Roman Military Bases as Social Spaces

Thesis submitted for the degree of
Doctor of Philosophy
at the University of Leicester

By
Anna Halina Walas

School of Archaeology and Ancient History
University of Leicester
March 2015
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Image: a 3rd Century Graffito of the military base at Bu Njem
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Abstract

This thesis examines socio-spatio-temporal practices in Roman military bases between the first and third centuries AD. The thesis analyses archaeological, documentary and textual evidence in order to understand how the spatial setting of the military base was underpinned by socio-temporal practices associated with those built spaces. The archaeological data consists of two case-study military bases informed by insights from two additional sites. Elginhaugh provides the best known plan of a Roman military base in the Empire and a well stratified finds assemblage. Bu Njem, at the time of its excavation, was preserved in places to the level of the first storey ceiling and is accompanied by an archive of military documents recording the activities of the troops. The analysis is complimented by insights from Inchtuthil, as the best explored plan of a legionary base and 2nd century A.D. Vindolanda, with its tablets providing a wealth of details about the society of the base.

Having identified the gap in our understanding of the role of socially constructed space in the study of Roman military bases, this thesis investigates the archaeological and textual evidence for patterns of movement and presence within the base, the temporal variation in social activity in a military base and the way both community and institution of the army functioned in space. The topic of social use of space in the context of the Roman military bases has seen some attention in recent years, but has rarely been addressed as a primary research aim. No one has attempted to do it through integrating all available sources of data: literary data, the documents, the plans of sites and the artefactual record.

The thesis investigates presence and movement understood as social practices; time understood as a socially constructed phenomenon and an element giving rhythm to activity within the base; and social networks, stratification and hierarchy as vital elements of the social experience of a given place. The thesis argues that these socio-spatial practices had deeper meaning. The thesis traces normative, disciplinary, ideological, hierarchical, religious and infrastructural socio-spatial practices. The thesis concludes with how these forms of socio-spatial practices encapsulated cultural concepts, social relationships and their proper spatial and temporal settings.
### Abbreviations of Reference Works and Journals

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</tr>
<tr>
<td>AE</td>
<td>L'Anné Epigraphique, 1881-</td>
</tr>
<tr>
<td>ANRW</td>
<td>Aufstieg und Niedergang der römischen Welt, 1972-</td>
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<tr>
<td>Arch.J.</td>
<td>Archaeological Journal, 1844-</td>
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<tr>
<td>BAR</td>
<td>British Archaeological Reports (IS = International Series; SS = Supplementary Series)</td>
</tr>
<tr>
<td>BMP</td>
<td>Fink, R.O. (1971) Roman Military Records on Papyrus, Cleveland (including the British Museum Papyri)</td>
</tr>
<tr>
<td>ChLA</td>
<td>Chartae Latiae Antiquiores, 1954-</td>
</tr>
<tr>
<td>CIL</td>
<td>Corpus Inscriptionum Latinarum, 1863-</td>
</tr>
<tr>
<td>CRAI</td>
<td>Comptes rendus de l’Académie des Inscriptions et Belles-Lettres, 1853-</td>
</tr>
<tr>
<td>IRT</td>
<td>Inscriptiones Romaines d’Tripolitania, 1911-</td>
</tr>
<tr>
<td>JRA</td>
<td>Journal of Roman Archaeology, 1988-</td>
</tr>
<tr>
<td>JRME</td>
<td>Journal of Roman Military Equipment Studies, 1990-</td>
</tr>
<tr>
<td>JRS</td>
<td>Journal of Roman Studies, 1911-</td>
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Caire.

OJA  Oxford Journal of Archaeology, 1982--


PSI  G. Vitelli et al. (eds). Papiri greci e latini, Florence, 1912--


P.Oxy  The Oxyrhynchus Papyri 1898-. London, Egypt Exploration Fund/Egypt Exploration Society


RMR  Fink, R.O. (1971) Roman Military Records on Papyrus, Cleveland

SB  F. Preisigke et al., Sammelbuch griechischer Urkunden aus Ägypten, Strassburg/Berlin/Leipzig 1913--


TRAC  Theoretical Roman Archaeology Conference Proceedings, 1994--

YCS  Yale Classical Studies, 1920--

ZPE  Zeitschrift für Papyrologie und Epigraphik, 1967--
### Abbreviations of Works of Classical Literature

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<td>C. Iulius Caesar, De bello Gallico</td>
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<td>Tacitus, Ann.</td>
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<td>Vegetius, Epit.</td>
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Chapter 1
Introduction: Roman Military Bases as Social Spaces

1.1. Introduction

This thesis examines spatio-temporal practices through two archaeological case studies and an examination of the documentary record in order to understand better how Roman military bases worked as lived social spaces. The topic of social use of space in the context of Roman military bases has seen some attention in recent years (Allison 2013: 209-11, Collins 2012, Gardner 2007), but has rarely been addressed as a primary research aim (with a notable exception of Allison 2013). To my knowledge, nobody has integrated all available sources of data; literary and sub-literary texts, the plans of sites and the artefactual record. Looking at the different types of evidence is important to see whether the different types of data fit together and if so, how, while avoiding leaning towards one kind of data more than others. The thesis is also timely, with similar interests and theoretical developments in research on Roman cities appearing in recent years (Laurence and Newsome 2011). This thesis pursues the issue of social use of space in more detail through paying particular attention to the plans of smaller military bases, including auxiliary bases and vexillation bases. The rationale for the selection is that the plans of smaller bases tend to be more complete, simpler and more manageable for developing my approach.

To obtain as complete as possible an image of the activities and the use of social space in military bases, I examine two case studies: An auxiliary base at Elginhaugh and a vexillation base at Bu Njem. I supplement my observations with insights from two further sites providing very valuable information for the aims of the study. These further studies include an auxiliary base at Vindolanda and a legionary base at Inchtuthil. Vindolanda provides important context that allows exploration of the social dimension of use of space through the
evidence of named individuals, which is impossible to achieve in the two main case-study sites. The data from these sites are partial and unsuitable for formal analysis as main case studies - either due to the size of the base (Inchtuthil), or limited knowledge of the plan from the period corresponding to the texts (Vindolanda). These two sites provide snapshots into the lived experience of a military base that inform my approach to the two main case studies presented in Chapters 6-7. In Chapters 3-4, utilising documentary and literary data, evidence pertaining to the activity of auxiliary units, legions and vexillations in their bases is investigated.

Specifically, my research identifies and seeks to examine themes crucial for the understanding of how military bases functioned as social spaces. These include movement and presence within the base, temporal variation to activity and the way both community and institution of the army functioned in space. Looking at the functioning of community in space is important in the context of a long tradition of research focusing on Roman military bases as primarily accommodating the institution and the more recent interest in the military as a community (Goldsworthy, Haynes et al. 1999), but only very recently studied in the context of the base as the social space.

The body of archaeological data consists of two case-study sites. Elginhaugh, situated 30 km south-west of modern Edinburgh, is a short term Flavian occupation (79-87A.D.). Its simple two-phase stratigraphy and large area excavation with an almost fully excavated plan present an opportunity to study relationships between buildings, rather than buildings in isolation and to ask questions of the road system in the base. The short occupation with little in the way of later modifications allows testing for how well archaeological methodologies developed in the study of Roman cities can perform on ephemeral military sites. The additional strength of Elginhaugh is its artefactual record with well identified phasing associated with occupation, destruction and demolition. The analysis of the artefactual data opens up the potential to test how well timber sites with a very short sequence do under such scrutiny.

Bu Njem is a chronologically later case study (201-263 A.D.). The base differs from Elginhaugh, in the sense that it was not used by a particular unit, instead
being an outpost destination with an intriguing history of occupation including an auxiliary regiment, a vexillation and some cavalry. Its plan is not known in as much detail as that of the previous site. However, the preservation of buildings still standing on the ground, the unique benefit of a fragment of the unit’s archives and a graffito depicting the façade of the base (Rebuffat 1989: fig.2) provide types of information unavailable for the other site. The finds record was too limited to incorporate in the study. The published records of the French excavations do not provide a sufficient record of findspots and their phasing. The finds were targeted too selectively, focusing on epigraphy and pottery (Rebuffat 1967-1977).

Investigation of the two case studies is prefaced by insights from Inchtuthil and Vindolanda in Chapter 5. Inchtuthil (82-83 A.D.), similarly to Elginhaugh was a Flavian military base situated in Scotland (Pitts and Joseph 1985). In contrast to Elginhaugh, it was occupied by a legion and was therefore a much bigger social hub, making it a good contrasting case study for the data obtained from the smaller, auxiliary bases. While the plan is admittedly heavily reconstructed, the site still offers the best plan of a legionary fortress in Britain and is one of the best known in the Empire. As such Inchtuthil provides exceptionally complete overall plan, which is of great importance for this study. The data from the Vindolanda tablets (Bowman 1983, Bowman and Thomas 1994, 2003, 2010) dated to 1st-2nd centuries A.D., supplemented with the limited knowledge of the archaeology of the base from the corresponding period, provide the best source of information about individuals inhabiting a Roman military base. The data provide a unique insight into social interactions in a military base and an opportunity to tie people and their interactions into physical spaces through the written evidence. Inchtuthil and Vindolanda are studied in detail in Chapter 5 in order to discuss how social networks in a military base might have mapped onto physical spaces, and to underline the vastly different social conditions of living in a large legionary military base versus a smaller, auxiliary base. The sites complement the data obtained from Elginhaugh and Bu Njem by throwing light on the social use of space within military bases in a way that the other two case studies are unable to provide.
The sub-literary, literary and iconographic sources are integrated into the framework and their theoretically informed interrogation is aimed to put flesh on socio-spatial practices. This can then be tested against the bones of site plans alongside a more strictly archaeological investigation of the spatial conformation and artefactual record of a site.

1.1. Research questions

How did Roman military bases function as lived/social spaces?
What sort of movement and presence can we expect to have taken place within them?
How did temporal variation influence the activity?
How did the military community/institution function in space?

1.2 Aims of the thesis

From these research questions, I identify a set of three specific interrelated aims as core to this research project. These are interlinked and focus on different aspects of what is defined as social use of space. The concept of social use of space and the theoretical premise behind the key aims are explained in the theoretical framework (section 2.2).

1.2.1. Patterns of movement and presence

The aim is to identify where, and in what context, different members of the military community were likely to frequent. To tackle this question, the thesis focuses on areas of presence and paths of movement of individuals and groups within the military base. All three types of data – architecture, finds assemblages and written evidence - have the potential to shed light on what possible hotspots of social activity may have been: the literary and sub-literary data in the context of presence and movement regulated by the institution, such as on duty presence and movement and the unauthorised activity (incorporating movement such as desertion and presence, such as intrusion); the artefactual evidence (from the uselife layers for the presence of people as evidenced by the material lost and discarded) and in the configuration of sites through the affordances of the space, the route ways, blockages and modifications to the physical space. The concepts of movement and presence
are developed in Chapter 3 alongside the analysis of the written material. There
I present the case for distinguishing key categories of socio-spatial practices. These are normative and disciplinary practices, practices embodying hierarchical and ideological concepts, religious socio-spatial practices and infrastructural practices. These categories are investigated in the context of documentary data in Chapter 3 and in the context of the archaeology of case study sites in Chapters 6-7.

1.2.2. Temporal variation to activity

The second aim is to provide temporal context for the activity in the base. I aim to distinguish both short-term and long-term cycles of activity in a military base and the resultant variation in the type and intensity of activity, a sense of changes to use of the base and its parts through the year and the day. An important part of this is to distinguish variation between campaign context and that of units stationed in hiberna as two distinct modes of functioning, likely to influence movement and presence in the base. The issue of socially constructed time and temporal variation to the social experience of a Roman military base are developed in Chapter 4 and where appropriate, alluded to in Chapters 5-7.

1.2.3. Social networks in space

The third aim is to investigate how social networks might have worked within the physical space of a Roman military base. Social networks, stratification, military rank, relations of power (also of physical power) affected presence and movement in the base both in the context of the serving personnel and the extended military community. Social parameters of space are a topic of current research on modern cities (Fredrich 2009, Hillier et al. 2009, Fyfe 1998, Hillier 1996, Hillier and Shinichi 2005, Tumminelli, O’Brien et al. 2011, Whyte 1980) seeking to trace the physical indicators of the social experience of a place (safety, familiarity and avoidance of certain areas). The social use of space includes the relationship between the space of the base and the social networks within it and the way community maps on and transgresses the institution.
This research aim is tackled in case-studies in Chapters 6-7 through an analysis of case-study archaeological sites of Bu Njem and Elginhaugh. The question is answered through investigating areas of increased social presence (hotspots for people to meet) and spaces of decreased social presence, sometimes due to these places being exclusive. The relationship between social networks and the physical space of a military base is also developed in Chapter 5. This chapter investigates plans of military bases in the context of modern military sociology and through an adaptation of a psychological model for the extent of social networks (Dunbar 1998). The models are tested against epigraphic evidence of networks in the Roman army.

The three dimensions of the spatial, the temporal and the social interlink to produce a lived space. Each of the three aims addresses one of these dimensions and proposes how archaeological and written records can be studied to pursue the archaeology of social space in the context of the Roman military base. Such lived, social space is more than a passive background for the social, temporal, cultural and ideological processes. In the thesis, I consider the space as an active agent of these processes, which, instead of taking place in isolation from each other, interlink.

The chronological span of the data requires a note on the extent to which it can cause an issue. Especially vital is the question whether the Republican data, drawn on in Chapters 3-4, reflect the practice of the Roman armies of 1st – 3rd centuries A.D. The Republican data provide unique insights into social practices which, if the thesis depended solely on the Imperial material, would have been completely lost. Having said that, these unique insights need to be treated with extreme caution and it is best not to extrapolate parallel practices directly onto the Imperial period. I draw on them as windows into the society and the traditions from which the later Imperial practices grew. The Republican accounts present events which often would take place in structures akin to ephemeral tent-pitched marching camps, rather than timber or stone built permanent bases of the 1st – 3rd centuries A.D. The Republican material serves as a cultural parallel, not direct evidence, with the notable exception of the watch system which persisted into the middle Empire.
A related issue is that of how far one can expect the changes between 1st century A.D. and 3rd century A.D. (as the dates for the two main case study sites) to reflect on the social use of space in military complexes. As the work on the thesis progressed, I began to see the source of major differences in the social use of space within military complexes during the period studied in the thesis as relating to differentiated social (make-up of the unit), environmental (such as availability of light and heat), political and local (cultural) conditions, rather than solely chronological differences across a century or two. Many more case studies need to be looked at in order to answer the question of the importance of chronological variation. At this stage at least, it is perhaps more productive to see Elginhaugh and Bu Njem as windows into related military societies.

1.3. Description of the structure of the thesis

The thesis is organised into eight Chapters. Chapter 1 is a brief assessment of the main research questions and aims of the thesis, starting with a short description of the datasets and the objectives set out for this project.

Chapter 2 presents the research context and literature review. It introduces the past trajectories and the existing state of academic research on Roman military bases. These led to the formulation of the thesis questions and my theoretical framework. The methodological framework presented in section 2.3 has been designed with the sometimes complete and sometimes partial case study plans of sites in mind.

Chapter 3 introduces the concepts of presence and movement as spatial practices. The chapter discusses categories of presence and movement discernible from the literary and sub-literary data; the on-duty, off-duty and unauthorised types of activities. The chapter introduces data to illustrate the three levels of movement. The chapter finishes with a discussion of the social meaning behind the practices of movement and discusses social distance, understood as the perceived remoteness between different members of the group based on their differentiated social standing.
Chapter 4 presents the evidence pertaining to the relationship between space and time in the context of military bases as social hubs. Further supporting documents are introduced here to discuss time cycles of different length, from diurnal to yearly cycles. These would have framed the activity in the base and differed depending on time period and geographic location. Bu Njem and Vindolanda serving as examples of the phenomenon. The chapter concludes by presenting a model for cyclical functioning of a military base and the differences, or lack of thereof, depending on the geographical location and wartime/peaceful context of the site.

Chapter 5 discusses how multifaceted military communities may have worked in the context of the physical space of a military base. The chapter draws on military sociology and explores the significance of social distance through a consideration of Dunbar's number in the context of the number of men in a Roman unit at full strength. I deploy the method to understand better the social experience of being stationed in Vindolanda and Inchtuthil, two military bases which have a record, sub-literary and epigraphic, of the individuals from the unit. The chapter concludes by drawing out the differences between the social experience of a smaller auxiliary base and a larger legionary base. The chapter discusses the epigraphic data to throw light on possible significance of bonds recorded by stone dedications.

Chapters 6 explores the concepts of movement, presence, temporal variation to social activity and of social distance through the archaeology of Bu Njem. The chapter draws particularly on the data from the principia building, the bathhouse and the temple complex to explore the social use of space in the military base. The chapter also puts the Bu Njem ostraca in the context of the physical remains of the military base.

Chapter 7 looks at the same key concepts utilising the case study of Elginhaugh. With a well stratified finds assemblage, the analysis additionally addresses areas of activity within the base and the relationship between the deposited artefacts and the architecture of the base. The chapter concludes with an interpretation of selected areas within the base and refers back to the case study of Bu Njem where appropriate.
The final discussion follows in Chapter 8. It draws together themes developed throughout the chapters: On-duty movement and presence; off-duty; unauthorised activity; the temporal variation to the social life of a military hub; and social stratification and distance within the military societies. The discussion draws on the case studies of the archaeological sites and the written evidence to provide a coherent synthesis of the contribution of the thesis and present a forward vision for future research on the topic.
Chapter 2
Research Context

The objective of this thesis is to develop an understanding of Roman military bases as the spatial underpinning of military communities. This chapter begins with a literature review of past and current approaches to studying Roman military bases (section 2.1). I explore the impact of Eric Birley’s research on the archaeology of military installations (section 2.1.2) and the subsequent developments in fort archaeology (section 2.1.3 and 2.1.4). This serves to establish the gap in research which the thesis addresses (section 2.1.5). In section 2.2 I introduce key concepts and ideas which have contributed to the theoretical framework behind my approach to analysing the data. I particularly focus on the institution of the Roman Army (section 2.2.1), Roman military communities (section 2.2.2), and the theory behind the archaeology of social space (section 2.2.3), as these three elements are crucial to the theoretical framework behind this thesis. Finally, the chapter presents my methodology (section 2.3). Here, I discuss how I approached the analysis of sub-literary and literary sources (section 2.3.1) and archaeology (section 2.3.2), including artefact distribution (2.3.3). I also present here my datasets and their accessibility (section 2.4) and summarise the main points of the chapter in the conclusion (section 2.5).

2.1 Literature review

‘(...and while in some cases a problem special to politics or terrain will give importance to one frontier rather than another, the stress will fall according as the inquirer’s interests lie.’ Richmond (1955: 297).

The tradition of studying Roman forts is two centuries old. Much of this period was before researchers were conscious that archaeological theory was an essential part of scholarship. In the early stages, often implicit theories shaped the perception of Roman forts. First overt theoretical programmes focused on the frontiers and the armies on a scale larger than that of individual forts, with
often imprecise vision for how forts were to meet the agenda. The first section (2.1.1) presents this intellectual context, from which the interest in Roman military bases first emerged. The section explores the way the 1950s' research agenda utilised forts as a source of data. With time, archaeological scholarship developed both implicit and overtly theorised views of military bases. Yet only in the 1980s did the forts themselves become primary subjects of study agendas and of conscious theoretical debate, leading the speedy development in the 1990s and 2000s. I identify what was beyond the scope of the 1950s' research questions and how present approaches propose to tackle the gap.

2.1.1. The first Limeskongress and the post-1950s heritage

A symbolic event underlining the importance of the 1950s for creating research agendas was the first Congress of Roman Frontier Studies held in 1949 under the patronage of Eric Birley. The congress, designed to pinpoint general views about the Roman frontiers, brought together researchers from Britain and the German speaking countries for the first time after the Second World War (Birley 1952: v). Scholars spread information about foreign research (e.g. Frova 1952, Nash-Williams 1952), which was otherwise difficult in that period. Building on achievements of antiquarians, with links with epigraphy and history, these researchers set directions for further studies directly implanting limesforschung in Britain as Roman frontier studies. Many ideas, earlier unwritten or not yet fully formulated, were developed. This work, however, was uneven with some avenues of research better developed than others. Certain terms resting on misleading traditions were carried on from the antiquarian era and developed.

The term ‘limes’, the foundation of all military installation scholarship (limesforschung), is an especially good example of invention of terms in modern scholarship. This example also illustrates well how long it can take before the meaning behind some terms is critically re-evaluated against the evidence. Limesforschung, a term coined already in the XIX century (Freeman 1996: 465), was the study of frontier infrastructure. It drew on the antiquarian German predecessors Fabricius ‘the Master of Limesforschung’ (Birley 1952b: vii) and Mommsen. Limes, as the primary subject of the study, for decades seemed self-explanatory until 1980s (Isaac 1988) as a fixed, fortified line of military outposts.
linked with a road (e.g. Webster 1979: 46), comparable with modern examples. Isaac (1988: 124) found this interpretation contained false assumptions rooted in the formative period of the study of the Roman military. Latin terms introduced in modern scholarship made this problem of what were real terms and what modern extrapolations even more difficult to detect; limes Arabicus, limes Palaestinae, Severan limes, limes Germanicus, (Mayerson 1989, Parker 1980). Designed as technical collective nouns for a series of forts from one region (e.g. Laur-Belart 1952), they inevitably became region-specific signposts for back projection of the modern concept of a frontier. In the period when not much ancient history or archaeology was preceded by discussion about discourse, the word limes sometimes became a vehicle for uncritical concealed attitudes towards the subject - ‘Limes proper’ (Schönberger 1969: 159) or ‘true limes’ (Schönberger 1969: 151). Isaac (1988) shifted the perspective from uncritical back projecting of modern ideas to critically seeking the original usage and meaning of the term. This was influenced by the changes in more anthropologically oriented humanities of the late 80s (Johnson 2010: 102-121) and would hardly have been possible in the intellectual climate of earlier decades. The data led Isaac (1988) and Mayerson (1989) to suggest a more transient meaning of limes as a hinterland, in the 4th century being, casually used to describe a ‘frontier district’ in an administrative, not military way. Fundamentally, however, Isaac persuasively argued that limes was always distinct from the frontiers of the Empire and that it was never conceived to have been something man-made (Isaac 1988), completely unlike the line of military bases.

The studies oscillated around four avenues of research. Large analytical works became the trademark of the study of Roman army. Webster’s Imperial Roman Army, first published as a small booklet (Webster 1996: 15), became a standard text for many years (1969, 1970 1979, 1982, 1985, 1994, 1998). Previous British works only dealt with Hadrian’s Wall (Bruce 1867, Macdonald 1934). On the continent, the tradition was a bit older. Bogaers (1959) provided an overview of the Netherlands, Fabricius provided another one on the Rhine frontier (1926) and later, Brogan gave his overview on German frontiers (1936). Further big works came in the 60s; von Petrikovits’s on Roman Rhineland (1960), ‘Die Innenbauten Römischer Legionslager’ (1975), Schleiermacher (1967) on Roman
frontiers in Germany, Alföldy (1968) on units in Germania Inferior, and on Roman provinces written with a strong military interest; Wilkes (1969) on Dalmatia and Alföldy (1974) on Noricum. The big analyses were a peculiarity, rather than a norm in the archaeological scholarship, with the exception of Britain (Haverfield 1912, Collingwood 1932, Rivet 1958) and the works of military scholars from the continent (Koepp 1926, Staehelin 1948).

A particular kind of analytical research was on military frontiers as an expression of Rome’s political and economic power underpinned by historical parallels with the aim to create a grand frontier narrative (Wheeler 1954, Drummond and Nelson 1994). The research drew a variety of scholars from different disciplines: ancient economy and politics specialists and Roman cartographers (Whittaker 1994, Whittaker 2004). Much impetus came from the processual theory of the 70s-80s, especially the core-periphery model. Modern political science and the experience of the Cold War strongly influenced this avenue. Luttwak’s ‘Grand Strategy of Roman Empire’, part of a series of strategic analyses of historic empires (Luttwak 1974, 1983, 2009), was driven by the mindset of a modern political defence analyst and was criticised as an inappropriate back projection of NATO and the Warsaw Pact (Mann 1979: 175-183, Isaac 1992, Whittaker 1994: 62-70). Though faulty in reasoning, the value of this work lied in providing impetus to rethink the issue of modernising assumptions in scholarship. A trend towards drawing on the work of modern frontier theorists continued for a while (Davies 1975, Miller and Steffer 1977, Kirk 1979, Drummond and Nelson 1994, Whittaker 1994). In these studies, forts were points on a frontier line, largely insignificant by themselves.

A third specialisation was ‘Roman Army Studies’, introduced much later than Limesforschung and defined by Michael Speidel (1984). Roman Army Studies were exclusively reserved for the investigation of organisation of the army through epigraphy. In comparison to archaeology, the agenda for epigraphic research, with large monographs already in existence before WWII (e.g. Von Domaszewski 1908, Cheesman 1914, Stein 1932, Durry 1938, Wagner 1938), was very well formalised by the 1950s. As we shall see in the next section, the fourth avenue of research developed then, and the most important one for this thesis, concerned the application of military intelligence methods and ideology to
archaeology. This avenue out of the four had the most profound impact on the study of Roman military bases.

### 2.1.2 Birley and the military organisation ideology

At least, some of the questions which now seem to be of importance would not, perhaps, have occurred to me at all, but for the fact that I have had to spend half a dozen years, during the recent war, on the staff of the British Army’s princeps peregrinorum, the director of Military Intelligence’ (Birley 1988: 4).

As a small and specialised field, the study of the Roman military was a good ground for big academic personalities to make a lasting impact. The subsequent development of the field was much influenced by Prof. Eric Birley, who shaped the agenda in Britain and abroad. The ‘Durham School’ - his doctoral students and scholars inspired by Birley, often too referring to themselves as his students (e.g. Devijver 1975, 1976, 1989, Sommer 1984) - formed the most vigorous research group on the Roman armies (Breeze 1996: xiii) and often directed their interests towards military installations (e.g. Hadrian’s Wall). Birley’s programme, dominant for most of the latter half of the twentieth century (Speidel 1992: 18-19, James 2002: 3), was not detached from the intellectual climate of that time. Those who did not strictly belong to this group, like Webster (Simon James 2010, pers. comm., 10 November) in many respects took on the Durham School agenda too. Birley’s programme explains much of the research trajectory on Roman forts.

Birley’s ideas were embedded in his personal experiences, which he discussed openly in a few manifesto-like papers. His interests included excavation, pottery and epigraphy (Breeze 1996: xii). Nevertheless, it was his service and achievements in the British Intelligence during the World War II which shaped his understanding of armies and equipped him with a conceptual apparatus (Breeze 1996: xii, James 2002: 19-20). The questions deemed to be of importance were those of the organisation of the enemy’s forces; the strength of units, orders of battle, recruitment, career prospects, seniority of ranks, movements of legions, the efficiency of units and hierarchy - exactly the kind of systematic information Birley provided for the British Intelligence (Breeze 1996:}

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xii). The Romans were thought of as an admired foreign force and the Barbarians were removed from the equation, apart from the equipment studies (Bishop and Coulston 2006). This modern, military intelligence inspired framework influenced what was considered worthwhile data (James 2002: 3).

Many of the above issues, requiring very detailed information, could most successfully be answered with written records (Roman Army Studies). The attention to epigraphy was not just Birley’s personal preference: Epigraphy was more developed than archaeology at that time; both its framework and the input of research were considerable before the Limes Congress. The first volume of Roman Inscriptions of Britain (Collingwood and Wright 1965) covered around 2400 entries. This was not the first attempt to collect known inscriptions from Britain (e.g. Burn 1932). Mattingly (2006: 39) estimated that less than twenty, often very fragmentary examples, are added to this number every year. Much more archaeological excavations on the frontiers have been undertaken since then, with more excavations taking place than important textual sources recovered (i.e. Vindolanda Tablets, texts from London, Caerleon and Carlisle) (Mattingly 2006: 39). Dependence on text was the common denominator for epigraphy and the intelligence services. The written word was the most respected source of information in the scholarly world of that time; the writings of Tacitus and Polybius were the most established sources of information on the Roman armies. The information that epigraphic record provided, such as careers of soldiers and details of units, answered very well the sort of questions asked. Joined together, these two interests – epigraphy and organisation of armies - created a coherent framework that fit the perception of what constitutes a reliable source. This liaison resulted in much success in epigraphy and ancient history (see Birley 1988).

Archaeology, as a third party in this collaboration, played a secondary and somewhat less precisely defined role as ‘the handmaiden of history, aiming at supplementing the historical record by observing, describing, classifying and explaining the physical remains of antiquity’ (Birley 1958: 19, James 2002). This view is unsurprising in the context of scholarship of that time. The first attempts to integrate archaeology in the narrative of Roman Britain - Haverfield (1912) (Freeman 1997: 42-46) - were only around 40 years old. Archaeology, in
comparison with more advanced epigraphic research and with relatively many inscriptions in the frontier areas (Millett 1990: 82, Mattingly 2006: 39), looked rather unpromising. As James (2002: 22) notes, a perceived lesser value of archaeology originated from its imprecise nature, often unable to fully answer questions driven by literary sources and by intelligence standpoint. The increased interest in epigraphy after the war is reflected in Birley giving up excavations after the war with the exception of the field-school at Corbridge (Breeze 1996: xii). Before this, Birley had worked at a number of sites on Hadrian’s Wall including Birdoswald, Housesteads, Vindolanda, Birrens, Carzield and Corbridge (Breeze 1996: xi-xii).

Reports from first seasons of these excavations reveal why sites were excavated and how archaeological discoveries were made meaningful. The report from Chesterholm (Birley 1931: 189) reveals that historical agendas drove questions with which in mind excavations were undertaken. While the historic account of the conquest of Britain was already fairly detailed (e.g. Dudley and Webster 1965), the tasks of finding archaeological evidence, putting forts into historical context and pinning Roman place-names on the map, were not complete. This put basic questions of chronology and identification of fort units at the forefront of research. Identifying data and classifying them were the necessary first stages to make sense of the archaeological evidence in the context of ancient texts as in the example of Tacitus’ Agricola and research in Scotland. Similar fundamental issues of the chronological relationship of forts and convergence with ancient accounts pertained to excavations of vici, exemplified by attention to the laws regulating marriages and their influence on the makeup of the vici (Birley and Charlton 1932: 223). Small scale questions were informed by the local finds of inscriptions (Birley and Charlton 1932: 223). Questions asked of the archaeological remains of buildings were rather sketchy, asking about their general description, provisional identification and location within the Polybian plan (Birley 1931: 169-173).

With the military intelligence ideology, questions deemed to be of importance were strictly related to war waging. Military sites were scrutinised for ‘deducing something of value for war’ (Birley 1988: 3). A good example was detailing the narrative of the conquest and creating unit histories. The language reflects the
fascination with modern military, in which archaeology could be paralleled to a little reconnaissance vehicle similar in tasks to a scout. This was in very stark contrast with issues that led the same researchers to work in the vici a decade earlier. Here ‘evidence for the life and culture of the soldiers and their families (...) conditions prevailing in the northern military district’ (Birley 1931: 189) and ‘learning about the social and economic side of life on the frontier’ (Birley and Charlton 1932: 222) were deemed important. These questions would not seem out of context in modern research. This discrepancy in research interests between the forts studied for organisation of the army and the more broad understanding of vici very likely find explanation in Birley’s vici excavations having been undertaken before the military intelligence ideology took over. Later studies were visibly influenced by the agenda, for instance Sommer (2006) on typological differentiation of vici and the association with the type of unit stationed.

Watson’s ‘the Roman Soldier’ (1969) reveals attitudes of the 1970s about the interactions with the local populations. Watson’s understanding was based on an analysis of Roman law spiced up with a strong accent on discipline with ‘an army more efficient if its members are celibate and wedded only to the idea of discipline’ (Watson 1969: 133). The vici communities, and especially their women, were regarded as a necessary evil impairing the mobility and security of the army (MacMullen 1963: 127, Watson 1969: 135, 142). The framework for vici became peripheral to the Roman Army Studies and Limesforschung and to what was perceived as important research. The trajectories of vici and military base research (understood only as the intramural areas) parted their ways, a situation which changed only a decade ago (Birley 2010).

The intellectual climate, from which research on military bases arose was a product of its post-war heritage, developments in epigraphy, and strong agenda-setting within a small research community. The nature of ancient texts was better understood than that of archaeology, resulting in archaeological agendas often being driven by ancient texts. Only preliminary attempts were made to comprehend the archaeological record of the military bases and the spatial nature of the evidence. Birley’s excavations were undertaken with an
explicit research question in mind (Birley 1931: 189), which was a significant departure from earlier, often hobbyist excavations on the British frontier. In this light, the adoption of the ‘Intelligence service’ approach, although not explicitly called as such, was the first theorised multidisciplinary framework for the study of the Roman military, which as we see in the next section, in turn had profound impact of how military bases were to be studied for many decades to come.

2.1.3 Birley’s agenda applied to military bases

After the war, most effort was invested in the first exploratory steps towards recording military infrastructure, systematising knowledge and revising old discoveries. This continued for a long time (e.g. Maxwell 1983, Maxwell and Wilson 1987). Ways of thinking about the military put forward by Birley were quickly absorbed by Limesforschung scholars. A separate, theoretically informed sub-discipline applying the understanding of the organisation of the army to military planning emerged.

An early example, following a gap of 160 years (Roy 1793), was Richmond’s (1955) synthesis of marching camps. The impetus for Richmond’s research came from recent deployment of aerial photography and a series of excavations (Hod Hill, Inchtuthil, and Caerhun). Aerial photography, earlier used for war purposes, quickly provided data that covered areas much larger than could have ever been excavated. The pictures were not of high resolution, but in the context of information available at that time, provided good quality data (e.g. Richmond 1962). The approach taken did not differ from how portable material culture was studied at the time. Typology provided formal criteria for dating camps (Richmond 1955: 298). Similarly to evolutionary approaches to material culture, further finds were expected to fit one of discrete types or produce a new type (Richmond 1955: 306). Bases of similar size or shape were referred to as a ‘typological group’ and a ‘series’ (Richmond 1955: 298) was likely to have been the result of a campaign. Hinted at in the frequent referring to them as ‘works of an army’ or ‘products of a legion’ (Richmond 1955: 298, Breeze and Dobson 1969: 23) is that military bases were understood in a rather passive manner, just as much as any other remains of
human activity would have been at the time within the framework of cultural history (Johnson 2010: 2-11).

The approach served its intended purpose and by reference to army organisation, Richmond laid foundations for tying cultural history with texts. He first set in writing the idea that it is possible to recognise military bases as ‘products’ of specific types of units. This was achieved by scanning Polybius and Pseudo-Hyginus for hints to estimate minimum base size needed by different types of units. Richmond (1955: 303-306) often assumed that for permanent forts, one fort would equal one unit and ‘a norm can be established’ (Richmond 1955: 306). Richmond (1955: 306) recognised that arbitrary modern criteria might not sufficiently reflect past meaning, but like most Greco-Roman archaeology at that time, the way to overcome it was through text driven research. These were the very first and fundamental steps towards identification, classification and creating a chronology for forts.

The qualities of good research and the perceived qualities of the Roman armies were projected onto each other. One reads about a ‘rigid and methodical plan’ (Richmond 1955: 304). This mixture of admiration and rigid methodology resulted in idealising preconceptions about what the Roman military architecture was like. One reads that forts were considered to epitomise the values of orderliness (e.g. Richmond 1955: 297): ‘the abstract qualities which contributed so much to the majesty and domination of Rome (…) here given in wood and stone’ (Richmond 1955: 315) and that ‘(…) it compels our admiration by its symmetry and variety of rhythm and especially by its evocative power’ (Richmond 1955: 315). An abstract and superhuman understanding of Roman decision making, surfaces in phrases such as ‘calculating attitude to risk’ (Richmond 1955: 302). Personal sentiments were not unusual. Alföldi’s (1952) paper, presented at the congress in 1949, dealt with moral values of Romans and ‘the Barbarians’ as well as the inability to justify violence and ‘crimes against morality’ (Alföldi 1952: 16) on either part. This projection of moral issues was tangible evidence of the influence of World War II on the study of Roman warfare, even with a parallel to an ‘iron curtain, which the archaeologists uncover’ (1952: 16) finding its way into the Roman military studies.
Breeze and Dobson (1969), having recognised that some evidence did not fit Richmond’s types, continued the study. Types derived from ancient sources were kept, but their criteria were developed further, drawing on the advancements in the understanding of organisation of the Roman army and a new attention to the interiors of the bases. Particular attention was paid to the number of turmae and centuriae in each type of unit. Methodologically, the focus was taken off the overall dimensions of the fort to that of particular buildings in the fort; their dimensions, numbers of buildings and the number of contubernia in each building. This was a departure from Richmond’s take on the subject that still echoed antiquarian traditions. For the first time, the idea that two units, or part-units, could occupy one base emerged. The development of a type called ‘vexillation fort’ was the first to show an archaeologically driven awareness that mixed detachments could occupy a single base, such as in the case of Longthorpe (Frere, Joseph et al. 1974). The approach was more sensitive towards the nature of evidence, but was still about military structure reflected in building plans and not really about lived space.

Since the floor areas were of importance - for example, internal building division and how many buildings were allocated in which part of the fort - the method was dependent on reconstructing site plans. This reflected the fundamental difference in the scale and type of information available to an ancient historian and to an archaeologist. The excavation areas were very small in comparison with the dimensions of the forts and this caused ‘deficiency in the information’ (Breeze and Dobson 1969: 26). Correlations would not always be possible. Because of the sketchy nature of evidence, mixed units were difficult to study under this framework. The archaeological record did not always live up to the expectations posed by ancient sources and incidentally certain assumptions were created.

A problem originated from the patchy nature of evidence and the imprecise definition of what was perceived to be typical. Since ‘much of the plan (…) could be rationally deduced’ (Richmond 1955: 305), the focus lay on stereotypes, rather than on possible variation. Only a few forts were excavated to any large extent and many had either only a single or a few buildings
excavated (e.g. one barrack at Benwell in Breeze and Dobson’s 1969). The calculations rested on conclusions obtained through comparisons, filling in the blanks from one site with data from another site and a limited number of inscriptions. There was a danger of neglect of what did not fit the stereotype.

This made a lot of space for idealising speculations (all contubernia in the barrack served as living quarters, rather than for storage). Superimposition of modern values of efficiency and logic fostered a belief in the existence of principles ‘governing the size and dimensions of forts, barracks and stables’ (Breeze and Dobson 1969: 15) fully readable in the archaeological features. Idealisation was very difficult to detect as it often bordered with common sense and a perception of what the Roman armies should have been like – extrapolated from expectations of modern armies (James 2002); ‘In spite of these complications, general rules must have been formulated for the benefit of the working parties (Breeze and Dobson 1969: 24). At that time, the scholars were still working out how to reconcile patchy and variable archaeological records with historical narratives; grand military ‘reforms’ in unit organisation were sometimes deduced if examples did not fully fit the framework (Breeze and Dobson 1969: 18).

While there were problems, the idea that organisation of Roman units from two thousand years ago could be read in the ground today found reasonable support in later discoveries of papyri and tablets (Bowman, Thomas et al. 1983, 1994, 2003) and good probability at predicting further discoveries. The framework was further improved in the following decades (Hassal 1983), critiqued in the light of mixed-units in the Empire-wide context (Bennett 1986) and is still considered for the purpose of classifying fieldwork results (e.g. in Catterick Wilson 2002). The agenda was successful, albeit limited; it worked very well, but only within its own terms of investigating primary phases and the theoretical capacity of the fort. Breeze and Dobson understood this complexity and studied the original layouts of the forts, as later refurbishments were too many and impossible to investigate in this way, focusing only on how the forts were designed rather than used and how built facilities accommodated institutional structures, rather than seeing those facilities as places where people lived and interacted.
Where ancient sources did not offer a criterion, typology was more limited. This is visible in the text driven framework applied to the insides of bases. Von Petrikovits’ (1975) typology of buildings was based upon nomenclature extracted from the ancient sources. Buildings were associated with functions based upon their layouts. This typology focuses on one criterion of categorisation and on differences, rather than similarities. Investigation of relations between buildings was beyond the scope of the research. This persisted through much of XXth century scholarship. The handbooks on the Roman military produced in 70s and 80s tend to compartmentalise military bases and describe buildings in isolation, providing an encyclopaedic overview of ‘different types’ without much consideration for their archaeological context or finds assemblages (e.g. Von Petrikovits 1975, Johnson 1983, Webster 1996). These handbooks were essential grounding work, but later scholarship very rarely went beyond their agenda.

Although not talked about discursively, it was early recognised that a building can be understood both as an end product and a process of construction. The dimension of use-life was still largely missing and study of military planning continued to grow. Lines of inquiry into metrology and construction process emerged. An offshoot of the former focused on recognising whether bases and barracks were built by the same unit from details of the design (Breeze and Dobson 1969: 20). The idea was innovative, but the way the topic was pursued depended on a partial understanding of the army as an institution, a vision of the army as a collective labour force. The patterning in evidence was seen as typological traits or outcome of a particular ‘working regime’ (Breeze and Dobson 1969: 27). This was well before discussion about agency took off in archaeology in general. The task of spotting the similarities required admirable attention to detail.

