring the potential for identifying minor cameleer camps, such as those associated with the destination points on supply networks and the intermediary sites along transport routes.

PRELIMINARY RESULTS – ARCHAEOLOGICAL SIGNATURES

Field results suggest that cameleer sites are readily identifiable in terms of their location, architecture, spatial organisation and artefact assemblages. It is the combination of these lines of evidence that enables archaeological identification of a cameleer site.

Settlement location

Cameleer camps were normally separate from the main settlement and adjacent an area suitable for depasturing the camels. At Broken Hill the main cameleer settlement was located 2.5 km to the north of the town centre, an area that still

corresponds to the northern limits of the city. Similarly, the settlement at Farina was located at some distance to the east of the main town. In this instance though the cameleer camp was physically separated from the European settlement by the railway line and was situated such that the town and the camp were not intervisible. At Beltana, the cameleer settlement was physically separate from the main homestead and, as was the case at Farina, it was not visible from the homestead. In contrast, the cameleer camp at Marree was situated relatively close to the main town and was clearly visible; in this case however, a clear divide was established by the railway that separated the main town from the ghantown to the northeast.

Site location at Tarrawingee conformed to this pattern. In this case the cameleer camp was located 700 metres to the east of the main town, situated at the base of a low ridge, adjacent pasture on the opposite side of the railway. The location of the camp was such that the ridge provided shelter from westerly winds while also visually secluding the settlement from the main town. Similarly, the Oodnadatta cameleer camp was located two kilometres to the northwest of the town, although in this case the two settlements were clearly intervisible.

Architecture

The nature of the archaeological evidence for most of the dwellings and other structures of the cameleers is particularly ephemeral. Exceptions to this are the stone buildings evidenced at Beltana, which appear likely to be the remains of structures provided by Thomas Elder for his employees (Parkes 1997). At sites such as Broken Hill, where settlement as a whole has expanded, traces of the cameleer settlements have been all but lost under modern suburban development. Only the mosque site at the northern cameleer settlement now marks the location of what was once a fairly substantial camp. At Marree, the continued nature of settlement within the ghantown has similarly obscured some of the evidence for the original settlement. In this case though, there is continuity in occupancy with descendants of the cameleers now living there.

By and large, congregational mosque sites tend to be some of the best preserved features at cameleer sites, which is probably due to the fact these were places used by the whole community on a weekly if not daily basis, as opposed to individual camp spots that might be used much more infrequently as cameleers visited various settlements. Marree is host to the remains of one of the oldest known mosque sites in Australia. The mosque in question was privately funded by Abdul Kadir and built on his land to the north of the Marree ghantown. This site is evidenced today by a roughly square platform of clay measuring approximately 10m by 10m metres with a perimeter of stubs of wood that appear to be the remains of wattle and daub walling (HRAA 2002), a construction method that is relatively common throughout the region of northern India, Afghanistan and Pakistan. The platform is oriented towards 290°, a suitable qibla alignment in an Australian context and faces out towards a low ridgeline visible on the horizon. The qibla wall itself is clearly indicated by the remains of a rounded alcove forming a mihrab in the north-western wall.

At Farina and Tarrawingee there are the remains of relatively permanent structures and transient campsites. The more permanent structures tend to be larger and are evidenced by the presence of building materials such as corrugated iron, timber and in some cases stonework in the form of floors, hearths or foundations. The building remains are still relatively ephemeral, particularly at Tarrawingee, where most features appear to relate to more transient occupation (Parkes 1997). The more ephemeral features at Farina and