A strand of military planning research focused on the mathematical and geometrical principles behind the organisation of layouts. Questions about the type of measurement units used, identifying modular planning and military input in civic constructions were asked. Walthew (1981: 15), drawing on the idea of a Ministry of War with a central Architectural Drawing Office, asked questions
about the differing procedures for the commission of living quarters and administrative buildings (perceived as more likely to have been built according to a blueprint). The study of the Roman military was advanced in that it was overtly theorised, but at that time theorisation was not yet often preceded by a discussion about limitations of research. Investigation into unit measurements is a good example of a detailed, specialised inquiry that was difficult to relate to other strands of research and was not preceded by a discussion of its practicability. Questions asked of archaeological evidence were directly driven by measurement units derived from ancient sources. Evidence, by the nature of archaeological trenches, might not always be credible for such investigations. Because the difference between the pes drusianus and the pes monetalis is quite small and one may or may not include outer walls in the measurements, it was easy to stretch the evidence. Here, tangible is the idealisation of systematic and efficient army that proceeds from logic and in effect produces standardised buildings.

The interest in military organisation was additionally influenced by the elite background of people studying the Roman armies (e.g. Wheeler, Birley). Scholars looked at the army through the eyes of high officers and aristocratic writers (e.g. Tacitus) with whom they identified with (Gilliver 1999: 29, Hingley 2000), rather than that of the ordinary soldiers. Watson’s chapter on ‘Soldiers in Society’ (1969: 146) discussed only the military fatigues carried out to keep the soldiers busy. The ordinary soldier, not seen as having any real social power (Simon James 2010 pers. comm., 10 November) was inherently a low prestige subject of study. This rendered the social dynamics inside the fort uninteresting.

Change was brought about in the mid-90s, when post-processual archaeology (e.g. Hodder 1982, 1987, 1991) and the principles of social history in wider military studies (e.g. Keegan 1978, 1994) began to be noticed. The discoveries of the Vindolanda tablets (Bowman 1983, 2003, Bowman and Thomas 1983, 1994, 2003) and the rediscovery of the earlier neglected (because they did not fit the agenda) Dura reports (Welles, Fink et al. 1959: 27-31, 308-71) opened our eyes to the flexibility with which units were maintained and mixed.
The structure of archaeology departments in Britain changed too. In previous decades, most Roman specialists came from the classics background, with Latin taught in school. With time, more archaeology departments emerged and students were joining archaeology and classics in their degrees. The social structure of the departments changed, reflecting more equal opportunities for accessing higher education and producing more interest in agency of ordinary people (James 2002: 26-27).

Most importantly, the theoretical perspective within Romano-British archaeology changed. My Roman Britain joined mature processualism, an aim to go from numbers to ideas (Reece 1988: 21) and Hodder’s encouragement to question old subjective views (Reece 1988: 98). Reece paid particular attention to separation of facts from opinions and the need to consciously define terminology (Reece 1988: 17). As part of this overhaul Reece and Millett (1990) pointed to the need to ask questions suitable for archaeological data.

‘Material does not talk and cannot talk. Archaeology is basically making the material talk. But, since it’s dumb it can only answer ‘Yes’ or ‘No’, or ‘How much?’ questions’ (Reece 1988: 17).

For Roman studies, with a long heritage of text based research, this meant a complete change in perspective. Text driven research was to be scrutinised in the light of archaeological material (Reece 1988: 17). Instead of attempting to answer detailed questions posed by ancient texts, Reece looked for more general answers about the society (Reece 1988: 93). It was recognised that taking at face value and prioritising textual evidence over archaeology obscured the perspective (Reece 1988: 93-4). Reece set in writing the basics of modern Romano-British scholarship, later advanced by his student Millett (1990). The vast majority of Roman military scholarship was done before this.

A significantly different approach to previous approaches and well suited towards the nature of evidence and reflecting new agendas was taken by Hoffmann (1995, 1995). Aside from traditional research questions of organisation of space and standardisation, she raised the issue of the use of space (Hoffmann 1995: 107). Investigating centurions’ houses, Hoffmann divided floor
surfaces into a square grid and carried out statistical analysis of percentages of different types of finds found in each section of the grid. Archaeological questions did not follow from information derived from ancient sources; more generic questions were asked for which answers could be found in archaeology. Hoffmann’s agenda marks a break from investigating buildings solely for their plans and their comparability with ancient sources, to moving towards artefact distribution and archaeological features. Such studies focusing on the uselife of buildings were few until the 1990s. Before this, most interpretations about the use of buildings was drawn from ancient sources. Similar approaches were taken around the same period in classical archaeology (Allison 1997).

Others focused on agency. While re-evaluating written evidence to investigate where architects were drawn from, Evans recognised that previous research often confused surveyors with architects, who were reduced to ‘mere technicians’ (Evans 1994: 143). Evans explained how knowledge was passed on between people drawing on an apprenticeship model and a flexible understanding of the planning process (Evans 1994: 164). She made the first steps to go beyond looking at buildings as artefacts towards seeing the social processes behind them. A similar kind of agency-sensitive inquiry was introduced into military equipment studies a bit earlier (e.g. Bishop and Coulston 1993, 2006).

In comparison, the early works of the construction-oriented research were particularly prone to common sense assumptions. A good example is that about the building materials. A report on Carzield said that barracks should typically be made of stone, while it was more probable that stables were made of timber (Birley and Richmond 1942: 161).

An example of this research from the mid-90s is Shirley’s work on the building of Inchtuthil (2000). Her aim was to calculate the quantities of material and labour required (Shirley 2000: 1-2). The understanding of the perspective taken is key; the objective of the ‘intelligence’ agenda was that of calculating the capabilities of ‘the enemy’. Here, the perception of what the enemy can do is important; alongside the ideal that the Roman army should be orderly, it was
rather unthinkable that the Roman army could do anything more haphazardly than a modern army would do it (e.g. Shirley 2000: 2 on assumption of the simplicity of construction). The perspective of those organising the work – the officers and engineers - obscured the social perspective and agency of the ordinary soldiers. They are represented as an anonymous, low class labour force, whose work capacity is their raison d’être. Similarly to Watson’s study (1969), their day-to-day life whilst building Inchtuthil consisted only of their on-duty responsibilities. It is worth noting that Shirley was aware of the assumptions she was making (e.g. about the progress of working teams). This study illuminated the details of possible labour force, transportation and supply demands. It brought into attention important pragmatic issues largely overlooked in previous studies; technological details, possible conditions in the buildings, how they performed and the maintenance they required. The study enriched theoretical perspective of building as a process and as part of soldierly training (Shirley 2000: 1-6).

Recent studies work towards advancing our understanding and providing new answers to old questions by drawing on developments in archaeological methods. Only with Bidwell and Hodgson’s (2004) synthesis of new barrack excavations and the discoveries at Wallsend (Hodgson 2003), did it become possible to advance our understanding of stable provision inside the bases. Earlier works (Breeze and Dobson 1969: 17) rested on the seemingly very reasonable assumption that, similarly to modern armies, Roman cavalrymen and their horses would have been housed in separate buildings (Simpson and Richmond 1941: 30-33). The assignment of label as either a barracks or a stable was based on fort morphology. The numbers of contubernia indicated whether infantry or cavalry was stationed. Presence of barracks of two different lengths within one fort was thought to have mirrored the mixed nature of a garrison (e.g. Breeze and Dobson 1969: 29). This detailed approach created a very consistent framework but ossified a static way of thinking about the use of space, limited to its provision. Bidwell and Hodgson (2004), based on environmental evidence and archaeological features, made a case for the barracks of cavalry being shared by the riders and their horses - shaking the basis on which all research into cavalry barracks was previously done.
2.1.4 Current approaches to military bases

In the past decade, interest in the ordinary soldiers led to developments in the study of the Roman army as a community (Goldsworthy, Haynes et al. 1999, James 1999): defining what sort of community the Roman army was, looking into its internal social workings and defining various interest groups. Looking beyond the command structure of the Roman units, the scholars started discussing relationships binding military societies (Hassal 1999, James 2001), the culture and beliefs of the soldiers (Sauer 1999, Webster 2001), relationships between the army and local communities (Shaw 1983, Wilkes 1999) and above all, seeing military communities as dynamic societies in their own right (Goldsworthy, Haynes et al. 1999). Moving towards discussing Roman armies (Haynes 1999, James 2002), as opposed to a single Roman Army, reflected a new attention to the differences and variation among the Roman military communities. This was a departure from the older paradigm of uniformity. The new school of thought also helped shed new light on well established lines of inquiry, such as the importance of army for establishing local infrastructure and the role of Roman armies for local economies (Sommer 1999). By the time ‘Roman Army as a Community” (Goldsworthy, Haynes et al. 1999) was published, scholars took the concept of community to carry a variety of meanings (Haynes 1999: 11). With time, the concepts of an ‘occupational community’ (Collins 2012, Greene 2013), an ‘imagined community’ (Anderson 1991, James 1999) and a ‘parallel society’ (Haynes 1999) became leading frameworks (Section 2.3).

More recently, an interest in military social networks emerged, notably Greene’s (2012, 2013, 2013) papers on female social networks in the light of evidence from Vindolanda, Haynes’ (2013) and Pegler’s (2000) work on genii and collegia and Collar’s (2013) work on networks of worshippers of Jupiter Dolichenus. These contributed to the knowledge of social interactions in the military, but not specifically in the context of the fort as the space for interaction.

Several works have addressed the theme of social use of space from a contemporary, theoretically informed standpoint. Gardner (2007, 2007) focused on agency, social identities and adapting the concept of habitus to late
Roman military spaces. Similarly Collins (2012) worked on late Roman Hadrian’s Wall as a social space. Theoretically, the most influential ideas were proposed by Haynes (2013) and James (2001, 2002, 2011) presented as part of large syntheses, not taking the space of the base as the primary research agenda. Their big influence was rebranding forts as military bases, marking a significant theoretical shift.

A theoretically informed strand of research into the distribution of finds contributed much to decomposing old assumptions about the use of space in the military and shedding light on the flexibility of armies and the presence of non-combatant members of the military communities in Roman military bases (Allison 2004, 2006a, 2006b, 2008, 2009, 2013) as well as using finds to look at daily life in late Roman military context (Gardner 2007). More recently, studies of finds assemblages in the military contexts have turned toward understanding the significance of distribution of fine wares within military bases and the extent to which this can be indicative of the use of space (Breeze 2016) and of consumption and food preparation practices (Allison and Sterry 2015), with continental scholars also involved in the debate (Polak and Niemeijer n.d. 2015).

2.1.5. Summary

Birley’s agenda applied to the study of military bases resulted in a set of very specialised lines of inquiry into military planning and the construction process. Scholars made preliminary steps towards systematising the knowledge through typology. The research was accurate within its own terms, but limited in scope by the agenda. Similarly to the rest of the military research (James 2002), study of the military base was also largely text driven. With the wider scholarship changes of the late 80s, a series of more agency-sensitive perspectives were introduced and a more discursive approach was taken (e.g. Hodgson & Bidwell 2004).

In the recent decade, work on military communities, social networks in the army and theoretically informed study of finds distribution moved the field forward significantly. At the same time, the theme of Roman military base as a social
space, while undertaken as a primary research agenda by Allison (2013), has not been investigated in terms of how people moved through these structures.

2.2 Theoretical framework

In this section, I present the theoretical approach of the thesis. Section 2.2.1 sets out the theory surrounding the role of the institution of the Roman army, while section 2.2.2 presents the approaches I draw on to understand the nature and the role of military communities. I mainly draw on approaches proposed by Haynes and James (1999, 1999) as leading authorities on the subject in Britain. The relationship between the soldiers and the institution of the army is very important for the thesis as many of the socio-spatial practices presented in the following chapters were either orchestrated by the military institutional structure, or represented the way the military community responded to it.

Section 2.2.3 presents the theory for understanding what constitutes social space, as this is the key concept of the thesis. Section 2.2.3 also signposts to Chapter 3, where I present my adaptation of the approaches developed for the study of Roman cities to the context of Roman military bases. The study of movement in Roman cities (Laurence and Newsome 2011) is my main influence, but other works that have influenced the theoretical framework include sociological studies of socially constructed time (Gell 1992). My adaptation of these approaches is presented alongside the relevant data in Chapter 4.

2.2.1 The Institution of the Roman Army

In current approaches to the Roman army, its institutional organisation is understood here as that part of the military which was overseen by the state and bound all military communities together (James 1999:21). This means more than unit and career structure and includes all elements of military life related to the state. For both James and Haynes, the institution is not only structural, but has profound, often ritualised meaning (Haynes 1999: 7). In Chapter 6, I explore
how the principia building at Bu Njem accommodated the performance of such rituals associated with the institution of the army.

The intention behind army institutions was to facilitate control over soldiers (James 2011: 173-174). The means deployed by the emperor did not differ from the canon of exerting control in Roman society in general. This was based on discipline, indoctrination and violence (James 2002: 40). Because the armies were a potent source of imperial power (Phang 2008: 285), control of their actions was particularly important. In the thesis, I explore how control over the soldiers’ bodies in space was exerted through the politics of movement and the control of access (Chapters 4-7).

On the other hand, military communities also regulated themselves by the means of fear, patronage and social negotiation. It was the patronage behind the people giving orders to the soldiers that made the soldiers abide them (Lendon 2001). Complexities of power relations, like these explored by Lendon (2011), are extremely important to my approach.

Another role of the institution, with architecture as its expression, was to promote certain values and behaviour among the soldiers. Phang’s study (2008: 284-6) revealed that physical discipline and punishment were part of a moralistic ideology of disciplina militaris, which fostered a set of values termed virtus. This was a state-manipulated, military derivative of traditional ‘civilian’ Roman masculine ethos. In many respects, the ordinary soldiers did not fit the aristocratic definition of virtus as they were not financially and legally autonomous, subject to the power of their superiors and in many respects were excluded from the canon of the ideal aristocratic man (the lack of wealth and the perceived lack of the ability to control their behaviour) (Alston 1998: 209-211). However, in the context of the provincial society, with their citizenships, relative wealth, visible power and their elevated status, the ordinary soldiers distinguished themselves through their own take on virtus (Alston 1998: 220). Virtus was meant to ensure efficiency in battle and smooth communal camp life by promoting a sense of brotherhood, shared responsibility and attachment to the state and the emperor, sustainable labour management and camp
economy (Phang 2008: 35-36). Part of this ethos was labour discipline and the value placed on hard, physical work, such as repairing and building military infrastructure (Phang 2008: 201). In the case study of Bu Njem, I explore the socio-spatial context of an inscription (IRT 918-919) placed in the regimental bathhouse, praising the common soldiers for their hard labour rebuilding one of the base’s gates (Chapter 6.3.3.i). Phang’s insight reveals that the institution was not only the external organisation of the military, but too had its placement in the minds of the soldiers, becoming real when they acted upon it.

James (1999: 16-18) provided an insight into military institution at work by making a case for psychological transformation of the Roman soldier on his enrolment to the army (James 1999: 16). This ideological indoctrination included rites of passage, such as adoption of a new name, designed to create a personal bond with the unit, the emperor and the state. The mind of a soldier through the efforts of the state would become intertwined with his unit and the emperor and disconnected from his provincial background (James 1999: 16). This created a strong group identity, with a sense of a glorious purpose and power (James 1999: 17). Without these shared symbols, religious ritual and common experiences, the army would be unable to function. Such symbols, as showed by Bidwell (1996), could be embedded in the fabric of the gates and defences of a military base – the built environment of the military base playing an active role in the process of integrating values behind the symbols. An important function of the institution of the military was to provide a binding agent for the armies scattered across the empire, a focus for ideological indoctrination and an expression of power of the state over the soldiers (James 1999:18). On the other hand, the efforts of the state were counterbalanced by their dynamic tension with the community of milites as individuals resisting being organised by the state (Simon James pers. comm., November 10). This tension is, in my view, an important factor, as elucidated in the discussion on unauthorised activity within military bases (Section 3.4).

The correlation between the remains of military bases and the institution of the army was first put forward by James (2001: 83). In the archaeological record of built structures, one can recognise the difference between spaces used as designed and build versus how the space was later used by the people. There
always exists a possibility for a difference between the intended and actual use of the space, as has been well elucidated by recent approaches to the distribution of finds in military bases (Allason-Jones 1988, Allison 2013). An example of the difference is presented in the case study of Elginhaugh (Chapter 7) and particularly visible in the principia building and through the study of the distribution of finds on site. At times, the differences too can reflect the tension between the institution (the intended design) and the intentions of those using the spaces (the use life) as we shall see through the example of gaming boards incised in an area most likely designated as a guard post at Bu Njem (Chapter 6).

2.2.2 Roman Military Communities

Recently, scholars inspired by anthropology (Haynes 1999: 8, James 1999) have been interested in the experiences of people they study rather than military systems. This is an approach largely taken in this thesis, with the study of social use of space seen as very much tied to the study of the (also social) experience of Roman military bases.

Goldsworthy (1996) and James (2001) discussed modern pre-conceptions about warfare and how they have been projected onto the Roman armies. The Roman Army was a professional institution, but it was not monolithic (James 2001: 38). This concept is closely tied to the idea of the Roman army as a ‘war machine’ (Goldsworthy 1996: 8, 285), which evokes a single, perfectly co-ordinated entity (James 2001: 38). Similar metaphors have been discussed in recent studies of the understanding of the human body (Douglas 1973, John Robb 2009 pers. comm. 13th December ). These have pointed to the post-1500 conceptualisation of the body as a machine, which works when it is assembled together. The studies also point to the metaphor’s significance for understanding one’s place in the industrialised world. In the Roman times, warfare and violence were likely to be much more part of daily reality than they are today, when we only see them on the news. In modernity, war is perceived as less of a function of the body, for example, sword as an extension of the arm (Sørensen 2010: 55), but more as an abstract system, like a war machine. This is the framework on which Roman Army Studies have mostly
operated, making them a fertile ground for adopting the machine metaphor and dropping out of the discourse an individual’s experience of war (James 2002).

Having recognised the limited perspective offered by the Roman army as a ‘war machine’ approach (James 2002), it was suggested that one should think of the Roman armies as a series of communities tied together by similar experience (Goldsworthy, Haynes et al. 1999, James 1999). In favour of this conceptualisation lies the language used by the Romans to think of soldiers as an empire-wide class of people – the milites. The same soldiers were divided by the state into armies as (exercitūs) (James 1999: 14). Identity of such multiple armies (exercitūs) was the resultant of particular historical trajectories, their traditions and pride, each being one of a kind (Speidel 1992: 16, Wilkes 1999).

Re-evaluation of literary sources (James 1999) shed light on the dynamic position of soldiers in society as both a fearsome and unruly class of outsiders as well as geographically isolated specialised subgroups of Roman citizens, who would go abroad often to never come back home (Simon James 2011 pers. comm., 10 February). They enjoyed a privileged position in the society, both in the Roman context of free speech of citizens, and that of warrior elite of barbarian tribes, with whom they had increasingly more in common (Carrié 1993: 105, James 1999: 15, James 2001: 78 e.g. Dio 59.25.1-3, Tac. Ann. 14.31-32). This and other evidence indicated that, to the Roman mindset, the focus lay on shared identity of soldiers and the wider community that drew their identity, protection and status from their entanglement with the soldiers (James 2001: 38-39). This wide and hierarchically complex social network was based on negotiation, patronage, mutual social obligations, rewards, discipline and fear (Lendon 2001: 237-266). Its members formed a varied, dynamic and class-divided array of interest groups pursuing various personal and group agendas; from the milites, among them soldiers of specific functions (e.g. standard bearers), non-combatants attached to the army, centurions, officers, governors and the emperor himself (James 1999: 15). In Chapter 5, the thesis explores the role played by the environment of the military base for such social relations and the way social networks might have mapped onto the spaces of the military bases.
Ordinary soldiers are now recognised as key players with real political power (James 1999: 15). This allows seeing them as people with their own mindsets, goals, values, aspirations and social networks. (James 1999: 15). This personal perspective has been especially fruitful for the study of artefacts; for example, as material witnesses to an individual’s agency (e.g. Allason-Jones 1988, Allison 2006a), an approach I draw on in Chapter 7.

There was also much competition within the army between rivalry interest groups (e.g. collegia) and individuals (Lendon 2001: 237-250). When off-duty, it was probably the soldierly subculture, criticism and peer-pressure that played a big part in their lives (Hockey 1986). The tensions within the military community were fuelled additionally by the competitive ethos of both Roman civilian and military society (Lendon 2001). This ideology placed emphasis on competition among individuals in fighting and in labour. This, rather than an ethos of teamwork, ensured the armies’ creative potential.

This internal complexity of extended military communities (including non-fighting people) (Mattingly 2006), requires defining what community in the context of the Roman armies is actually considered to be. The essays in ‘Roman Army as a Community' and subsequent papers on the subject (Collins 2012, Greene 2013) prove the concept’s creative depth. Among available interpretations, for the purpose of the thesis, I found particularly fruitful the approaches proposed by James and Haynes. Haynes (1999: 11) distinguishes between the term ‘community’ used as a synonym for the army and its dependants, a term denoting the distinctiveness of military organisations or a means to describe the dynamics of garrisons and campaigning forces. The two definitions seem to underline the same characteristic of the Roman military as a social group – its apparent locale within the minds of the soldiers.

Haynes (1999: 9), after Cohen (1993), defined community as a ‘symbolically constructed system of values, norms and moral codes which provide a sense of identity within a rounded whole to its members. For Haynes, the locale of a community lies in the shared symbols of the community; reference points referred to by the members of a community (Haynes 1999: 9). Crucially, these
symbols need not to be understood in the same way by all community members (Haynes 1999: 9). This fits the Roman armies well, as community embodied in symbols does not need to be nested in a specific area. It is the perceived bond and shared values that make a community. An additional dimension of Haynes’ (1999: 9) definition is reference to ‘occupational communities’. This places emphasis on the social function of a community – often a job – which may be of a marginal or high status, be dangerous or requiring to lead a particular lifestyle resulting in a sense of exclusivity or pride (Cohen 1993). It is hard to think of a more high status and proud ‘job’ in the Roman Empire than that of protecting the Emperor and enforcing his will, or more dangerous one than the job of killing other people (Haynes 1999: 8).

James (1999: 15-19) arrived at a similar definition, as something primarily in the minds of the members of a given community; since the soldiers were grouped in regiments scattered across the Empire, they were very unlikely to ever physically encounter all of their brothers. Therefore, he drew on a concept of imagined community that cannot be experienced directly – most soldiers rarely saw more than their own, and a few neighbouring regiments (Anderson 1991, James 1999: 18). This common identity was expressed through a system of shared symbols allowing instantly recognising each other (James 1999: 18-19). The two understandings of the concept of military community share an emphasis on symbols of the military and perceived common identity which resonates well with the material studied in this thesis.

2.2.3. Archaeology of Social Space

The theoretical approach to the archaeology of built spaces in this thesis draws on recent works on Roman cities, especially works inspired by the theoretical movement of the ‘Spatial Turn’ (Newsome 2009, Laurence and Newsome 2011), inspired by the works of Soja (1995) and Lefebvre (2009) among others. These are especially useful as they allow interpreting both archaeological and written data on Roman armies in a new, previously never attempted way. The approach sees movement within an urban fabric as an expression of cultural concepts and hierarchies of accessibility (Newsome 2011: 11). I extend the thinking put forward by Newsome and Laurence (2011) to also incorporate
presence as a type of social practice (Chapter 3). The sources (Chapter 3) indicate that the act of being in a particular place, not necessarily moving from one place to another, was also significant, with guard duties performing a role in the politics of control over the soldiers. The approach recognises that architecture allows for the inference of spatial practice and, through restriction on moving around and using the spaces, also infers which practices were not permitted (Newsome 2011: 12). Chapter 3 elaborates on my approach to movement and presence as meaningful social variables.

Chapter 4 presents my theoretical approach to short and long term temporal change. Time is an essential factor for the social use of space as it captures how spaces are used differently at different times and by different people (Lefebvre 2004). I draw particularly on the notion of ‘socially constructed time’ as this emphasises the important role appropriate time plays for the structuring of social relations and of communal living, often within an institution (Gell 1992, Adam 1995, Ancona, Okhuysen et al. 2001). Temporal variation to urban living according to Lefebvre (2004) forms rhythmical patterns. Rhythms can form cycles and the analysis of data in Chapter 4 presents the case for seeing socially constructed time in the Roman armies as cyclical and elaborates on how natural, religious and campaign cycles fed into this.
2.3. Methodology

As stated in Chapter 1, an important aim of my thesis is to undertake a theoretically unified analysis of three categories of material with the questions about the social use of space in mind. This section presents the methodologies used to analyse the three types of data drawn on in this thesis. Section 2.3.1 presents the methodology deployed to analysing literary sources, especially the types of information sought in particular chapters, and my approach to the epigraphic record. These methodologies are applied in Chapters 3-5. Section 2.3.2 presents my approach to analysing the archaeology of the two case-study sites examined in Chapters 6-7. I first outline the informal methods of analysis and later focus on the formal methods of analysis and the criteria for those. Section 2.3.3 presents the methodologies I drawn on for the purpose of analysing artefact distribution in Chapter 7.

2.3.1. The sub-literary and literary sources

Since the sub-literary and literary data are very piecemeal, its analysis was divided into three themed Chapters (3-5).

Chapter 3 undertakes a systematic survey of military documents (reports, rosters). Documents produced by units have not been studied systematically under a contemporary theoretical framework with the questions about the social use of space in mind (instead utilised to elucidate the organisation of the units). Military documentation provides glimpses into the activities in the bases; pinpointing locations, distribution of people and the categories of tasks. This is supplemented with the reading of Roman military manuals and selected historical sources from the early and high imperial period, which offer glimpses of the cultural background of military societies.

The analysis of military documents is carried out as follows:

The context of the site the documents come from, its strategic function and nature of occupation are assessed in terms of how they may influence the patterns observed.

The activities are divided into categories depending on their location within the base and the nature of the task.
Where data are complete enough, relative proportions of men left within the camp and deployed to different categories of tasks are assessed. Where the military reports do not preserve enough details on the day to day duties, general zones of activity in and around the base were distinguished.

The above are utilised to discuss the distribution of soldiers during working time and the structuring of daily presence and movement and hierarchies.

Chapter 4 utilises military documents, letters from Egypt, tablets from Vindolanda and recent research on social construction of time. The analysis includes:

- Assessing the limits of written and archaeological data in elucidating daily patterns of presence and movement in the base.
- Tracing the rhythm of short and long temporal cycles in the activity of the base.
- Distinguishing variation to activity depending on the seasons, climate, and location.
- Variation depending on the context, from war to peace.
- Look at the military documents for association between proportions of men in different task to time of the year and the situation (peace/war).

An important variable for the analysis is the difference between the context of hiberna, from which all documentary evidence with known provenance surveyed here derives and the context of active campaign. The portrayal of campaign in historical accounts is often in the context of what archaeologically would likely be associated with overnight marching camps with tents, rather than purpose built timber or masonry bases.

Chapter 5 adopts psychology-based predictions of the size of human social networks to the study of sub-literary and epigraphic data with the aim to tie the information to the spatial environment of two case study Roman military bases (Vindolanda and Inchtuthil). The data chosen for the chapter do not correspond with the case studies analysed in Chapters 6-7, since neither of these sites are accompanied by such a rich a sub-literary material. The method
consists of pairing the two psychological predictions - one proposing a very large and the other a smaller network - with the knowledge and size of Roman army units (number of men in a unit at its full strength) and the estimated sizes and compositions of wider military communities attached to a hypothetical fully occupied base. The proposed results are critically evaluated against the sub-literary and epigraphic data to discuss the significance of larger and smaller social networks in the context of living within a military base. Contextual information obtained through study of literature on the culture and structure of military societies serves to make the predictions meaningful and judge how realistic and useful the predictions can be.

Two major models for understanding large size networks can be called on for the purpose of the study (Dunbar 1998, McCarty, Killworth et al. 2001). Dunbar noted that the size of many modern and ancient army units coincides with his findings and this makes the model useful. Dunbar further speculated about the relevance of this for finding the optimum between as large as possible size of a unit and its internal social cohesion (Dunbar 1993: 689). Within sociological studies on modern military units, the issue is discussed in terms of their cohesion and bonding, with research dedicated to smaller networks of (e.g. squad and platoon level), equivalent in size to between a Roman contubernium and half a century (Oliver, Harman et al. 1999, Siebold 1999).

Dunbar's number (Dunbar 1993) is a suggested cognitive limit to the number of people with whom one can maintain regular (e.g. monthly to yearly) personal contact. These are relationships in which an individual knows who other people in the group are, the nature of relations between other individuals in this group and how to take advantage of these connections when needed (Dunbar 2010: 31). The number does not include ceased social relationships, nor people one simply is able to recognise. The value estimates around 150 individuals and some support is provided from a number of contexts ranging from hunter-gatherer societies, business companies, military formations (Hill and Dunbar 2003: 187) to academic networks (Price and Beaver 1966).

As examples drawn on by Dunbar often describe institutional workplace (and military units), rather than casual social networks or networks of all known
individuals from all avenues of life, it seems that the number is best suited to institutionalised context - describing the maximum size of a command chain that while hierarchically structured, still allows for the tight personal knowledge of other members of the group (Dunbar 2010: 27-29). Most individuals do not maintain regular relations with all of the people in corporate workplaces due to differing routines, duties and schedules. In the sense of being run by an organisation that structures life within the complex, a Roman military base was a type of institutionalised environment.

There are further reasons why Dunbar's criteria for defining a social network make his model useful in the context of the Roman military. Only groups under intense survival pressure (e.g. endangered or facing a lack of resources) are believed to achieve the 150-member mark and Dunbar is concerned with groups that are often physically close, the size of network depending partially on the amount of time spent together; to maintain coherence of the group amounting to around 40% of an individual’s time being spent with the group (Dunbar 1993: 686-688, 691). Although the conditions apply only at certain times, these characteristics fit well with the reality of being part of an occupying military force and being stationed in a cramped base. Similarly, the importance of close proximity, time spent together and shared intense experience of war are recognised as important building blocks of unit cohesion in modern armies (Granovetter 1973: 1361, Vaitkus 1990: 224, Bartone 1998: 87). The real strength of the model is its grounding in measuring the size of networks from the point of view of being part of one and based on face-to-face contact. The criterion is very tentative, but suggests a roughly constant upper limit on the size of social networks, which permits for the network to work effectively as a social unit.

The other available model (Bernard, Killworth et al. 2001: 21) draws on much looser criteria for defining a network; contact in the past two years and requiring only knowledge by name or by sight (McCarty, Killworth et al. 2001: 29). This can be more accurately defined as a personal network; the number of individuals a single person knows based on a one-to-many relationship, where the people who a given person knows may not have links among themselves. The suggested value approaches around three hundred individuals and was estimated by calculating the relative proportions of individuals of pre-defined
categories (e.g. teacher, Pole) that a given person should statistically know in relation to gross US population size (McCarty, Killworth et al. 2001, Zheng, Salganik et al. 2006). The large size of the present day US population, looser definition of a personal network and the influence of modern technology on communication patterns make this estimate likely too high for the context of regular contacts in the Roman era or, at best, a generous estimate. The two estimates have been compared in table 4.1.

Estimations of the sizes of social networks proposed by these models and the findings of military sociologists can be applied to the knowledge of the size and structure of Roman army units to speculate about the proportion of individuals one likely knew in the context of the total armed population of a military base. Through this, it is possible to get at the military community and understand how centuries and cohorts as groups of people worked in the context of a fort environment rather than study the fort itself. The results can be used to grasp implications of thinking of Roman forts in terms of their social environment.
2.3.2 Archaeology

The methodologies deployed to study the plans include ‘eyeballing of the plan’ with questions raised by the analysis from Chapters 3-5:

- Distinguishing hotspots of social activity and traffic.
- Looking for likely paths of movement traceable through adjustments to the architecture of the base.
- Understanding why architectural elements of the case study bases are in particular locations from functional and ideological points of view.
- Dividing social spaces within the base into the categories of inclusive (communal) and exclusive (restrictive with hierarchically structured access) social spaces.
- Tracing changes to the use of buildings and the resultant changes to patterns of movement.
- Producing maps of suitability of roads within bases for different types of traffic, from pedestrian to two way cart traffic. The categories and brackets for widths of roads appropriate for types of traffic are based on (Davies 2002).
- Producing GIS generated visibility plots with observer points in the towers and gates and within the street in order to investigate how visually segmented the community of the base may have been when inside the perimeter and the relationship between visually secluded and pedestrianised and socially quiet and busy spaces.

Formal methods of analysis (visibility and road width graphs) were only possible to carry out on Elginhaugh, since Bu Njem’s plan is not known in enough detail. For the visibility study, I have taken the estimated heights for the buildings and the defences suggested by Hanson. The third storey consists of an estimated 1.5 metres for the railings (Hanson 2007: 151). I have reduced the height of the towers to 6.5 metres and then have added additional 1.5 metres for the height of the individuals standing on the towers and gates with the total height of the viewing point of 8 metres.
<table>
<thead>
<tr>
<th>Building</th>
<th>Height (m)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascensus</td>
<td>3.5</td>
<td>Height of ramparts assumed for simplicity</td>
</tr>
<tr>
<td>Barracks</td>
<td>3</td>
<td>Single storey with a low pitched roof (Hanson 2007: 70, 100, 110).</td>
</tr>
<tr>
<td>Bipartite barracks</td>
<td>3</td>
<td>Single storey (Hanson 2007: 81).</td>
</tr>
<tr>
<td>Building 8</td>
<td>3</td>
<td>Single storey with a low pitched roof (Hanson 2007: 105).</td>
</tr>
<tr>
<td>Fabrica building</td>
<td>3.5</td>
<td>Single storey, albeit with roof height above the minimum appropriate for barracks (Hanson 2007: 90).</td>
</tr>
<tr>
<td>Gates</td>
<td>7</td>
<td>(Hanson 2007: 155)</td>
</tr>
<tr>
<td>Granary</td>
<td>3</td>
<td>Roof height of approximately 3 metres centre (Hanson 2007: 61).</td>
</tr>
<tr>
<td>Residence</td>
<td>3.5</td>
<td>Single storey (Hanson 2007: 50).</td>
</tr>
<tr>
<td>Principia building</td>
<td>3.5</td>
<td>Single storey (Hanson 2007: 50).</td>
</tr>
<tr>
<td>Principia basilica</td>
<td>6.5</td>
<td>(Hanson 2007a: 41)</td>
</tr>
<tr>
<td>Ramparts</td>
<td>3.5</td>
<td>(Hanson 2007: 135)</td>
</tr>
<tr>
<td>Towers (corner)</td>
<td>7</td>
<td>(Hanson 2007: 171)</td>
</tr>
<tr>
<td>Towers (interval)</td>
<td>7</td>
<td>(Hanson 2007: 171)</td>
</tr>
</tbody>
</table>

Table 2.1 Estimated heights of buildings at Elginhaugh

2.3.3 Artefact distribution

Artefact studies, including artefact distribution over last two decades provided a wealth of information about the uses and the users of military spaces (Driel-Murray 1996, Allason-Jones 1999, 2001, 2002). While it is difficult to stereotype what a military assemblage usually consists of (Allason-Jones 1999: 3), sites along particular frontiers at particular points in history can share some characteristic traits (Allason-Jones 2002). With successful studies revealing sometimes mundane, but sometimes surprising realities of life on the frontier, such as a pattern of finds related to personal care in turrets on Hadrian’s Wall (Allason-Jones 1988), the methodology presented a good potential. Artefact distribution analysis was carried out for Elginhaugh to compare and supplement
the information obtained from informed eyeballing of the plans and the formal methods of their analysis.

The deployment of the EDM as the main recording technique to record each individual find was a novelty in 1980s at the time when the excavations were undertaken and resulted in the creation of a systematic digital finds database. The quality of the finds assemblage and the database were suitable to carry out a finds distribution analysis following methodology developed by Allison (2004, 2006, 2006, 2009).

The database, which I was kindly provided with by Prof. Hanson, required preparation before the finds spots could be plotted onto the Elginhaugh plan. The finds spots in the raw database were recorded electronically and amounted to over 11,000 records. The small finds were located individually with the precision up to a centimetre, while the bulk material, if not located individually, was associated with the coordinates of the stratigraphic layer it was found within. The first step in the processing of the database was the removal of ‘dummy entries’; ecofacts, material thrown-away in the post-excavation processing and insignificant for the research question finds (iron nails). Entries figuring as either glass or metalwork whose finds codes were not included in the published finds report were deleted, having confirmed that they were either modern finds or otherwise ‘dummies’ with Prof. Hanson. Objects in the digital database originally Figured under generic material categories (copper alloy, glass, iron), so the second step was to cross reference the finds from the published report with the digital database.

Precise identification was possible through matching the finds codes between the database and the published finds report. Only a very minimal proportion of small finds catalogue in the paper report were missing from the digital database. It was possible to reconstruct these entries by assigning to the finds the coordinates of the layer they were found within. Certain layers were found to be missing from the digital database and at other times the list of finds seemed to be only partial. Fortunately, this was extremely rarely the case for finds of interest to us here. If a whole layer was missing and a rough association with a building was not possible, the finds were not included in the plots. Using
Arc GIS, the findspots were plotted on the plan of Elginhaugh in relation to the excavation grid coordinate system. Each category of finds was plotted as a separate layer allowing for quick navigation. The technique is explained in more detail by Allison (2013) and I follow the method for distinguishing connections between artefacts and activities.

The finds assemblage published in the site report was correlated with the digital finds database which provided coordinates for the findspots with the help of finds codes, unique for each find and featuring on both. The methodology deployed closely followed that defined by Allison. A digitised excavation plan alongside the grid coordinates were recovered from the 1980s early GIS files. Analysing the data required going through 11,500 records to determine their usefulness and to categorise their archaeological context. Out of the 11,500, less than 800 finds were useful As not useful finds I considered: finds identified in finds processing as ecofacts and labelled as ‘thrown away’ in the database; iron nails; unrecognisable metal objects; melted glass; structural wood fragments; and roof tiles. Since the stratigraphy on site was relatively simple and well recorded, it was possible to classify layers as belonging to uselife, demolition, rubbish disposal and disturbed contexts. The variable of context has been included in the analysis, partly to test the hypothesis of whether the distribution of demolished material was likely to resemble that of uselife.

Specifically, the analysis was carried out as follows:

- Assessing differences between the deposition of finds from uselife and demolition contexts to decide whether the demolition contexts can be informative of the uselife activities of areas within the base.
- Distinguishing possible areas of activity.
- Looking at the relationship between the physical space and the activities suggested by the finds distribution.
- Distinguishing and interpreting areas of increased social presence and understanding them in the context of the spatial conformation of the site (i.e. were they secluded from traffic, within or outside of view).

Distribution maps were produced separately for every category of finds and context of their deposition.
I decided against looking at the assemblage in person. This would have been too time-consuming and without specialist knowledge, it would add little to what was already in the finds report.

2.4. Dataset accessibility

The analysed sub-literary data consist of the Bu Njem ostraca available in a French monograph (Marichal 1992), the Dura papyri published in a monograph (Welles, Fink et al. 1959), the Vindolanda tablets available in four volumes (Bowman 1983, Bowman and Thomas et al. 1994, 2003, 2010) and Fink’s (1971) corporum of ‘Roman Military Documents’. The literature on the epigraphic evidence of the collegia is in fact fairly small and in accessible languages (English, German). Unlike the military documents, it was not deemed necessary to consult the literary sources in original. Instead, I relied on the popular translations by Penguin and Loeb Classical Library. The works read include:

Military manuals: Vegetius’ De Re Militari, Pseudo-Hyginus’ De Mutionibus Castrorum, Frontinus’ Stratagems, Justinian’sDigesta (Chapters on military law).


For the two case-study archaeological sites, I chose ones which have the most extensively known plan and whose recovery was undertaken during the course of large area excavation campaigns as opposed to a series of smaller excavations. These were deemed to provide better evidence of the areas in between buildings and avoid having to work with piecemeal data with the stratigraphy, excavation methods and level of detail varying between a large number of relatively small trenches. I consulted the Elginhaugh dataset with its excavator, Professor Bill Hanson, who kindly provided me with the high resolution digital plans of the site, a raw Access database of finds and 1990s AutoCad files which, with the help of Dr. Gillings, I was able to translate into the modern ArcGIS environment. I consulted the excavation diaries at the Royal Commission on the Ancient and Historical Monuments of Scotland in Edinburgh.
The rescue excavation undertaken between 1986 and 1987 provided the most extensively known plan of a Roman military base to date (Hodgson 2009).

The Bu Njem material is available in a series of yearly excavation reports published in Libya Antiqua (Rebuffat 1967, 1970, 1970, 1975, 1977). I relied on those and did not seek to consult the original excavation documentation archived in Libya and France, which were not likely to yield additional information and be difficult to read since they are hand written in French.

Originally, the project also looked at a third case study site of Wallsend as the best excavated site on Hadrian’s Wall. However, due to the limitations of space and time, this is not included in the final PhD thesis. I was kindly provided with a digital copy of the forthcoming site report of excavations undertaken by Daniels prepared for publication by Dr. Rushworth. The artefactual evidence was not sufficiently prepared for publications in time to include the finds from Daniels’ excavations in the analysis. Having spoken with Dr. Croom, I decided against using the artefactual evidence as the amount of effort needed to prepare the finds for plotting and no certainty for obtaining useful results were too much of a gamble, especially since a dedicated finds report was being prepared by Dr. Croom anyway. As such for the purpose of contrast both in terms of context and the type of data, I decided to present Bu Njem and Elginhaugh.
2.5. Conclusion

This chapter has presented the theoretical and methodological framework for my thesis. Firstly, I presented the literature review for the study of Roman military bases and referred to key developments since the 1950s and the place of this thesis within the latest frameworks. Previous trajectories of research led to developing a great knowledge of the organisation of the Roman army. Until the 1990s, research on Roman forts directly corresponded with the agenda for studying the organisation of the Roman army. In the last two decades, interest in the Roman army as a community has led to a development of a more anthropologically oriented understanding of the Roman army as both an institution and a social organisation. The theoretical overhaul resulted in completely different questions being asked. While a good amount of work has been undertaken to date, the spatial conformation of the sites (the plans and

Figure 2.1 Map with the locations of case study sites.
Google Maps.
features) and the sub-literary data open have not been a direct subject of study within a current theoretical framework. My methodology has been introduced in section 2.3 along with a first presentation of the data to be examined. The excavations of Bu Njem and Elginhaugh as site reports (descriptive, as opposed interpretative), offer good datasets for an analysis of the sites. The analysis involves a series of methods suited to the varied sources of data: literary, sub-literary, epigraphic, archaeological plans and features and finds assemblages. Chapters 3-5 present themed research on the movement and presence within military bases as elucidated through literary and documentary evidence of the units, the temporal variation to activity of military bases and an adaptation of psychological estimates for the size of social networks to the sub-literary and epigraphic data on communities within case study Roman military bases.
Chapter 3

Movement and Presence as Spatial Practices - Analysis of Written Sources

One of the questions my thesis investigates the sort of movement and presence taking place within a military base and the individuals engaged in these activities. To help answer this question, this chapter utilises the literary and sub-literary evidence to make a connection between fort plans and social practices. To do this, I examine written sources carrying information about the patterns of presence and movement within the fort, and treating those as types of social practice. I refer to them as spatial (social) practices. The objective is to study how the society of the fort worked in space and time through: the distribution and movement of individuals within and between the architectural components of the site; the enclosed roofed spaces (e.g. in workshops); open spaces (e.g. in between the barracks) and route-ways. The research is text informed, in the sense that I look at both the textual and archaeological information and evaluate what information may be applicable to the context of the hiberna. The context of hiberna corresponds, more closely than that of the marching camps, to the situations that might have taken place in permanent military bases studied in the thesis.

3.1 Introduction

The approach of glimpsing the variable of movement through snapshots of its practice in ancient sources was adopted from urban studies to the study of ancient cities of Rome and Ostia (Laurence and Newsome 2011). Literary evidence preserving remarks at the level of individual sites, which can then be tied to particular archaeological remains, is largely absent in the context of the Roman army. Instead of working with specific buildings, as in Rome, one can only use generic classes of spaces common to most bases, with some bases containing more unusual spaces. Bearing in mind the context, in which the sources at our disposal were created, and the use they served, one can adapt the approach to the data.
The data consist mostly of administrative records of the actual practices and often anecdotal references to the practices in military writings. The minimum to be achieved is a sense of what was important in the daily practice of a camp and a phenomenological insight into military bases as lived environments. Caesar (BG. V 48) portrays a situation when a message attached to a spearhead was hurled inside a Roman camp by the Gauls. Through an unfortunate accident, the spear wedged in a tower, rather than the street of the camp where it was intended to go - this is where it would have been immediately spotted. As a result, the spear and the message attached to it were not seen by the Romans until three days later when a soldier accidentally spotted it. Similarly to modern times, most people when walking along the streets rarely look up (Hillier and Shinichi 2005: 482) and the same seems to have been true in Roman camps. Many of the situations portrayed in military manuals are supposed historical examples giving them a degree of credibility. Frontinus specially stands out as a collection of practical examples for commanders (stratagems) and large parts of Tacitus’ narrative in the Annals takes place on the frontier, including in the camp. The republican writings of Polybius are also included, as they describe most clearly movement associated with practices whose parallels under the empire preserve in much more laconic form on unit records.

To put flesh on the skeleton of the fort plan, we can look through military documentation in search for evidence on the actual practices of movement. Elements that contributed to the patterns of daily movement within a fort can be defined based on the purpose of the movement. In the case of a militarised complex we can draw the distinction according to three broad categories; official (on-duty), non-official/private and unauthorised movement. Most important for the structure of the chapter will be the categories of on-duty and of unauthorised movement, because they are most readily available in the sources.

Duty-related movement would have produced types of movement specific only to the military environment and not present in towns. On-duty movement was a likely normative element of the life of a fort in the sense of both being a
regular element of daily routine, and partially having the power to regulate life in the fort. The building blocks of on-duty time, military watches and, also likely, natural rhythms of day and night, provided cyclical, daily patterns of presence, movement and activity. Official duty-related movement likely structured much of the daily rhythm of life in the base. The practices can be matched up with locations within the standardised layout of the military base to produce patterns in terms of routes and categories of individuals moving between them.

The sub literary data of unit records offer more structure than, often anecdotal, references in military writings.

References to unauthorised movement are preserved in correspondence, war manuals and in legal documents. Theft, intrusion and a desire to protect information manifest themselves through the occurrence of locks and keys (Birley 1997). This represents the implications of the unauthorised movement. Traditionally, within the sources this took place at night, perhaps to figuratively underline the unauthorised nature of the practices, hidden from the eyes of others. Soldiers deserting Hannibal’s camp chose the night (Frontinus III.XVI.4). The initiators of mutiny in the Pannonian army during the reign of Trajan too waited until after dark and until after ‘the better elements dispersed into their tents’ to plan their uprising (Tac. Ann. 1.17). Similarly, the night provided cover for the mutineers in Germania in A.D. 14 (Tac. Ann. 1.39).

Off-duty movement and the movement of private individuals, especially those not on the rolls of the unit, is impossible to trace through the text and therefore this category of movement does not feature in this chapter. The details of locations of places and individuals’ routes through the base were likely considered as obvious or unimportant by the authors of ancient letters and documents, and therefore do not feature in the written record. However, archaeological data presented in Chapters 6-7 at times offers interesting glimpses.

Admittedly, the focus on the categories of on-duty and of unauthorised movement presents a skewed vision of the daily reality of the camp as the two categories would no doubt played a small part in the largely unpredictable activity of those not on unit rolls, and of soldiers off-duty. We can tentatively
outline some such activities based on the deduction that certain movement
must have occurred periodically (e.g. to draw rations from the granaries). Many
of these would repeat and be rhythmic, in the sense of being framed by time
cycles, such as the day (see Chapter 4). The dimension of time, especially short
cyclical time, is usually obscured in archaeological data by the nature of the
evidence.

Another way is to see movement as embodying: cultural; ideological/hierarchical (the movement of the commander between the
principia and the praetorium as evidenced through back passages in both
buildings at Elginhaugh and Bu Njem in Chapters 6-7); disciplinary (the passing
of tesserae in section 3.2.2 and the ostentatious practices of punishment in the
camp); religious and infrastructural (the activity around the bathhouse at Bu
Njem in Chapter 7) practices that produced the movement. Where possible,
such movement is referred to within the structure of both this and the
archaeological datasets discussed in Chapters 6-7.

Important are also features of movement and presence specific to the Roman
military context. The military nature of the environment would, for example,
restrict the freedom of movement. A situation illustrating this is a story of Scipio
Africanus during Jugurthine Wars (112-106 B.C.) who, when sending an embassy
to the enemy’s camp, chose high ranking officers to disguise as slaves to be
able to spy on the enemy. In order to gain more freedom of movement within
the camp, these purposefully let loose a horse to provide a valid reason to
penetrate the camp under the excuse of chasing the horse (Livy XXX.4 and
Front. I.II.1). Different rules would have applied for the ‘home team’ within their
own base. It is also not coincidental that Livy’s anecdote pertains to a
campaign situation, likely a ‘high alert’ situation as compared to the reality of
garrisons in peaceful provinces. The intentionality of a soldier’s movement within
the base likely extended also to how the movement was carried out, how one
walked and the sound made by one’s uniform (Bishop and Coulston 2006: 254).

Related to this would have been hierarchies of access. The control of access to
buildings would have been a demonstration of authority. Restrictions of access
would have been in place both for the outsiders, but for the military personnel –
differentiating between people of different position within the base. A prime example would be access to the praetorium, the sacellum in the principia, or, by parallel with the civilian mining town at Ajustrel in Spain (CIL II 5181), to the baths with different opening times for men and women. Hierarchies of presence and access within the camp would have been culturally contingent. These are largely invisible when looking at the layout of the fort. However, for those within the society of a military base the distribution of privileges of access would have been an easily understandable, and readily visible, differentiator between members of the same community (Newsome 2011: 6), for example a centurion versus a new recruit. Such hierarchically differentiated access in religious and political settings has been studied in Flavian Rome (Frederick 2003: 222).

Hierarchy of access introduces distance understood in social, rather than physical terms, created differentiated access. A disregard for hierarchies of access during mutiny in A.D. 14 is alluded to by Tacitus when he describes how the doors to Gemanicus’ residence in the camp were forced in by the mutinous soldiers wanting to take possession of the unit standards stored there (Tac. Ann. 1.39).

I will begin by looking at what patterns of on-duty movement/presence (section 3.2) we can discern and what can be said of social practices behind these patterns (i.e. resultant distribution of people; hierarchies of access and rhythm to social life). I will look at the extent to which it is possible to map these patterns of movement on a generalised layout of a military base.

In the second part (section 3.3), I move on to an overview of the attested kinds of unauthorised practice within the camp. The aim is to see the range of behaviour attested and to see to what extent we can talk of a form of surveillance over the soldiers within the fort and in what context. Because collating all references to unauthorised movement in written sources lies beyond the scope of the thesis, I will provide a selection of references to each attested kind of unauthorised practice with references to more examples.
3.2. On-Duty Movement

The following sections discuss the Republican and Imperial data for on-duty movement. These have been separated as they describe Roman armies at very different times in history, with different social and cultural contexts. Section 3.2.1 discusses the relevance of material handed down by Polybius, while section 3.2.2 focuses on documented camp routines under the Empire.

3.2.1 On-duty movement in the Republican tradition of Polybius (formerly section 3.2)

Polybius is a good starting point as his depiction of guard movement presents the most complete image of on-duty movement as a socially meaningful spatial practice. In the fragment describing routines of the Roman army in their camp, Polybius makes detailed observations about the logic behind the movements of soldiers on guard duty. When seen from the point of view of the discussion of movement in Roman military bases presented in this chapter, this choreography of movement takes on a social meaning. In the context of ephemeral marching camps, with low defences, guard presence and movement are easy to understand as a way to fend off external threat. However, on-duty movement also embodied hierarchical relationships across ranks and most importantly, served as a means of disciplinary control over the soldiers’ whereabouts. Such disciplinary control exerted through practices of movement was very important in the context of preventing desertion. The practices attested in military documentation of the 1st-3rd century AD echo elements of this tradition (i.e. tesseræ, watch at the principia), making it useful to understand how these original ideas operated. The evidence from hiberna in the imperial period (section 3.2.2) enables us to see how much overlap there actually was between the practices in the Republican and the Imperial period.

The material is discussed separately from the military records from the imperial period, as Polybius wrote long time before the creation of either auxiliary units, or permanent military bases – the hiberna. Polybius portrays the heritage from which some of the imperial practices of camp policing grew, rather than a model of functioning that can be readily applied to Imperial context; especially since the army was very different between the two periods. Even if
anachronistic in the context of the actual daily practice of the Imperial army. Polybius is worth commenting upon. He preserve socio-cultural cues as to how official movement reaffirmed concepts important to the functioning of the military society of the period, especially discipline and hierarchical relationships. Other sources of the period (i.e. Livy, Sallust and Caesar), provide only short, anecdotal references.

3.2.1.i Supply of guards to officers

Hierarchy and maintenance of patron relationships, characteristic of the wider Roman society of the period, were reaffirmed in the camp through the practice of supplying guards to officers, tribunes and the consul. These practices are relevant to the research questions as they embody social concepts (here particularly of social distance) through hierarchies of access; that is where members of the unit of different social standing were to be seen within the camp during their guard duty.

Polybius (VI.33.7-8) repeatedly underlines the provision of a retinue as crucial to attendance to the status, reputation and honour of the high-ranking officers. As the most potent patron, to whom all paid respect, the consular guard was drawn from every infantry maniple of every rank (Polyb. VI.33.12). Later Polybius presents an array of relationships between triarii, hastati and velites: triarii, as the oldest and most prestigious maniples (Keppie 1998: 35) were exempt from service to tribunes, but still paid service to the consul (Polyb. VI.33.10), and younger hastati and principes attended to the tribunes’ special needs. The velites - the poorest and often the youngest - were not eligible for service to tribunes and instead were assigned administrative service to other maniples (Polyb. VI.33.8).

From this we obtain an image of the central range within the Republican legionary camp as containing seven locations (six in front of the tribunes’ tents and one in front of the consul’s tent) for constant standing watch (i.e. guard duty). The more experienced men were more likely to be chosen for these duties than the younger and poorer soldiers (velites). Walking along the via principalis, the retinue for the consul would have been most conspicuous with mounted guards (Polyb. VI.33.12), and likely also the largest as it was drawn
from all maniples. This was followed by the tribunes’ guards, four at the front of the tent and four at the back (Polyb. VI.33.7). In the tradition of the Roman Republic, the patron-client relationship played a vital role in the structuring social relations at the top of the society. An important part of this tradition was paying service to the patron through accompanying him in public (i.e. to the forum). The central area in the camp was the equivalent of a Republican forum as a stage for display of hierarchical relationships of patronage within the society of the camp, filling the area with distinctive form of movement and presence as both protection to the officers, but also as a physical and embodied manifestation of these hierarchical relationships of power. Preference for those higher up in the hierarchy to perform duties in the centre is repeated in the allocation of night watches, with the velites taking up posts around the perimeter rather than attending to higher officers (Polyb. VI.35.5). It is possible therefore, to see a correlation between hierarchy, presence and display of retinue.

3.2.1.ii The passing of tesserae

The practice of passing the tesserae gave rise to another form of official movement. Tesserae translated as orders, watchword or password seems to signify both the word passed around the camp, and the tablet the password was inscribed on. The movement repeated each day and started at the centre of the base, proceeded to its edge and around the periphery to finally return to the centre before dawn. Issued by the tribune, the tesserae were collected by a soldier from the maniple at the furthest end of the camp (referred to as the 10th maniple, or maniple at the lower end of the street) and passed to quarters next door, with a witness present each time the watchword was passed to the next centurion. The relay continued until the tesserae reached the central range again before the night (Polyb. 6.34.7-12, 6.40.1-3). Apart from transfer of vital security information, the important feature of the passing of tesserae, seems to me to be the element of control it imposed over each individual quarter within the base, under the threat of punishment in case delay or, a mark from a century were detected. The practical role can also be interpreted as an exercise in discipline and policing that was firmly tied to the physical space of the camp; ensuring everybody was where they should be.
3.2.1.iii Rounds

A third wave of movement within the camp described by Polybius took place at night. Polybius’ (VI.35.8) information about the distribution of standing watches at night portrays an image of the camp covered with a grid of points of presence; extending beyond the officers’ accommodation and the quaestorium, into each subunit’s accommodation areas and the intervallum (Polybius VI.35.3-4). This was a reassuring presence watching over the community of the legion at night, when it was most vulnerable. To complement the presence of guards, a circuit of movement was initiated after dusk introducing a linear, repetitive rhythm of patrolling in the camp. ‘Rounds’ were executed by cavalry and repeated each night watch, each time by a different cavalryman. A procession of location was attended targeting sentries in the intervallum, the gates and pickets within the accommodation areas. It seems that the point of cavalry rounds was internal policing of those entrusted with the standing watches as much as the underpinning of security against an external threat. The cavalryman circuited the base collecting tesseræ from each sentry to return them to the tribune. This practice assigned individual responsibility and fostered a spirit of mutual surveillance under a threat of punishment in case failure on either side was detected, again with witnesses accompanying the cavalryman to vouch for him, if needed (Polyb. VI.36.2-9). Further, the presence of cavalry around the via sagularis would plausibly serve as a good desertion prevention method.

3.2.1.iv Summary and interpretation

On balance, the practices of guard presence in the central range manifested hierarchical relationships at the top of the society of the base. The practices of the passing of tesseræ and of the rounds produced predictable patterns of movement and served as a disciplining exercise. When referring to watches, there is a difference between watches understood as a measurement of time (Chapter 4) and watches understood as duties, whose performance in literary sources was timed by watches as units of time (i.e. standing guard, sentry duty, rounds). Polybius provides the most complete account of the assignment of watches as guard duties in the Roman army. However, since it predates the Imperial period by three centuries, extreme caution is needed when comparing those to the actual practice of the Imperial period.
Good examples likely to occur only on campaign when attack is expected, are cavalry duty taking place outside the perimeter (Veg, III.8), probably to alert about enemies approaching at night. The second, better example, are the cavalry rounds on the via sagularis during the day advised by Frontinus (II.XII.1). Such practice would have been appropriate for exhibiting the strength of a unit from beyond the low defences of a marching camp, with the heads of the riders bobbing up and down over the defences. In contrast, in a garrison in peacetime the routine may have differed to that during campaign, with the disciplining role of on-duty presence and movement outweighing the threat of attack on the base. Relaxed duties during relative peace and in stationary camps are referred to in Vegetius 3.VIII (outpost horse patrol only twice a day). The degree to which this took place would most likely have depended on a particular garrison. Secondly, military manuals are likely to portray the ideal, of which the practice might have been less strictly adhered to, even during campaign.

However, some of the watches described by Polybius retained their name and perhaps also some of the character under the Empire. The practice of tesserae continued in some form under the Empire. In 1st century A.D. in literary sources the practice is attested in Josephus' (Bell. Iud. 3.87-88; 3.540), who mentions the issuing of tesserae by the commander during morning salutation to his centurions, but unfortunately without description as to how the word circulated around the camp (Josephus, Williamson et al. 1981: 196). In late antiquity, Vegetius (II.9) mentions tesserae being changed every day and distributed among the centuriae. In Ammianus (Amm. 21.5.13; 23.2.2) they are still understood as instructions. The sub-literary evidence discussed in the next sections of morning reports provides the tesserae of the day, which are also referred to on an inscription from Dura Europos (Speidel 1984: 287). Together, the inscription and papyri suggest that in stable and relatively safe conditions, we could expect procedures reminiscent of those described by Josephus.

Night watches are mentioned by Vegetius (III.8), including cavalry rounds, this time accompanied by an infantry soldier. One needs to be careful with Vegetius so as to avoid a circular argument. He described the ancient Roman
army, likely compiling sources from both the Republic and Imperial period. Under the republic Sallust (Jug. 44-45.2) refers to circitores, and in the late imperial period Vegetius (III. 8) and the Digesta mention circitores. There the function is assigned to tribunes patrolling the watches at unspecified intervals of time (Dig. 49.16.12.2). The movement of circitores under the Empire is evidenced in documentation at Dura Europos (section 3.3.2), discussed below. The sub-literary data from the hiberna of the Imperial period do not provide evidence for the provision of retinue to officers in a fashion similar to Polybius. Instead, some documentation written at century level (P.Gen.lat.1 and O.Bu Niejm) provides isolated instances of batmen assigned to centurions and other minor officers.

The evidence from Polybius helps answering the research question about the practices of movement in the base by providing the first evidence of patterns of official guard presence in the camp as a category of on-duty movement. The choreography of movement of guards witnessed by Polybius played a part in what was effectively an exercise of discipline, engrained so deeply in the daily praxis of the unit that it became routine. The practices of providing guards to the officers also represented hierarchical relationships of power of the officers over their soldiers.

These practices were very structured and an important part of the daily functioning of the base of the Republican period. While the data are not from the Imperial period, they introduce the idea of hierarchical relationships at the top of the unit having their spatial manifestations: the central range of a base being an important stage for the presence of officers. The data provides the best portrayal of practices echoed in the later, documentary record of the Imperial period.

3.2.2 On-duty movement and presence in military records under the Empire

To address the research question of presence and movement in the base, this section reviews the information on the distribution of people and the practices of on-duty movement preserved in military documentation of the hiberna. The
documents record actual practices in military bases of which, some have been identified archaeologically. This section also presents the ostraca from Bu Njem, which is one of my two archaeological case studies (Chapter 6).

The data have been divided into two groups: Europe and the Roman East. The European evidence is fairly limited, with only two major collections of documents (Vindolanda and Vindonissa) and with several documents from Carlisle. To remain on the side of caution, I assume that the military practices in the Roman East, and especially in Egypt, might have differed from those in Europe. The reason for keeping the two groups separate is to later compare them to conclude whether the situation portrayed in both ends of the empire really differed. The documents from the East contain a wealth of information, otherwise not preserved on European documents. The documents reviewed include the 3rd century A.D. archives from Bu Njem, Mons Caludianus and Dura-Europos and a number of single documents rich in information. The archaeological case studies in Chapters 6-7 include both a European and an African site.

3.2.2.i Europe - Vindolanda

The documentary evidence for assignment of duties and the activities of soldiers in the vicinity of the forts is very limited; with groups of documents from Vindolanda, Carlisle and Vindonissa. The last one consists of letters and pay receipts with no other official documents (Speidel 1996) and is therefore of no interest here.

Two groups of documents from Vindolanda are of use here: strength reports and documents listing assignments of soldiers and fabrica output. The strength reports, while not containing information on the specific assignments of soldiers within the base, provide information on the numbers of men left in the garrison and available for duty. This at least provides us with general proportions of men in the base. Tab. Vindol. 154 concludes that only around a third of the garrison (265 out of 752) was available for service, with one centurion present on site and with over 10% of men present registered as ill or otherwise unfit for service (31 men). A similar record (Tab. Vindol. 857) dates to January 4 of an unknown year, which means there was a minimum gap of five months between the two
documents. Unfortunately, the record has no totals of presentes and absentes preserved to provide a comparison (Bowman, Thomas et al. 2010: 197). Another document (Vind. Tabl. 859) suggests a subtotal in the region of 50% of the unit registered as absentees on duty away from the base, but does not provide the date or, the time of the year either. Bowman et al. (1994: 94) rightly suggested that the large number of absentees on Tab. Vindol. 154 may be due to its date in May, at a period of increased military activity in the summer. Another reason for the large number of absentees (especially those at Corbridge) can be potentially explained due to duty patterns reaching beyond the area of Vindolanda, with substantial number of men sent to Coria (337 men in Tab. Vindol. 154) for work in the fabrica, either as a permanent feature of the rota or, seasonally. A cyclical yearly pattern in the functioning of garrison seems to come through the documentary evidence more generally (see section 4.3).

In terms of what the men left in the base would be assigned to, the activity that comes through the Vindolanda evidence most strongly is workshop production (fabricae). Tab. Vindol. 155 records a total of 343 deployed in fabricae from the First Cohort of Tungrians. This amounts to around half of the total strength of the unit. Since this number approaches the total of men recorded as left in the base on another summary (Tab.Vindol. 154, Tab. Vindol. 859), it may well be that the best part of men left within the base would be deployed to production work. Entries related to construction work also occur: building a bathhouse (s[tr]uctores ad balneum) (presumably outside of the base) (Tab. Vindol. 155); construction of a residence (s[t]ructor[es a]d u[al]etudinar[es]); plasterers (tectores) and clearing up rubble (caementum). Construction work is attested on other documents too, for example building a guesthouse (Tab. Vindol. 156 and Bowman 1994: 100).

Tab. Vindol. 862 indicated how the work was organised. It records items produced by the century of Firmus and listed under the names of three fabri. Since only three men are recorded, and the quantities of material produced are substantial, the men were likely the craftsmen in charge of each project, rather than the actual labourers, whose number would presumably have been significantly higher (Bowman et al. 2010: 211). The numbers of men under the supervision of each faber is unknown, but the document provides a glimpse
into the structure of work with fabri overlooking groups of workmen, with the groups being organised according to centuries, and perhaps working alongside each other. A fragmentary record of another such lists indicates that the groups could have been anything between over a dozen and four dozen (18 and 48 men), and perhaps even more (Tab. Vindol. 157). Who the labourers may have been is indicated in a list of the output of a legionary fabrica from elsewhere in the empire, where three types of men can be distinguished; the soldiers, the servants (galearii) and the civilians (pagani) (MacMullen 1960: 26). Another document at Vindolanda (Tab. Vindol. 160) recording names of labourers, their specialisation and current assignment, also indicates a strong focus on production, this time specifically metalworking and carpentry (i.e. references to swords, axes, wagons). The production tasks (Tab. Vindol. 155) very likely would have taken place within or immediately outside the base (i.e. saw-makers, shoemakers, for lead, for wagons for tents/wool). This was close enough for the soldiers to sleep in the base overnight.

Other entries in the documents (Tab. Vindol. 155) relate to extraction of resources in the surroundings of the base; clay extraction (lutum), and possibly firing of it (ad furnaces []). Similar references occur in other documents; lime burners (calcarii) (Tab. Vindol. 858), to burning stone ([a]d lapidem flammundum) - probably also referring to limekilns; and again to obtain clay, this time specifically for the defences ([a]d lutum uim[ini]bus castrorumfacien)(Tab. Vindol. 156). Outside of Vindolanda, the Carlisle tablets contain reference to a timber yard ("ignaria" for lignaria) (Tab. Luguval. 23 in Tomlin 1998: 78), possibly suggesting the assignment of soldiers in a timber yard in the vicinity of the fort. Also omissions in the documents raise questions. For example, what were the soldiers not listed under the task headings doing on the day? We will return to the question in section 3.2.2.ii, where data from Cyrenaica offers more information.

The Vindolanda evidence helped address the research question by providing a partial glimpse on the activity of a production oriented base. The preserved assignments record manual labour. The majority of these concerns production-related tasks, especially of metal objects. Production activity presumably would have taken place in the workshops within or in the immediate vicinity of the fort:
Our knowledge of the plan of Vindolanda from period IV is too limited to tie it with the textual data in a meaningful way. At least some of the workshops would have been situated inside the fort walls. The excavation of Vindolanda period IV/V indicates that there were a lot of areas of industrial/non-domestic activity (Birley 1994: 113-126). These included a leather workshop from the period IV/V. The workshop was located to the south of the via principalis, immediately west of the period IV schola, and identified through small finds (Birley 2003).

In auxiliary bases, workshops tend to be placed either along the via principalis or, in the extramural settlement, in the direct vicinity of the base. The construction work mentioned in the tablets (i.e. building a residence in Tab. Vindol. 156) is believed to have most likely taken place within the defences (Bowman and Thomas 1994: 100) or, as in the case of the bathhouse, immediately outside (Tab. Vindol. 155). Interestingly, no records of the upkeep of the base (i.e. sweeping attested on P.Gen.Lat.1) occur, but perhaps routine company duties were assigned below the level at which the Vindolanda documents were drafted up. All of the preserved assignments are likely to be those of milites gregarii, with no records of task of immunes preserved at all. The Vindolanda evidence provides evidence useful for answering the question of the daily whereabouts of milites gregarii and indicated a stationary nature of their tasks.

3.2.2.ii Eastern Empire

The data from the East of the Empire provides the richest evidence for addressing the question of the patterns of presence and movement of people from the perspective of military documents. The wealth of details allows for partial theorisation of the patterns in terms of the social distribution of people, the relationship between the physical and social distance, and the disciplining and social role of guard presence and movement. The most substantial sources of information from the region are discussed here, starting with the P.Gen.Lat.1, effectively a spreadsheet providing information on the whereabouts of soldiers of one century in the legionary base at Nicopolis, near Alexandria in Egypt. This is followed by the analysis of Bu Njem ostraca as the second most rewarding resource, analysis of documents from Mons Claudianus, and the Dura papyri.
These, while not containing precise information about locations within Dura, offer an image of a drastically different distribution of men as compared to Vindolanda.

Duty roster of Legio III Cyrenaica

The most complete and informative source at our disposal is a group of documents of Legio III Cyrenaica (P.GenLat.1=RMR9, RMR 10, RMR37, RMR58, RMR68). The documents are discussed in detail as the roster reveals a wide variety of activities, that exceeds information obtained from other documents. While some of the assignments of legionaries might have been unique to the legionary context, for example those taking them on duties outside the base and in relation to the local communities, others, such as the upkeep of the base, were likely to have been rather similar across different types of units and regardless of the size of the base. Here, the volume of people involved and addition of specialised tasks might have made the difference (i.e. duty in the arena). The documents portray a hierarchy of access to particular places, control over movement of ordinary soldiers through the kinds of tasks assigned to them and depict the mundane reality of service of many men.

The documents date to between A.D. 87 and A.D. 96, all written on the recto and verso of the same sheet of papyrus. The core document is a spreadsheet (RMR 9) giving details of assignments of 31 men for the period of the first ten days of October A.D. 87. This is supplemented with a monthly summary of the tasks of nine immunes from the same century (RMR 58). RMR 9 and RMR 58 refer to the same century based on the handwriting and the number of 31 men available for duty matching between the two documents. The time gap between the documents is no more than 3 years (Fink 1971: 210). In conjunction the two documents give a good glimpse into the distribution of a group of legionaries during their working time. A third and later document (RMR 10) gives information on detached duties of four men from the legion and is of limited value here, while the remaining two, a pay record (RMR 68) and a list of legionaries (RMR 37) are not relevant. The documents record the activities of what seems to be one century. It is less likely that the documents pertain to a vexillation outside of the main legionary camp at Nicopolis, since some duties
are located in Via Nicopolitana, likely to my mind the road leading into the legionary base.

The table (RMR9) is not complete; out of around 330 fields 54% (180) contain readable duties, at least 27% (90) are destroyed and around 18% (60) of the fields were most likely devoid of entries (Fink 1971: 112), although the writing on some might have faded away. The list includes only around half of the paper strength of the century. Together the proportion of empty fields, understood by Fink as no assignment for the day (Fink 1971: 112) and fields denoting exemption from duty (dashed line) imply that a fair number of men from the centuria were without a solid engagement for the day, some perhaps hanging around in the base (in column b for the day K domitia at least 8 men are either with no assignment or, are exempt from duty). The percentage of entries denoting 'on leave' or 'exempt from duty' is very high (26%). Since there does not seem to be a specific symbol denoting men ill on the particular day, empty fields may reasonably include men unfit for service. There was no single day in which all men would be off-duty within the period covered in the spreadsheet. There does not seem to be a cyclical pattern in terms of how the duties were assigned to men or, a repeated pattern of what needed to be done every so often. Instead, we find that among one-off assignments particular tasks seem to cluster in periods of 2-5 days, often with different men assigned to the duty each day.

I divided the duties in RMR9 into several categories informative in terms of the distribution of people within the hiberna during the soldiers’ working time. The majority of assignments were inside the base, as opposed to the outside. The categories include: upkeep of the base; manual labour inside the base; manning watches/guard duties; manual labour outside the base and policing outside the camp.

Most tasks (30% of preserved entries) fall either under manual labour within the camp or the upkeep of the base. Most locations can be identified firmly as within the base: sweeping in the century area (scoparius in ٢); cleaning of latrine/stable (uical[...,] stercus), baths (ballio); working on Helius’ parade uniform ([]g[])e ornatus heli); hospital duty/stretches (fercla) and shoe
making/repair (calcem in 6k-m) (all readings and interpretations follow Fink’s identifications). The remaining are likely to have taken place in the immediate environment of the defences: wagon train/making (galeariato); setting up training equipment (pro quintanesio); arena/digging sand (harena) and weaponry workshops (armamenta). The layout of the first century base of Legio III Cyrenaica is unfortunately unknown to compare the entries with the plan. By comparison, at the unfinished Inchtuthil the baths were meant to be located inside the fortress (Pitts and Joseph 1985: 187), similarly at Chester (Mason 2005: 5) and Neuss (Von Petrikovits 1975: 52). At Chester, Caerleon and Aquincum the arenae were all outside the perimeter.

Of those, the most common assignment is at what seems to have been the bathhouse (ballio); at least 1/3 of the men took it up at some point during the period of 10 days with 1-3 men working there each day. The bathhouse presumably run each day with a number of men needed to keep it open; running the furnace, processing fuel, policing entry, cleaning. As it often is with acronym annotations on Latin documents, other interpretations are also possible. Phang (2005: 218) notes that stocking up the bath furnace was considered a servile task in the civilian world. As potentially punitive task in the context of Egypt, according to Phang (2005), the task was unlikely to occupy much of the soldiers’ time. Instead Phang (2005: 218) proposes ‘ballio’ to be a short for ‘baiulare’ denoting running while carrying gear (Le Bohec 1994: 58).
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Table 3.1 Duty roster of the Legio III Cyrenaica (after Fink 1971: 108)
Some duties were clearly planned in advance, such as the preparation for training (pro quintanesio) with one group of men taking over from another after 5 days, and similarly assignment in armamentaria for 4 days between days f-k. Perhaps surprisingly the upkeep of latrines/stables and sweeping century areas Figure only once over the period of 10 days.

The second most prominent group (26%) consists of patrolling duties and standing/guard watches. A fair proportion of these can be identified with certainty within the camp. Most of those were guard duties within company areas, either within own century (in r at least 12 entries) or, within the areas of other centuries (d decr r, seren r, in r heli and perhaps db r, together at least 18 entries). Lesquier (1918: 239) proposed that the likely maximum number of four men each day on this duty agrees with four sentries as the regular number contributed by a century (Fink 1971: 112). This seems to be further evidence in the Mons Claudianus documents (section 3.2.2). Watson (1969: 74) prefers to see the entries marked with the centurial sign and a centurions’ name as personal escorts or batmen to centurions from another centuries. Some sort of relationship between the century dealt with in RMR9 and century of Helius is visible both in the provision of the watches, but also in Aemilius Valens having been deployed to repair Helius’ uniform for three days (g e ornatus heli in 2b-2c), and in the assignment of Clodius Secundus to work on Helius’ shoes for a day or two (6k-m as calcem and cal heli). Premerstein (1903: 21) argues that Helius was the senior centurion of the maniple of which this century was the other half, but this perhaps is an anachronistic concept. Another assignment within centuriae marked as strigis (7f-m) refers to guard duty, military policing or cleaning up duty in the fortress’ secondary streets (Fink 1971: 113). If the centuries were stationed in paired facing barracks, certain duties would have seen a degree of overlap (i.e. ‘sweeping in the company area’, presumably including the strigis between the two barracks). The difference between duties marked as in r and strigis is impossible to discern and may perhaps be also due to inconsistency in writing conventions within the document. A further guard duty attested is that at the principia (statione principis, with one man on day c and two on day h). Finally, sta por appearing on six out of ten days may refer to either duty at the camp’s gates (statione portae), duty at a harbour (statione portus) or taxing duty (statione portorii). All three of fink’s readings are realistic.
bearing in mind the Legion was stationed at Alexandria. With its high frequency on the preserved entries, the duty might have occurred each day.

Several duties refer to assignments outside the camp, with labour at lime kilns as the most prevalent one (6 entries) - two of these may refer to shoe making, but the reading is uncertain (Fink 1971: 113). A repeated entry at Via Nicopolitana, refers either to a watch duty or road works (4 entries). Some duties from this category were carried out potentially without supervision: survey of cotton fields (goss. for gossipion in 3h); looking after cattle (pecua in 3n and 27d); bodyguard duty (specula/speclat in 8c and 9d); watch at a station outside the camp (statione serenu or ad terrenu in 13f) and duty in plain clothes (pagano cultus in 15e). These altogether amount to 7 entries. The total of outside duties amounts to 17 entries, less than 10% of all preserved entries. Only a minority of duties was more skilled, possibly requiring literacy skills: orderly of Primus Plius (cum pilo in 20b); exit ad frumentum (31c-f); survey of cotton fields (3h); service in plain clothes (15e) and a badly preserved duty outside the base (exit[...] in 23b-d), totalling to 5 entries (less than 3%).

The context of the legionary base in Egypt makes some of the duties very region-specific (e.g. survey of cotton harvest), however, many duties would have been necessary in all military bases regardless of the location or their legionary or auxiliary context (i.e. manual labour, upkeep of the base, guard duties watches). The basic set of facilities within the base was universal to all military installations and so duties related to their upkeep presumably would have been too.

Perhaps unsurprisingly, and confirming the predictions, the document suggests that when on duty, the men would mostly be deployed to manual labour: in workshops, baths and to tasks relating to the upkeep of the base, all being relatively stationary duties. If we were to place the locations on a plan of a fort, we notice that aside from three entries as duty by the principia, no duties were taking place within the central administrative range or near the praetorium building. The duties were mostly being carried out in strigis, by the gates, in baths, latrines, stables, and in workshops. The locations of the latter two differ from one legionary fortress to another, but usually are placed near the
defences or, at the ends of the Via Principalis. However, the plan of the base of
Legio III Cyrenaica at Nicopolis to my knowledge is unknown. Watson (1969: 73)
identifies one further location at the ramparts, but does not specify which duty
he considers this to be (perhaps in the arena). Only a few mobile duties outside
the base are attested (i.e. surveys, service as bodyguard etc). We can perhaps
propose that for the majority of regular soldiers, labour under supervision at the
camp would begin with leaving in the morning to reach the place of extraction
of resources or the workshops. The return to the base presumably took place
before the night. The soldiers are likely to have been relatively stationary for the
duration of their working day and away from the core of the base.

The observations can be supplemented by RMR58. The document records a
total of 40 men, accounts for the tasks of nine men and concludes that another
31 men were left (reliqui), matching the number on the spreadsheet. Fink (1971:
210) identifies the nine men as the century’s immunes. The tasks are mainly to
do with record keeping and requiring literacy skills: requisition clerk (conductor);
clerks (librarii et cieapi); supernumerary (supernumerar.[.]); bodyguard/orderly
to tribune (secutor tri[j]ulius) and butler, or housekeeper to the house of tribune
Flavius (custos domi ploti tr[i]buni flauus). If we were to assign a location within
the base to the men, they were most likely to either work from the central range
(the offices in the principia, the house of tribune); act as supervisors to ordinary
soldiers (keeper of weapons - armorum custos, but this could be read as
officina armorum as in Fink 1971: 211) and the wagon repairer (carrarius).
Otherwise, they would be on the move both inside and outside the base (i.e.
requisition clerk, bodyguard to the tribune, supernumerary). The central range
was the most likely location where the immunes would spend their day, giving
them privileged access to contacts higher up within the unit hierarchy. It may
also be that all of the immunes could be on duty outside the base at a
particular time, as could be the case of this document (Breeze 1969: 137, 198).
Some entries look like the man was away from the base, such as one on duty in
a station post (stationem agens).

The locations where the immunes from the list worked, differed from those of
ordinary soldiers on RMR9, with the exception of workshop supervisors. Most of
the categories of duties in RMR9 would have been stationary, potentially
without much movement between the components of the base involved in them and outside of the central range. Only one entry on RMR9 indicates working alongside immunes as an orderly to the primus pilus (b20). Together, the documents indicate differentiated distribution of immunes versus the ordinary soldiers during duty time resultant from the differentiated locations of their duties.

P.Gen.Lat 1 is chronologically closest to the site of Elginhaugh discussed in Chapter 7. The document is unique as it provides the most detailed image of day-to-day life of a unit that also allows tying activities to locations within the base. The two following collections of documents both pertain to a later, Severan period. Dura-Europos was a city with a permanent garrison stationed there and with a part of the town overtaken by the army. Bu Njem was an outpost dependant on the Legionary base at Lambaesis. The garrisons at Dura-Europos and at Bu Njem both housed a mixture of units, rather than single units. Furthermore, while a general pool of duties and practices of movement is emerging from the documents, each individual set of documents presents a glimpse into a unique situation in terms of what records survived and where the actual focus of the activity in each case may have laid (i.e. policing, production work etc).

Thanks to the variety of tasks, the papyrus provides useful criteria for the classification of on-duty activities of soldiers. The papyrus also provides information about a number of locations within the base, which are helpful for answering the research question of the locations of points of intensified social activity, and the distribution of official points of presence in the form of sentries. This evidence is crucial for discussing surveillance in a Roman military base in the discussion Chapter 8. With no archaeological work undertaken at Nicopolis, and with the site mostly known from 19th century eye-witnesses accounts (Murray 1880: 141), the plan and the extent of the legionary base remain unknown (Alston 1995: 192-3). Since legionary bases can differ quite significantly in their plans, I did not extrapolate the locations found in the documents onto a plan of another legionary base.