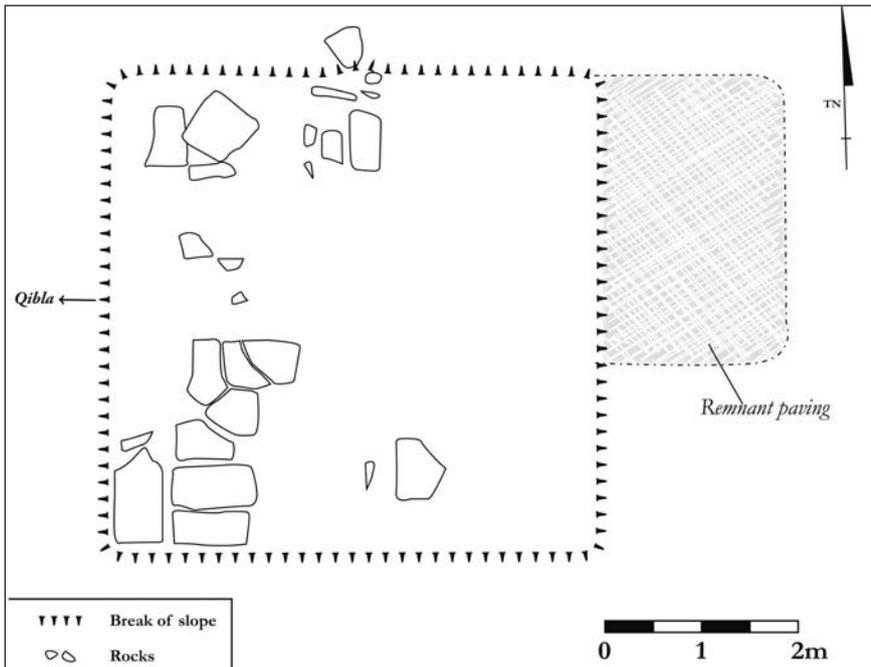


Figure 2: Site plan of the mosque at Farina.

Tarrawingee fall into two basic categories, those that have evidence of at least semi-permanent features such as hearths, and subtle traces of transient camp spots evidenced by levelled areas or platforms associated with a scatter of artefacts and in some cases a number of sizeable stones on or adjacent to the platform. At Farina, the site has been heavily impacted by works associated with the road to Marree; one of the more substantial and better preserved features however is a large platform with a stone paved floor across the western half (Figure 2). This feature is located centrally on the top of the hill where the cameleer camp at Farina was situated. The prominent central location of this feature, together with the fact that it has stone paving across the western, or qibla side, indicates that this was probably the mosque, which was likely to have been one of the most substantial and permanent structures.

Archaeological remains of the cameleer camp at Oodnadatta are similar to those at Farina and Tarrawingee. This site is larger and better preserved than those at Farina and Tarrawingee, comprising the remains of over twenty structures, most of which are evidenced by level areas cleared of the natural gibber crust with numerous larger stones scattered around the perimeter (Figure 3). These appear to be



Figure 3: Example of a camp site at Oodnadatta.

the remains of the more transient campsites, the large stones presumably used as anchors around the edges of tents that might have been regularly erected on the same spot as cameleers returned to the base camp at Oodnadatta. There are also a small number of more substantial building remains, some of which have partial stone footings and earth platforms that have been built up or excavated into the ground. Most of the building remains and camp spots at Oodnadatta are rectilinear and have an alignment of between 272° and 67° along their long axis.

Artefact assemblages

In general terms the cameleer sites are notable for the relative scarcity of artefacts. The composition of the artefact assemblage tends to be dominated by items associated with pieces of saddlery such as buckles and parts of saddle frames; other similar items include camel

bells, hobbles, camel licence plates and water containers. Other characteristics of the artefact assemblage include a relative scarcity of alcohol containers and comparatively high numbers of fish tins (Parkes 1997, 2001). The low numbers of alcohol bottles presumably relates to the prohibition of alcohol under Islam. The prevalence of fish tins might also be explained by Islamic rules concerning diet as the rules for halal food do not apply to fish (Muslim n.d.:DCCCXIII; Rodinson 1965), tinned fish would thus be one of the few commercially available sources of protein that was acceptable for consumption by Muslims.

It has also been noted during the most recent fieldwork season that there is often a more noticeable presence of Aboriginal stone artefacts at these sites than what might be observed across the associated European settlements. This is tentatively interpreted as potential evidence for contemporaneous use of these sites by Aborigines and cameleers. Historical documents would certainly suggest a high degree of interaction between these two groups (Stevens 1989; Jones and Kenny 2007), which is evidenced today by Aboriginal descendants who continue to identify strongly with the cameleer heritage.

Graves

At Broken Hill, Farina and Marree the cameleer graves are located within the general cemetery and are identifiable by the fact that they are located in the northwest (qibla) corner of the cemetery, with the graves aligned such that the long axis is towards the north or northeast. At Beltana and Oodnadatta the cameleer graves are located in a separate cemetery. In the case of Beltana the graves are located in a drainage line to the southeast of the cameleer settlement, while at Oodnadatta they are located on the northwestern limits of the cameleer camp.

There is enormous variety in grave markers across the sites and even within individual cemeteries, many of the styles can however be linked with particular tribal customs (Parkes 1997; Sharif 1972; Stevens 1989). Where present, the headstone is at the northern end and a stone or piece of wood at the foot of the grave is also common. This form of burial and grave marking is in contrast to Christian graves, which are usually aligned east-west with the headstone commonly at the western end. Furthermore, the practice of placing a marker at the foot of the grave is relatively rare for Christian burials.

Although it is noted that there are cemeteries and regions in which a footstone is common, the style is quite distinct from that of Islamic burials. Christian footstones are normally significantly smaller than the headstone (commonly less than one third the size), and within the context of nineteenth and early twentieth-century Australia the presence of footstones is usually associated with formal engraved stones. With Islamic burials, the size differentiation between the head and foot markers is usually not so distinct, and often neither the head nor the foot of the grave will have any form of inscription (Figure 4). Essentially, Christian and Islamic graves in an Australian context are distinct in terms of both their orientation and the way in which the burial is marked.



Figure 4: Example of a grave at Farina.

Other common forms of grave marker include large mounds of white quartz, arched headstones devoid of obvious Christian symbolism and wooden railing surrounds that appear to be a regionally specific style known as a *jenaza bier* (Parkes 1997; Stevens 1989). Other versions of the *jenaza bier* include the placement of iron beds over a grave, or at Marree the use of cots to mark children's graves.

Camp Sites

Housing and other buildings at cameleer sites appear to fall into two basic categories:

- a) transient camp spots associated with locations used on a sporadic basis by individuals who have a family or other permanent base in another location;
- b) permanent or semi-permanent housing, mosques and animal yards that are either used continuously by family or on a sporadic basis by cameleers.

The second category of site is what is likely to be better documented. Sites with relatively permanent infrastructure occurred at railheads and other major distribution points such as Beltana, Farina, Marree, Oodnadatta, Broken Hill and Tarrawingee. These are the sites that are attested to historically and they are locations that contain evidence for both transient and more permanent structures and in most cases, cemeteries with a collection of graves for cameleers and their families.

Given the nature of their work, transporting goods to and from these sorts of locations, it is expected that there should be a number of more minor encampments along various travel routes and at locations where supplies were commonly taken in and out, such as pastoral and telegraph stations. Information concerning these sites is generally sparse. At this stage investigations have only been conducted at some of the more obvious locations likely to have evidence of the cameleers,

such as telegraph stations between Marree and Oodnadatta. Two sites in particular, Strangway Springs and The Peake appear to have good evidence of cameleer activity.

Both of these sites comprised relatively small settlements that would have been served to some extent by cameleer trains. Neither of the sites however is likely to have been used as a substantial cameleer camp, so they are unlikely to contain evidence of permanent or even semipermanent dwellings. In both cases there are areas that are separated both spatially and visually from the main settlement, where traces of camping activities are evidenced adjacent to areas suitable for grazing. While the possibility remains that these are features that relate to European teamsters who were supplying the settlements, from what has been observed elsewhere, these groups would normally camp closer to the settlement, that is, if they weren't staying at a hotel or similar facility. At The Peake there is also evidence of a line of stones and traces of a platform on the lower slopes of the ridge that is cardinally aligned with the stones defining the western side, while on the eastern side there is a small spring (Figure 5 – Feature 1). A tentative preliminary interpretation of this is that this could be the remains of a mosque, as the nature of the slope is such that occupation would have been uncomfortable without cutting a more substantial platform into the side of the hill but the movements of prayer could be undertaken relatively easily, and water is easily accessible on the non-qibla side, which is the normal layout for a mosque with the faithful entering the sacred space of the mosque from the side opposite Mecca after first completing their ritual ablutions.

Strangway Springs is a pastoral site established in the mid nineteenth century that has been the subject of research into culture contact between European settlers and the Indigenous Arabana people (Paterson 2008). The site also has importance in the context of the cameleers as an Overland Telegraph Station. The results of a preliminary survey at this site in 2007 indicate that the probable location of the cameleer camping area was approximately 150 m northwest of the head station. This appears to coincide with the area between Indigenous sites S240 to the north and S251 to the south that were recorded by Paterson (2008:71–96). Essentially the site is part of the complex of campsites to the west of the head station and is similar to the Aboriginal camping areas in that there are ephemeral traces of hearths and sparse scatters of historical artefacts such as fragments of glass and metal. Unlike the Aboriginal sites however, there are very few if any stone artefacts in association with these features.