Bu Njem ostraca
The Bu Njem ostraca present a window on the tasks and the distribution of around 50 men and cover the period between A.D. 254 and A.D. 259. Bu Njem was an outpost of the legionary base at Lambaesis. With the journey from the parent base taking about one and a half months each way, the soldiers would have been stationed at Bu Njem for around 15 months (Speidel 1988). The majority of dated ostraca belong to A.D. 259, with only a small proportion of documents dating to A.D. 254. The time gap suggests that the room, where the documents were stored was not kept very tidy. The oldest documents were left behind in the office, while the rest of the outdated documents were disposed of (Knorr 2008: 9). None of the documents come from the scriptorium, since this at a later date was repurposed with a new concrete floor. Instead, most of the documents were scattered in the south east corner of the principia building (Marichal 1992: 10). Those addressed to the librarius mostly concerned the assignments of soldiers in the base, whereas the letters addressed to the praepositus, concerned duties in the outposts (Marichal 1992: 10).

At the time the ostraca were written, the unit stationed at Bu Njem was a Vexillatio Ghelensis, under the command of a decurio alae. With the estimated maximum garrison strength of 500 men, the ostraca give us a window on the activities of one small subunit within its composite garrison (Mackensen 2008: 303). The size of the group varied from between 92 and 42 men, with around 50 men on average (Marichal 1992: 70). Unfortunately, it is not known whether the century was part of the legionary or the auxiliary component of the vexillatio. Similarly to P.GenLat.1, we may be dealing with the assignments of a diminished century or a century-sized group. Marichal (1992: 72) refers to the group as ‘the squad of the librarius’. However, it is very likely that the subgroup was not an unusual, special squad of the librarius. Instead, the ostraca likely present only a proportion of the librarius' archive, which once included reports on the activities of other subgroups within the garrison. The group was very fluid in the sense that occasionally tirones (recruits) and cavalry appear on the duty rolls, perhaps attached to the group for a short time.

The record is very incomplete. Around 10% of the expected total of daily reports produced by the sub-unit between 16th May and 22-25th December are preserved (24 reports, Marichal 1992: 55). The archive consists of three groups of
documents: daily reports (rapports journaliers); outpost lists (comptes rendus); and correspondence. The most interesting group, from the point of view of the activities and the distribution of people within the base, are the daily reports, in format similar to the Vindolanda reports. The reports give summaries of the distribution of men according to the chore, location, or as in the case of the immunes, provide their specialisation. For the purpose of the thesis, I am analysing the 62 daily reports as these are most likely to provide information about activities inside the base. The ostraca sent from the outposts, dependant on Bu Njem, were not relevant to the research question.

Among the 62 daily reports from Bu Njem, nine are complete (Nos. 3, 5, 7, 8, 10, 12, 13, 22, 25). Of these, seven contain both a complete list of the assignments and complete information about the numbers of men attached to each task (apart from Nos. 3 and 7). Given, that unlike the roster of Legio III Cyrenaica, the ostraca are not in the form of a table, it is impossible to estimate the proportion of preserved assignments against the total of all fields in the table. The documents deal mainly with locations inside Bu Njem. For this reason, it is possible to divide the duties into the same categories: the upkeep of the base; manual labour inside the base; manning watches/guard duties; manual labour outside the base; and policing outside the camp. The proportions of tasks belonging to different categories of duties in the nine preserved reports give us an image of what might have been a typical distribution of the men on a working day. For reference, I am comparing the frequency with which individual tasks appear on the best nine preserved reports with their frequency among all preserved entries in the whole group of 62 ostraca.

Among the nine fully preserved reports, the most sizeable group of entries is the upkeep of the base, which consists exclusively of duties related to the bathhouse; either work at the actual bathhouse (balneus, balneus accipit, ad balneum), or in the supply of water to the bathhouse (ad aqua balnei). Each day these amount to between 25% and 54% of the workforce on the seven days for which we have full data. In general, throughout the collection there is only one record which certainly did not list the duty (No 22 for 24th December, Marichal 1992: 93). The bathhouse was located by the principia building, pinpointing a large presence on daily basis to the area (see Chapter 7).
The second most prominent group consists of training (quintanari). This amounts to between 23% and 38% of the workforce on the nine fully preserved reports. The duty figures on 23 ostraca and is missing from only 5 reports out of 62 (Nos. 8, 10, 15, 19, 29), with usually around 1/3 of the men involved in the task. Marichal (1992: 79) sees the devotion to training visible at Bu Njem as related to a decree of Maximinus from A.D. 235, which ordered that soldiers should exercise at least once every five days. Rotas for training would have been useful for keeping the remaining soldiers occupied. However, the apparent lack of exercise as a whole unit raises the question of how training would have worked on the level of the entire unit as an operational entity. The very fluid make-up of the group, with men with the status of tirones and cavalrymen on the rolls of the same sub-group, may indicate that training together within a group of such varied experiences and skillsets, might have been difficult in practice.

Manual labour inside the base consists mostly of food preparation in the form of: help at the ovens (furnus); milling flour (molendarius); and exceptionally on a day that features as a festive day in Dura calendar, butchering (lanivarius). The percentages of manpower deployed to food preparation vary between 5% and 25%. This relatively high percentage indicates that, at least to some extent, at Bu Njem food preparation was part of duty rota, as opposed to something one was supposed to do in one’s spare time. Another possible context for the preparation of food may be the stockpiling of biscuit in the winter period before campaign, since the largest number of men assigned to the task (15 men) occurs on a date in December (No.22). There are known locations of ovens inside the perimeter at Bu Njem, but these are not reported on by Rebuffat. The location of activities of milling and butchering can only be the subject of speculation.

Construction work, whether inside or outside the base, occurs very rarely. In the nine best preserved records faber (here handyman), and structor (understood to be a soldier, since he figures on the unit rota, but who just happened to get a job as a mason for the day), together appears only three times, employing only one man on each occasion (Marichal 1992: 81).
the assignment as faber occurs only four times in the remaining 53 fragmentary reports (No 14 and 30), and structor only three times (Nos. 22, 27, 29). Low occurrence of construction work is perhaps consistent with Bu Njem being a short lived site.

Manual labour outside the camp consisted mostly of work with the camels (camellarius, ad camellos, cum camellos, ad stationem camellariorum). This appears on five out of the nine well preserved reports and only two more references are preserved in the rest of the collection – Nos 4 and 42). Reference to ad stationem camellariorum (No 5) indicates that this was a separate location, outside of the main base at Bu Njem.

There are also occasional references to being sent on an undefined attachment. Among the nine complete rosters, these typically amount to around 5-10% of assignments, with a maximum of 27% on one day (No10).

The proportion of watch duties taken up by the men from the sub-unit varies quite significantly from one day to another (between 4.1% and 20%), depending whether the group was joined by cavalrymen. The equites appear on just over a half of the complete reports, suggesting that they were not at Bu Njem permanently, but rather in passing. This also appears to be the case when we look at all of the references to cavalrymen: , they certainly appear on 11 reports, but are also certainly absent from nine reports (with no gaps, suggesting that the assignment did not figure on the nine reports). (Marichal 1992: 76). By comparison with Dura-Europos, where the equestrian messengers are referred to as dispositii (P. Dura 100), Marichal (1992: 79) proposes that the cavalry at Bu Njem would have formed either some sort of a patrol in and around the camp or a convoy escort. Their numbers vary between 3-9 men in the nine complete reports.

Without the cavalry, the percentage of standing watch duties falls to between 1.7% and 5% of the total strength of the group. Standing watches are what one would expect them to be: on three days there is an entry de speclis - in a watch-out post - with suggestion that the picket is likely to have been situated
on Bu Njem’s defences (Marichal 1992: 79). However, the location may also conceivably refer to a watch tower in the vicinity of Bu Njem. Among all the reports the entry appears only 10 times and is absent from at least eight reports. Wherever the numbers are preserved, only one man is assigned to the post. Other posts are familiar from documents from other sites (ad signa and ad porta in Dura), but together these appear only on three days and constitute a minimal proportion of the assignments on the nine fully preserved reports (between 3%-5%). In general, it seems to have been rather rare for the men from this sub-unit to participate in standing watches: ad signas appears only four times in the reports in total (Nos. 13, 15, 19, 32) and ad porta only four times (Nos. 13, 15, 22, 39).

Policing duties outside the camp appear on four out of the nine reports: patrols outside the camp (stationarius) and being a guide to detachments (proculcator) (Marichal 1992: 69). Together these constitute between 2%-13% of the assignments. There is an instance of a man at the disposition of an officer on a mission in the surroundings of Bu Njem - minister (Marichal 1992: 84) in No.10, which does not appear otherwise in the reports.

Most of the duties would have been fairly stationary and within the perimeter of the base: work at the bathhouse, standing watches. To this group we can perhaps also add work at the ovens. This duty might have taken place either in the vicinity of the base or perhaps in the vicus. Other locations likely situated outside the base include: the collection of water for the bathhouse, construction work, and work in the fabrica. Other tasks would have taken place in the surroundings of the base (work at the camel station).

Only a minimal proportion of the assignments would require literacy skills. Among the duties in the nine fully preserved reports, only the duties ad praepositum, minister, and possibly stationarius could require literacy skills. These amount to between 1% (No. 5) and 10% (No. 25) of the assignments for that day. However, if we exclude the stationarii (guides to outposts), who may not have needed the literacy skills for their job, we obtain only the maximum of 6% (No. 10) of assignments for the day. In the remaining 53 incomplete reports, only several other entries may be included in the group of tasks requiring literacy.
skills. Ad praepositum (a helper or bodyguard to the praepositus, possibly with him in the main camp – Marichal 1992: 84) appears nine times in total (Nos. 3, 5, 12, 13, 15, 22, 39, 32, 34), with seven days on which no such assignment was issued (Nos. 2, 7, 8, 9, 10, 25, 26).

Out of the 62 reports, 34 contain five or fewer lines preserved making any reasonable analysis impossible. The following additions can be added from these remaining ostraca, but usually without an indication of the number of men involved or, the time of the year the assignment was given. Most are duties in the outposts outside Bu Njem. In comparison with a fairly repetitive daily rota of tasks involving physical labour in the camp, these no doubt added an element of change to the daily routine. If our sample of nine fully preserved daily reports is representative, missions in the surroundings were a surprisingly small proportion of the task of our subunit; with stationarii appearing only four times among the nine better preserved reports, and always appearing in small numbers - usually employing a single man, with just one instance of five men being employed (No. 8). This entry presumably implies that the soldiers would have returned to Bu Njem overnight. Missi ad most likely denotes longer assignments further away from the base (Marichal 1992: 82). This appears only twice on the nine fully preserved reports; in No. 10 ‘missi ad Sub’ employing just over 10% of the workforce, and in No.12 with only one man. In the remaining reports in the collection we come across: ex castris (No 29), ad fiscum, ad Censum, ad praetorium (No 46 perhaps denoting Lambaesis), missus cum Assimis (No 37) – sent with the donkeys (Marichal 1992: 84). It is not necessary here to investigate what the duties outside the camp mentioned on these ostraca actually involved as the focus of the thesis is on the activities of soldiers in and around the base. We can imagine that the locations where detachments would be sent, could change quite frequently.

There are only two instances of duties appearing on the 53 incomplete reports, which do not appear on the nine fully preserved reports and are likely to involve work in the base: adseruator (No. 28) and adseruo (No. 14), likely also sort of a watch guard (Marichal 1992: 79); and six men missus ad lignum balnae (No 26), likely looking for a new stock of fire wood in the camp surroundings. On
balance, it seems that the nine preserved reports give us a good impression of the routine of the squad without major omissions in terms of the activities.

In conclusion, the upkeep of the baths was the main task of the group recorded in the ostraca, with a non-proportional percentage of the men working at the bathhouse, at times amounting to almost half of the available men. Marichal (1992: 92) sees a pattern, whereby the squad seems to have been divided into three groups: a third of men involved in the work at the bathhouse and the bakery, a third out in training and a third deployed in a number of other indispensable duties (each on its own involving a relatively small number of men). Most of the men at the bathhouse are those, who remained at hand after the indispensable duties and training were covered. These men appear under the heading reliqui repungent halfway through each report, literally meaning ‘men who have finished their assignment and are spare hands’. This group would always be assigned to work at the bathhouse or at the ovens, perhaps by the centurion.

Quite rightly, Marichal (1992: 95) rejected the idea that the men sent to the bathhouse would only provide service to the men in their sub-unit and instead proposed that they provided service for the whole garrison. However, Marichal (1992: 95) may not have been right suggesting that it was only this century’s job to provide workforce for the baths; the average of 21 men deployed at the bathhouse even with 5-6 turns of 100 people each (based on its size the bathhouse could not have received more bathers) would be a lot of work for 21 men, especially including the pumping in and out the water. Furthermore, it is very likely that some of the tasks at the baths would have been performed by the slaves, therefore increasing the average workforce by an unknown number. By comparison the baths at Ajustrel (CIL 5181) changed the clientele every hour. While changing water so frequently is unlikely to happen in a desert outpost, it indicates that a fairly large personnel would likely have been needed to keep the baths running. For comparison, a small private bathhouse, like the one at Welwyn baths would require at least two people to run the heating and two for fuel and water supply (Rook 1978). However, Welwyn baths were very small, roughly ¼ of the size of the baths at Bu Njem.
The service in the bathhouse would include tasks like cleaning before and after use, preparation of wood, maintaining the heat, emptying and cleaning the tanks after every shift. Through a comparison with ostraca from Edfu (Younie: 1949), Marichal (1992: 95) adds to the list a more personal tasks such as the handling of scrapers, scraping the bathers, pouring hot water on them from jugs. In the context of military service this may be an inappropriate extrapolation. These sort of duties that would highlight the tension between labours that added valour and labour considered as slave-like and demeaning to soldiers (Phang 2008: 212). In Vegetius (II.7) munificens are those who are forced to do munera and according to Justinian’s Codex (XII 35:2 and X 48:12) service at the baths was a sordida munera, from which the old soldier with more than 20 years of service were spared after Caracalla. If their main job was in the bathhouse, it seems that our squad was not a very lucky one.

Unlike P.Gen.Lat.1, the Bu Njem ostraca do not provide us with a separate list of the immunes. We can make some inferences bout these men as optio and librarius always figure at the top of the reports. To this group Marichal also adds the procurator (who is also always at the top of the list). Marichal (1992: 89) is inclined to consider as immunes also soldiers, who already have an assignment and are not free to take on another duty – including all the entries above reliqui repungent. However, this may not be true since in some documents we find a subheading reliqui munificens, suggesting that ordinary soldiers (munificens as per Veg. II 7) were being listed both below and above the heading. Therefore, it is not likely that the group above the heading consisted solely of the immunes.

The information extracted from the Bu Njem ostraca is used later in Chapter 7. There, I test how well a dataset consisting both of an archaeological plan of the site and military documentation, can serve in looking at the activities of soldiers in the base in the context of the architectural conformation of the site. Even considered in isolation from the architecture, the ostraca have provided information to answer the research question.

The categories of duties are comparable to the situation at Nicopolis, but with a more clearly structured division of work. The ostraca have highlighted the
significance of the bathhouse in the social landscape of Bu Njem, which fits well with the high density of religious imagery attested in the building itself (Chapter 7). The ostraca have also addressed the research question by fleshing out the difference between the profile of activity of a parent legionary base (Nicopolis) and an outpost duty within the same climate and province. There are subtle nuances visible in the patterns of who was doing what and where between the two contexts. At Bu Njem a more visible presence of duties related to outposts, guarding of routes and policing outside the base is visible, with no evidence for construction work and little production work taking place, apart from the provision of food, necessary for a self-sufficient base in the middle of the desert. The visible similarities in the daily praxis of the base include training and attention to the bathhouse duty, suggesting two universal foci for social presence.

Mons Claudianus

Mons Claudianus was a quarry site with an attached garrison situated in the Egypt’s Eastern Desert. The site provides a very rich collection of ostraca, including watch list of vigiles and duty rosters of the attached garrison. The documents come from the reign of Antoninus Pius (Bingen, Bülow-Jacobsen et al. 1997: 165).

The vigiles lists are divided into those manned by four men, and those manned by eight men. Only in the case of one of the lists we can be certain that the men serving the vigiles were soldiers (O. Claud. 356). However, all the documents recording eight man watches, including those referring to civilians (O. Claud. 309-334,348) and the local familia (O. Claud. 337-347,349-353) adhere to the same, very military-like, format. The format includes a Latin password written in Greek letters, often with a very military-like choice in words used such as Mars, Minerva or Concordia, and with Latin numerals next to the names of the men (Bingen, Bülow-Jacobsen et al. 1997: 166).

In several of the document word vigiles (βίγλης) occurs (O. Claud. 335,336 and 356) (Bingen, Bülow-Jacobsen et al. 1997: 165). Two hands can be distinguished in the documents. The first one lists the men, while the second one annotates two series of numbers from 1-4 next to the names. Where the preservation
allows (O. Claud. 309-334), we can see that this second hand adds the signum (ἵγνεν) and the password at the bottom of the list (Bingen, Bülow-Jacobsen et al. 1997: 166). The two series of numerals 1-4, most likely correspond to the four watches of the night.

A watch most likely consisted of men working in the groups of two (Bingen, Bülow-Jacobsen et al. 1997: 165). The lists are very important for the thesis as they provide us with evidence of the keeping of four night watches in hiberna under the Empire.

This group of guard rosters is not preserved well enough to comment on the pattern in which men were drawn, but we can see that the men were on duty more or less every night, but only for a quarter of the night (Bingen, Bülow-Jacobsen et al. 1997: 166). Bülow-Jacobsen (1997: 166) suggests that it must have been important to keep an element of surprise as to which man would be taking watch at which time. With a letter where a centurion refers to letting soldiers draw lots to decide on their tasks (O. Claud. 379, Bingen, Bülow-Jacobsen et al. 1997: 219), it is very likely that the numbers of watches from 1-4 were drawn in this way.

While there are lacunae in the documents, it seems that a fair assignment by chance was not always the case. Among the civilians recorded as taking the vigiles there is a distinguishable group of eight core guardsmen, who cumulatively guarded 157/174 of the preserved watches, with three other men stepping in from time to time (Bingen, Bülow-Jacobsen et al. 1997: 166). The third watch was most likely the least attractive one as it took place in the middle of the night (Bingen, Bülow-Jacobsen et al. 1997: 169). The pattern of who was assigned to the third watch suggest that the system was not completely fair (Bingen, Bülow-Jacobsen et al. 1997: 166). In all four watches where the name of Heracleides is preserved, he served the third watch (O. Claud. 309,310,317,331). The other man accompanying him on third watch was always either Sarapion (O. Claud. 310,315,331), or Hermias (O. Claud. 309,312) (Bingen, Bülow-Jacobsen et al. 1997: 169). If the assignments were random, one might expect a more even distribution of the third watch duty.
On three out of seven rosters, it is also Heracleides who is responsible for collecting firewood (φρνγανιτης) (Bingen, Bülow-Jacobsen et al. 1997: 169). The firewood was most likely collected for the watch the next night, as the documents suggest this was always done the day after the vigiles – it would be fairly difficult to look for wood at night. The wood probably served the men on guard to set up a bonfire to warm up in the cold desert night and to be able to see approaching people. Bülow-Jacobsen (1997: 169) wondered if Heracleides was being punished by getting the third watch and a daytime duty the following day. This seems to be a reasonable suggestion to me and presents a very stark contrast with the privilege of manning the watch ad signum witnessed in the Dura-Europos documents.

The presence of only one password in Mons Claudianus ostraca and the evidence from other documents, containing also one password each, presented in this chapter, suggests that the password was not needed for a two way exchange between the guard and the approaching person, but for one way shouting of the password, for example to identify the relief man, or when the guards were being inspected by someone like a circitor (Bingen, Bülow-Jacobsen et al. 1997: 168). However, if the pool of men manning the watches was really as small as the documents suggest, one may expect that all guards would know each other anyway. The documents also mention a doorkeeper (O. Claud 335, Bingen, Bülow-Jacobsen et al. 1997: 183), indicating the watchmen’s role in policing access to Mons Claudianus.

Among the second group of rosters (the four-men watches), we find the one instance of a watch manned by soldiers (O. Claud. 356, Bingen, Bülow-Jacobsen et al. 1997: 184). These guard rosters (O. Claud. 337-356) do not have a password. With only one man per watch, and no secrecy implied by the lack of a password, Bülow-Jacobsen (1997: 184) supposes that these watches were in locations less likely to be attacked. If that was the case, these perhaps were not placed on the outskirts of Mons Claudianus, but instead in more central, and safer areas. It is odd that it is among the watched without a password that we find the soldiers. The men on this duty worked in groups of four, each group working every fourth night. It is very likely that on the other days the men were assigned to other duties (Bingen, Bülow-Jacobsen et al. 1997: 184).
Dura-Europos papyri

The Dura-Europos archive is the largest one reviewed. Dura presents the activity of a unit in the hiberna, although the garrison was stationed in a city as opposed to a playing cardshaped base. The documents from between 208 A.D. (P.Dur.57) and 255 A.D. (P.Dur.118) are closest in date to Bu Njem ostraca.

The majority of military documents were found in their primary deposit in Room W13 in the temple of Azzanathokana (Welles, Fink et al. 1959: 3), where the administration of the Cohors XX Palmyrenorum is believed to have had its secondary office (Welles, Fink et al. 1959: 25, 36). Rosters of the military unit indicate, that the numbers of men present on site ‘in hibernis’ oscillated between 914 (P.Dur.82) and 781 men (P.Dur.89), with the total strength of the unit estimated at the maximum of around 1200 men (Welles, Fink et al. 1959: 27-28, 31). A small number of dromedarii were attached to infantry centuries (Welles, Fink et al. 1959: 33). The unit was accompanied in the city by a vexillation of IV Scythica and XVI Flavia Firma under the command of a centurio princeps (Welles, Fink et al. 1959: 25). Soldiers from other two auxiliary cohorts are recorded in the city too. The archives do not contain any documentation pertaining to units other than the XXth cohort.

The most substantial documents giving details about the distribution of men are duty rosters, with notations of one’s task to the left of each man’s name. The rosters record locations within Dura, but for the most part deal with locations away from the city. We find no notations referring to tasks similar to those evidenced in P.Gen.Lat.1 and Bu Njem ostraca; upkeep of the base; manning watch duties; and physical work within and near the base. The reason for this may be because rosters were written up above the level of such short, day-to-day tasks. This is supported by the fact that the rosters include personnel away from Dura on missions lasting a significant amount of time. Further, the elongated dash lines appearing next to the names of men are understood by Fink to signify that the men were not assigned a particular task, but present and available on site (Welles, Fink et al. 1959: 39). This perhaps means, that these men were the pool of men for short, day-to-day assignments within Dura itself, the distribution of which we do not have the record of in the archive. Such documents, if in existence, would quickly become out of date. While not fully fitting the research criterion, the data from rosters are still useful. The data allow
distinguishing zones of presence of soldiers inside and in the periphery of the base.

The data allow discerning categories of duties based on the increasing distance from the city: duties taking place most likely in the military district within Dura; duties performed in the city (but with not necessarily in the military district); duties close to the city; detachments on the move in the vicinity of the city; and finally more distant outpost duties. Since the garrison was situated within the city, and names of buildings do not appear frequently, in some instances it is difficult to assign particular locations to duties.

Three categories of duties can be fairly securely placed within the military district at Dura. These include assignment to clerical work at the ‘officio’ (offi, offic) (P.Dur.100 and P.Dur.101). The omission of consular is taken by Welles (1959: 42) to indicate that the men were working in the offices of their own unit. Similar entries (off praef praet in P.Dur.81; ex of and off in P.Dur.67) are also understood to denote the unit’s offices (Welles, Fink et al. 1959: 43). A duty at the praetorium (meaning the commander’s residence) at Dura features too (ad praetor in P.Dur.100 and ad praetori in P.Dur.101 and perhaps in P.Dur.95i,2).

The second group consists of entries, which if did not take place in the military district itself, are likely to have taken place somewhere within the city. A series of similar entries with different spellings (ad mamm, ad man ambul, m amb in P.Dur.101 cols. xxxii-xl, xli-xlili and in P.Dur.116) are understood as ‘ambulatio’ denoting either a building of an unknown function or training exercise. The small number of men involved incline towards the interpretation of ‘ambulatio’ as a building (Welles, Fink et al. 1959: 41), although a campus in the Wadi with a temple within it are indicated by an inscription (Pollard 2000: 49, 236). Others include cavalrymen escorting sacrificial animals (ad hostias, 100 xxxvi, 22, 100 xxxvi, 26, 100 xlili, 23), and an assignment to do with horses at the stalls (ma[ndra] in P.Dur.101 x, 21, Welles, Fink et al. 1959: 42). An example of navem hor[d (P.Dur.100, xix,4) implies a connection with grain, perhaps therefore denoting the unloading of a grain cargo from a ship. Ad frum(entum) (P.101 xvi, 17; P.Dur.101 ix 6) may refer either to securing grain for the garrison or,
supervising grain stores by a centurion. This duty therefore, may equally likely be situated inside Dura or somewhere else. Similarly, inspection of horses to be acquired by the unit (ad equum prob(andum) in P.Dur.100 xxxviii,18; P.Dur.56,58,97, Welles, Fink et al. 1959: 41) may have taken place in Dura or somewhere else.

A third group can be located outside of the city, but perhaps in close proximity to it. These include men performing a task to do with ships (ad naves in P.Dur.101; cum navem in P.Dur.100, xxxiv, 31; P.Dur.101 vi, 19 P.Dur.101, xiv), certainly on Euphrates; the purchase of barley for the horses (ad hordeum in P.Dur.100, xxxiii, 26; P.Dur. 82,ii,4; P.Dur.100.xxxvi,10; P.Dur.101,xxxvi,18; ad hor in P.Dur.100, xii 2; P.Dur.95,b,i,23), usually conducted by cavalrymen; and caring for or, hunting lions, most likely in connection with the amphitheatre at Dura (ad leones seven entries in P.Dur.100 and four entries in P.Dur.101, Welles, Fink et al. 1959: 41). Another such duty, appearing also in Bu Njem ostraca, is the procurement of wood for baths - missus lig(nator) balnei mil(es) in P.Dur.82,ii,9.

The fourth group denotes detachments on the move outside of the garrison for a shorter period of time: dispatch riders (cum epistul(is) in P.Dur.100,xlv,2; P.Dur.82,ii,7); cavalrymen posted in relays for dispatch riding (dispositus)in P.Dur.100-102 and q(uodam) d(is)p(ositus) in P.Dur.66,t,2; P.Dur.82; P.Dur.95); scouts (explor(atores) in P.Dur.100-101); soldiers ad querend(um) looking for something (P.Dur.101, xxxv,17; P.Dur.101,xii,17, Welles, Fink et al. 1959: 42). P.Dur.66 (frag qq col xli) may refer to a soldier acting as a guard of a flock of sheep, but neither the identity of the herder as a soldier, nor the likely duration of the trip can be confirmed.

Finally, other entries denote more permanent detachments further away: service at the emperor’s court in Rome (ad dominum nostrum in P.Dur.100,xxix,6; P.Dur.100,xxii,1; P.Dur.101,xvii,9); at the governor’s headquarters at Antioch (ad praet(orium) praesidis, P.Dur.95 a i,8; P.Dur.82,ii,7) and sometimes at Antioch, specifically with letters (ad praet(orium) praesidis cum epistul(is) mil(ites) in P.Dur.82); helping out in offices elsewhere (off proc(uratoris) in P.Dur.95 and P.Dur.105); men left in the outposts, while the rest of the detachment is not in the outpost (remans(it) in P.Dur.102 vii,4;
P.Dur.95,b,ii,6); and men in convoy in connection with the acquisition of barley (in prosec(utionem) hord(iatorum) in P.Dur.100,xxx,18; P.Dur,101,xxxiv,24; P.Dur.82,ii,5), possibly from Egypt (Welles 1959: 277). Another presumed office assignment outside of Dura is most likely behind ad opinion (em stipendii) (P.Dur.100; P.Dur.94, P.Dur,101) and behind a similar entry ad rationem stip(endii) in P.Dur.95, likely denoting another part of the same process. This is understood to do with inspections of financial accounts by a procurator or other official with men acting as representatives of the unit to explain items in the accounts (Welles, Fink et al. 1959: 41, 291). A number of place names are situated too far away to be overnight stays. These have been discussed by Welles (1959: 40) and are of small importance for investigating the activity within the base. Ad pen(um) com(parandum) (P.Dur.101) is understood as something to do with food, and ad sacrahimag (P.Dur.199) has an unknown meaning, but may refer to the sacred images of the emperor (sacrae imag[ines]).

Rosters P.Dur.98 and P.Dur.105 are too partially preserved to conclude about the proportions of men assigned to different categories of duties. In P.Dur.100 out of the estimated total strength of 1210 men (Welles, Fink et al. 1959: 44), 57% of entries have also the annotation of the man’s duty preserved. On P.Dur.101 out of the estimated total strength of 1040 men the proportion is around 54%. The proportions make both of the rosters comparable in condition to P.Gen.Lat.1, and making an attempt at quantifying them reasonably reliable. Looking at the proportions of the five categories of duties discerned earlier in the preserved parts of the documents can give some indication of the distribution of men in Dura and its surroundings. Since the general proportions between both rosters are similar, it is likely that the missing entries would not differ greatly. All the lines contained only a single name making the counting of lines a reliable proxy for the number of men under each entry.

A breakdown of all the data is provided in table 3.2. The table presents all the data for the purpose of reference and to illustrate zones of increasing distance from the base the soldiers operated in. Here, I focus on the elements of data relevant on the context of the interior of the base.
Among the 690 men on P.Dur.100, 48% are down as available and within the base, with further 5% recorded as assigned to the administration of the unit. Duties likely to be performed outside of the military base, but within the city, amount only to around 4% of the entries. The figure may be an underestimate as we cannot reject the possibility that men marked as ‘available’ may have been assigned duties in the city as well.

Only a further 6% of men are recorded as performing duties close to the city or on the move in the vicinity of it. 37% of men were recorded as stationed more permanently outside of Dura: 27% in outposts; 8% in Rome; and further 2% ad opinionem stipendii or procuring barley. Based on the surviving parts of the document, only 56% of the unit were actually in the base at the time P.Dur.100 was written up.

Turning towards P.Dur.101, 60% of men figure as available within the base, with another 4% assigned to either officio or praetorium at Dura, and another 4% likely on duty outside of the military base, but within the city. Similarly to P.Dur.100, only 6% of men are on duty in the environs of the base. This time 24% of men can be identified as outside of Dura on a more permanent detachment, with 20% of those scattered in the outposts. The apparent lack of assignments of men sent to Rome in P.Dur.101 can perhaps account for the lower overall proportion of men away from the base as compared to P.Dur.100. With around half of the unit recorded on both rosters as available within the base, the actual number of men on duties associated with locations in the military base or in the city of Dura is likely to be much higher. The men subsumed under the category of ‘available’ leaves us with no indication so as to the details of the distribution of people within Dura. The assignments which did get listed on the rosters may have been special in some sense, for example assigned to the men for a longer period of time. In both rosters around a third of the unit were more permanently away, which gives us at least an idea about the proportions of men to be expected in the base.

A more detailed glimpse into the on-duty distribution of men in the base is offered by the morning reports (P.Dur.82-89) and guard rosters (P.Dur.106-112).
While not listing fatigues, they offer a glimpse unparalleled in detail on the distribution of guards in a military base. The locations include:

Standards of the unit (excubatio ad signa) - presumably either inside the principia building, or by the entrance to the principia. The size of the watch varies from eleven (P.Dur. 89) to nine men (P.Dur.82), depending on the day. It is possible that not all men were present there for the whole day, switching for example according to changing watches. A somewhat prestigious nature of the watch at the standards is hinted at by mostly men with titles appearing to participate in them; on P.Dur 82 nine out of eighteen names have a title (decurio, aeditus, curator, signifier, librarius, optio). On P.Dur.89 the same men figure on two consecutive days, out of which all apart from two, whose titles are unpreserved, are of some rank (centurio, signifier, bucinator, sacerdos, tesserarius). In P.Dur.82 the decurio and aedituus appear more than once and at least three of the names appear on the other, worse preserved columns (frags a and b). Other prominent individuals featuring in this prestigious watch include a magister campi (P.Dur.83) and circitores (P.Dur.88,2). The latter were temporary special tasks rather than offices (Welles 1959: 281). Indeed, it is difficult to see how the men on the watch by the standards could perform both roles at the same time. The names include also Themes son of Mocimus, a ‘sacristan’ of the shrine and the successor of Aurelius Silvanus taking part in the guard some years earlier in P.Dur.82 (Welles 1959: 282). The prominence of Themes in the official religion in the base is indicated by him featuring in the painting at the temple of Bel (Welles, Fink et al. 1959: 282)
<table>
<thead>
<tr>
<th></th>
<th>No. in 100</th>
<th>% in 100</th>
<th>No. in 101</th>
<th>% in 101</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL ANNOTATIONS</td>
<td>690/1210</td>
<td>57%</td>
<td>568/1040</td>
<td>54%</td>
</tr>
<tr>
<td>AVAILABLE (and in the base)</td>
<td>330</td>
<td>48%</td>
<td>342</td>
<td>60.2%</td>
</tr>
<tr>
<td>WITHIN THE MILITARY DISTRICT</td>
<td>32</td>
<td>4.6%</td>
<td>20</td>
<td>3.5%</td>
</tr>
<tr>
<td>officio</td>
<td>30</td>
<td>4.3%</td>
<td>18</td>
<td>3.2%</td>
</tr>
<tr>
<td>ad praetorium</td>
<td>2</td>
<td>0.3%</td>
<td>2</td>
<td>0.3%</td>
</tr>
<tr>
<td>IN THE CITY (?)</td>
<td>23</td>
<td>3.5%</td>
<td>23</td>
<td>4.0%</td>
</tr>
<tr>
<td>ambulatio</td>
<td>20</td>
<td>3%</td>
<td>22</td>
<td>3.8%</td>
</tr>
<tr>
<td>ad hostias</td>
<td>3</td>
<td>0.5%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>mandra</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>IN/OUT (?)</td>
<td>1</td>
<td>0.01%</td>
<td>2</td>
<td>0.3%</td>
</tr>
<tr>
<td>ad equum probandum</td>
<td>1</td>
<td>0.01%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ad frumentum</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>0.3%</td>
</tr>
<tr>
<td>CLOSE TO THE CITY</td>
<td>13</td>
<td>2%</td>
<td>6</td>
<td>1.1%</td>
</tr>
<tr>
<td>ad leones</td>
<td>7</td>
<td>1%</td>
<td>4</td>
<td>0.7%</td>
</tr>
<tr>
<td>ad hordeum</td>
<td>3</td>
<td>0.5%</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>ad naves</td>
<td>3</td>
<td>0.5%</td>
<td>1</td>
<td>0.2%</td>
</tr>
<tr>
<td>ON THE MOVE AROUND THE CITY</td>
<td>32</td>
<td>4.6%</td>
<td>26</td>
<td>4.5%</td>
</tr>
<tr>
<td>exploratores</td>
<td>17</td>
<td>2.5%</td>
<td>8</td>
<td>1.5%</td>
</tr>
<tr>
<td>dispositus</td>
<td>14</td>
<td>2%</td>
<td>15</td>
<td>2.5%</td>
</tr>
<tr>
<td>cum epistulis</td>
<td>1</td>
<td>0.1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ad querendum</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>0.5%</td>
</tr>
<tr>
<td>MORE PERMANENTLY AWAY</td>
<td>257</td>
<td>37.2%</td>
<td>139</td>
<td>24%</td>
</tr>
<tr>
<td>outposts</td>
<td>190</td>
<td>27.5%</td>
<td>118</td>
<td>20.7%</td>
</tr>
<tr>
<td>ad dominum nostrum</td>
<td>56</td>
<td>8.1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ad opinionem stipendii</td>
<td>10</td>
<td>1.4%</td>
<td>20</td>
<td>3.5%</td>
</tr>
<tr>
<td>In prosecutionem</td>
<td>1</td>
<td>0.1%</td>
<td>1</td>
<td>0.17%</td>
</tr>
</tbody>
</table>
After I counted the numbers, several figures do not agree with Fink (Welles 1959); on P.Dur.100 there are 17 as opposed to 14 exploratores and the total of men available is 330 and not 299; in P.Dur.101 there are 8 exploratores as opposed to 6.

Temple - templ[o (P.Dur.107, col.ii,22), since there were more than one temple in Dura and the guard roster does not specify which temple it was, it seems that soldiers were posted at only one temple and its identity was implicit (Welles, Fink et al. 1959). In the two case study auxiliary bases, apart from the central temple in the principia building, no temples existed within the perimeter apart from the shrine for a genius at Bu Njem. The entry introduces a possibility that the Bu Njem’s shrine and places such as Vindolanda’s temple of Jupiter Dolichenus could be potential locations of a standing guard.

Groma - (P.Dur.107, col. ii,9; P.Dur.108,4; P.Dur.109,4) crossing of the two main streets in the camp beside the principia.

Granaries – (h)oreo frumenti (P.Dur.107, col. ii,17; P.Dur.108,3) easily identifiable on a standard layout of an auxiliary base.

Gates – These include porta praetoria (P.Dur.106.6; P.Dur.107, col. i,18; P.Dur.107, col. ii,11) easily identifiable on a playing card shaped base. Others are gates specific to the topography of Dura; Porta aquaria (P.Dur.106.13; P.Dur.107, col. ii,10; P.Dur.110, frag. a,6; P.Dura.107, col. i,17) – gate along the river, possibly a small postern gate in a tower (Welles, Fink et al. 1959: 383) and two anonymous gates: porta f[…]sia(P.Dur.106,12) and portas (P.Dur.107, col. ii,15). Since the base is located within a city it is difficult to know whether the unknown gates were guarding the parameter of the base or, the city in general.
Senior staff accommodation - ospitio (centurionis) praepositi (P.Dur.107, col 1, 22) and ospi[ti]o (P.Dur 107, col ii, 16). Since both appear on one roster, these would have been separate locations. Assignment of men to the quarters of the praepositus is understandable because he would have been the officer in charge of the cohort (Welles, Fink et al. 1959: 381). This leaves a possibly for bodyguards being assigned to praetoria in bases in other contexts.

To the list we can add the moving patrol of circitores. It seems reasonable to infer that the circitores would move between the sentries mentioned on the guard rosters. Their presence is attested in P.Dur.88 line 2 with a reference (cir|citores ) and in abbreviation (ci )next to titles of men on morning reports, such as Iarhaeus Malach (P.Dur.82,I,17) and Antonius Valentius (P.Dur. 82,I,7). Other entries (7 preserved in total) on the guard rosters remain meaningless to us (Welles, Fink et al. 1959: 378) and need no repeating here.

The estimated minimum of 150-200 (Welles 1959: 378) men assigned as guards, sentries, police or guards of honour on P.Dur.82 is striking against the number of men listed as ‘available within the base’ on P.Dur 100-101. The two reports together would indicate that a whopping 2/3 of the men were assigned to guard duties. The two documents are, however around twenty years apart – (P.Dur.100-101 from between 219 A.D. and 222 A.D. and the guard roster P.Dur.107 from 240 A.D), making the connection interesting, but chronologically not secure. Since the information provided by the rosters is not locational, the locations of guard duties could likely have been scattered within both the city and the base.

The second point, very important in the context of the research question, is that the assignment of guard duties created a set of points of presence either around the central range (the groma, principia, praetorium), important functional facilities (i.e. granaries, gate leading to water supply), the accommodation of prominent officers (billet of the praepositus) and finally important religious points (the temple). These are the sort of places where movement was to be expected and needed monitoring. The locations chosen for guard duties would no doubt differ from garrison to garrison, depending on
its needs, for example the availability of men. With the lack of documentation recording fatigue duty it is difficult to make any meaningful conclusions about the proportions of guard duties compared to other duties assigned at Dura. However, in contrast with the image obtained from Vindolanda, where production tasks prevail, we can presume that production would have been limited in a garrison stationed within a city. This perhaps was a reason why guard duties occupied more men than they may have done in other places. At Dura the guard points covered both the base and the city. Monitoring the more numerous nerve centres of the base required more presence and more guards.

In conclusion, the papyri are unique in providing information on the distribution of guards inside a base and crucial evidence for the character of surveillance in military bases. The collection presents good information on duties outside the base, but it is comparatively missing information on mundane daily assignments within the base similar to those in P.Gen.Lat1. This sort of information seems to usually be preserved in records pertaining to single centuries. Instead, the majority of rosters at Dura deal with much larger numbers of men, perhaps explaining why such information seems to be missing.