Additional evidence that appears to potentially indicate a cameleer presence at Strangway Springs is found at the station cemetery. Paterson (2008:82) noted five graves situated to the west of the head station, two of which have headstones and are known to be the final resting place of European settlers who died during the 1890s. During the 2007 field season a total of seven graves were identified at this cemetery. These comprise at least three Christian graves (aligned between 276° and 291°, with the headstone at the western end), including those of the two individuals described by Paterson and at least four graves that are aligned to between 1° and 36° along their long axis. Three of these north-south graves are marked by mounds of stone and one has remains of a wooden fence around it similar to the *jenaza bier* style of grave marker that is so common on cameleer graves. What is also interesting about this cemetery is that the burials are all on an old mound spring, which is a somewhat unusual location for a Christian cemetery but a topographic setting that fits well with Islamic symbolism (Parkes 2006). Furthermore, some of the apparent cameleer graves, including the *jenaza bier* example, are located right on top of the mound, while the Christian graves, two of which date to the 1890s, are situated at the eastern and western extremities of the mound. It thus appears that the choice of

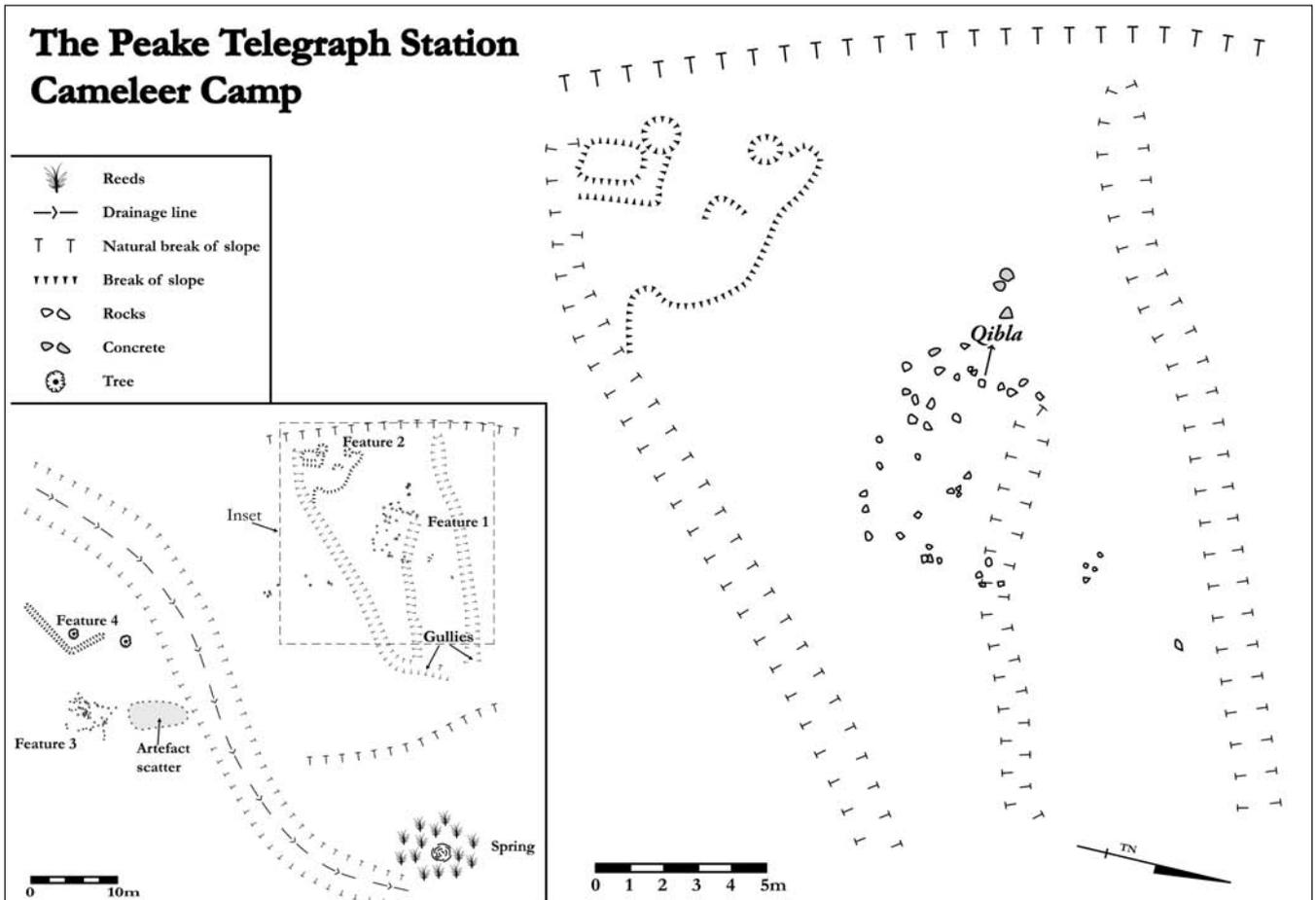


Figure 5: The Peake site plan.