Other documents

Three other morning reports found in Egypt (RMR51-RMR53) provide several more details about locations, where guards could be distributed. PSI XIII 1307(RMR51) is from the Tiberian period. It pertains either to a military cohort or to a legion, but since the document is not complete there can be no certainty (Fink 1971: 199). The sentry posts include locations parallel to those at Dura with the principia (in principis in col. ii, 5) and guard at the standards (ad aq[u]illum et si q[uis in col. ii 17] with indication that some of the men were of some standing in the unit hierarchy as a tesserarius and a signifer are listed. Gates also feature with the first recorded instance of porta decumana (ad decumam portam in col. I, 23). That some key operational buildings were featured, is indicated by the entry at the valeutinarium (ualetudinarum in col ii, 20). Based on entries of ad vigilas (ugilas in col. ii, 12 and in col ii. 21), Fink (1971: 199) proposed that because the unit was rather big, not all locations of sentry posts would have been listed individually. Two further entries clearly denote
areas outside of the base, including the supervision of weights in the market reminiscent of an entry on the roster of Legio III Cyrenaica (col ii, 13 interpretation after Fink) and at a granary (frumento neapol[ is in col. li 23).

P.Mich 450 and P.Mich 455, believed to be two pieces of a third century morning report of Cohors I Nomidarum, of which not much is known otherwise (Fink 1971: 202), offer a repetition of entry at the bathhouse (custodiar[um bal in frag. b line 8) and a new location guarding the ballistas (custo)diarum bal(listarii) in frag. c. line 3 interpretaion after Fink 1971: 203). The fragments together offer three different terms with excubare[ in frag.b 3, which at Dura pertains specifically to the standing watch at the standards. Juigili in frag. a line 10 is virtually the same as in PSI XIII 1307 and seems to pertain to other locations than the signa. Finally the entry ad custodias in lines 3,5 and 8 seems to be somehow different to ad vigilas. The last relevant document (RMR 67=Bodleian Library MS. Lat. Class. E 37 R), which may also be a morning report (Fink 1971: 239) offers a single reference to uigiliam in line 9, reminiscent of the previous two documents.

3.2.3 Summary and Interpretation

This chapter analysed sub-literary data providing information on the activities of units inside their bases in order to look for patterns of presence and movement of individuals and attempt their theoretical interpretation. The documents have not been studied in this context before. The documentary data are partial. They present only aspects of the use of military spaces orchestrated by the institution. These practices, however, would have been an integral part of the way people moved around military bases. They were also a very conspicuous part of daily socio-spatial practice taking place in the bases. These practices articulated social distance between members of the society, through hierarchies of access they reflected hierarchies of power among the personnel and through control over the soldiers' whereabouts in space, turned the exercise of discipline into a spatial practice.

The evidence is uneven in terms of the level of detail provided. Each group of documents presents a partial image with a varied temporal perspective; from yearly summaries to daily rosters. The best evidence for fatigue duties at the shortest temporal scale of diurnal cycles is provided by the duty roster of Legio
IIII Cyrenaica, rapports journanailers of Bu Njem and to a lesser extent, reports from Vindolanda. Some light on the distribution of points of guard presence is offered by the Bu Njem rapports journanailers, and especially by guard rosters and morning reports from Dura-Europos, supplemented by several other examples of similar morning reports from the Michigan Collection. The documents suggest slightly different focal points between the sites in terms of the activities and the daily whereabouts of the soldiers during their working time. The following section seeks to understand this variation in practices among the different sites. Later sections interpret the practices according to the types of socio-spatial practices outlined in the chapter introduction.

3.2.3.i The activities, locations and their regional and context-specific variations

There was no major difference in the variety of tasks between Vindolanda and the evidence from the East, in the sense that activity from one context would have been plausible in the other. As a site located in the desert, Bu Njem was expected to provide some details for regional variation. Aside from the relatively high number of men deployed to the bathhouse duty, perhaps related to the heat and the presence of camels, there are no major differences. The stockpiling of biscuits suggested by the higher numbers of men assigned in December (O.Bu Njem 22) may relate to preparation before campaign season, which would have been a feature of activity regardless of the geographical location (see Chapter 4). The four sources of documents provide glimpses into what may have been a standard pool of duties regardless of location and time; the daily mundane reality of a garrison.

Instead of seeking the source of differences in geographical variation, it seems that the differences may have been context specific. The evidence from Vindolanda suggests a specialised focus on the production and extraction of resources in the vicinity of the site. Together tablets 154-155 and 857 may suggest that, in the period they come from, much of the activity at Vindolanda was metalworking-related. This may be in line with a similar metalwork oriented production profile of Corbridge, where a lot of the Vindolanda’s force was on detached duty in Tab. Vindol. 154. The suspected omissions include documents
pertaining to the upkeep of the base, the standing watches and guard duties and the work of the officium.

At Dura-Europos, it was proposed by Gilliam (Welles 1959: 378) that the number of men in guard posts amounted to around half of the men recorded as available within the base on duty rosters P.Dur.100-101. The suggested high proportion of men on guard duty may be related to the need to also police the city and the need to keep the men busy, with less production work taking place at Dura as compared to a self-sufficient military base located in a green field, or a desert. The Dura evidence contains significant omissions in the category of the upkeep of the base, which very likely is the result of chance preservation. For example, although there was a bathhouse and an arena, the documents preserved carry no mention of activities in these locations.

Specialisation is suggested in Bu Njem men’s devotion to the bathhouse service. However, this is likely to be group specific specialisation (the records pertain to one century-like group) and not reflect a general character of activity in the base. In the group of between 60-90 men recorded at Bu Njem we find surprisingly low occurrence of detached duties in outposts or watch towers, although an assignment ‘de speclis,’ perhaps referring to a watch tower, features regularly. Since the site was located in the desert with the purpose of control of a route (Knörr 2008: 3), it is reasonable to expect a higher proportion of men in outposts in the perspective of the whole unit, again highlighting fragmentary preservation of the material.

The most balanced image is obtained from the duty roster of Legio III Cyrenaica, perhaps because the document lists men individually. Here, the most variety is witnessed including fatigues, guard duties, upkeep of the base and personal service to centurions. The document is different from the Vindolanda reports as it concerns a small number of personnel and does so individually, providing more detailed information.

Daily documentation would quickly become irrelevant and therefore, likely often disposed of regularly. It seems to me that it is for this reason why documents recording activity in a longer time scale are more numerous. These
by their nature, work above the minutiae of daily routines and their locations within the base. A look at these documents provides the context of the general percentages of men likely to be present on daily basis in the base as compared to the number of men in the outposts. In the case of Dura-Europos, the rosters allow for proposing several zones of activity according to the increasing distance from the base. Interestingly, the two well preserved Dura-Europos (P.Dur.100-101) rosters and the Vindolanda tablets (Tab. Vindol. 154, 857, 859) suggest that in both instances around half the unit were stationed more permanently away from the base. For this reason, while much of the information in Table 3.2 concerns activities of soldiers outside of the base, the analysis strengthens the case for seeing the situation as more common than once expected. This may not mean that the social density in the base was lower (with half empty barracks) or that some bases might have been designed with rotation in mind, hosting the planned number of men present in the base at any one point, as opposed to the whole garrison (part of which would have been scattered in the outposts). As we shall see this may have been the case at Bu Njem, with possibly more capacity achieved through pitching tents in the base’s open spaces (Chapter 6). Above all, the partial nature of the documents calls for caution - the variation in types of activity and the related distribution of people may be influenced by the chance preservation.

The analysis of documents recording on-duty activities of soldiers contributes to answering the research question through drawing attention to two particular aspects of the way the institution of the army filled built spaces with social meaning and framed other, non-institutional, forms of social use of space. The following section addresses the question according to the types of socio-spatial practices outlined in the chapter introduction; hierarchical and ideological, normative and disciplinary, religious and infrastructural.

3.2.3.ii Hierarchical socio-spatial practices: social and spatial distance in the performance of military duties

So far in this chapter we have looked into the details of what the soldiers did, and where they were during their working time. Contained within the walls, a military base was a fairly small and socially dense environment. Aside from providing us with a series of locations and tasks, the data allows tracing the
relationship between physical distance in space and the social distances among members of the military community of different military strata. This section looks back at the data presented earlier in the chapter and introduces more data to show how patterns of on-duty movement and presence embodied institutional hierarchies of rank and hierarchies of social standing.

The tasks of ordinary soldiers that appear most frequently are likely to entail stationary work (construction work, fabrica production, resource extraction, service at the bathhouse). These were located either in a building in the base, or in the vicinity of the base. In the context of resource extraction (lime kilns, clay extraction), we can presume return to the base before night, when the daylight necessary to carry out such tasks finished. Tasks such as these were the bulk of ordinary soldiers’ work and indicate that many milites gregarii were fixed in one location for the duration of their duties. Many of these duties were physically tiresome.

An insight into the difference in social mapping between the areas where the immunes and the ordinary soldiers would spend their time while on duty is provided by two letters of Apollinarius. In one letter (P.Mich VIII 466) from A.D. 108, Apollinarius comments on how he considers himself lucky for avoiding hardship, while other men were cutting stones and doing other hard things all day long. In this letter we also find out that Apollinarius recently obtained a promotion to become a clerk.

In the second letter (P.Mich VIII 465), written in A.D. 108, he writes; ‘I give thanks to Serapis and Good fortune that while all are labouring the whole day cutting stones, I as an officer move about doing nothing’. These two letters together illustrate the struggle to move up the career ladder and indicate that aside from ambition, the desire to escape tiresome labour could have been good motivation to move up the career ladder. The correspondence of Apollinarius indicates that once he achieved the status of a clerk, he moved to more supervisory roles. These allowed him to move around the base (and presumably outside of it) more freely, perhaps with a lesser degree of direct supervision. It is important to note that mining work was likely to be generally considered degrading by the soldiers. Some scholars have suggested that this would have
been carried out either by slaves or as punishment (Phang 2005: 212-13). In this case however, Apollinarius was supervising men cutting stone for building a road (Phang 2005: 213). We also find out that work in the officium of the unit was considered as a lighter duty. This is contrasted with the hard labour of other men, fixed in one place. Work extracting resources was likely one of the more extreme assignments and apart from Vindolanda, where production work clearly prevails, there seems to have been a degree of variety in terms of the activities, albeit within a limited pool of possibilities (see Section 3.3.2 on P.GenLat.1).

Marichal (1992: 95) suggests that the duty at the bathhouse may have been somewhat demeaning to the soldiers, but aside from the reference to sordida munera in the Digesta, the evidence he uses is not from a military context. Furthermore, some of the labour force for military bathhouses might have been provided by the slaves. As another example of undesirable duties one can cite Mons Claudianus with the duty of manning vigiles in the third night-watch. This took place in the middle of the night and might have been used as a measure of punishment (Section 3.2.2.ii), again linking socially constructed meaning with the physical space of the military base.

A glimpse into the more desirable tasks, and the locations associated with them, is provided by Speidel (1985: 292), who indicated that some detached duties, such as carrying letters, may have been considered as more sought after as they presented a chance to leave the base. Like the letters of Appolinarius, this links more attractive tasks with the freedom of movement, even if the freedom was limited.

While some tasks might have been seen as more desirable than others because of the chance to break up mundane labour or a chance to travel, also standing in a fixed place could signal privilege and esteem. The Dura-Europos morning reports reveal that often men of certain standing in the unit were given the duty ‘ad signum’. This is the case on 9/18 names on P.Dur.82 and on all, but two poorly preserved names on P.Dur 89. All these men had some sort of a military office attached to their names, indicating they were fairly distinguished among their peers. At Bu Njem the duty appears very rarely, featuring on three
out of nine fully preserved rapportes journanaliers, with only one further instance in the rest of the documents. Each time only one man from the ‘squad of the librarius’ got a chance to be assigned to the duty (O.Bu Njem 13, 15, 19 32). The rank of the men is not provided on the documents, but the duty is a rare occurrence in a group, whose tasks are otherwise very mundane. The case for the prestigious nature of the watch also finds support in the epigraphic record from Aquincum. Veteran Publius T. Firminus, previously a horn player of Legio II Adiutrix, commemorated renovating at his own expense the sentry box for men safeguarding the standards at the principia (ILS 2355).

The documents surveyed in the chapter suggest that most milites gregarii did not work within the central range: only 5% of duties at Dura are related to the administration at the officium of the unit. At Bu Njem we find only the evidence for one duty performed in the central range. This is a guard duty (ad signum) and it accounts only for 1.6% of entries on the nine complete reports from Bu Njem. Sta principis understood as guard duty at principia accounts for 3% (6 entries total) of the preserved assignments of Leg III Cyrenaica. There are no mentions of duties that could be located in the central range among the Vindolanda reports. It is not surprising that these assignments are rare in the documents, since few men would be required. It is also possible that in some bases men would have been assigned there for a longer time, as in the case of ‘ad officium’ in P.Dur 100-101. What we see through these statistics and through the evidence for distinguished men being chosen for the ‘ad signum’ watch at Dura, is that the presence in the central range is likely to have depended on the rank/military hierarchy, specialisation and skills (writing).

Both the evidence from Bu Njem and the roster of Legio III Cyrenaica suggest that the immunes were more likely to work either in the central range, or to be on the move in and around the base. It also seems likely that centurions would be fairly mobile. At Vindolanda (Tab.Vindol.154) only one centurion is present at one point, while also many of the immunes on the list from Nicopolis (RMR9) were either doing tasks in the central range or away from the base.

These examples of the relationship between the physical space in the base and socially constructed meaning begin to allow us to shift our perception of
Roman forts from architectural plans to seeing them as socially constructed places with multiple meanings invested in them. Individual points in the quasi-urban fabric of a military base served to act out social meanings and the meanings associated with particular spaces might have changed throughout the day.

3.2.3.iii Disciplinary and normative socio-spatial practices

A further layer of social meaning invested in the fabric of a military base by the institutions of the army is that related to the exercise of discipline. Throughout the documents appear examples of assignments denoting standing guard duties, policing duties (Figure 3.3) and patrols of ‘inspectors of sentries’ – circitores (circitores on P.Dur.88.2 and shortened as ‘ci’ on P.Dur 82.18 as identified by Fink 1971: 187). These shed light on the official presence within the military base. The evidence together allows pinpointing a number of locations, with the principia building and the gates appearing most frequently. Two versions of guard at the principia building appear, either guard at the unit standards, or generically at principia. Both entries appear on PSI XIII and so it seems that these were two separate locations in that base. Granaries and valedutinarium appear only once throughout the documents. However, bearing in mind how partial the data are in general, I am inclined to consider the placement of guards by the granaries and the valedutinarium buildings as very likely a commonplace practice (as may be the case at Bu Njem see Chapter 6).

In all military bases there would have been at least one temple – the shrine of the standards situated in the principia building. At Bu Njem we also find the shrine for the genius gholensis. The documents from Dura introduce a possibility that the Bu Njem shrine and places such as Vindolanda’s temple of Jupiter Dolichenus, could potentially have been locations of a standing guard. While organised movement related to religious performance would have been one of the key aspects of socio-spatial practice in military bases, not much record of it remains in the documentary sources. Instead, much better evidence for it is provided by the spatial set up of the buildings designed to house them. Here, the Bu Njem principia building is a great example and we will come back to it in Chapter 6.
Entries denoting duties in century areas and in strigis may only be legionary base specific occurrences. These were much larger places and there were more men that needed to be assigned duties too. Documents from Oxyrhynchus, although not from the context of a military base, but of a city, provide supplementary evidence. P.Oxy I.43 written on the back of a military list of a similar date (Grenfell & Hunt 1898: 100) refers to distribution of guards in the points in the city parallel to those at Dura: the gates and temples, but also in open spaces and in the city’s main streets.

While the references appear only on documents from the East Empire, and primarily on documents from Dura-Europos, together with the historical evidence from the imperial period (presented in section 3.2 and in this section below) indicate that presence and movement of guards were part of the daily praxis of a military base. I suspect these were a feature of the praxis of hiberna in general, with perhaps local differences in terms of the locations of guards and the numbers of guards assigned to sentries.

<table>
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<tr>
<th>CENTRAL RANGE</th>
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<tr>
<td><strong>Principia</strong></td>
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<td><strong>By the unit standards</strong></td>
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<tr>
<td><strong>FACILITIES</strong></td>
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<tr>
<td>------------------------</td>
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<tr>
<td>Granary</td>
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<tr>
<td>Valedutinarium</td>
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<td>Bathhouse</td>
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<tr>
<th><strong>GATES</strong></th>
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<tbody>
<tr>
<td>Porta praetoria</td>
<td>P[o]rta [p]raetoriana</td>
<td>P.Dur.106.6; P.Dur.107, col i,18; P.Dur.107, col ii,11 s[t]a por(ta) ..(pra)etor</td>
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<tr>
<td>Porta decumana</td>
<td>ad decum[a]n[tam] portam</td>
<td>PSI XIII 1307 in col. I, 23</td>
</tr>
<tr>
<td>Unspecified/other</td>
<td>sta(tione) por(tae)</td>
<td>P.Gen.Lat1, verso,pt v, b8;c22; h6; f25 ad porta O. Bu Njem 13, 15, 22, 39) porta aquaria P.Dur.106,13; P.Dur.107, col ii,10; P.Dur.110, fr. a,6; P.Dura.107, col i,17 porta f[…]sia P.Dur.106,12 portas P.Dur.107, col ii,15</td>
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<th><strong>OTHER</strong></th>
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<td>Century areas (?)</td>
<td>in ☯; d decr ☯; seren ☯; in ☯ heli; db ☯.</td>
<td>P.Gen.Lat.1, verso, part v, 18 entries</td>
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<tr>
<td>Secondary streets</td>
<td>strigis</td>
<td>P.Gen.Lat.1, verso, part</td>
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<td>PSI XIII 1307 col. ii 17</td>
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In the case of Dura-Europos, I proposed that the high number of guards may be related to the guard presence also covering the city. The distribution of guards and police presence and movement would probably be related to the maintenance of discipline. This is a good example of where the disciplining of soldiers becomes a spatial practice (see also section 3.3 on unauthorised movement). The assignment of guards resulted in the creation of official points of presence within the camp. These consisted both of stationary points of observation in the form of sentries and of authority (circitores), moving around the base. The authority, in turn produced predictable patterns of policing movement throughout the camp.

The effectiveness of the system was reinforced by the values of Roman discipline and the perceived gravitas of the Roman military oath. The soldiers would swear the oath of loyalty on their enlistment (Watson 1969: 44) and as Dura-Europos documents indicate, repeated daily (RMR 47 & RMR 50). The Oxyrhynchus papyri yet again provide a useful comparison with a civilian context. P.Oxy I.139 refers to an oath of honesty vowed by a watchman. The document also mentions the high penalty the watchman would incur if found participating in, being bribed or, otherwise facilitating crime, perhaps indicating that abuse of authority was more commonplace than it had been hoped. In literary tradition this is echoed in Vegetius (3.VIII) advising to choose reliable men for patrol duties.

Table 3.3 Points of presence of guards collated from documentary evidence.
Turning towards the historical sources provides more social and spatial context helpful for further interpretation of the discussed practices. The disciplining role of circitores’ movement is visible in a situation portrayed by Sallust (Jug. 44-45.2). Typically, for the purpose of glorifying the new commander a situation of chaos within the camp is depicted, which the new commander brings order to. Much of the chaos has to do with people being in places where they should not be, or at an inappropriate hour, leaving posts when one wanted and the camp followers mingling and walking about with the soldiers all day and night. As a remedy for the lack of discipline, the new commander created more sentry posts and placed them at shorter distances, with the commander with his legates performing the role of the circitores themselves (Jug.45.2). This increased the likelihood of being spotted and ultimately punished, if inappropriate behaviour was detected. Although Sallust is a Republican source, we come across the circitores in the Flavian period in Josephus (Bell. Jud. II.540) and in Tacitus (Hist.2.29; Ann.15.30). The Jewish wars portray well a sense of the Roman fear of the large uncontrolled crowd that would gathering in the temple at Jerusalem on holidays. The increased presence of legionaries acting as guards was aimed to keep the Jews’ discontent from turning into trouble. In a similar fashion, the point of discipline within the camp was to prevent trouble caused by discontent soldiers.

As a by-product, discipline-induced movement and movement arising from daily performance of duties, filled the base with predictable patterns and assigned rhythm to places and tasks. The supposed effects of abandoning the practice as a means of punishment are illustrated in Tacitus.

‘He (Valens) forbade the centurions to visit the sentinels, and discontinued the trumpet calls by which the troops are summoned to their usual military duties. Thereupon all stood paralysed, and gazed at each other in amazement, panic-stricken by the very fact that there was no one to direct them’ (Tac. Hist. 2.29).

This very well illustrates the institutional dependency of soldiers on the systems which in the first place were implemented to control their behaviour. While it is
possible that Tacitus exaggerated, the construction of the depicted situation is informative. Military psychology observes similar side effects of obedience (Eriksen 2010). Armies socialise soldiers to obey orders and do not foster individual agency or decision making. The process by which the habit of unquestioning obedience is engrained in modern soldiers is often explained through models of identification (Kelman and Hamilton 1989: 104-106). The dominant role of functioning for a soldier is that of a part in a larger system, outside of which the men in Tacitus’ story were left not knowing what to do.

As some of the examples quoted alluded to, sound played a part in orchestrating this both disciplining and reassuring choreography of movement. While no documentary data record the sounding of watches, their keeping and sounding is a plausible inference in the context of the hiberna, supported by two passages from Tacitus (Ann. 15.30 and Hist. 2.29) suggesting that military life was modulated by watches. The sound of trumpets and bugles was a prominent enough feature for the foreign king, who was hosted at Corbulo’s dinner, to be puzzled by the unfamiliar practice of sounding watches by a centurion.

‘To military glory Corbulo added courtesy and hospitality. When the king continually asked the reason of whatever he noticed which was new to him, the announcements, for example, by a centurion of the beginnings of each watch, the dismissal of the guests by the sound of a trumpet, and the lighting by a torch from beneath of an altar in front of the headquarters, Corbulo, by exaggerating everything, filled him with admiration of our ancient system’. Tac. Ann. 15.30

Elsewhere, in Josephus a stratagem deployed by Cestius to keep the appearance of a troop present and ready in their base is underpinned by repetitive sound. Unfortunately, Josephus does not specifically tell us whether the troop was stationed in the city of Gibeon or whether it was in a camp in the vicinity of the city:

‘He (Cestius) picked up some 400 of his most courageous soldiers and posted them on the roofs, instructing them to shout the
watchwords of the camp sentries so that the Jews would believe the entire garrison to be still in position’ (Jewish Wars II. 540).

Elsewhere Josephus provides an image of the power the sounding of the trumpet had for the structuring of the soldiers’ lives:

‘The hour of supper and breakfast is not left to individual discretion: all take their meals together. The hours for sleep, sentinel duty, and rising are announced by the sound of the trumpet’ (Jewish Wars III.86).

In this passage the sounds of trumpets did more than tell the official time. It embodied the way the soldiers’ activities, whereabouts and time were orchestrated by the institution. We will return to the notion of socially constructed time in Chapter 4 in more detail.

The locations from which the calls were made could be a mark of authority. When Pompey divided his command with Scipio he ordered the bugle to be sounded at his head-quarters and a second headquarters to be put up for the other commander (Caes. Bell. Civ. 3.82.1).

Audibility, although vastly different between tents and a hiberna, would have been an important factor too. Hyginus (P.Hyg 21) advises for the camp to be not too long, as otherwise the bugle will not be easily heard at the rear gate. In military manuals sound communicated time to start and finish watches, do work, including time when the soldiers are alone without supervision (Veg II.22). The start of watch was announced by trumpet and finished either by trumpet or by horn, depending on the written source (Vegetius III.8 and Vegetius II.22), implying a hierarchy of official sound signals, with the bugle reserved for orders issued by the commander and for capital punishment.

A parallel on soundscapes in institutionalised environments comes from modern

1 I would like to thank Professor Ian Haynes for drawing my attention to the passage.
factories and prisons. Researches draw attention to the cyclical, repetitive nature of the soundscape expressive of domination (Paglen 2006: 56). This may have been similar in the Roman military base in regards to bugle and trumpet sounds. Studies on the relationship of sound and the social organisation of space indicate that such foregrounding sound is both a product of cultural processes and a cultural process in its own right (Wollscheid 1999: 6, Rodgers 2006: 49). Similarly, the soundscape of official signalling within the camp was both constitutive of, and constituted by the daily routines of the base. The life in the army would have been punctuated by collective sounds the rhythm of watches sounded in the base. The rhythm engrained military life in soldiers alongside a sense of security and familiarity as the passage illustrating the discontinuation of the sounding of the trumpet indicates (Tac. Hist. 2.29).

A nice final glimpse into guard duties and into the tacit resistance while experiencing the repetitive linear rhythm of watches, is offered by Livy (Livy 44.33.10-11). Aemilius Paullus (168 BC) forbade the guards of his camp to carry shields while on sentry duty. This was partly so that the shiny armour does not render them visible to the enemy while blinding the guards in sunshine. The other reason was that the guards would lean their heads on the rims of shields to rest while standing, very likely thus resisting the boredom of the monotony.

The socio-spatial aspects of the practice of discipline in the base highlight the peculiar context of an institutionalised built space, which Roman military bases were a type of. In this section we have traced the meaning behind the practices of movement and presence of soldiers performing their duties. These have revealed the social meaning behind them. These meanings related to the reaffirmation of social hierarchies, rank structure and the practice of discipline. This chapter has contributed to answering the first research question of the thesis, which is identifying and interpreting the patterns of official presence within the military bases. The second part of the chapter discusses the breaking of discipline through reviewing sub-literary evidence on unauthorised practice in the context of the fort. This adds a further category of presence and movement to the ones discussed before in order to answer the research question of the thesis.
3.3. Unauthorised Practices

The second, more elusive category of activity, including forms of movement recorded in literary and sub-literary data, is that of unauthorised nature. Phang (2008) discussed both the economic (control of consumption) and corporal means of disciplining in the Roman army. In addition to corporal punishment a further type of discipline over the body is that exerted through control of its movement in space. James (2011: 169) suggests that with the progressive lengthening of periods in which the soldiers would occupy the base, one aim of the base was to facilitate surveillance and control over soldiers. James (2011: 170) further drew attention to what seems to be a contradictory aim in the socialisation and disciplining of soldiers both aiming at fostering their fierceness and hunger for more war, but also keeping them obediently waiting until they can be of service to the emperor. The projection of Roman imperial power over the soldiers therefore, extended onto the fabric of the military base. Recent studies leave open to discussion the issues of the trespass of this authority and whether it is possible to pin such activity to the physical space of the base. This section reviews the evidence for different degrees of trespass of authority in the form of unauthorised practice in the context of the fort. I also look at what evidence there is for control of freedom of movement in a Roman military base. Such activities are of ephemeral nature and I discuss only those traceable on the fabric of the base.

3.3.1. Boundaries and control of movement

In recent years Andrew Birley (2010) provided evidence for a much more relaxed relationship between the interior of Vindolanda and the extramural settlement next door, than older studies conventionally assumed. In terms of the actual movement of individuals one can expect a degree of control at the gates leading to the base, especially in relation to the military personnel. Boundaries, and the degree of control of movement they entail, are a prominent feature of modern military use of space (Woodward 2004) and revisiting old literary and sub-literary sources provides some evidence for the linear boundary of the perimeter as a barrier for daily movement. Provision of guards as the gates is generally assumed as a common practice with evidence
in the context of hiberna (Section 3.3) and in the context of a city at Oxyrhynchus (P.Oxy I.43). These suggest a form of verbal identification, likely through checking if one knew the password. Other forms of identification can be similar to those attested in legal documents; bodily scarring (P.Mich.1.92, P.Mich.3.198; P.Mich.9.570) or tokens, similar to those given to soldiers in Egypt to prove they are on leave (Speidel 1985). These practices are likely to be context specific, with perhaps a more relaxed approach in peacetime with the gate open temporarily or at all times. This highlights how little detail of daily practice and functioning of these facilities is actually known. A further boundary would have been that of the extramural settlement, often remaining in sight and perhaps the hearing range from the perimeter. A degree of visual control over the tabernae at Vindolanda is plausible, since these were situated along the main street leading out of the fort. As the widest road in the extramural settlement, this would have been easily visible from the defences.

Elements of control of movement and soldiers’ whereabouts are preserved in the administrative practice of the units, both in the context of the interior and the exterior of the base.

Evidence that conveys best the sense of control over the soldiers’ location in space through administration is that of documentation pertaining to authorised leave from the base. The opinion among scholars (Speidel 1985, Evans 1987: 460-461) is that this was given sparingly, supported by negative views of the Roman elite and Emperors on giving leave to soldiers (Tac. Ann. 15.9; Dig. 49.16.12; Vegetius 2.19; Tac. Hist. 1.46; Suet. Galba 6.2; Pliny, Ep. 10.20). The prescriptive form of petitions (Bowman and Thomas 1994: 77), which were in some places available as a form with a blank for the name (O.Flor 1 and O.Claud 48-82), indicate that applications were commonplace. The lack of mention of the time off requested on Vindolanda examples inclined Bowman and Thomas (1994: 77) to believe that time was assigned automatically based on the destination specified. Another possibility may be that a personal meeting to discuss the leave would follow. Reference to leave as ‘beneficium’ (ChLA XI 467; Speidel 1985: 291) indicates its obtaining was considered a serious privilege, given for an important reason that usually required immediate action;
family matters or business (ChLa XI 467 P.Wisc. II.70; P.Mich. XII 629) (Daris 1988: 276).

Records of units from the Early and High Empire reveal bureaucratic control of the number and whereabouts of soldiers on both detached duty and leave. The administration wanted to keep track of where men were so they could be recalled when needed (Speidel 1985: 291). This was the authority soldiers obeyed with perhaps the added incentive to avoid the shame of not returning on time. Time constraints on the time for which the leave was granted, while limiting to the soldiers, were respected – we find an instance of a man cutting his trip short in order to return to camp in the time stipulated by the leave (P.Oxy XIV 1666.14). P.Gen.Lat.1 (recto, part II) preserves records of departures and returns of individual soldiers on detached duty of Legio III Cyrenaica. Six different hands can be distinguished on the document (Fink 1971: 115) and these suggest constant updating of check lists of men absent from the century. P.Vindob. L 112 recto and P.Vindob .L 4 serve a similar purpose (Fink 1971: 120,122). A list of absentees also features in the Dura-Europos papyri (P.Dur. 123; Fink 1971: 164), but it is not known if these are men on leave or on detached duty. A document of Lego III Cyrenaica from second century A.D. (ChLA XI 500, line 16) contains a passage understood by Speidel (1985: 287) as reference to limited leave. However, ‘finitum commeatum’ can also translate as “having finished leave’. If the document is a roster this would note the man’s return from leave. An obsession with list making and their updating to keep track of men is indicated by the fact that a quarter of papyri collected in Fink’s (1971) corporum are lists of men. The ability to spend the allocated leave wherever one wanted (liber commeatus) was considered a privilege, worthy of commemorating on a tombstone of an equestrian officer (CIL V 6478 in Speidel 1985: 287).

While men were away, correspondence facilitated the spread of information and control. P.Wisc. II 70 from 103 AD sheds light on the circulation of information about the leave of one officer. Information about the commeatus of a decurion was distributed in writing at least among three people: the strategos of the Coptite nome, the prefect of the man’s unit and a centurion, Petronius Fidus. To be relevant, such information must have travelled pretty fast.
An ostracon (O.Claud 384) written by a curator to a decurion concerns an update about a soldier absent from the praesidium since 17:00 hours and informs that the man in question turned out to be ill, and therefore unable to take up the work. This example again, underlines the speed with which the information travelled.

Further, a find of a leave pass, or a chit (Flor O. 1) presumably carried by a soldier while on leave (Maxfield and Dobson 2006: 40), a reference in two other letters to another similar token issued for a journey up and down the Nile Valley for 2 days (SB VI 9272), and of a token to be provided for a leave for the day after the letter was written (O.Price 2 in Speidel 1984: 289) indicate, that while travelling soldiers on leave could face the possibility of being questioned by an authority. The Florida ostracon seems to fit the purpose since the text is written only on the upper part of the shard leaving the lower half for checking the dates of leave (Speidel 1984: 290).

Several examples indicate that those, who were unable to obtain leave attempted to cheat the system through manipulating detached duty to leave the base instead. P.Berlin 21555 from Roman Egypt contains a letter of a soldier to his family explaining that he is unable to visit his ill mother and that he was denied leave by his commander since he was needed in the base. The letter alludes to the connection between the coming of a higher officer and a possibility to cross the Nile. This perhaps might be in the context of working as part of the commander’s retinue on a mission outside the base, opening up an opportunity for a visit home (Karlsson and Maehler 1979: 281). A second example comes from the correspondence of Terentianus from 2nd century Alexandria (P.Mich. 8 478), who was hoping to see his father in Neapolis (in Israel) while on detached duty. The soldier explains to his family that he was unable to ‘pass the gate of the camp’, perhaps due to increased security following disturbances in the area, which the letter mentions. The soldiers’ father finally was able to visit the camp, giving an interesting insight into the access of relatives into, or near, to the camp.

The most celebrated in literature (Speidel 1985: 291; Wesh-Klein 200: 460) example is Saturnilus (P.Mich. 3 203) (114 – 116 AD), who tells his family that he is
‘seeking opportunity to come every day’ is unable to visit his relatives for another eight months. Saturnilus attempts to use detached duty as an opportunity to stop on the way to Alexandria at Karanis (Speidel 1984: 292). The following fragment is worthy quoting as it reveals much useful detail:

‘I was afraid to come just now because they say that the prefect is on the road, lest he take the letters from me and send me back to the troops, and I incur the expense in vain’ (P.Mich. 3 203).

Saturnilus bribed someone to be chosen for detached duty in a location convenient for him (Speidel 1985: 283). Secondly, Speidel (1985: 283) considers that the letters were addressed to the commander, whom Saturnilus is afraid to meet on the way back to the camp, rendering a journey to Pselkis unnecessary. Another plausible scenario it seems to me, may be that the commander would have taken the message from him, return him to the base and instead send one of his own protégées. It seems that Saturnilus’ ‘favourable chance’ depended on the timing and on his connections. Speidel (1985: 291) portrays an interesting power dynamic whereby the privilege of leaving the base was an object of manipulation of officers accepting bribes. In summary, soldiers on legitimate leave were subject to a form of administrative control. Sources reveal that at times when leave was not granted soldiers could be left in a difficult situation. Forms of resistance to the constrictive for the freedom of movement nature of military service developed through attempts at manipulating the detached duty to be able to travel in the desired location. The information presented in this section highlights that the military base could be a restrictive environment in terms of limited possibility to leave the base and points towards the importance of restriction of movement as an important part of the daily praxis. This aspect, alongside the presence of guards and the disciplining movement of circitores, highlight the difference between the military use of space and the civilian freedom of movement, and ultimately the role of the institution in the construction of social space.

3.3.2. Trespass of authority

The prevailing research paradigm of the previous decades (Chapter 2) inclined towards seeing the soldiers as always obedient. This idealising perception has
been partly dismantled through recent attention towards documents indicating that soldiers abused their authority in the context of civilians. A further category of material, which has not recently seen attention, is that providing the evidence for a range of forms of disobedience of the authority of the soldiers’ officers, the commander or the service in general. While some documents allude to disobedience, but do not allow to clearly defining the act concerned (P.Dur. 63), the matters usually pertain to either absence without leave, straddling, desertion or theft. Aside from theft, most of these can be defined as a form of noncompliance with the constraint on movement imposed by the army.

3.3.2.i Absence without leave

The most common form of unauthorised movement found in the documentary evidence is absence without leave, either through returning from one’s legitimate leave from the base late, or abandoning the base at one’s will for a short period of time. A document records the first instance as –non comparet- ‘failure to return to the base’ (P.Dur 82 ii 20 = ChLA VII 337 as interpreted by Speidel (1985: 286) and Gilliam in Welles 1959:43). It seems reasonable to propose that AWOL through an unauthorised extension of leave was more likely to occur in relatively peaceful conditions, such as those at Dura, rather than in campaign, when at least according to literary tradition, leave was usually forbidden altogether (Tac. Ann 15.9). At Dura-Europos there are another two references to absence without leave, this time as shorthand for hemanserunt (Welles 1959: 43) (emans(it) ex era in P.Dur.100 xxii 8; fink suggests similar in P.Dur.100 xxiii 15, but this is not very obvious on the transcript) and a further reference understood in the same way in P.Mich VII 450 (frag. b line 7 after Fink 1971: 202). Another very similarly phrased entry features in the morning report P.Dur.82 ii 18. I am inclined to follow Fink, rather than Gilliam (Welles 1959: 248) in seeing this entry as referring to men who already discharged and re-entered the unit on the day after they received honestia missio (Fink 1971: 186), especially since an entry to straddles already Figures on the report two lines above. There is little evidence for when absence without leave turned into desertion. The best reference to this is in the Digest (49.16.5.1-8), which is vague in referring to ‘substantial period of time’. This indicates that the matter was left to the discretion of the commander.
3.3.2.ii Desertion

Desertion was taking place both during campaigns and in fairly peaceful contexts, both as group desertion and individual desertion. While the most numerous instances of desertions are referred to in historical sources, there are several records of it in the documentation of the hiberna. I cite a selection of references from historical sources here: individual and collective desertion and the context in which it occurred, but pay more attention to those preserved in military documentation. These are more relevant in the context of the permanent hiberna as opposed to marching camps, where much of the historical narrative takes place. Among the historical sources, desertions and solutions to them portrayed by Frontinus, an officer serving in campaigns in Roman Britain, can be more clearly correlated in terms of the context with the base at Elginhaugh. This was in operation during the governorship of Agricola, who succeeded Frontinus as the governor.

Organised mass desertion is referred to in the context of the Usipi stealing ships to return home (Tac. Hist. IV 55) and during the Batavian unrest of A.D. 69 (Tac. Hist. IV 19). There are also later examples, for example a number of auxiliary cavalry deserting during Valens’ reign (Amm Marc XXIX 5 20). Desertion to enemy is referred to during the siege of Jerusalem (Jos. Bell Jud III.16) and on the part of auxiliaries, in Frontinus (II.V. 30, II.V.34; IV, VII.36).

The sources often portray extreme situations of stress in campaign as the context for desertion. Caesar (Bell. Gall. V 51) during wars in Gaul ordered the camp to be barricaded after the enemy announced that until the third hour both Romans and the allied Gauls could turn themselves in to be spared. Some men tried to dismantle the barricade on the gates. If one’s situation in the camp was desperate, for example being threatened within their century or contubernium, the decision to desert could be an impulsive one - a short-sighted goal to leave the camp, without considering prospects so as what to do later. While popular in historical accounts, desertion has not been paid much attention to in archaeology, perhaps being a subject of idealising assumptions (citing no-where significant to escape, or the decision to desert unreasonable by modern standards).
Such extreme circumstances were probably not the daily reality of hiberna, with other factors instead playing a part, not least the boredom of repetitive duties. Evidence for desertion in military records consists of three possible instances from Vindolanda. Tab. Vindol. 320 refers to the release of deserters (desertores in line 5), implying that they had been previously caught and kept in some sort of imprisonment. Tab. Vindol. 226, written by the commander Flavius Cerialis also mentioned deserters, (desertores in line 10), likely sending them to a higher authority (Bowman and Thomas 1994: 203). The most ambiguous one is Tab. Vindol. 345, which records handing over Atto, a decurio and crossing out from the list some soldiers (Bowman and Thomas 1994: 335). Elsewhere, Dura Europos provides evidence of desertion en masse. P.Dur.55 informs us that the soldiers of Palmyrene cohort abandoned the camp (derelicis castris in line 7) and are wandering about without discipline in Parapotamia, which was a district of Dura-Europos (Welles 1959: 213). An instance of desertion during war is recorded in the British Museum pridianum (BMP 2851). In one column (I.34) a group of men appear as ‘cum Tyon securis’ (having followed with Tyon) and reappears in column two (II 13) as ‘restitutus ex Tyon securis’. According to Fink, these men had been listed as permanently lost and then restored in the column below. This inclined Fink to consider them as returned deserters or as stragglers from other units temporarily added to the strength of the cohort (Fink 1958: 113). Gilliam’s (1995: 752-3) later re-interpretation of the reading, Tyon was not as a leader of deserters (Tyon is a word of Greek origin and it is unclear whether it is a person or a place, but a person seems more likely), but a leader of a detachment that within the same year joined and left Cohors I Hispanorum.

3.3.2.iii Soldiers in detention

In military documentation there are three instances of soldiers being detained in the camp. The case of captured deserters from Vindolanda has been discussed above. To this we can add ‘(in) custod(i)a’ appearing on a duty roster at Dura (P.Dur, 101 xxi,3) and interpreted by Gilliam (Welles 1959: 42) as a soldier under arrest, rather than guarding something since the entry appears only once. Further, by comparison with other duties, I would expect ‘ad’ in front of custodia to denote a location for the duty by comparison with other entries on the document. At Bu Njem there are four references to men ‘ad virgas’ (O. Bu Njem 2.7; 9.9; 22.15; 32.7) denoting being punished, rather than performing a
duty to do with punishing others. Marichal (1992: 82) believes that it would not be possible for a soldier to be on a duty whipping others for the whole day and that the punished would have been exposed near the tribunal for the whole day. Among the four entries, two appear on dates very close to each other (21 July on O.Bu Njem 8 and 26 July on O.Bu Njem 9), which based on the similarity of hand Marichal (1992: 83) interprets as denoting the same man being punished on two days. The punished on the ostraca are likely to come from the whole unit, as it is difficult to imagine so frequent punishment in a group of 50-80 people. With one man punished every three days out of 500, on average someone would have been punished every half a year.

Elsewhere in the ostraca (O. Bu Njem 8 and 9) there are two references to a single man ad carcare, which correlates very well with the entries ad virgas. Perhaps it was the man sentenced to whipping, who was detained temporarily before the next round of lashes. Marichal (1992: 83) rightly notes that guarding the prison would not be an everyday job as not every day there would have been a prisoner who needed guarding. In the inscription evidence there are several references to prison officials in the legionary context. Two inscriptions from Aquincum: one from the amphitheatre referring to a Kar(cerarii) leg(ionis) (CIL III 10493 k) and another one referring to a beneficiarius legati legionis agens c(uram) c(arceris) (CIL III 3412). An imm(unis) ka(rcerarius) legionis (AE 1936, 155) is also known from the epigraphic record from elsewhere. A supposed prison was identified at Neuss (Watson 1969: 126), but the very old date of this interpretation makes is perhaps questionable. In literary sources there are two particularly interesting references to punishment in the context of the camp. Frontinus (IV.1.27) hands down the story of Sulla, who ordered a centurion as a punishment to stand continuously at the headquarters without a helmet and a uniform. Elsewhere, Pseudo-Hyginus refers to the back gate being the one through which men are led out of the camp for punishment. Especially the story portrayed by Frontinus gives a sense of the public display and the shaming of punished in the camp.

3.3.2.iv Theft

With garrisons being relatively wealthy, theft might be expected to have been an occurring incident. While there is no preserved example in the military
documentation, theft is hinted at in the higher occurrence of ownership inscriptions on samian ware as compared to assemblages from other urban contexts (Evans 1987). These usually contain the name of the owner, with examples of Primi[liv]vs (frag S292) and Vericundi (frag. S308) found at Caerhun (Reynolds 1938). The choice of the material inscribed suggest theft, or confusion of one’s possessions with somebody else’s in the contubernia and food consumption areas. Items of much higher intrinsic and symbolic value were signed too, such as the set of phalera belonging to Dometius Atticus found at Newstead (Maxfield 1981: 95). In the case of such a distinctive item, the owner could be easily recognised within a small unit, where number of soldiers who had been awarded phalera was likely small.

In terms of the written sources, Frontinus (IV.116) hands down a story that when soldiers were caught in theft, their right hands were cut off in the presence of their comrades. Frontinus adds that if the authorities wished to impose a lighter sentence, the offender was whipped by the headquarters. According to Roman law stealing somebody’s armour was a considerable crime, but stealing pack animals was treated even more seriously. While the theft of armour impacted only one or two individuals, the theft of pack animals endangered the whole troop (Brand 1968; Southern 2007: 147). The reason behind the differentiation between these two behaviours may be rooted in the opposition between the ideals of communal good as opposed to personal gain. Theft is an ephemeral activity, impossible to talk about from the point of view of architecture.

3.4 Conclusion

This chapter has presented the literary and sub-literary evidence on movement as spatial practice in the context of Roman military bases.

Following the types of presence and movement outlined in the introduction, the literary and sub-literary data have been analysed according to themes of: on-duty movement and presence; and unauthorised activity. These are the two categories of activity which were most likely to be preserved in either official military documentation or in the form of letters. The off-duty activities of the soldiers and the wider community were largely invisible in the data presented in
this chapter. The data has been analysed to look for patterns and differences between the sites and later interpreted in the context of the theoretical framework of the thesis.

The analysis in section 3.2.3 focused on the interpretation of the patterns in the data pertaining to on-duty movements of the soldiers. The findings have been categorised into normative and disciplinary socio-spatial practices, hierarchical socio-spatial practices and religious socio-spatial practices. The interpretation of the patterns led to conclusions about the construction of social distance and the way hierarchical relationships among people in the base mapped onto the spaces in the military base. The section also elaborated on how the practice of discipline manifested itself in the creation and reproduction of predictable patterns of official presence and movement within the base. Some of the practices of movement also played a policing role of practices performed by people called (circitores).

The second part of the chapter helped answer the research question on types of movement through focusing particularly on the category of unauthorised practice that can be tied to the plan of the base; absence without leave, straggling, desertion, intrusion, theft and the evidence for detention of soldiers within the military bases. While the literary evidence is fairly robust, it often pertains to campaign situations and the context of marching camp.

Historical sources depicting the situation in military bases during campaigns most likely show us how soldiers and the commanders acted under severe stress and under increased discipline, with often severe punishments inflicted on those deserting or otherwise betraying the army. It is worth remembering here that many of such writings were written by the elite and for the elite, perhaps leaving some room for poetic exaggerations. In contrast, the sub-literary evidence, while rather limited, suggests a blurry difference between desertion and absence without leave. Particularly interesting from the point of view of the research question as mainly geared towards the context of hiberna, is that desertion and absence without leave also occurred in relatively peaceful conditions. The documentary evidence pertaining to relatively peaceful situation also indicates that the discourse of power was much less overt than
the dynamics depicted by Tacitus and Polybius, where soldiers often would suffer corporal and capital punishment for desertion. The evidence for theft and intrusion is more elusive, but does highlight the measures taken to prevent them as well as the flip sides of communal living.

Unauthorised activity encompasses a spectrum of behaviours. In this chapter, we have looked at the clear cut ways of disobeying the military authorities, cases which were considered serious enough to make their way into the official military documentation of the unit and serious enough for those trespassing the authority to receive formal punishment. The documents have also revealed how the soldiers used opportunistic strategies to momentarily bend the rules, for example, by taking an advantage of a detached duty to attend private matters. In Chapter 6, I discuss further such strategies in the context of benches and guard duty at Bu Njem as an expression of a status quo between what was officially allowed and what the authority might have turned a blind eye to.

Finally, the chapter discussed to what extent it is possible to talk about the control over soldiers’ whereabouts based on the literary and sub-literary data. The evidence is very piecemeal and anecdotal, but of importance in the context of wider research on discipline in the Roman army and the coercive nature of the institution (the army). Its consideration allowed me to more fully incorporate the archaeological evidence of military sites into the discussion and propose some interpretation as to the workings of discipline exerted over the body through its control in space. The following chapter more fully incorporates the dimension of time in the functioning of a garrison in space which was alluded to in passing in this chapter. Movement and presence occur both in space and time, creating a socio-spatio-temporal continuum.
Chapter 4
Time and Space - The Micro and Macro Cycles of Activity in a Base

This chapter discusses socially-constructed time in the Roman army to address the research question of how temporal changes affected the use of military bases. Following the recent work of Haynes (2013: 165 -190) on the habitus of daily duties within the army, time is recognised as an important factor in the structuring of social space; spaces are used differently through the day and different spaces are used at different times of the day. The ‘micro-cycle’ of the day underpinned activity in the base. Longer, seasonal to yearly, cycles in the life of a military base were significant too. These are potential ‘macro-cycles’ of time, working on the basis of: traditional and calendric time; natural seasons; periods of campaign; as well as, by juxtaposition, periods of withdrawal from active service, and the periods of transition between the two.

4.1. Time and the construction of social space

Social sciences recognise a dichotomy between time as a measurable physical phenomenon and ‘cognitive time’, experienced by individuals or groups and enriched with cultural values and ideas of the significance of that time (Gell 1992: 240, Gosden 1994: 2). Socially-constructed time is culturally contingent; different social groups interpret, or culturally construct, different types of time; clock time, cyclical time, event time (Ancona, Okhuysen et al. 2001: 515, Orlikowski and Yate 2002: 688-89). The distinction between time as a physical phenomenon and time as a social construct is of key importance here. Seeing time as a social construct provides an axis around which we can build associations between places and people. Such associations between activities and the appropriate place and time for them would have been very important for the daily praxis of military communities.

The functioning of Roman military bases may have been framed within different types of such socially constructed time. Written sources suggest the high
importance of cyclical time for the organisation of life in Roman military bases. In organised, high density environments it is often cyclical time that structures the social use of space, as modern empirical work on factories indicates (Clark 1985). Cyclical time provides a recognisable schema; based on past experiences, one can predict future events. According to Gell (1992: 229) each time we experience a cyclical event we match it with a schema we acquired through participation in a similar event in the past. This understanding fits very well with the religious calendar of the army discussed below. Gell’s observations tap into Bourdieu’s concept of habitus and helps to explain how socially regulated time has implications for the construction of social space, creation and maintenance of routines and for the exercise of discipline as a spatial practice. In this way temporal and spatial mapping go hand in hand.

To define the nature of cyclical time that mattered for the life in military bases one can turn to the recent find of a timepiece at Vindolanda (Lewis 2009). Here, we find a rudimentary means of keeping time, most likely for communal or official use. Birth (1995: 404-406) identifies the object as a parapegmata, used for predicting agricultural time and therefore perhaps located near a granary. This find underlines that the army had to work in synchronisation with natural cycles, in this instance of agricultural growth. Von Petrikovits (1975: 174) proposed that sundials would have been displayed on the walls of the principia building. Von Petrikovits calls on an inscription (ILS 5625) suggesting the existence of a permanent appointment to maintain the clock (horologiarus). Further evidence for sundials comes in the form of an inscription from Ramagen in Germany from 218A.D. This records that the commandeer of Cohors I Flavia, Petronius Athenodorus, repaired the unit sundial out of his own pocket, as it no longer showed the correct time. A suspected example of a sundial from Chester Museum is now believed to be an incorrect identification (Birth 2014: 404). Sundials too, operated in synchronisation with natural cycles, in this instance of day and night. Sundials were in use, but it is not clear whether this was a standard practice across the Empire.

The structuring principles behind time in the Roman army can be sought in macro-cycles of the year and the seasons and micro-cycles of watches and diurnal cycles, but above all, the official versions of time set by the commander and the institution of the army (e.g. rhythms of daily duties).
I suggest that the patterns presented here would be in general terms characteristic of the yearly experience of many soldiers, although the details would change from site to site. To appreciate the local differences, I will be drawing on data from case studies contrasting the reality of first and early second century Roman Northern England and Scotland (Vindolanda and Elginhaugh) with that of second century Roman Northern Africa at Bu Njem, supported with written material from the wider region of North Africa.

4.2. Rhythm of days in a military base

In literary tradition watches provided a formal structure for day and night, based upon a concept akin to ‘duty time’. ‘Hours’ divided day (from dawn to dusk) and night (from dusk to dawn) respectively into 12 units (hours), whether summer or winter. Three of these hours constituted a ‘watch’, which structured the day into regular time cycles. These effectively created four daytime and four night ‘shifts’ (Veg. 3.VIII). The fourth day-watch and the fourth night-watch marked the switch from day to night (Caesar Bell Gall 1.35). Caesar (Bello Gall, 1.12; 1.35) frequently refers to watches as measures of time and confirms the division into four day, and four night-watches, the last one ending at dawn.

The best evidence for the keeping of watches (understood as units of time) in the documentary evidence from hiberna comes in the form of the Mons Claudianus guard rosters, which carry an annotation from I-IV next to the name of each guard (Section 3.2.2.II). Their keeping, also supported by a passage from Tacitus (Ann. 15.3 and Hist. 2.29) suggesting that military life was modulated by watches. This also suggests the keeping of time in hiberna according to a watch system, even though little is known about how watches translated into the practice of garrisons. In hiberna the watch system would have been useful for the men taking up sentry posts, as we have seen in the context of Mons Claudianus.

Cyclical watches were out of synchronisation with regular interval clock time. Instead they were of varying lengths as they depended on sunrise and sunset, constituting a pulsating cycle throughout the year which altered life within the
base according to the natural seasons; the difference in the length of watches between seasons is acknowledged in Vegetius’ reference to summer-hours (Veg. I.9). Also Caesar (Bell.Gall 5.13) observed that nights are shorter in Britain than on the continent. Pliny’s letters also, suggest that hours were variable in length (2.11.14). Since watches would have been of varying lengths, it seems that watches would have been measured in approximation. This could have been achieved through water clocks, which is perhaps how Caesar made his observation. Such water clocks would have been very useful especially at night (Veg. III.8). However, during the day and, weather permitting, also sundials would have been a viable option, although, as has been noted, Vindolanda would not have been particularly good for sun-time reckoning (Birth 2014: 408). This is in contrast to documentation from Mons Claudianus (O.Claud. 384) in Egypt, where we find a reference to hour 17:00 which indicates the use of clocks (Haynes 2015: 118). The use of sundials in sunny Egypt seems to have been more practical than in the northern British climate and therefore perhaps was not a standard practice everywhere. Here, we might come back to the story of commander Petronius Athenodorus repairing the regimental sundial and ask whether his predecessors were able to get by without the sundial, or used another clock (Haynes 2015: 117). At times, rather than being objectively measured, the change of hour may have been guesstimated by the centurion sounding the trumpet.

A sundial displayed on the wall of a principia building might have been a powerful symbol of the way in which the institution of the army controlled its soldiers’ time. However, as we have seen in Chapter 3, many men worked away from the central range or outside the base and therefore, could not easily look at the sundial. With no personal time-keeping devices (watches) in the Roman period, sticking to clock time division by individuals was perhaps not as important in the Roman army as it is in present institutionalised environments. It may be that in the daily practice of individual soldiers, it was not clocks that were important, but the natural cycles of day and night, punctuated by the sounds of the end of the fourth day-watch at dawn, and the end of the fourth night-watch at dusk.
Daylight had major implications for carrying out daily chores (i.e. upkeep of the base, production work, duties outside the base with a return to the base overnight). The lack of natural daylight would affect the simple practicalities of movement and activities in an era without the artificial daylight within buildings or streets, making day/night a more marked transition than it is now. No preserved military documentation carries a notion of when the soldiers should either take up or finish their assigned duties. This suggests that such knowledge was implicit in the daily practice of a unit; the easily-observable markers of dusk and down are a possible answer.

With no sub-literary data and with archaeological evidence insufficient to talk about how time affected the social use of space, a way into the daily temporal practice within a garrison may lie in distinguishing prime locations (i.e. ovens, ramparts) and the probable tasks of people, and with that information looking at temporal variation in locations where people were likely to do things.

At Bu Njem, due to heat and early sunrises, the day might have started earlier than in Elginhaugh in winter, where the sun would rise later and heat was not a problem. Similarly, at Bu Njem some activities taking place in the middle of the day in the European context may have been postponed till later in the afternoon to avoid sun and heat exhaustion. During the day one can envisage a change throughout the day hotspots of activity, pressure points and bottle necks on the roads. This works both on an individual level, but also for collective and specific groups, with members of the community following their separate pathways and coming together. Chapter 3 indicated that most milites caligati would be stationary and often in a building during their working time. The duty roster of Legio III Cyrenaica revealed how dispersed the soldiers would have been throughout the base during their working time. Although most men at Vindolanda are assigned to fabrica, the excavation of Vindolanda period IV/V indicates that there were many areas of industrial/non-domestic activity (Birley 1994: 113-126). A further leather workshop from the period IV/V was also located to the south of the via principalis, immediate west of the period IV schola (Birley 2003). It is likely that there was less non-duty related movement during the day, as opposed to the mornings and after dusk.
While the soldiers were performing duties or training, the attached personnel (e.g. grooms, servants) would presumably still have been on site and engaged in chores, such as equipment cleaning, grinding corn for flour, cooking, looking after the horses or maintaining the barracks.

There also would have been times for the garrison to come together in specific locations and for specific events. The principia would become a hotspot for the morning duty roster or religious holidays, the barracks for the century’s morning briefing (such as Vindolanda’s renuntio). Such coming together may also have occurred in a private realm, such as meeting in the tavern at dusk, or back in the barracks for a meal. Ovens around the via sagularis would become such hotspots at least once a day for meal preparation. The bathhouse may not have been frequented every day either, certain social gatherings (i.e. gaming, for religious purposes) are likely to have been repeated in cycles longer than that of a day.

An important part of the daily rhythm would have been the temporal differences to when, and in what context, access to the base was possible, including when the gates were closed or by when it was necessary to return to base. The knowledge of such basic practicalities of a Roman military base is very limited, for example it may be that gates were closed at dusk and open at dawn, with a higher chance of being asked why one was out in the streets between dusk and dawn and with perhaps individual passage permitted for soldiers. A reference from the Republican period indicates that in one particular instance, the attached personnel were not allowed in the camp for all the hours of the day (Sallust Jug.45.2). Similarly, for many soldiers going into the extramural settlement was possible, presumably under the condition of returning before nightfall, and certainly before the next morning briefing in the century (renuntio). This was when a check was made to determine whether everybody from the century was present.

Temporal variation would also have affected the inhabitants of extramural settlements. Such differences could include when the members of the extramural community would have been able to enter the base (as implied in Sallust Jug. 44-45.2). Perhaps also for reasons of security, some constraint on the
freedom of movement might have taken place by night. Other diurnal differences might have been related to the rhythm of commerce; when the taverns, whether situated inside or outside the base, would be open. Similarly to the situation at Ajustrel (CIL II 5181), also the hours of opening for particular clientele might have been modulated according to diurnal cycles. Like the activities inside the base, many activities in the extramural settlements would have been limited by the availability of daylight.

Finally, adherence to the division between work and leisure (otium) by the commanders was seen as worthy of praise (Tac. Agricola 9). For Cicero, a soldier had no time to call his own, being on call 24 hours a day, even with the possibility of cancellation of earlier granted leave (Cicero Leg. II 29). This implies that while soldiers had spare time, they were unable to protect it. There would have likely been a blurred distinction between spare time and hanging around in the garrison while one was technically supposed to be doing something or waiting for an assignment. Similarly, domestic tasks such as the preparation of food rarely occur in documentation, unless as suggested at Bu Njem in Chapter 3, they are to do with the stockpiling of biscuits for campaign, indicating that such essential tasks were considered semi-domestic and carried out in the soldiers’ spare time. Some of the harder and less appealing jobs, especially those considered servile, may also have been carried out by the soldiers’ slaves (Phang 2005: 205). Therefore at different times of the day and in different context some spaces would become hotspots of activity. Such diurnal patterns, even if elusive for archaeological inquiry, would be very important for the functioning of a military base as a social space.

4.3 Season to year: longer time cycles in the life of a base

The relationship between social space and time can be better traced in regard to the longer cycles of seasons and years, since military documents convey more information on this subject. Longer time-cycles were also framed by an official version of time.
Under the High Empire, the universal macro time-cycle of the Roman army was annual time, expressed in religious terms. This was the official version of time underpinning other, shorter, seasonal cycles of the activity in the base. Much has been written about the Feriale Duranum (Gilliam 1954, Welles, Fink et al. 1959, Reeves 2005, Haynes 2013: 191-205). An Important factor in the context of the social use of space is that calendars, such as the Feriale, provided punctuation to the routine of military life. Fixed multi-day cycles - similar to the modern notion of a week - existed in the Roman period (Rupke 2011: 165), Irregular, multi-day cycles, the closest equivalent of weeks, were expressed in religious terms in the Roman army. Two examples of such calendars for multi-day cycles, discussed by Haynes (2015: 117), come from two opposite ends of the Roman world. The first one comes from Dura Europos, where, on a wall of the officer’s accommodation in one of the barracks, traces of a Latin calendar were found. This depicts seven divine heads and clearly recalls a calendar from Rottweil in Germany, which was decorated with seven Roman deities, as Haynes (2015: 117) indicates, one for each day of the week. Based on the two finds, Haynes (2015: 118) proposed that the officers ordered their men’s time according to a system of days with Latin names and that such calendars would be very convenient for plotting the men’s duties for the week on them.

One further find giving support for the existence of seven-day cycles in the Roman armies, is provided by the Modus Claytonensis from Carvoran (RIB 2415.56), most likely measuring the amount of grain needed as provision for seven days (Mann 1984). The find also suggests that visiting granaries to withdraw rations would have occurred weekly. One wonders if all men withdrew their rations on one day, or whether the process was spread out over several days, or whether one man withdrew the rations for the whole contubernium. No doubt, the withdrawal of rations would have created more movement near granaries, making them temporarily a hotspot for activity, whether the soldiers themselves, or their dependants, were the ones withdrawing the rations.

As we have seen in the context of the duty roster of Legio III Cyreneica and Bu Njem ostraca, training would also have occurred according to the rhythm of multi-day cycles. To the evidence from documentary data, after Haynes (2015),
we can add several passages from ancient sources confirming this. Avidius Cassius in the 2nd century A.D. advised that soldiers should train once a week (Hist Aug, Life of Avidius Cassius 6.3). Vegetius (I.22) advocates manoeuvres (ambulatum) thrice a month. Finally, according to Marichal (1992: 79), it was the third century A.D. decree of Maximinus stating that training should take place every five days (Hist. Aug. Duo Maximi 6.2), which dictated the training cycles at Bu Njem.

The multi-day cycles did not include a day free of work (Rupke 2011: 165). Instead a festive day was always close. Since there were a considerable number of official holidays in the Feriale Duranum, (other holidays not included in the feriale are likely to have been celebrated locally, such as local temples or regiment birthdays), one can expect that not all of them were celebrated to the same degree; some might have been celebrated only by a proportion of the garrison or only in specific areas of the base, such as the principia building, the commander’s residence or on the campus. While the presence of a campus is documented in the eastern Empire in the legionary context at Dura-Europos (AE 1933, 214; Speidel 1984) and at Lambaesis (Speidel 2007), there is no real evidence for their existence in the auxiliary context in Britain (Waldock 1998: 101) which adds some regional and contextual variation to our knowledge.

Some watches would have to be manned regardless of holiday (i.e. watch by the standards). For most of the soldiers, celebration of many of the less important days probably involved loosening up of discipline or getting part of the day free. Caesar is reported to curb the festive loosening up of discipline in the garrison by scrutinising whether soldiers turned up for duty, especially on public holidays (Suet. Caesar 65). The religious cycle was the most important one, also working as a series of punctuations to daily routines and, at least partially, perhaps also affecting the usual distribution of activities and people.

4.3.1 Campaign and resting seasons

For the professional armies of the first to third centuries AD involved in warfare in Europe, spring and summer marked the period of military campaign and autumn/winter that of withdrawal from active fighting. These sub-yearly cycles
were ones which are likely to have affected the base the most, including a shift in the type of activity, the way in which spaces functioned and the numbers of men present on site.

The cycles of campaign also intertwined with the religious calendar. Celebrations coinciding with the seasonal transitions are preserved in the Feriale Duranum from the 3rd century AD. Clusters of celebrations to Mars coincide with the beginning of the campaign season. The months preceding and during spring overlap with a series of days dedicated to Mars: January 3th to Mars Pater and Mars Victor, January 7th to Mars Pater again, March 1st to Mars Pater and Mars Victor the bull, March 13th to Mars the Ox and finally May 12th dedicated to Mars Pater Ultor a bull. The culmination of celebrations of the coming of summer fell on May 31st when the armies observed the rosaliae signorum. The army adorned military standards with garlands and took the standards out of the sacellum (Welles, Fink et al. 1959: 208, Henig 1984: 7, Hornblower, Spawforth et al. 2012). Two weeks before that, on May 12th the army also celebrated the commemoration of the recovery of standards from Crassus’ defeat in Parthia (Welles, Fink et al. 1959: 208). The attention to standards given in spring is understandable in a campaign situation. At that point, after winter, the army finally operated in the field and might engage in combat again. The standards too, were moved out of the sacellum to participate in battle. After the abundance of holidays dedicated to Mars in spring, at least until September there are no such dedications. On the other hand, after summer, October coincides with the two celebrations dedicated to the castra; the anniversary of the empress Faustina’s celebration as mother of the camp (mater castrorum) and a similar celebration in the autumn period dedicated to Mamaea, also as mater castrorum (Welles, Fink et al. 1959: 212) – perhaps underlining a period more settled and centred on activity in the base. This seems to suggest the importance of seasons as defining factors for the timing of the period of field activity of the Roman armies in Europe, which was echoed in religious practice.

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2 The dates between September and December are not preserved on the document to verify at what day dedications to Mars reappear again.
The seasonal transition to the operational period is likely to have had an impact upon the atmosphere in military bases. However, not everywhere and not in every year did the operational period equal war. For example, in the 2-3 century A.D., with the growths of the Empire through conquests playing a lesser role, the operational period entailed simulating war in exercise and training in the field, rather than actual combat against an enemy. Attention has been draw to the psychological stimulus provided by danger associated with the possibility of combat in work on modern military bases (Tivers 1999). By comparison with observations made on modern armies and with Roman written sources, it is possible to postulate how the two modes of functioning as a campaign base and as the hiberna affected life in the base. Modern military studies reveal that military environments can at the same time evoke military stimulus and experiences of stagnation (Tivers 1999: 113). The importance of the appropriate time for warfare in Roman armies is likely to have resulted in a degree of synchronisation of the experiences of excitement and stagnation in the base with the two periods of campaign and resting.

Insights from modern military contexts are informative in learning about the practical implications of what happens in the base ‘when the whistle blows’. Some of these changes can be subtle, but important. Modern soldiers report that their practices of movement within the base differ between the campaign context and being stationed in peacetime (Chris Panteli 2012, pers. comm., 7 July). The movement routine in the high alert context gets diminished to the necessity of sleeping, visiting the cook house and attending duty posts, with social life erased from the daily schedule. The need for security strengthens with more sentries placed in the streets. Wartime also changes the use of core buildings in the base and accessibility to them. Much of this is due to the danger of missiles. This type of danger in the context of pyrotechnic warfare is completely different when compared to the Roman context. Roman military doctrine opted for open combat, resulting in threats for the base being relatively rare. While much of the context is different, the comparison with the modern army gives a general feel for the type of change the shift between peacetime and campaign might have entailed. Modern soldiers report that regardless of whether it is a RAF base or an infantry base, a UK base on high alert or a base abroad, camp life is the same globally, with the same
differences and principles of behaviour on high alert as opposed to in peacetime (Chris Pantelli 2012, pers. comm., 7 July). A degree of similarity of experience probably also existed in the Roman military bases.

In the context of the Roman army, stimulus within the base while on campaign would probably include: the increased movement of detachments; increased reconnaissance (29 II and 32 II on BMP 2851 a summary of assignments outside the base of Coh. I Hispanorum written in October); an increase in numbers of soldiers with the resultant widening of social networks; the possibility of gaining booty and winning military glory; as well as an opportunity to renegotiate one’s honour and status within the garrison community. There were probably also implications for the wider military community including the male/female ratio changing dramatically in favour of a higher than in peacetime proportion of women at the bases, while large contingents of troops were in the field or carrying out army-sanctioned chores. The stimulus related to the influx of supplies necessary for campaign could have been also visible in the extramural settlements. In practical terms we can expect the change to have involved spending more time outside the base on manoeuvres and less on duties inside the base.

Tacitus (Agricola 22) confirms the idea of winter as a period of quiet rest when he describes a hard decision as to whether to carry on fighting in autumn or not. The reasons against this were that his soldiers had already laid aside service for that year, perhaps implying also a mental switch to rest. Winter is further portrayed as a quiet period when forts are planted, while ‘merely watching the suspicious movements’ (Agricola 18) was possible in terms of warfare.

At the time of withdrawal from military activity the Roman military base is likely to have been more of a place of military stagnation. In an outpost like Elginhaugh, this would have included a lack of thrilling duties and diminished military movement outside the base, relative isolation of the garrison and prolonged exposure to the same unvaried environment. The Roman hour was a twelfth of the time between sunrise and sunset (Lewis 2009), which meant that after September 21st night watches were longer than day watches. In the practice of battle soldiers were encouraged to act bravely and individually
(Phang 2008). In contrast, the principles of group camp living resulted in the removal of some of the individual liberty the soldiers would have enjoyed on the battlefield. Outside the campaign season, especially in northern climates, we can also expect the training to have been limited due to cold, wet weather or snow.

4.3.2 Working up, and preparing for rest

In temperate Europe between winter and the campaign period there might have been a working-up period before war recommenced. Dr. Birley (Andrew Birley 2014, pers. comm., 12 March) kindly informed me that, based on the build-up of material in most of the pre-Hadrianic buildings at Vindolanda, it is possible to conclude that there would have been intense occupation in the winter months leading towards the spring demolition and abandonment of the fort. The members of the garrison, knowing they were moving out soon, made little or no effort to clean up after itself.

As part of the working-up, after the weather had improved sufficiently to get on the roads, places like quarries would have been easier to reach and extraction of resources could commence. Incidentally, the Vindolanda tablets referring to distribution of workers in workshops, kilns and to stone burning (Tab.Vindol. 155 to 343 men, Tab.Vindol.156 for groups in the region of up to forty men) are dated to just before, or at the beginning of the campaign season (March and April). Similarly, certain resources around the base necessary for construction and maintenance of the base may have been available only during winter and early spring. Some construction work and production activity (e.g. wagon-making) would require wattle. Coppicing to obtain tree shoots is usually done when the sap is down, between the end of October and mid-March. Tree sap would also have been collected for glue. The season for sap collection falls at the break of winter and spring. These sorts of jobs needed to be done, but are minor.

A parallel ‘cooling down’ season might have taken place in late autumn in Northern Europe. After campaign, when large military manoeuvres were not possible due to the weather, there might have proceeded a period of ‘cold war’; without open battles, but with guerrilla warfare and scouting still taking
place. The part of papyrus BMP 2851, which is dated to 16th September, is a special statement of strength during the Dacian Campaign at the time when the operations were about to be interrupted by the approach of winter and the spring offensive was being prepared (Fink 1971: 217). There are entries which seem to sustain the interpretation: among other duties, detachments were sent to mines in Dardania (BMP 2851 ii.22) and out scouting (Ii.32). Overall, out of the 17 preserved entries concerning detachments of the unit outside the base 14 refer to non-fighting duties, and only two can be understood as ‘in active military action’ (ii.28 ‘in uexilla[t]ione’ and ii.29 ‘trans danuuium in expeditionem’). The end of the campaigning season for many soldiers no doubt meant either return to, or the task of building, a winter camp. It is worth noting that covered exercise halls, such as the one proposed at Birdoswald (Wilmott 1997: 79-83), would have been one way in which the army tried to overcome limitations posed by the winter season in colder climates.

The same cycle of winter and campaign season did not apply everywhere and in every context. With the lengthening of periods when army was not campaigning, such as during the occupation of Hadrian’s Wall, we can expect the lines between campaign and inactive season to blur a little, especially with no foreseeable prospects of an exciting campaign and the resultant settling of the garrison in the base for many years. The spring no longer represented a signal to move on anymore. By contrast, in the mid-second century AD Cohors I Augusta Lusitanorum was ‘wintering’ (quae hibernator) by Apollonopolis in the Thebaean region (BGU 696.col1.5). The document was written up in August which clearly indicates that hibernating need not have to relate to winter season and that it rather signified a general period of a unit’s withdrawal from active/combat service.

4.3.3 Natural seasons of winter and summer

In most of Europe, the campaign season normally coincided with the natural seasons of summer and winter, albeit with exceptions even in snowy Europe when the military calendar was out of synchronisation with the seasons; Caesar fought in winter during the Gallic Wars (Plutarch, Life of Julius Caesar 24-26). Under normal operational circumstances, changing seasons impacted upon
the cycle of use of the base with different pressures at different times of the year.

The influence of different geographical areas on seasonal changes is especially important for the way in which the winter season was experienced in a particular base. This becomes obvious when we compare Elginhaugh and Vindolanda, where it was colder and darker earlier in winter, with Bu Njem, situated in Libya. Many duties in a military base would have finished before dawn. This allows for geographical variation, especially in wintertime. In sunnier latitudes, like at Bu Njem, workable hours would have been longer than at wintertime Vindolanda due to the availability of light. In the area of Bu Njem in December the sun rises around 6.30am and sets around 5.30pm, whereas in Vindolanda it is dark until 8am and from 3.30pm, reducing the working day by 1/4 for tasks requiring daylight in comparison to Bu Njem (data from BBC weather for 4/12/ 2013). The availability of light introduces an aspect of biological time, and questions about the way bodies react to natural rhythms of day and night (Adam 1995: 45-47, 59-61).

In the rainy northern British climate the winter period was the most important temporal difficulty relating to changing seasons. In the winter months and during the new year festivals, most of the population can be imagined being crammed into the base at home or involved in activities closer to home, including perhaps more of the industrial aspects. Winter would also stop building work, as frost and damp would damage the setting mortar.

Another way in which winter inhibited the activity of the army was through making communication between sites more difficult. Roads in northern Roman Britain in first and early second century AD would have been fairly dangerous in winter, damp and unpredictable. Some stretches could have even been temporarily unsuitable for travel. Dere Street is surprisingly shallow with its depth of 12 inches compared to the average of 20 inches for all (not only military) other Roman roads in Britain (Davies 2002: 57). The lack of proper drainage and shallow metalling both point towards the temporary nature of the road, which in turn, no doubt, had implications for the reliability of the road was, especially with winter’s snow and damp. Additionally, on campaign road-works were only
carried out towards the end of the campaign season, when it was safer to do so (Davies 2002: 58, 75). This situation created an inherent delay in road-building in comparison to the progress of the campaign. We can imagine some bases were only becoming connected to roads after they themselves had started operating. This could have been the situation at Elginhaugh. Here, Dere Street, instead of running straight across the site and the annex, seems to have had to align to the pre-existing perimeter of the base (Chapter 6). Around half a century later roads were still pretty unreliable, to the point that travel in winter was avoided. Vindolanda tablet (343) mentions the reluctance of traders towards conducting business and putting pack animals in danger ‘when the roads are bad’. The tablet concerns urgent business and provides dates in January and March. The transport was supposed to be picked up from Catterick, a site located 140 miles south of Elginhaugh, along Dere Street. Octavius’ judgment was probably shared by other users of northern military roads in 1st and early 2nd century A.D.

In wartime contexts, such as that of the occupation of Elginhaugh or the Flavian period at Vindolanda, additional winter-time danger would have come from the possibility of theft and guerrilla attacks, as there would be fewer people travelling and worse weather. An instance is attested in the pridianum from Moesia (BMP 2851) with a number of soldiers listed as dead at the hands of robbers (Col ii.10 - latron[i]bus). The Latin term latrones implies the use of force. At high latitude, with the sun going down considerably earlier in winter in Scotland than in the south, native bands were at an advantage, since they were accustomed to dealing with the bad weather and were familiar with the land and seasonal shifting of dry routes across it. With the Roman army known for being relatively rich, the temptation for theft or attack was great. No doubt, assaults on travelling soldiers were happening throughout the year too, as a 2nd century letter from Egypt (P 21555 Berlin) voicing the concern of one soldier indicates. It may be that traffic was reduced in wintertime, especially if journeys were made only in daylight (Adams and Laurence 2001: 32), and increased to renew supplies, conduct business and make other necessary arrangements (e.g. administration) in spring and summer, before the damp period began again. The implication of bad roads, wintertime’s early nights, and increased
precipitation suggest the relative isolation of bases in the wet north European climate, like Elginhaugh during wintertime.

The winter season probably had implications for duties outside the base, for example looking after the animals. In some areas with extreme conditions in winter, such as Scotland, hay for fodder would have been retained over the winter alongside the animals in camp. In other areas the herds and horses would have been dispersed to pastures. The pridianum (BMP 2851 in Fink 1958), in its part written up in January (col i.29), lists a detachment of soldiers by the mountains in Haemus in Thrace (col ii.35) looking after sheep and another one in custody of draft animals, also outside the base (col ii.36). In mountainous areas, such as Scotland, or the Balkans, there would have been separate summer and winter pastures. These would have been found down at lower levels in spring and higher up in the summer. Some soldiers or more likely calones or puerii, must have been involved in looking after the animals and bringing them to pastures.

On top of the campaigning season, summer months coincided with harvest time. During the latter we can envisage that both men and women would be involved in agricultural activities during campaign. In campaign soldiers would be involved in agricultural processes, even if this was stealing crops from fields (Caesar B.G. 5.25; 6.56; 8.3). Foraging for wood, however, is likely to have been a constant requirement (Dio 52.25.7) for both a campaigning army and an army in hiberna. Natural resources attested at Vindolanda that would have been collected during summer include bracken for floor lining and bedding, and straw for the horses. In modern practice, bracken is cut twice a year, in mid-June and in August. Similarly, straw collection would have closely followed harvest time (Kuhn, Marrs et al. 2006: 1311).

A very different image of the seasonal variation in the functioning of a military base and the distribution of people within it according to the changing temperature and precipitation is visible in the Bu Njem records (Chapters 3 and 7), a site situated in Libya. Marichal grouped reports into sets likely to come from within two weeks (Marichal 1992: 52). While the records for winter months consist only of two entries for December (Nos. 22 and 24), they show that there are
fewer men assigned to the bathhouse when compared to the summer season (two men on no. 22 as compared to the usual number of above ten men). One can perhaps expect that due to higher precipitation in the winter months there may have been fewer men assigned ad aqua balnei, but the record is too fragmentary to tell. A higher number of quintanarii is noticeable; perhaps with training being one way to keep the soldiers busy (21 men in May on No. 2 and 22 men on No. 22). Similarly the assignment of 15 men to bread ovens (No.22) compared to the usual number of five men may indicate the stockpiling of biscuits for campaign in the summer as biscuits could keep for several months. It also seems that winter in the desert was the preferred period for construction work. A monument commemorating the repair of a fallen gate at Bu Njem set up by Porcius lasuntchan indicates that the work was undertaken during winter (line 6, published in Rebuffat 1995).

The hot weather of the summer months is reflected in the assignments to the bathhouse with the highest numbers of men deployed ad aqua balnei in July and September (six-seven men on Nos. 6,8,9,26) and to the bathhouse in general in August (17 men on No.8) and September (16 on No.12). Similarly, Marichal (1992: 94) noticed the absence of exercises on the summer entries in June, to which we can also add the entry for August (No.10). Where exercises appear in the summer, the numbers of men deployed are consistently lower as compared to October and December with between 12-14 men in entries from July and September (Nos.7, 9, 15, 15, 25, 26). Also the camels may have needed more care in the heat, with the highest number of nine men sent in August (No.10). The heat, dust and wind in summer months in the desert would make some tasks difficult, especially those happening in the open spaces.

4.4 Irregular events

Cyclical time in the Roman army was occasionally punctuated by irregular events. These often would have been historically contingent, including starting war, re-deployment, or increased recruiting in preparation for a war. The last one is suspected of the BMP 2851, where the large number of recruits listed coincides with the preparation for the second Dacian War (Fink 1958: 110-115).
In this type of military time we can also include repeated events with the interval between them longer than a year. Studies into time in organisations reveal that routines repeated with the frequency of less than one year transform each time they recur (Feldman 2000: 626-627). Also, they are often perceived by people as single events, as opposed to being part of a continuum of routine. Among these within the Roman army we can include the cycles of detachments outside the camp and the change of the commanders. In an auxiliary base this would have taken place about every three years or perhaps more often if the commander died in action or his post was cut short. Good evidence for the cycles of change of commander is provided by the Maryport altars (Haynes and Wilmott 2015). Change of commander meant a new regime, the renegotiation of social and hierarchical relations at the top of the hierarchy, which had implications also for the ordinary soldiers. These included the upkeep of the base and the founding of new markers of authority, such as altars or repairs to buildings, the regime by which duties were kept and the general level of severity of the new commander. Ancient authors portray the new commander as the one bringing discipline and order to a garrison that had descended into laziness (Sallust Jug. 44-45.2). The change of commander would also imply the changing cycles of routine depended on the commander’s esteem, reputation, methods of dealing with his inferiors and his relationship with his centurions.

A rather staggered cycle would have been that of a generation. Especially among newly-established units, which recruited the bulk of their population within a short time, after 25 years and within a year or two, the population and the age profile of the unit would have changed drastically. A unit rejuvenated by a fresh intake of recruits would have a different dynamic to an older unit. This would have included age gaps between soldiers serving within the same unit and sometimes even contubernium reaching up to 15-20 years and also a change in the number of attached servants and slaves. Younger soldiers would not have accumulated sufficient wealth to afford them yet. The Dura Papyri provide a good example of such a changing profile of a unit (Kennedy 1980). For many units, however, recruits would be drawn in fairly small numbers of up to ten men as some surviving letters indicate (P.Oxy VII.1022).
4.5 Conclusion

Time gave rhythm to the life of military bases. Clock time was not the most important type of socially-constructed time for the Roman armies and instead cyclical time based on religious and natural cycles seems to have mattered. The construction of social time within military bases was an ongoing process that contributed to forming the experience of the base. Temporal transition changed the way the base was used and affected the distribution of people.

The daily construction of time within bases is likely to have been structured to some extent on the principle of watch-time, but primarily based on the natural cycles of days, which pulsated throughout the year according to daylight hours. The lack of natural light posed limitations on activities both in open space (i.e. transportation, exercise, preparation of food by the ovens, presence in open areas) and activities inside buildings, such as production work.