burial area may well have been determined by the cameleers and subsequently used also by Christian settlers. There is also the possibility that one or more of these graves relate to the burial of Indigenous people living on the station, however the grave alignments together with the presence of a jenaza bier style grave marker can be considered relatively strong evidence for a cameleer presence.

Archaeology of qibla

On the basis of field results from the various cameleer sites surveyed thus far, there appear to be quite deliberate alignments and overall spatial layouts for domestic architecture as well as the mosques and graves. Primarily there is an organisation of space relative to the direction of Mecca, with most structures oriented such that one of the axes is aligned towards the northwest, and graves normally located in the northwest corner of a cemetery and/or to the northwest of the cameleer settlement. Of itself this is not a surprising result, what is however intriguing is what the archaeology reveals about the ways in which the cameleers perceived religious space and the ways in which they determined the direction of Mecca.

The focus of research thus far has been centred on mosques and graves, as these are recognised as features that usually have a very deliberate symbolic alignment. In both cases orientation is such that the individual is facing Mecca; in the case of mosques, space is organised such that parallel lines of worshipers are facing the qibla, while graves are oriented so that the deceased may be laid on their right hand side with their face looking towards the qibla. A question remains in

both cases: how did the cameleers work out where Mecca is relative to their location?

Within Australia there are very few sites that have a mathematically correct alignment, which is in keeping with trends in qibla alignments across the globe; technically correct alignments are relatively rare (King 1985, 1993, 1999; Parkes 2006). Nonetheless, there is evidence to suggest that the cameleers might have been engaging in relatively sophisticated methods of determining qibla. At the mosque in Broken Hill for example there is a metal item (ca. 60 cm high) that appears to be a form of quadrant that could have been used in a navigational context for determining longitude and latitude, as well as for determining the appropriate times for prayer (Figure 6). The size of this item and the fact that it has a base plate with pegs for leaving it in the ground suggests that it was:

- used in the local Broken Hill area rather than transported as a navigational aid on expeditions or transport routes;
- left temporarily in the ground but given the length of the foot pegs unlikely to have been left permanently in one place;
- suitable for transport over short distances where the device might be used for determining qibla and/or prayer times.

As with much of this research, analysis of this item is still at a preliminary stage, however, it appears likely that the quadrant was used at the very least for determining prayer times at one or both of the congregational mosques in Broken Hill. In addition it is plausible that it was used to aid in the choice of orientation for the mosques and the graves at the local cemetery.

A similar device has been found in Western Australia in



Figure 6: *Quadrant in the Broken Hill mosque.*

association with the Canning Stock Route (Philip Jones pers. comm. 2008), an infrastructure project that the camels and their handlers were instrumental in establishing (Lee 2003). In that case the item appears to be a more portable device that was hand held, apparently a basic form of octant, which would presumably be used primarily in a navigational context. The question with these items is whether they are unique to the cameleers or whether they were commonly used by other members of the transport industry in the Australian interior. That is, are these items that were commonly used by European teamsters as navigational aids, or are they items that are peculiar to the cameleers and potentially associated more with religious activities than navigation between settlements?

At a more basic level, features in the local landscape can be used to orient oneself; it is this sort of orientation that might be expected to be evidenced in and around a given settlement.

The basic principle is that a place such as the mosque might be oriented with some care and careful calculation, possibly including the use of items such as those described above. Individuals attending prayer at the mosque who then want to find a simple way of replicating the qibla might:

- a) use a compass to define the direction of prayer at the mosque and then use the compass to orient themselves in other locations such as at home or in the cemetery;
- b) note the location of landmarks on the horizon relative to their position when at the mosque (e.g. a mountain that is in front, on the left, right or behind).

These two simple methods of replicating qibla should be evidenced in different ways. If a compass is used to replicate qibla this would be evidenced by graves and houses on the same alignment as the mosque, while those aligned to local landmarks would be aligned to a slightly different compass bearing, given that as one moves through the landscape the relative location of landmarks on the horizon changes slightly, but would have the same relative orientation to particular landmarks.

Again analysis of field data is ongoing but evidence from Farina in South Australia indicates that both techniques are likely to have been in use. One of the most intriguing examples comes from a comparison of the alignment of the ruins of the mosque at Farina and some of the graves in the cemetery. When standing at the mosque site and facing the qibla, (which appears on surface evidence to be about 269°), there is a fairly prominent mountain on the left in an otherwise fairly flat landscape (Figure 7). In the cemetery, where incidentally the cameleer graves are located in the northwest, or the qibla corner, there are five obvious graves. The qibla at these graves varies from 267° to 291° . What is of interest is that there is at least one grave on the same compass bearing as the mosque and one grave aligned so that the long axis is directed to the mountain previously mentioned (Figure 8). That is, the deceased would be laid out with their feet towards the same landmark that is on the left of anyone standing at the mosque.

Obviously this research is in fairly early stages of development and this is only one example of potential qibla replication. Nonetheless, research into Islamic sites in other parts of the world combined with what is known regarding the ways in which the faithful might orient themselves, indicate that these results follow broader trends in Islam (King 1985, 1993; Parkes 2006).

Similarly, analysis of domestic space is not complete, however preliminary findings suggest that there is a degree of



Figure 7: *View perpendicular to qibla (i.e. to left) from the mosque at Farina.*

consciousness with regard to qibla. For instance, there is an apparent trend in alignment of the long axis of dwellings perpendicular to qibla, similar to that of mosques and graves, with the longest side facing Mecca.



Figure 8: View perpendicular to qibla (i.e. to left) from one of the graves at Farina. Inset at bottom right indicates the general view of the grave which is also shown in Figure 4.

CONCLUSION

Generally, the archaeological evidence indicates that the cameleers lived quite separately from the European settlers and were often camped in areas that were ‘hidden’ from the main town, or separated by a clear boundary such as the railway line. There is however some evidence to suggest that the cameleers might have shared these camps with the local Aborigines, which would explain why it was so common for intermarriage between these groups and why there is a continued connection between Aboriginal communities and the cameleers.

Archaeological analysis of cameleer sites confirms that these people were essentially living a nomadic lifestyle. The cameleer settlements were comprised largely of temporary structures, such as tents, that leave fairly subtle archaeological traces. Artefacts associated with these sites are generally sparse and are characterised by saddlery and other camel

specific equipment, relatively low numbers of alcohol bottles and comparatively high numbers of fish tins, both of which can be explained in terms of Islamic rules concerning diet. Analysis of cameleer artefact assemblages is only in the early stages; it is based exclusively on the results of surface survey. Further study of artefact assemblages from cameleer sites in other parts of the country is needed to test these results and eventually it is hoped that these investigations will be augmented by excavation of select sites.

Perhaps some of the most exciting results relate to the findings on how qibla was perceived in Australia. There appear to be clear trends in the alignments of mosques, graves and domestic structures that indicate a preference for north-westerly alignments. This suggests that the cameleers were not simply using a cardinal direction for qibla, although that might be the case in some instances. Instead there is evidence to suggest that some fairly sophisticated astronomical techniques were being used. There is also evidence to suggest that local landmarks might have been used to replicate alignments, as appears to be the case in the cemetery at Farina.

What remains to be investigated are the patterns in qibla alignments across cemeteries and domestic structures and a more detailed analysis of the methods used to align mosques. Are there for instance similarities in interpretations of qibla for particular types of graves? Are there differences in alignments for the more ephemeral structures as compared with the permanent structures, and how do these compare with the alignments of other features such as animal yards? Essentially there is a great deal that remains to be investigated.

Despite the preliminary nature of these findings it is clear that the archaeological traces of the cameleers have the potential to provide a much more complete picture of their lives than is currently available through historical records. Moreover, there is the potential to discover how some of the first Muslims in Australia adapted to the local landscape and created a setting appropriate for religious life.

ENDNOTES

1. All Quranic references are based on Pickthall's (n.d.) translation.

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ABBREVIATIONS

NSW LANP – NSW Legislative Assembly Notes and Proceedings

AADA – Austral Archaeology and Donovan and Associates

AAHR – Austral Archaeology and Historical Research Pty Ltd

HRAA – Historical Research and Austral Archaeology Pty Ltd

PRSS – Personal reminiscences of Samuel Stuckey

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