The natural cycles were enriched with routines of living in the base and patterns of appropriate time for socialising with the community going their separate way and coming back together. Daily temporal cycles were tied with a sequence of locations visited, probably with a large degree of repetition from one day to another. It is likely that without personal timekeeping (watches), time and space were more closely tied together in terms of social practice compared to the modern era (Giddens 1990, Castells 1996: 434). In practical terms, not only did one know where the principia building was, but also know roughly when to turn up or when certain things would have been likely to take place, whether in Africa or Britain. In that sense the formal layout of time within the structure of the life of the fort may have been as important as the layout of the forts themselves.

Apart from giving the rhythm to communal living and engraining military lifestyle into the soldiers, the repetitive cycles of days filled with tasks, routines and checks also provided the soldiers with boundaries that helped to keep them under control. In Chapter 3 I discussed military duties as expression of the forms of control of the soldiers’ movements, the same tasks also imposed a degree of control on the soldiers’ time. As Haynes (2015: 118) observes, structured,
repetitive routines served to keep men occupied and directed, and as a prevention method against disobedience in what was a large, armed community. As we have seen, in theory, soldiers had no time they could truly call their own (Cicero Leg. II 29), minimising the time and energy the soldiers had to conspire and rebel (Vegetius 3.2).

The macro-cycle of long duration consisted of the ‘official’ version of time, set out by the commander and the institution of the army (e.g. religious and administrative cycles), the cycles of military activity and of seasonal cycles. The cycles of seasons and the campaign period (or simulation of war through exercise) would affect the number of men likely to be present and moving in space of the garrison and the types of tasks, with distinctive peaks in activity. The winters were likely to be more stagnant in northern climates, with darkness and cold temperature limiting activities outside the base and with more production work and stockpiling of supplies taking place instead. As a result, a military base would have been more socially dense with less activity taking place outside of the perimeter. The activity in the base is likely to have been at its peak just before the campaign, packed with troops and support personnel getting ready to leave. In summer, in the context of either training of warfare, one can expect the base to have been emptier when the soldiers were away, with perhaps the non-combatant members of the community become much more visible in the base. The pattern may have been reversed in hotter climates, like that of Roman Africa, with reduced activity due to heat in the summer and efforts to conserve energy and an increase in construction work and training when the climate was cooler. Like a football team, the Roman army could not be constantly at the peak of performance resulting in the tasks, atmosphere and dynamic in the base to change seasonally according to the rhythm of the campaign and the ‘resting’ season.

This Chapter has provided the spatio-temporal context for the analysis in following chapters. Both the sub-literary and archaeological data are largely unable to pick up on the subtle differences made by short temporal changes of days and years. In the context of archaeological data, the variability of time is the most elusive of the three areas studied in the thesis.
Chapter 5

Community and Space - An Integrated Cognitive and Epigraphic Approach

In the preceding chapter, I presented a model for the temporal rhythm of activity within a military base and before that outlined how the daily practice of the units was likely to create patterns in the distribution of people within the base. This is a complementary chapter that shifts the point of view from the official version of the functioning of a military base towards the social matrix of the community within military spaces.

This chapter uses Vindolanda as the richest dataset for studying the social fabric of a military base and Inchtuthil as one of the best known plans of a large military base. Vindolanda has received a tremendous amount of attention in the scholarly world. However, because the data are unique because of the detail they provide, I felt it was necessary to incorporate them to obtain a better feel for the nuances of how military societies worked in their own space. I utilise the data within a framework which is new to the discipline and puts socio-spatial dynamics as the main objective of study in order to answer the research question about how the communities of the bases may have mapped onto the physical spaces of the bases.

5.1 Introduction

Each military base was a locale for a unique, web-like array of social bonds of different strengths, formed in a variety of official and un-official contexts. From the perspective of a printed site plan, an auxiliary base is a miniature of a legionary base, but in social terms the experience of staying in both would probably have been very different. A legionary would certainly know a fair number of people by name and recognise even more, but not the five to ten thousand individuals comprising a full legionary community, including the dependants. The objective of this chapter is to look at the fort environment as the spatial underpinning for relationships within the military community, the interplay between physical and social distance and to bring closer something
of the lived experience of being stationed in a legionary as opposed to an auxiliary base. The chapter compares an auxiliary base with a legionary one in order for the contrast to provide more revealing observations by means of a comparison.

Two major models for understanding large size networks can be called on for the purpose of the study (Dunbar 1998; McCarty et al. 2001) and their applicability to the context and value for archaeology are explained in Chapter 2. There are several reasons why Dunbar’s model is particularly applicable to studying the Roman army. The model is best suited to communities living under an institution and to communities which are physically close. When designing the model, Dunbar studied communities which are also hierarchically structured and under pressure. All of these characteristics to some extent fit the Roman army, either on campaign or in hiberna. The value of the model lies in the ability to translate numbers of people into socially meaningful concepts, such as levels of familiarity. The proportions of people one was likely to know within a military base and the nuances of different levels of familiarity can help to translate abstract numbers of men in a unit at its full strength into an approximation of the experience of being part of that community. Both hypothetical unit strengths and an estimated size of the extended military community can be measured against the numbers proposed by Dunbar.

Both Dunbar’s and McCarty’s models can be used to hypothesise about the proportion that one’s predicted social network would constitute in the context of the knowledge of the size and structure of Roman army units and the wider, estimated extended community of a garrison. Through these models, it is possible to get closer to the military community and understand how centuries and cohorts as groups of people, as well as the different strata of the extended community, worked in the context of the social environment of the fort. This can then be used to look at the architectural implications for the capacity of one’s social network; the extent to which a fort’s plan reinforced such social constructs and how the limited capacity for creating contacts inhibited the military organisation.

5.2 Thinking to scale
Being one of a community of 500 in an auxiliary base must have been significantly different to living within a group of up to 5,000 in a legionary base in terms of the number and nature of encounters between the people, one type of base represented a community of a size ten times bigger than the other type. The difference between the two would have been comparable to that between a village and a city in terms of the scale and activities. A legionary principia building would have been much like a forum in a city with administrative and governance functions, as well as the execution of law incorporated, with larger markets and sometimes the provision of an arena. An auxiliary base would have been more like a village with a surrounding agglomeration of farms.

Since I am working with communities for which there are limitations for proposing a reconstruction of their size and composition, I shall be operating in the order of estimated proportions. The maximum strength of a unit does not include the non-fighting personnel and the extended community not featuring in the formal structure of the unit, but those present on site and in the extramural settlement, e.g. slaves, servants, traders and soldiers’ dependants. Over 20 years ago Sommer (1984: 33) suggested that the population of an auxiliary base vicus would have been slightly smaller than that of the garrison itself. Since then magnetometer surveys have revealed that some extramural settlements could be up to two to three times larger than the garrison itself. The vicus at Newstead is illustrative with the total street frontage amounting to one kilometre (Clarke 1996). The written sources indicate that the extended community following the army could be potentially larger than the army itself (Tac. Hist II 87, Tac. Hist III 33) and that they were an integral part of the military community; the fighting ranks would get demoralised if they knew the calones were in danger (Zosimus III 24). As a rough and rather conservative estimate of one dependant per soldier, we can imagine an ‘extended community’ (Mattingly 2006: 176) of maybe around 1,000 people for an auxiliary base, and perhaps 10,000 for a legionary base. With a modest estimate of one dependant or slave per soldier, the proportions divide by half. There were also periods when the base was not full. This could amount to around half of the unit, as Vindolanda duty rosters reveal (Tab. Vindol. 154). Soldiers would have been away from base due to a variety of reasons - duties outside, leave or for
unauthorised reasons (Chapter 3). The barracks may not always have been full; some contubernia were used as store rooms or went out of use and some of the attached personnel (i.e. women, through evidence of shoes) shared accommodation with the soldiers (Greene 2013a). These issues have implications for the application of Dunbar’s number and fuller consideration is given to these in the case studies.

The consequences of thinking in terms of the psychological models are interesting in the context of the old paradigm of a legion as a monolithic entity (James 1999: 19). According to the numbers proposed, in a 5,000 strong legionary base, an individual is likely to have kept regular contact only with the maximum of between 3-6% of the population. Following the estimates, even within a fairly small auxiliary base, an individual was likely to have maintained regular contact with between a quarter to a half of a fully occupied auxiliary base (counting military personnel only). As a crude estimate, assuming the full strength of the unit and excluding dependant personnel, it is possible to propose that Dunbar’s social network (lighter shading on fig. 5.1) would equal the extent of two fully occupied infantry barrack blocks. The difference between the extent of the shaded area within an auxiliary base compared to a legionary base, suggests a very stark contrast between the experiences of being part of these two types of military bases. These findings have significance for issues of familiarity and unfamiliarity within a garrison and the social networks at the periphery of regular contacts.
Social relations operate on a fluid spectrum, where both smaller and larger scales of interaction are fundamental to a sense of community. To be a fully functional part of a community as big as a military unit would have been to participate in the community on various levels, from a loose level of being known only by association with an individual, to smaller and tighter groups, which Dunbar (1998: 67) scaled as either support cliques (around five), sympathy groups (12-15) or bands (around 35). Bonding in modern military units occurs primarily within such smaller networks, identified on the level of either a squad or section (7-12) or a platoon (15-30). These are found to be the primary social matrix within which the experience of an individual’s service is framed (Siebold 2007: 286). Through epigraphic data recording voluntary associations in the Roman army and through dedications to genii as indicative of the prevailing sub-unit identity forms, it is possible to discuss what sort of bonds these associations could have represented and their role in the social landscape of the base.
5.3. Inchtuthil - a legionary base

The implications of thinking about military bases in the context of social networks become very pronounced when we consider the legionary base as a hub of a population of 5,000-10,000 people. Inchtuthil has the best explored plan and the legion it hosted (Legio XX) is one of the better attested epigraphically in Britain. While designed as a permanent military fortress, the site was occupied only between A.D. 83 and 86 (Pitts and Joseph 1985: 31). A series of pits outside the main perimeter have been identified as the remains of rubbish pits related to the presence of an extended community (Pitts and Joseph 1985: 229). In a place like Inchtuthil, in proportion to the size of the complex, all personal networks would have seemed localised, since an individual was likely to maintain regular contact only with a minimal proportion of the total population according to the models discussed earlier. As a result the bases were likely to consist of multiple, partially overlapping networks.

The huge number of people in the base and the highly complicated nature of military communities had implications for when one individual was assessing another’s personal patronage and status within the military hierarchy. Here we need to make a distinction between the ability to recognise an impersonal Figure of authority (through dress), as opposed to knowing personally or knowing something about the individual behind that authority. Based on the psychological estimates and by comparison with modern military units, where the primary networks (i.e. fitting Dunbar’s criteria) in size rarely exceed that of a platoon and the secondary network (knowledge by name, face, position in the organisation, with no personal knowledge) rarely exceeds a company (80-250 individuals) (Siebold 2007: 289), one can propose that an ordinary legionary soldier probably knew the officers under whom he served, but did not necessary recognise the faces of, or know personally, all of the officers in the legionary base. Conversely, it is a reasonable hypothesis that the degree to which officers were familiar with soldiers serving in other centuries was likely to be limited too; one probably knew the people serving under him or the centuriae based next to his, but was unlikely to have known in person many other ordinary soldiers within a community of 5,000. One way for an ordinary soldier to gain more recognition within the community of the legion was by
showing special bravery in combat (Lendon 2001: 244-245). The factor of the difficulty of having one’s face remembered by one’s superiors also brings an interesting insight into the Roman soldiers’ striving for military glory, recognition and ultimately career-boosting patronage.

The small proportion of known individuals, in comparison with the total population of a legionary base suggested by the models, inclines to suggest anonymity among ordinary soldiers within a legion. Due to the higher number of unfamiliar people in a large base, one would need to be quite careful about what one said and to whom one said it. Although the sociology of modern military groups provides evidence that gossip about other soldiers is the easiest icebreaker and a great way to deal with boredom (Caforio 2006: 167-186), the concern for watching your mouth must have been vital in the Roman armies. These were highly competitive communities (Lendon 2001: 239–241) in which respect or disapproval of peers and superiors was crucial (Caes. BG 7.80) and where status was based on the amount of power one had over another. Here, the psychological pressure to have a good reputation and the consequences of undermining somebody else’s good name were severe (Tac. Hist. 2.88 on the loss of a sword and Tac. Hist 2.68 on the consequences of mocking). With an ethos placing emphasis on collective responsibility and ‘one for all, all for one’ punishment measures, mutual surveillance among the soldiers, as well as discipline-induced self-surveillance (James 2011: 171) would have contributed to the potential stress of a busy legionary base.

The stress of living in a legionary base could at times be potentially significant, especially with a large number of often competitive and unfamiliar people. There may have been places, such as areas around barracks at the other end of the legionary base, where one would have been a stranger, even though technically one belonged to the same unit. The legionary base is unlikely to have been openly dangerous, particularly to soldiers and especially in main streets in daylight. However, occasionally there might have been times when one would prefer to avoid certain areas, such as back alleys at night time in an area where one owed money, or was involved in some personal or group tensions. A case in point might be that of cohortes equitatae with a mixture of infantry and cavalry within the same unit, which in literary tradition did not get
along (Vegetius II.21). We can perhaps infer this from attested clashes between units (Tac. Hist. 2.68) and a tendency for rivalry and jealousy among soldiers (Lendon 2001: 244).

Frequenting the same functional facilities, such as ovens, would be a factor in structuring social networks. At Inchtuthil the area of the via sagularis with all four sides added together, stretched for around 1.8 kilometres. This was dotted with groupings of ovens at some distance from each other and near to corresponding century barracks, evoking an image of smaller groups of soldiers scattered along the road during meal preparation and perhaps, within their own centuries, as inscriptions on utensils denoting century ownership (RIB 2449.8, RIB 2496.2, RIB 2501.3) and contubernium ownership (RIB 2496.3) indicate. Similarly, the taking of food rations may also have happened locally, with the granaries located in four different parts of the base, reducing the need to visit its distant parts.

Anonymity would fade away as one built both one’s immediate and extended network. The outer periphery of an extended network would have been demarcated by the ability to recognise faces. Even if individuals are not known
personally, knowing who someone is from peers or being able to recall the face provides a sense of familiarity with the environment. This time-consuming process would have been especially important on enlistment, when one’s connections were not yet established. Here, time no doubt would have played a role. In open-ended question interviews I carried out with an ex-RAF driver and an ex-infantry soldier they both indicated that on a campaign within a contingent of 2,000 soldiers and over a nine month tour it would be impossible to meet everybody with whom one was stationed (Chris Panteli 2012, pers. comm., 7 July). The large size of a legionary environment may have been alienating for some new recruits. In contrast, in a unit that put down its roots in a place over a few generations, individuals would accumulate contacts, especially in the context of the attached extramural settlement.

There also would have been individuals with larger networks than the proposed average of 150 (Dunbar 2010: 22), for example old soldiers such as centurions. Their contacts would have spanned different centuries and across units with a great deal of insider knowledge of relationships between other soldiers, enlarged through moving between units as their career advanced. Soldiers would be transferred during their service, often later to come back to the unit they originally came from. Particularly notable in this regard within the XXth legion from the period of late first century and early second century A.D. are the careers of Claudius Fatalis (AE 1939.157), whose service in the XXth fell around the time it was stationed in Chester (after 83 AD) with service in six different legions (Malone 2006: 112), L.Valerius Proculus (CIL III 12411), whose career lies in either the Flavian or Hadrianic period (Malone 2006: 131) with service across five different legions; and an anonymous centurion (RIB 509) buried in Chester in the Flavian period with service in four different legions. Another good example is a yearly summary (BMP 285) written up during I Dacian War which informs us about transfers of milites caligiati from Legio II Traiana into various centuries in Cohors Lusitanorum (Col II; 15-20). On the same document we find Vespasianus with 22 years of service who had previously

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3 Due to difficulties in collecting such data, psychology currently cannot estimate the number of faces an individual is able to remember (Kate Garland pers. comm.).
served in Cohors I Lusitanorum, was then transferred to Ala I Thracum and now is being returned to Cohors I Lusitanorum with a promotion to the decurionate (col I: 25-30).

Also familial networks would have added to the complexity, creating connections between individuals and perhaps also between friendship groups across century divisions and not on the basis of spatial proximity of accommodation. The Vindonissa tablets (Tab. Vindon. 28) reveal two brothers, or otherwise closely related men, serving in the XIth Legion, but most likely in different centuries (Speidel 1996: 53). From a later period an inscription from Brigetio (CIL III 4315) records another set of siblings; M. Aurelius Alexander a primus pilus setting up a funerary monument to his brother M. Aurelius Valens centurion of Legio II Adiutrix. This time the inscription does not specify if the brothers served in the same legion, but it is likely if they lived in the same recruiting area.

5.4 Vindolanda – A small settled community

Dynamics within smaller, tight-knit communities where people know each other are different to those in large population hubs. A good case study is Vindolanda with its sub-literary evidence. Here, we can expect something akin to a ‘small town syndrome’. Secrets and mistakes are hard things to keep in tight-knit communities, as modern mining community parallels indicate (Robinson and Wilkinson 1995). Like Roman military units, the miners’ communities shared the potential danger of risking their lives, provision of subsistence and housing by the company, close comradeship and a sense of special pride in their profession (Stone 2007).

Intuitively both psychological predictions seem rather small in the context of such extended and settled communities. Members of small village communities over years of living in one place learn to recognise each other by sight, name or by association with family formation processes playing a part. We can expect that sort of contextual knowledge of the local people in an extended settled community of an auxiliary base like Vindolanda. For many of the ordinary soldiers before the third century AD, their dependants would have lived in the extramural settlement (Hodgson and Bidwell 2004: 153-154). The
members of the extended military community would have entered the base, as research into gendered finds distribution indicates through patterns of probable female activity (i.e. dress objects, textile working, footwear) (Allison 2006). However, we can also suspect that their business in the base would have been different to that of the soldiers, meaning that their social networks might not have contained as many soldiers as the networks of the serving personnel did, with more dense relationships with the extramural community instead.

Speidel (1989: 240-242) suggested that many cavalrymen would have owned servants, with fewer servants among infantry due to their smaller pay. Instances of servants of the same nationality as their masters indicate that soldiers would bring them from home from around 1st century A.D. onwards, such as two Parthians, Maris and his slave, from Mainz (CIL V 7895 in Speidel 1989: 246). We can distinguish between the paramilitary personnel, the groom boys (galleari), the slaves of soldiers, who participated in the military culture, and the non-military dependants (e.g. the wives, children, traders). Similar to the soldiers, the paramilitary personnel would have been recognizable through their appearance revealing their aspiration to be soldier-like. This was achieved through wearing a tunic, but without a belt (Simon James 2011, pers. comm., 2 February). The horse grooms would have been recognisable through smell and the horse care equipment. Unlike the soldiers and the paramilitary personnel, the non-military dependants would not have been recognisable by their dress. During daytime in summer when the soldiers were training, parts of the base could have temporarily been frequented mostly by such attached personnel.

Slaves may not have maintained more contacts with the paramilitary personnel than with the soldiers. This would have been encouraged by the tasks they needed to be completed for their masters, perhaps in the company of other servants. The chores that needed to be done, especially in cavalry units, where horses needed to be groomed and equipment kept from rust, would have taken a considerable number of hours (Ian Haynes 2014 pers. comm., 20 October). Similarly, servants in the praetorium at Vindolanda would have been busy running the household (Tab. Vindol. 302). Evers (2011: 41) showed how Vindolanda slaves called on their social contacts among other slaves for the purpose of securing a good deal on transactions for running their masters'
households. The slaves were part of a wider system of ‘social economy’, functioning along the lines of social stratification. The Vindolanda tablets provide evidence for slaves forming very close bonds; referring to each other as frater and asking for favours (Tab. Vindol. 347). Another letter records correspondence between most likely two slaves, the content, however, is obscured (Tab. Vindol. 303). Some of these men, especially attached to the household of a commanding officer, could have been quite powerful within their own networks (Tab. Vindol 311; Tab. Vindol. 301) and are likely to be commonly recognised in the garrison. The majority of grooms, slaves and dependants would perhaps been more anonymous.

For some of the soldiers’ dependant women, developing an association with one soldier could potentially have an impact on their ability to create contacts with other male members of the military community, rendering the contacts inappropriate. Others, such as Belica, the inn keeper at Vindonissa (Tab. Vindon. 41), due to their profession, would presumably have been familiar with a significant number of people, as social hubs exceeding the average maximum proposed by psychological studies and perhaps knowing more soldiers then other members of the extended community would. There probably would have existed differences in terms of the size of the network depending on the women’s status. The commanding officer’s wife, for example Sulpicia Lepidina (Tabl. Vindol. 291) was likely to be part of a larger (on a regional scale) and more influential network than a woman associated with an ordinary soldier. At the same time one can imagine Sulpicia’s status might have been restrictive too, in the sense of allowing her limited freedom of movement around the fort. Evidence from the Vindolanda tablets referring to women as soror (Tabl. Vindol. 310; 335; 389) indicates that women could also enjoy esteem and were an integral part of the soldiers’ immediate communities.

The extramural settlements were also the soldiers’ domain since they were under military jurisdiction (Watson 1969: 140-141). The practical implications of this are well portrayed by Juvenal: ‘If you get beaten up by soldiers just keep quiet, since if you complain the hearing will be held by his comrades and you can be sure of a worse beating afterwards’ (Juv. Sat. XVI). Extramural settlements could have been dangerous places for the traders (i.e. Tabl. Vindol. 310; 335; 389).
servants, women and children, especially on encountering a drunk, unfamiliar soldier.

In contrast to modern armies introducing programmes aimed at integrating military families (Burrell 2003, Huebner, Mancini et al. 2009), no such thing would have existed in the Roman period. Limited integration among the vicus community was likely to be the reality for newly-established extramural settlements. Residents of the extramural settlement would be safe around their associated soldier and their commilites, but otherwise they could be vulnerable to abuse on the part of the soldiers.

The example of the Vindolanda child burial, deposited beneath a floor layer in a barrack room suggests that children could sometimes become the subject of attacks (Chapman, Hunter et al. 2011: 343). The placement of the grave underneath the floor of a contubernium, which provided the compartment was used as accommodation rather than repurposed as a storage space, was a shared space may also imply an element of complicity on the part of the murderer’s contubernales.

A similar discovery was made in the extramural settlement at Housesteads. In Building VIII, located along the street leading to the gate of the base, were found the bodies of a man and a woman resting on the original floor and under an unusually thick layer of clean clay (Birley, Charlton et al. 1933: 88, Crow 2004: 78). A tip of the knife in situ in the spine of the male suggests that even large and robust men may not always have been safe in the extramural settlement. The bodies could not have been inserted into the building at a later date since the deposit was sealed and covered with later undisturbed layers. The burial is dated to between 300AD and 368 AD (Birley, Charlton et al. 1933: 90).
Two murder victims at the back of a shop are accompanied by the finding of a forged coin mould for the denarii of Septimus Severus in the street between buildings III and IV (Rushworth 2009: 377) and a 1930s identification of building I as a gaming den, perhaps outdated by now (Birley, Charlton et al. 1933), add to a rather gloomy picture of this part of the vicus. In the case of both Vindolanda and Housesteads, the most likely reason why the bodies stayed in the buildings and within the settlement (where burials were officially not allowed), was probably the difficulty in removing the bodies without being seen.

Another important group within the social fabric of a base would be the veterans. During their long career these men would have moved from unit to unit and, having retired near the base where they served their last post, would have had a great deal of insider knowledge of social networks within the unit, such as old centurions. Some veterans perhaps may have served as a source of advice for the commander, especially a new one who had just joined the unit. A kitchen list from the praetorium records preparation of food for several important visitors, both locally such as that of a Veteran, or Niger and Brocchus, officers from units presumably stationed nearby (Tab. Vindol. 581). Especially for
a new commander, such visits could be a source of vital information about the area and the people under his command. The household was also preparing to host guests at the highest levels of the provincial society such as a legionary legate and the governor (Tab. Vindol. 581). This document also hints at the differentiated social distribution of people within the base. Access to the praetorium would have been restricted. The praetorium was a locus for the most exclusive social network on a level much higher than available for most people at Vindolanda.

At the opposite end of the spectrum there were new recruits. The environment of the base would have made quite an impact on newly enlisted auxiliaries, especially from rural areas. Communal living in a small and fairly cramped contubernium in terms of group size and physical closeness, as well as being confined within a small space used for sleeping, cooking and daily activities was not that far off from living in many European Iron Age communities. However, the outside space was very different. Most barbaricum communities lived in open rural settlements with few external constraints on movement. This was very different to a military base, where outside the contubernia and in the streets and the scarce open spaces of the military base it was cramped too. The base itself was contained within the omnipresent, ever-visible perimeter. In contrast to an open village, it was impossible to walk off into the land at one’s will or even to see the horizon from within the perimeters.

5.5 Smaller networks within a unit

The observations discussed above are suggestive in terms of numbers, but perhaps also to an extent in terms of mapping social networks on the ground. The institutional nature of military units meant that the military authorities dictated how and with whom soldiers spent a proportion of their time. This included training, repair work, performing duties, and finally distribution of where they lived. Dunbar’s findings are interesting on the one hand in the context of the old Republican custom of working in two centuries (Vegetius 2.13, but see Speidel 2005 and Mann 1997) as roughly equal with the extent of the predicted size of a social network; and on the other hand, of a century and its dependants in the light of the previous estimate of one dependant per soldier. A couple of centuriae and its dependant could have been a fairly real
cognitive boundary. This suggests that two facing barracks did not only delimit unit structure in the ground, but also defined it as a socio-spatial unit within the base, the outer periphery of a network based on regular personal knowledge. Networks of barracks could well have been the most important reality of day-to-day life for ordinary milites caligati as well as for junior officers, also encouraged by the communal space in between the barracks and access to light available mostly there. As such there would have been networks based on residency, similar to Victorian terrace houses in England and working networks. The duty roster of Legio III Cyrenaica (Chapter 3) revealed that men did not work by century, but mixed. Immunes would have had their separate working networks too.

Lendon’s (2006) findings in terms of the language used by soldiers suggest that the distinction in how one would refer to another was along the lines of belonging to the same infantry century, with the preference for the term commanipularis, as otherwise one would be referred to as commilito. Centurions were the links for the higher officers into all sub communities within the unit and the links to individuals whom the high command would not otherwise know in person. The large size of the military community indicates that for it to be efficient the control over soldiers would have to have been mostly implemented within such smaller networks, both through supervision and peer-pressure. Blurring of personal interest was important in the field, but not in the camp, where the focus was on personal discipline. A proportion of centurions’ careers indicates that some of the centurions would have been parachuted into centuries from other units, or with no previous military career (Birley 1988, Birley 1988). However, those coming from the ranks over years would learn about the men serving under them. Vegetius (III. 10) advises that good officers should know by name the men under their command.

The cult of the genii provides epigraphic material recording associations below the level of a unit further strengthening the importance of centurial networks. Genii are spirits of either a community or of a place; embodying its vitality and energy and ensuring good fortune (Speidel and Dimitrova - Milceva 1978: 1550, Haynes 2013: 319). While many genii watched over the whole unit, one also finds dedications from individuals who sought protection in the name of their
more immediate networks. The popularity of the genii of certain sub-units over others can be taken to reflect the prevalent forms of sub-unit identity (Haynes 2013: 319). At least within the legions, the strongest associations visible in the dedications to genii are those of centuriae (Speidel and Dimitrova - Milceva 1978: 1546). The importance of centurial networks for the daily practice, rather than the largely intangible in daily practice community of the whole legion (i.e. working in subdivisions often below the level of a century PGenLat.1) is underlined by dedications to centurial genii outnumbering those to genius legionis. A century’s officers often chose to refer back to their immediate community, around whom they would presumably spend most time on a daily basis and with whom they felt the strongest association. Q. Caecilius Kalendius (ILS 2290) set up separately a dedication to his legion and to his closest fellow soldiers from the century (commanipulorum bonorum). In some cases, spatial association between the dedications to genii of centuriae and the barracks, as the areas where the community was most likely to reside, is visible. The chapels to the genii of the centuriae at legionary Lambaesis were placed by the unit’s barracks (Cagnat 1908: 55). At Niederbieber too, dedications to centurial genii appeared exclusively in the accommodation areas (Stoll 2001: 167 e.g. CIL XIII 7750).

Speidel (1978: 1544) observed a paucity of dedications from legionary cohorts and explained it by the lack of officers at the cohort level and the resultant lack of collective cohort identity. In a legion this points towards a multitude of smaller centurial networks, for which membership in a cohort did not play a significant role. The small number of cohort genii reminds us of the extent to which the Figure of a powerful leader provided an embodied marker of identity for the group. Incidentally, based on the psychological predictions, the 500-strong cohorts (also equal in size to an auxiliary regiment) would also seem too large a group to form a coherent and functional social network. The epigraphic medium, however, may not always reflect the reality of social bonds. Even though the contubernium (the smallest unit, composed of eight men) was likely to be the strongest social sub-unit, no dedications to genii of contubernia have been attested (Haynes 2013: 321). The likely reason is that the contubernium as a grouping of ordinary soldiers may not have been deemed appropriate to receive patronage of a genius (Haynes 2013: 321). Another contributing factor
may be the very small number within the group resulting in its limited financial capability to set up an inscribed monument. The pattern observed on the whole is repeated in Britain with two dedications to genius legionis, including one from Legio XX (RIB 449), four genii of centuriae; three from the legionary context from Legio XX (RIB 446, RIB 447, RIB 448) and one from the auxiliary context from Carlisle (RIB 944). The dedications to genii so far have helped us to understand which networks based on unit structure were more meaningful in social terms than others, confirming that these fell within the brackets of 150 individuals proposed by the psychological models, and provided support for centuriae being the strongest socio-spatial units.

The limitations of the models in defining the threshold of what constitutes a social network lie in regard to smaller groups working across sub-unit divisions. The lower stratum of officers at century-level within a legionary base is a good example. Through their position in the career ladder the junior officers constituted a separate base-wide interest group. For a large part of the day they were presumably spatially dispersed, working in different areas of the base. A large proportion of their daily business would have been within their own centuriae, with their networks overlapping with those of ordinary soldiers. Junior officers would have had the capacity to recognise each other’s identity through dress and over time remember faces of fellow duplicarii and sesquiplicarii, but would they constitute a coherent sub-group based on personal knowledge in Dunbar’s sense? There were occasions on which they gathered in large groups on official business, such as all centurions during morning order taking (salutatio) (Jos.BJ.3.5), but if we add up all centurions, optiones, signiferii, tesserarii and cornicines from all sixty centuries we achieve a number of 250 junior officers. The social experience of the military base was fragmented into a multitude of smaller, yet no doubt, partially overlapping networks. To explore these further we need to turn towards the epigraphic evidence of smaller social networks within the army - inscriptions carrying information about the group with whom one identified, ideally also listing the names and ranks of the dedicants.

Dedications to genii of specific ranks and inscriptions set up by associations of specialists (collegia) provide appropriate evidence for small networks operating
across unit subdivisions (Haynes 2013: 321). Together it seems that all groups of ranking officers and specialists worshipped their genii (Speidel and Dimitrova - Milceva 1978: 1548). The cult of the genii served to distinguish them from the common soldiers (Haynes 2013: 320). Inscriptions set up by collegia provide evidence for associations of duplicarii, beneficiarii, tesserarii, cornicularii, optiones, musicians, decurions, hospital staff, accountants, librarii and armoury wardens among others (Tudor 1963: 248). Epigraphic evidence records two specialist networks in the XXth legion; through a dedication to the genius of signiferii (RIB 451) and the funding of a funeral by the collegium of armourers (RIB 156). The dedications do not reveal anything of the composition of the groups and the collegium inscription is of first century date anyway (Malone 2006: 165), from the period before collegia were allowed to perform social functions beyond that of providing a burial fund.

Particularly good evidence in regard for the social fabric of collegia comes from Niederbieber, a site destroyed during a Germanic attack in A.D 259/260, preserving material in situ (Stoll 2001: 169). A group of dedications to the genii of collegia sheds light on the social fabric of the two numeri units, together amounting to around 1,000 men. The inscriptions reveal an array of small specialist groups of mid-ranking officers networking together under the umbrella of one collegium. Counting the maximum number of officers in a given rank in the two units combined, each specialist group would consist of no more than 10-15 men. Members of at least three of such groups joined forces in the Collegium Victorensium Signiferorum, whose meeting room was in the principia which both units shared (Stoll 2001: 170). From the room comes a dedication to a genius watching over both the Vexillarii and the Imaginiferii (CIL XIII 07753) founded in A.D. 239 (Stoll 2001: 169). A later dedication (246 AD) to the genius of the same collegium (CIL XIII 07754) reveals that in the collegium were included also the baioli (couriers, or dispatch riders) who along with the vexillarii founded the dedication. Fourteen names of men of varying origins who dedicated the monument are listed on the sides of the base. Collegium Victorensium Signiferorum brought together people of different origins and specialisations. The relatively small number of men in each profession caused them to work together in a bigger group, perhaps of a few dozen in total. Since there is no reference to any particular unit, it is likely the collegium was open to
men from both units, similar to the legionary collegium of scouts at Aquincum (CIL III 3524). Through the collegium smaller interest groups came together for mutual benefit. The collegium as a bigger group no doubt enjoyed prestige and held a degree of power. A separate snapshot of networking within the same unit, potentially at a level higher than the collegium (that of high ranking officers), is preserved in a dedication to the genius of capsarii (medics or bandage carriers) (CIL XIII 11979). This was erected by the medicus ordinatus, the highest ranking doctor and consecrated under the authority of the praefectus of the unit (Stoll 2001: 170) giving us a window on a more exclusive interest group.

In contrast to smaller auxiliary units within the legions the associations could potentially be fairly big communities - collegia of officers for whom there was one for each century or collegia open to men of different specialisations. A good example of the size of such communities is provided by a list of 205 duplicarii of Legio III Augusta who set up a monument on their return from Parthia (CIL VIII 2564). The group does not identify itself specifically as a collegium, but it was very diverse encompassing men of various titles such as tesserarii, tubicini, cornicenes, bucinatores, mensores, scutores among others. Within the same legion a collegium of optiones consisted of at least 64 members, whose names are preserved on the inscription commemorating the establishment of their meeting hall (CIL VIII 2554). A club of horn players consisted of at least 36 men, as recorded on the club’s list of fiscal regulations (CIL VIII 2557). All of these clubs would have worked across centurial divisions and between cohorts; men from six cohorts are named in one fragmentary dedication (CIL VIII 2536–2541). Some men were clearly very active in their participation in collegia; Cattianus and Surus appear both on dedications set up by the optiones (CIL VIII 2554) and in another collegium inscription (ILS 9100) dedicated by clerks; librarii, exacti and an actarius. Similarly to Niederbieber, one finds also more exclusive networks for officers higher up within the hierarchy, such as the group of optiones and adiutores of the first cohort dedicating an inscription in the tabularium (CIL VIII 2555).

A question remains as to what sort of bonds the collegia represented. The fairly small group at the base at Niederbieber is likely to be a pretty tight-knit
community. In a similar setting of an auxiliary unit at Slaveni, Haynes (2013: 224) observes that Marinus, who set up a dedication to the collegium duplariorum, did not provide much detail about himself, probably because it was not necessary within a group of a couple of dozen; his identity would be obvious. In sociology a collegium of this size would parallel a sympathy group (Buys 1992, Zhou, Sornette et al. 2005) - bound with special ties, but typically contacted on a less regular, perhaps monthly basis. In military cohesion studies the sizes of the collegium at Niederbieber and at Slaveni indicate that they were the soldiers’ ‘primary networks’ alongside their centuriae, capable of providing substantial support and a meaningful identity marker.

However, in the context of the list of over 200 names, membership in such a vast association in defence of one’s professional interest may not equal one’s social network in Dunbar’s sense. Participating in a dedication alongside two hundred other men would have been a fairly formalised matter with a considerable managerial effort needed to collect the money and carry out the initiative. This organisation could have been ordered from above, for example by the unit’s commander. Unity within such a large group would presumably have been achieved through administration. Association with such a large community may not have extended beyond such a semi-official realm. In terms of military cohesion, such groups are comparable to a ‘secondary group’, where the knowledge of other individuals rests primarily on their position within the institution, rather than a personal bond. Such a group does not give much of an escape from the anonymity of a vast organisation. In practical terms, the feasts known from the civilian collegia (Pegler 2000: 38) would have been difficult to organise for such a large group in a military setting due to a lack of an appropriate venue, unless these took place off site. As an example one can cite the celebrations of the imperial cult at Elephantine (Rupke 2011: 38-9). In Chapter 6 I mention how communal meal consumption might have taken place in the surroundings of the temple of Jupiter Hammon, just outside of the garrison at Bu Njem.

There also would have been an array of deeply complex variables, with many affiliations formed based on those with whom one was associating by the virtue of situational circumstances: duty distribution; frequenting the same functional
facilities such as ovens; gambling dens; leisure habits; social venues, such as bars; and cultural affiliations. Many of these would never have been suitable for commemoration via an inscription. There also would have been groups formed not only of military personnel but also consisting of women, freedmen, veterans and civilians. One such sympathy group is alluded to in the Vindolanda tablets (Tab. Vindol. 310) including a woman, a veterinary doctor and two soldiers; one of a ‘Celtic’ and the other of a ‘Germanic’ origin. This was perhaps an informal group working across gender and status categories.

Eighteen religious dedications from within and around the third Mithraeum at Poitovio near the base of a legion are another good example of a mixed network. The inscriptions reveal that the group worshipping the deity included people from all walks of life: an imperial slave (AIJ 311); a freedman; civilians (AIJ 312; AIJ 318); an equestrian commander from a legion (AIJ 313); joint groups of minor officers such as tesserarii and custodes armorum from both Legio V Macedonica and Legio XIII Gemina (AIJ 315); and also a group of clerks from both legions (AIJ 314). A shared dedication like this differed from the network-forming activities of the informal friendship group from Vindolanda. Participation in a Mithraic community was formal, structured, hierarchical and with a strong religious focus providing an opportunity to become part of an exclusive social organisation, one which could also be a tool in getting ahead in the military society.
5.6 Conclusions

This chapter, through theoretically informed use of data from sites which have the benefit of epigraphic and sub-literary data has supplemented the limited window of evidence on the social use of space proposed by the military documents.

Adaptation of a theoretical framework drawn from the field of social psychology has helped to achieve a fuller view on the social networks and their spatial context, not limited only to the personnel on duty rosters. The epigraphic and sub-literary data interpreted in the context of mapping social networks in space has opened up the discussion to include other important categories of members within military communities; the military and paramilitary personnel, servants, traders, women and children. Thinking about the experience of being part of the community of a military base in the context of the predicted extent of social networks has largely been a thought experiment based on comparative information on human groups and military units. However, it was possible to bring out some aspects of being stationed in a legionary as opposed to an auxiliary base.

The case study of a legionary base pointed towards anonymity and unfamiliarity as an issue in a large legionary hub and the way in which the institutionalised nature of the establishment was likely to influence the structuring of social networks and the way space was used. The ruins of a site on Hadrian’s Wall take only fifteen minutes to walk through, but in terms of the social density and the consequent knowledge of people, its different parts could have been quite far apart and extremely complex. The small settled community of Vindolanda demonstrated how within a spatially small place, there would have been enough room for significant social distance. A consideration of different social strata within the community of both a large and a small military base allowed overlapping social geographies of the base to be outlined. Here certain members of the community were more likely to be in some places than others, at particular times.
The limitations of the approach and the effort to map the networks are best visible at the level of smaller groups (i.e. contubernia) which, while likely to represent the strongest bond, are not attested epigraphically. This highlights that data are partial in the sense of recording sufficiently formal to set up an inscription. Centuriae are the most prevalent sub-unit identity forms visible in the epigraphic record, but also according to the models, were real socio-spatial units defining a periphery of regular personal contacts. The collegia in auxiliary units recall military ‘primary groups’ with strong personal bonds such as the one visible in the dedication at Slaveni, while the large collegia at Lambaesis are likely to have been pretty formal affairs.

The chapter has helped to answer the research question by proposing differences between residential and working networks. Another line of distinction lay along networks based around the military hierarchy and their position within the extended military community with the networks of attached personnel presumably not overlapping much with those of soldiers. The following two data chapters are informed by the insights gained from Chapters 3-5 into archaeological case studies of Elginhaugh and Bu Njem.
Chapter 6
Bu Njem

6.1 Introduction

The activities alluded to in the ostraca (Chapter 3) and the areas excavated between 1967 and 1972 at Bu Njem by the French excavation team (Rebuffat 1967: 186, 1970, 1975, 1977), provide a unique opportunity for an integrated study of a fort; incorporating both the study of the affordances of spaces and a study of locations and tasks mentioned in the ostraca. While Dura-Europos too provides both the architecture and the sub-literary data (see Chapter 3), the garrison was stationed in a military base within a city. Vindolanda while providing the text, does not have a well-understood plan from the period the written sources come from.

At Bu Njem, the ostraca, graffiti and inscriptions present the minutiae of the daily activities, evidence of social presence and of the religious landscape of the site. The ostraca, their context, dating, and an analysis of the information they provide about the activities and their spatial associations were presented in section 3.2.2.i. With the archaeology standing above the ground to at least a metre across the site, Bu Njem presents an outstanding case study beyond written sources. The evidence includes architectural details of the central range, partial preservation of windows and door fixtures, and the provision of religious facilities, giving us a glimpse into the social practice of this remote, desert outpost.

The focus of the French excavation was the central range. Fully excavated buildings included the headquarters building, the bathhouse and a building complex opposite the headquarters (Figure 6.1). The North, South and East Gates were excavated, although in isolation from features in the intervallum (Rebuffat 1989: 157). The accommodation areas were subject to superficial survey and not the primary target of the excavations. No individual plans of the buildings in the praetentura and the raetentura have been reproduced in the yearly reports, but are collated on the plan of the site in the final publication
(Rebuffat 1989: fig. 1 reproduced below as Figure 6.1). The excavation agenda seems to largely have been driven by the search for the ostraca, resulting in the prioritising of the central range. Only the outline of the fort remains visible on satellite imagery (Figure 6.2).

![Image](image-url)  
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The site had a brief use life dated to A.D. 201 and A.D. 263, and was abandoned when a new base was set up at Talalait (Rebuffat 1989: 156). Three phases are distinguished on the basis of the epigraphic data: the first documented occupation was by a vexillatio of III Augusta under the command of a centurion praepositus vexillationis. From A.D. 238 (after the dissolution of Legio III Augusta), the fort was occupied by the same group renamed as vexillatio Gholensis under the command of a decurio alae (Rebuffat 1992: 163-9). After Legio III Augusta was reconstituted, it is attested epigraphically at Bu Njem again (Rebuffat 1969: 207 inscriptions IRT 913, 916). A numerus consolatum was also present during the first period of occupation by Legio III Augusta as indicated by a reused inscription (Rebuffat 1967: 97; inscription 67.2). Archaeologically, there is no evidence for refurbishment in the fort that could be correlated with the changes of garrison attested epigraphically. Instead, a series of periodic modifications undertaken during the uselife of the fort are visible, especially to the bathhouse. This indicates that units, coming to Bu Njem and going, made do with the pre-existing layout of the base instead of adjusting it to its actual strength.

Figure 6.2. Bu Njem, satellite photography of Bu Njem taken in April 2012. Google Earth.
The site was a waypoint on several transportation and caravan routes: between Giofra and Misurata and on a route to Tripoli between Ghirza and Beni Ul (1970: 16, Rebuffat 1970). Alongside two other larger bases of Cidamus and Ghadames situated in the area (Rebuffat 1975: 500), Bu Njem was a nerve centre for outposts operating further south and depending on it, and Bu Njem itself was dependent on the ‘mother’ base of Legio III at Lambaesis. Mattingly provides a list of archaeological candidates for outposts, watch towers and cisterns reliant on Bu Njem for manpower (Mattingly 1995: 169-175).

The importance of Bu Njem’s role for people in transit through the desert, is underlined by the army overseeing a cistern with an adjacent fortlet 30 km away, believed to be roughly a day’s travel from the fort and the extramural settlement (Rebuffat 1970: 136-7, 1987: 61). The extramural settlement ceased to exist when the army left. While the village is very poorly understood, its role as a trading post is indicated by evidence of commercial activity through properties with counters, storage vaults, tanks and adjoining small living quarters (for example, le batiment aux niches (Rebuffat 1970: 133-5). The soldiers too were at Bu Njem temporarily, with Speidel (1988: 102) estimating, based on textual sources that a posting would roughly last 15 months.

6.2 Presentation of the data

This section presents the archaeology of Bu Njem and its provisional interpretation. In the following sections, I draw together the evidence pertaining to different buildings to interpret it from the point of view of the three research questions asked: the types of movement/presence; social spaces of inclusion and exclusion; and possible difference of how spaces may have been used diachronically.

6.2.1 The layout of the site

In terms of the size Bu Njem is 1.3ha and comparable in size to Elginhaugh in Scotland, with only 0.05ha of difference. However, there are noticeable differences in terms of how the space was allocated. The base was oriented looking north-east. There is a slight difference between the orientation of the
central range and the orientation of the defences, with the principia building’s southern range distorted by several degrees (Figure 6.1).

Figure 6.3 Bu Njem and its environs (after Rebuffat 1977: fig.2).
Figure 6.4 Bu Njem. An aerial photo of the praetentura of Bu Njem
Taken in 1972 by Len Sellwood. By the permission of Fiery Surveys.

Image removed due to third party copyright
The relationship with structures outside the perimeter is obscured by the limited investigation of the city, however, a structure resembling a gate is visible at the end of the extension of the via praetoria (Figure 6.3). A suggestion may be that this was a gate to the city which aligned with the gate to the base itself. Perhaps a road leading out of the base by the South Gate is visible on satellite imagery (Figure 6.2). Within the base there are several bigger open spaces: the via praetoria over 15m wide, a large open space in front of the bathhouse (30 x 25m) and perhaps a third space at the back of the principia building (15x45m wide, Figure 6.1). An effort to create two large spaces on one side of the central courtyard is visible in comparison with the layout of Elginhaugh.

6.2.2 The principia building

The courtyard building took up around 1/8 of the total area inside the base, spanning 1224m² (Rebuffat 1989: 160). Following Rebuffat (1970: 15) and confirmed by the presence of diagnostic features (see below), this can be interpreted as what is conventionally referred to as the base’s headquarters building (the principia).

The building consisted of a central open area, whose extent was demarcated by a colonnade and on all four sides, with the pillars on the western and eastern side made of stone and on the north and south of masonry. In the south, west and north range, the colonnade was joined together by a low wall (approximately 100cm high and 45cm thick) interpreted to serve as a balustrade (Rebuffat 1967: 84). This allowed for only two passageways: a small one in the north-west corner of the balustrade (Figure 6.5) and a 3.5m wide portal flanked by two stone pillars (S1-N1) on the central axis of the western gallery. The courtyard itself was not roofed (Rebuffat 1970: 16) and was surrounded on three sides with ranges of rooms. The building contained four entrances. The main entrance to the building aligned with the large portal S1-N1 and was of similar width, with both being accentuated with stone pillars. A third large slab immediately outside the building is interpreted as the lintel (Rebuffat 1970: 15), which alongside a fragment of an arch fallen in the courtyard evoke a powerful impression of entering the principia building through the main door. The other entrances were much smaller, with two parallel doors on either ends of the frontal façade and another small portal (2)
in the corner of the west range. A fifth break in the walls is located at the western end of the south wing. The feature is a very odd one and while it looks like it should be interpreted as a door, the excavators proved it to be a 55cm high floor level window (Rebuffat 1967: 87).

There is an apparent lack of a basilica, whose function, rightly it seems, Rebuffat (1970: 119) assigns to the widest western gallery. One noteworthy feature, whose interpretation Rebuffat did not provide, is the rectangular platform in the courtyard (159 x 148cm, height 55cm). The platform is a little wider on its eastern side and has a patch of mortar attached to it on the east side (Rebuffat 1967: 85). This feature is aligned with the axis of the main door and the doorway in the portico behind it leading into the shrine of standards.
behind it. Based on its position and eastern alignment, I am inclined to see this feature as an altar base (see below).

There is no need to describe separately each room in the three galleries of the building as a description of their stratigraphy is available in the site reports (Rebuffat 1967, 1970, 1970, 1975, 1977). Instead, I have grouped the rooms according to how I interpret their significance for the circulation of movement and use of social space in the analysis below.

At the centre of the west wing there was situated the shrine of the standards (Figure 5, 6 and 11). The Bu Njem example is exceptional in providing details, which in the context of timber built bases are often inferred, rather than actually evidenced. Against the north-west corner of the room there was a square cellar bordered by three slabs. This was furnished with a door with fragments of the rebate designed to take the wooden lid preserved in situ and a small notch on one site interpreted to facilitate lifting up the cover (Rebuffat 1970: 17). This is likely to have been the strongbox, in which, according to literary tradition, the unit’s funds were kept. This attracted attention from post-Roman robbers as evidenced by a pit in the north-east corner of the room (Rebuffat 1970).

The floor of the room was raised by 78cm compared to the level of the gallery (Rebuffat 1967: 87). This by far is the largest difference of level between any room in the building and the gallery level. Therefore, I consider this to be a
platform, which would have greatly increased the visibility from the perspective of the courtyard onto standards and imagines displayed in the shrine. Furthermore, Rebuffat (1967: 88) reports a clay pillar in the middle of the room, which may be a support for the cult objects on display. A modification to the chapel narrowed the previously 3.5m wide entrance to the sacellum down to just over 1m. This can be dated to A.D. 248 based on a piece of an earlier dedication recycled as part of the new threshold (Bu Njem 67-68, Rebuffat 1967: 88). Of this dedication, only the consular dates are preserved.

Two rooms interpreted as meeting rooms (Rebuffat 1970: 111) flanked the sides of the chapel (Rooms 1N and 1S in the west range). In terms of their location and general look, these compare well with the schola rooms attested archaeologically and epigraphically in Europe and fit with the rich culture of associations within the Legion (Chapter 5). The room to the left of the chapel (3.4 x 2.4m) contains three benches taking up all the space against the walls of the room. There are marked differences between the height of the benches, which vary between 46cm (bench on the west wall) and 82cm (Rebuffat 1970: 118). This means that, when seated, some members of the gathering were elevated above the heads of others. The room on the other side of the shrine also contained benches, but in an L-shaped arrangement. Both of these rooms were situated in a special place for the regimental community - right next to its sacred standards and imagines of the Emperor. Unfortunately, no information whether the floor was raised or the suspected type of door fixture are given in the report to determine the level of privacy.
Figure 6.7 Bu Njem. The rooms with benches in the principia building.
Compiled from Rebuffat 1968, 1970b and 1975a
A, similar (Figure 6.7), but very small (3.5 x 2.5m) room with two benches was also provided in the northern range (Figure 6.7). This room provides details of the door frame. The groove for the door fixture reached to the level of only around 100cm and being very thin (3cm), it indicates that instead of a door the room was closed with a light balustrade (Rebuffat 1970: 111). With the flimsy low door and the floor level raised above that of the gallery by around 30cm, not much privacy could be allowed for the meetings taking place in the room. Nevertheless, the room was well maintained though, as the two layers of plastering seem to indicate (Rebuffat 1970: 108). Also Room 7 in the southern range contains two benches in an L-shape arrangement and a narrow door.

The final example of a meeting room (southern range 1, Figures 6.7-8) also contains two facing benches and a unique find of a masonry desk. The doors to this room were far more substantial, with the rebate up to the preserved height of the wall and 11cm thick, suggesting a more substantial door. The groove to take the door was visible also in the threshold (Rebuffat 1975: 197). Since the room contained the desk and yielded most of the ostraca, Rebuffat (1975: 198) calls it the scriptorium, which in reality is a term coined in the medieval period (Oxford English Dictionary Online). The room originally contained only two small benches located centrally along the walls of the room and facing each other. At a later date these were extended to take the whole depth of the room (Rebuffat 1975: 196), perhaps indicating that more people had to be accommodated in the room for the activity taking place there.
Next to the room to the left of the chapel there was a corridor (Rebuffat 1970: 16) leading out into the via quintana. A concrete path led in and out of the building along the street (Rebuffat 1970: 112). The corridor was decorated with a graffito. A parallel narrow space was provided on the opposite side of the wing, this time without an exit, which to me indicates that it was only put in place to maintain the visual symmetry of the courtyard.

Room 3, near the corridor to the via quintana, was fitted with a door, contained benches and was heavily decorated with rather clumsy graffiti ranging from a depiction of an old man on the north wall, a full alphabet and two fighting gladiators on other walls. The arrangement of the graffiti allowed for the reconstruction of a window in the west wall (Rebuffat 1970: 113).
Room 4 was accessible only from the exterior of the principia and contained a bench and a table right next to the partition wall dividing the room in half. Above the masonry table, there was a graffito portraying a Roman soldier (Figure 6.9) and a niche on the south wall (Rebuffat 1970: 16). At the opposite end of the west wing there was a parallel suite, albeit without access outside the building, with a small piece of graffiti found in its rubble (Rebuffat 1970: 108).

Figure 6.9 Bu Njem. Graffito of a Roman soldier from room 4. After Rebuffat 1989: fig. 5. No scale provided.

Towards the west end of the south range there was a platform raised 117cm above the level of the gallery. The platform was fronted by two monumental pillars and was decorated with a badly preserved graffito on the front (RI---)(Rebuffat 1970: 115). The platform was accessible from its side through a narrow passage in the corridor to the east of it. The platform is rightly interpreted by Rebuffat (1967: 89) as the tribunal. A similar one, accessible from its front is evidenced on the plan (7) of the detachment’s mother base at Lambaesis (Figure 6.10). In the corner of the tribunal there was a little basin without drainage. Rebuffat (1970: 115) sees this as an original feature and calls on a similar example at Thamusida I, where fragments of clay lamps were recovered from the basin. As mentioned above, the corridor from which the tribunal was
The tribunal was part of a larger arrangement, incorporating the western gallery which acted as a basilica. The gallery widened slightly to 4m as it approached the tribunal giving the total area of 100m². By taking that one man would occupy roughly 0.5m² of space, Rebuffat (1970: 116) calculated that the gallery would roughly take 500 people, which he deemed to be the total strength of the unit minus possible deductions of men who were ill or away. Two successive layers of white wash (Rebuffat 1970: 117) indicate that the tribunal was looked after. According to Rebuffat’s observations it is possible to add that the tribunal took advantage of the natural land form with the south-west part of the building located on higher level than the rest of it. As in the case of the sacellum the raising of the level would render the tribunal more visible from the gallery.

The final group of rooms that deserves a mention is located in the north gallery, next door to one of the meeting rooms. Room 1 and 2 were connected through a passage and the staircase was not accessible from the courtyard independently. Room 2 contains a small bench overlooking the courtyard through a rather narrow doorway (56cm). The threshold into the staircase room served as a first step for the stairs.

Altogether the seven preserved steps add up to the height of 2.2m (Rebuffat 1970: 15). The staircase is believed to have turned at right angles (Rebuffat 1970: 108). In the space, which would have been situated beneath the staircase, there was another bench. At 50cm tall, this was of a comfortable height seating (Rebuffat 1970: 108). Most interestingly, two scratched graffiti both in the pattern of squares (one 13 x 10cm and the other too badly preserved to determine) which can be interpreted as board games. I will return to their significance in the analysis.
Figure 6.10 The *principia* building at Lambaesis (after Cagnat 1908: fig.2)
Figure 6.11 Bu Njem. the tribunal in the principia building, compiled from Rebuffat 1967, 1970b and 1975a
All the other rooms in the principia are empty and do not betray anything useful for their interpretation, with the exception of loculi added to some of them in the post-Roman period (see Rebuffat 1971). Outside of the south wing there was an extension of the façade of the principia, which formed an L-shaped enclosure furnished with benches. This may have been added sometime during the uselife of the base (Rebuffat 1975: 159).

The building yielded two religious dedications, both not found in their original context: to numina invicta in the southern wing (Bu Njem Inv.No. 71.108) and to the genius of the vexillatio (IMPAUG--- /GENVEXILLA / --- Bu Njem Inv. No. 68.97, north of the principia building).
Figure 6.13 Bu Njem, the south range of the principia building. (photo by Jona Lendering taken in 2009, used with permission).

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Figure 6.14 Bu Njem, the south range of the principia building. (photo by Jona Lendering taken in 2009, used with permission).

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6.2.3. Building complex to the south of the principia building

There were at least two buildings to the left of the principia. The southernmost was identified by the French team as the praetorium (Rebuffat 1977: 72). The identification as a domestic structure rests on its morphology and the presence of a bench interpreted to be part of a triclinium (6). The layout of the building offers few surprises. To the side of the triclinium located at the end of the axis of the building there was likely a service room, or a kitchen (Rebuffat 1989: 160). The room offered an exit onto the via sagularis, convenient for the servants to be able to avoid the triclinium. On the other side of the building, Room 8, allowed for access between the praetorium and the principia building through a narrow door.

Between the praetorium and the principia there was a temple inserted (Figure 6.15). Leaning against the side of the residence and only 4m wide, the temple is on the same orientation as the shrine of the standards, both facing east. The temple consists of two rooms, the first one equipped with two benches along the sides of the room, the second room being the actual site for the statue of the genius. Rebuffat (1977: 42) interpreted the building as a personal shrine of the commander based on a dedication found in situ (Bu Njem Inv. No. 72.26) published in Rebuffat 1972: 57). The same dedication alongside other evidence can be seen as indicative of a more inclusive profile of the temple (see Section 7.3.3.a). The front of the temple is not in line with the façade of the praetorium, which resembles the situation in front of the principia building. The plan indicates that the exterior of the façade of the temple was not excavated. It is plausible that also in front of this temple there was a bench.
On the far side, towards the raetentura, the excavation identified two granaries, with the characteristic buttresses supporting their construction. The plans are not published separately, but the structures are visible on the overall plan of Bu Njem (Figure 6.1). A depression in the sand between the granaries and the praetorium, was originally understood to form a walled courtyard and later reinterpreted as a building of an unknown function on the basis of a discovery of further walls (Rebuffat 1989: 161). The courtyard, whether as an open space or a roofed building, may have served an ancillary function to the granaries. What supports this interpretation is the similarly wide entrance to both the better preserved western granary and the courtyard with the width of the threshold of around 1.6m, suitable for loading cargo. Further, the plan of the courtyard indicates another opening onto the adjoining granary, roughly halfway through its longer wall.
A covered space near the granaries would have been useful for two reasons. The site supplied other outposts and the goods would find a good temporary storage place there. The enclosed space would have offered a good protection of the stock (especially grains) from the sand. The problem with sand is indicated by at least two later additions of raised sand-screens in the fort, one in the principia and one blocking the passage between the pair of barracks in the south-west raetentura. A concern for windblown sand may have also been a reason as to why the western granary, instead of opening up on the via sagularis (which would have been easier from the point of view of access), opens on the site of the street between the granary and the principia building. The part of the courtyard on the side of the principia was not fully excavated (Rebuffat 1977: 44), but another portal on this side would allow for an access through the south gate, along the via sagularis and through the courtyard building (offering shelter from wind and sand) to the two granaries.

There was a likely sentry room located right next to the granaries in the principia building and directly overlooking the granaries (Section 6.3.1.b). Together, the buildings alongside the likely access route through the south gate, along the via sagularis and through the courtyard building to the two granaries, suggest a zone of supply-related activity with at least three different buildings incorporated. The granaries, the ‘courtyard’ and the residence formed a compound, out of which the residence was isolated from the circulation from the other two buildings.
Figure 6.16 Bu Njem, the praepositus’ residence looking towards the South Gate (photo by Jona Lendering taken in 2009, used with permission).

Figure 6.17 Bu Njem, the praepositus’ residence looking towards the North Gate (photo by Jona Lendering taken in 2009, used with permission).
6.2.4 The baths suite

The baths (Figure 6.18) covered an area around 200m². To the south there was the cold room (3 x 5.5m) (1) with a deep (1.44m) pool with two large square masonry pillars to either side of it (Rebuffat 1970: 13). The pillars are believed to have supported a patio (Rebuffat 1970: 122). The room was lit by a large window (160 x 50cm) on the south wall and was roofed with a high ceiling (Rebuffat 1989: 160). Flanking the passage between this room and the large hall to the north of it (2), there were two slabs with a dedication to Salus by Q. Avidius Quintianus (IRT 918, 919 S on the plan, Rebuffat 1989: 160). The passage was also marked by a different ceiling with a vaulted roof in the large room (Rebuffat 1970: 122).

The large hall (2) was the biggest of the rooms: connecting all other spaces and serving as the entrance to the bath suite in the first phase of the building (Rebuffat 1970: 122). From the room came a dedication to Jupiter (IO)M / --- TETINCO (Bu Njem Inv. No. 70.36/60 - IOM on the plan) (Rebuffat 1970: 139). The hall (2) was decorated with graffiti made in different hands and placed at random including two separate depictions a man, another man chasing two
animals, an ochre painting of a boat among others (Rebuffat 1970: 124). The boat and the two small depictions of men are drawn by the same hand (Rebuffat 1970: 124). This frigidarium opened to the east onto a large room (3) with two benches and three large windows. While the room was not excavated entirely, it yielded further graffiti (unfortunately unpublished). The room was not heated (Rebuffat 1975: 212).

A niche (rectangle on the plan) above the doorway leading from this large room (2) into the ‘Salle de la Fortune’ (4), fits in size with an inscription found in the filling of the bathhouse (IRT 913) commemorating the setting up of the building in A.D. 201 and so is thought to have originally come from the spot (Rebuffat 1970: 126). The ‘Salle de la Fortune’ (4) was another large cold room. Its dedication is inferred by the presence of an inscribed altar (FORTUNAE / DEAESANC / TAEVOTUM / SOLVIMVS, Bu Njem Inv. No. 70-52) vis-à-vis a tripartite niche in the room (circle on the plan, Rebuffat 1970: 13, 1970: 128), and a statue of fortune in the rubble (Inv.No.70-35, Rebuffat 1970: 127).

The tripartite niche was a later addition contemporary with the insertion of an altar in Salle de la Fortune (F on Figure 6.18 and photos on Figure 6.20) and the provision of the south annex, lit by a small floor level window (Rebuffat 1970: 129, 1975: 211). Beneath the tripartite niche there was an inscription DVM DETRAHENT CECIDERUNT (Figure 6.19a). Further below a fragment from De Spectaculis by Martial about two fighting gladiators Priscus and Verus (Rebuffat

![Image removed due to third party copyright](Figure 6.19. Bu Njem, graffiti from Salle de la Fortune (adapted from Rebuffat 1970b: plate 27).
Figure 6.20 Bu Njem, bathhouse during excavation (compiled from Rebuffat 1970b and 1975a).
The room also contained a plaque in the mortar with a dedication to numina invicta (Bu Njem Inv. No. 70.46=not in IRT?) dated to A.D. 238 made by a librarius to commemorate the refurbishment of the baths (N on the plan), the cost of which was shared by all soldiers (Rebuffat 1970: 132).

To the north of this room and as part of another refurbishment, there was inserted an apse with a semi-circular cold bath. This encroached on the via sagularis (Rebuffat 1970: 128-130). The area of the north apse and the adjacent area of the Salle de la Fortune yielded the majority of fragments of a large slab (135 x 210 cm) with the poem of centurion Lasuchtan (it is not certain if he was one of the praepositi in charge of Bu Njem, but likely) (Bu Njem Inv. No. 71.200; 70.45; 70/37). The poem was set up at the centurion’s own expense and praised the valour of the soldiers of the vexillatio of Legio III Augusta and commemorated their effort to rebuild a fallen gate (Rebuffat 1995: 79). The inscription is dedicated to the Emperor and to the divinity of the soldiers (numini eorum in line 5, for full text see Adams 1999: 111-2).

The ‘Salle de la Fortune’ was decorated with red walls and a frieze (Rebuffat 1970: 129), but on top of that the room was also the most richly decorated with graffiti out of all excavated inside the base. The most interesting ones include the depiction of Bu Njem in the apse and continuing west on the same wall two rows of soldiers with shields, a horseman, various animals, birds, circles and a scene depicting military exercise with men jumping. Elsewhere in the room there was a depiction of a man with a spear and three birds. The excavators were struck by the resultant apparent disorder in the decoration of the room (Rebuffat 1970: 130).
To the north of Room 3, there was a large vaulted corridor with entrance with columns and windows that in a later phase served as a vestibule. This yielded a further fragment of the poem of Lasuchtan. A hot room with an apse encroached on the intervallum and gave access into a small tepidarium (Rebuffat 1970, 1989: 160), heated by the nearby sudatorium (Rebuffat 1989: 160). To the west of room 3 there was a basin supplying water to the spa (7) (Rebuffat 1970: 14). Because the tank is fairly small the excavators expected another tank with more water further south (Rebuffat 1970: 124). Other spaces were also decorated with graffiti, among them two portrayals of people, a rat, two other animals, an owl, a bust and some very fragmentary inscriptions (NV) as well as a signature in large letters (--- AMVS SATVRNINVS). Some were drawn in the same hand (Rebuffat 1977: 46).

6.2.5 The praetentura and the raetentura

Our knowledge of the buildings outside of the central range is limited. Rebuffat (1989: 161), noting that each building was slightly different, interprets all of them as accommodation. The excavators suggest that each of the contubernia was divided into two rooms (Rebuffat 1989: 161), which is not immediately obvious from the limited extent of excavation.

The large building in the north raetentura was not similar to the rest and according to Rebuffat is a later modification of two barracks (Rebuffat 1989: 158, 162). Rebuffat, based on the addition of small irregular sheds to the building on the side of the via sagularis, sees this as a ‘fabrique-bazaar’. There is no evidence to suggest the function of the building and only several shreds of pottery are reported in the finds report (Rebuffat 1977). The addition of small roofed spaces encroaching on the intervallum may indicate an increased need for space, perhaps storage, which makes sense if the site was providing logistic support to a number of smaller outposts dependent on Bu Njem.

Estimating that each half of a bi-partite barrack in the praetentura would be able to accommodate half a century, Rebuffat (1989: 163) saw four ‘regular’ centuries in the front of the base and either further two, or four more ‘regular or irregular’ centuries at the back of the base, depending whether the modified barrack is included in the calculation. Further, Rebuffat (1989: 162-3) interpreted
the difference in the plans of the buildings (recess in the façade or the lack of thereof in the raetentura) as indicative of the type of unit stationed. The large segments at the outer ends of buildings in the front of the base were assigned the function of stable for legionary cavalry (by estimating that these would have housed roughly 120 cavalrymen, who equalled the number of cavalry in a legion). Now, thanks to work undertaken at Wallsend, it is accepted that there was no separate stabling (Hodgson and Bidwell 2004). Since the epigraphy (Bu Njem Inv.No.67.2) also mentions a numerus, Rebuffat saw the front of the base occupied by legionary centuries and made the numerus fit at back of the base.

However, in reality only one building was surveyed in more detail – the bipartite block in the south praetentura (Rebuffat 1970: 12). Rebuffat reports the presence of a niche in the west wall of each contubernium, with low ventilation windows in the front rooms and argues that the arrangement of the doors remains unknown (Rebuffat 1977: 38). It seems that Rebuffat’s estimations about the size of the garrison were based on this building, in whose northern half one can count roughly six smaller segments framed by two larger projecting segments on the ends of the building. Rebuffat rounded up the number of smaller segments (contubernia) to five and calculated that two facing barracks would take around 80 men (Rebuffat 1989: 161). However the two sides of the bipartite barrack lose their alignment halfway through the building. In its southern half seven instead of six smaller segments can be counted. Furthermore, a total of ten segments can be calculated in the building closest to the gate in the south raetentura, which by standard logic suggests that the building would be able to take a century on its own, not a half.

It seems that it is better not to attempt to estimate the size of Bu Njem’s garrison based on barrack counting. The excavators’ conclusions may be turned around by pointing to the recess in the buildings at the front of the base as perhaps symptomatic of a colonnade suitable for infantry barracks; and the lack thereof at the back of the base as suitable for accommodating horses in the front rooms.
6.2.6 Gates and roads

Together the archaeological plan of the site and the graffito (Figure 6.26) from the bathhouse, providing the vertical dimension of the façade, offer a good proxy for how the base may have looked like. Both indicate a three storey construction of the gate towers (Rebuffat 1989: 158). Archaeology (Figure 6.1) of the south defences indicates that there were no corne towers, at least on this side of the fort.

There was a mud brick superstructure above the masonry and a walkway on top of the rampart visible on antiquarian drawings (Rebuffat 1989: 159). All the gates were constructed in the same way, with one tower opening up onto the intervallum and the other one onto the passage between the gates. The towers project inside the base, typical of the Severan period (Jones and Barker 1983: 59). In the South Gate there were also windows preserved, all of them overlooking the intervallum (Rebuffat 1977: 47-8). Five semi-circular arches for windows were found in the vicinity of the South Gate. Since they are so numerous, the excavators suggested that windows also looked into the camp (Rebuffat 1975: 215). In the north perimeter, directly overseeing the via quintana, there was an internal tower projecting inwards with a 4m long staircase extending to the east of the gate (Rebuffat 1970: 11). A similar staircase may be visible adjoining the West Gate.

The East Gate provides a lot of useful evidence as to the circulation in and out of the base. It seems that all of the four gates were equipped with the same locking system. Since the East and South Gates were the only ones excavated, they provide the most detail about its functioning. Once closed, the wooden doors to the base were secured with a 372cm long metal rod (barré on Figure 6.21 and the placement of it visible in Figure 6.22), found in situ in the East Gate. The rod was operated from the ground floor of one of the towers and when the gates were open, a hole in the wall of the tower allowed it to slide inside the chamber of the northern tower. The rod was made longer than necessary; even when the door was closed, it would stick through the walls of both off the towers by 9cm (Rebuffat 1967: 73-75). In the North Gate the rod would be operated from the East Tower, which opened on the passage. In the North
Gate it was operated from the West Tower, which opened onto the intervallum (Rebuffat 1970: 14).

Staircases in the towers were present in both towers, those which operated the rod and those which did not. In the East Gate, the North Tower has two parallel holes and another one further 40cm away thought to provide support for beams carrying the staircase. In the south wall of the South Tower, there was also a small staircase or a ladder (Rebuffat 1970: 12). The metal rods to secure the doorway would have slid beneath the staircase (Rebuffat 1967: 75). The doors to towers were only 1.5m high and between 63cm (South Gate, East Tower Rebuffat 1977: 47) and 80cm wide (East Gate Towers, Rebuffat 1967: 75), meaning that the soldiers had to put their heads down to pass.

Overall, the gates were not very high, with the South Gate’s arcade spanning at maximum of 2.3m, 5m away from the West Tower of the gate, there was a 1.5m wide mortar bulge, interpreted by the French excavators as an ancient equivalent of a speed bump (Rebuffat 1975: 214). In the passage of the East Gate between the two towers there were small holes (3cm), that the excavators interpreted as placements fitting to secure the door in position when open (Rebuffat 1967: 53). When the doors were opened they pretty much blocked the already narrow entrances to towers (semicircles on Figure 6.21). When open, the gates made one of the towers almost inaccessible, diminishing the room’s usefulness. The operations rooms of the lock system did not have much use to them otherwise. The excavators estimated that when only one wing of the portal was open, it would leave enough space for a person to squeeze past (50cm), but that normal circulation was not possible. It seems that with the difficulties it caused to open the gates, they would be closed, unless access was requested. Keeping the main portal either shut or open only enough for individuals to pass would also make sense from the point of view of windblown sand. For comparison, at the 3rd century base at Gheriat El-Garbia, the main north-east gate to the base had two smaller side doors provided for pedestrian passage (Welsby 1988: Figure 3.8). This allowed for the main portal to remain close, without obstructing the circulation of pedestrians in and out of the base. This example makes it likely that at Bu Njem, for the most
part, the doors to the base would have been left ajar to allow for pedestrian movement.

Figure 6.21 Bu Njem, the East gate of the base (after Rebuffat 1967: Figure 5).
Figure 6.22. Bu Njem, the East Gate looking out. (photo by Jona Lendering)

Figure 6.23. Bu Njem, The East Gate, view from the top of the South Tower.

Figure 6.24. Bu Njem, the East Gate with the threshold (photo taken by Jona Lendering in 2009, used with permission).
6.3 Analysis and interpretation

This section draws together the presented data and interprets them in the context of the research questions about the social use of space.

6.3.1. Character of the garrison

Bu Njem was a far flung, desert outpost with a periodically changing garrison. Rebuffat (1989) estimated the strength of the garrison to be around 500 men and noted that a proportion of them would be away in various outposts. It is possible, as is the interpretation of Dura-Europos (Simon James 2015, pers. comm., 20 January), that the accommodation inside the base was provided only for the rough number of men expected to stay overnight at any given moment as opposed to the total of the men registered for service at Bu Njem. The principia, with its enormous size of 1/8 of the total space inside the perimeter (1224m²), is out of proportion in comparison to the size of the base. For comparison, at 675m² Elginhaugh’s principia building are half the size. It may be the case that the unit was larger than the 500 men the barrack counting allows for, thus making big principia more appropriate. With detachments changing every 15 months, and the daily reports in the ostraca indicating a fluctuating number of men on the rolls, it is likely that the army made do with whatever was available.

Mattingly (1995: 193) indicated that the military’s primary role in the area was to supervise the caravan movement. It may well have been that Bu Njem acted as the administrative centre for a wider area, including the taxation of the trade. Similar to the model proposed by Millett (1990) for northern Roman Britain, forts might have acted as civilian centres in the absence of cities, like those in the coastal area of Africa. The larger principia building with a larger number of offices may have been needed to accommodate the administration of the area. Secondly, the function of the base and its large principia building may have been political, for example as a site for meetings with local tribe leaders. In the area of Bu Njem, the Garamantes flourished from living near caravan routes (Dr. Mireya Gonzalez-Rodriguez 2015, pers. comm., 3 February). An earlier example of Corbulo meeting with a tribal leader is
portrayed by Tacitus (Ann.15.30). The principia building could serve for intimidation.

In the archaeology of the area, it is recognised that the caravan groups would carry tents with them to be able to pitch a camp overnight (Dr. Mireya Gonzalez-Rodriguez 2015, pers. comm., 3 February). This factor highlights the high mobility of people in the Sahara, invisible in archaeological record of buildings. This indicates firstly, that the population of the attached settlement may have been in flux. Since the site stood on a caravan route one can envisage tents of the caravans set up and taken down when they were ready to move on. If tents were commonplace in the desert, it is possible that army also used tents. One can imagine tents pitched in the open areas inside the base for the soldiers, for example, in times of an increased need for accommodation. A good example for where the use of tents would have been necessary is the fortlet and cistern at Gasr Zerzi, situated strategically a day’s worth of travel away from Bu Njem (Rebuffat 1970: 136-7, 1987: 39). Looking at its plan, the cistern did not provide accommodation for caravans. If the caravans were to stop, pitching tents in the wadi was the only way to create overnight shelter.

6.3.2 Movement and presence in the base

6.3.2.i On duty presence

Thanks to the exceptional nature of the dataset it is possible to attempt to match the information about the whereabouts of soldiers on duty with the spatial setting of the base. The most popular among the ostraca location is the bathhouse. This is explained by the number of tasks that would need to be done around it, but also perhaps the bathhouse being a landmark for the soldiers in the local area, including men sent from Bu Njem into the outposts. The special role of the bathhouse for the society of the soldiers seems to be indicated by both the graffito of the façade of Bu Njem, but also by the inscription mentioning relaxation in the bathhouse (Section 6.2.4 and 6.3.3.i). Aside from the interior of the building, one can also expect men on duty around the water tank (Figure 7.13 Room 7) and around the second, larger
tank expected to be situated between the bathhouse and the principia building (Rebuffat 1970: 124). A striking feature of Bu Njem is a wall extending between the bathhouse and the principia building and enclosing a large open space on three sites. Bearing in mind that this is the side of the building with the hot rooms, one may expect this to be a service yard for the storage and processing of fuel and similar tasks. The ostraca mention men assigned to tasks to do with water for the bathhouse. The proportion of men is very high, between 25-54% of the total workforce (Section 3.3.2), making the bathhouse a very important area of social presence, both in the context of leisure and work.

The location of training, as the second largest group of tasks, is much more difficult to establish. It is possible that this took place either in a so far unknown to us campus, paralleling situation at Dura-Europos (Section 3.3.2), or took place within the suggested open palestra-like space in front of bathhouse.

The via sagularis, entirely missing from the archaeological record, would likely be an important area of activity. When referring to entries furnus and molendarius, Marichal (1992: 80) reports on four ovens excavated at Bu Njem in the intervallum, but these are not mentioned in Marichal’s site report.

A reference to ad stationem camellariorum (No. 5) indicates that the camels were kept outside the main base, but perhaps in its immediate vicinity. It is impossible to determine the likely locations of assignments such as faber and structor, which could be inside or outside in an undiscovered fabrica.

The range of tasks likely carried out within the perimeter is quite limited, perhaps indicating that a significant proportion, maybe even comparable to those attested at Vindolanda and Dura-Europos, spent most of the day (some perhaps stayed overnight) in locations further away. Several additions need to be added to the activities represented by the ostraca. Sweeping dust seems to have been a major concern, especially with the suspected sunscreens attested on site. How much attention was paid to this would have depended highly on how tidy the site was kept, but even with moderate effort to remove the sand, this would have required a considerable workforce. It is likely that areas which were deemed more important, such as the principia building or main roadways, were swept more regularly than others. The procuring of water,
perhaps with the help of draft animals and in leather sacks. Also the removal of waste seems to have been done quite frequently, as the only dump excavated was that in the vicinity of the principia building and dating to shortly before the abandonment of the base.

6.3.2.ii The guards' presence

The provision of benches and the ostraca suggests the possible areas of presence of guards. Of course to this category of benches one should not add benches in the meeting rooms, as the function of these was clearly to provide seating space during meetings. The presence of outdoor benches and benches in rooms providing good vistas, has implications for the power relations within the camp as guards observed the activity in the area they guarded. Secondly, the provision of guards alters the perception of how accessible some of the buildings may have been.

In Chapter 3, I presented a table with the summary of the locations within different military bases provided with the presence of guards. I worked from the hypothesis that within the base the existence of short benches, either providing an unobstructed view on particular points, or placed outside of buildings may be interpreted as signposting locations of the further presence of guards. While one cannot rule out that such benches would have been provided for leisure, it seems unlikely given the very sensitive location of the benches near the principia building.

The correlation between benches and places where individuals would be present for longer periods of time, especially during the day is consistent with Bu Njem’s climate. With temperatures rising up to 40°C, the heat would be difficult to bear. Although Marichal (1992) suggests that the names of many soldiers, betraying their African origin denote familiarity with the climate, the provision of benches may have been very useful, if not necessary, for the men to survive in their guard posts for several hours, especially in the open sun. If men were not officially allowed to sit down on the benches, their use may have depended on a tacit acceptance of the practice, provided that it did not happen when a person of authority was nearby to witness the soldiers sitting down.
Within the principia building the most likely location for the presence of guards is the area by the staircase leading to the upper storey. It is unlikely that there was another access from the exterior in the form of either a wooden staircase or a ladder. Such additional entrance would block the road behind the principia building. It would also be at odds with the limitation of access implied by the chamber that precedes the staircase located inside the principia building. If the upper storey was accessible only through the staircase in the principia building, it would not alter significantly the patterns of movement on the ground floor, instead providing only one route for everyone going upstairs.

A sense of limited access to the upper storey is conveyed by the antechamber furnished with a bench and the staircase being out of sight from the courtyard. Prolonged and repeated presence of more than one individual by the staircase is indicated by the provision of two graffiti on the secluded bench beneath the staircase. Rebuffat (1970: 108) suggested that the pattern of a 13 x 10 checker board resembles the Tabulae lusoriae for playing latrunculi - the ‘game of soldiers’. Unfortunately, no image of the graffiti is provided in the publication, but taking into account their location, I am inclined to see them as incised ad hoc to break the boredom of having to be present in one place for a long time. Their secluded location - invisible from the courtyard - also may indicate that their incision was not necessarily legitimate. By comparison, there were over 70 examples of gaming boards in the Forum Romanum and the Basilica Julia in the Rome itself (Trifilò 2011). These often were placed in clusters, sometimes in very public areas such as in between passageways and arcades (Trifilò 2011: 321), indicating that there was no necessity to hide the activity. Since no other staircase was found within the principia building, this was likely the only access to the upper storey.

Another guard post within the principia building is likely to have been situated in the western range in Room 4. One can notice that the bench has no relation with the table situated by the partition wall and instead provides an unobstructed line of sight onto the passage between the principia building and the granaries, the doorway to which was situated on the same side as Room 4. From the room comes a graffito of a soldier. Its execution betrays an unskilled hand and its theme and location within the principia building may indicate it
was done by a soldier. Presence of a graffito may also indicate that the person who did it had time to do so, fitting well with the interpretation of the room as a sentry post. The table on the other side of the room and the blockage of the original passage leading to Room 3 may suggest that this room served also as an office for a clerk in charge of the supplies at the granary. A high level of social presence is also indicated by the rich provision of graffiti in the nearby Room 3. Especially intriguing in the context of the administrative headquarters’ of a unit (and possibly of a wider civilian area too) is the finding of a graffito of an alphabet.

Two further points of presence that may be interpreted as guard posts are located outside in the open areas of the fort. The extension of the façade of the principia building is famed by two benches. These may be related either to guard post, or to other forms of official activity, for example the control of movement on the via principalis. While not excavated to a great extent, the opposite side of the façade of the principia contains a similar projecting wall, which may be of significance if we compare this with the example of a hall in front of a principia building at Wallsend (Hodgson 2003: 180).

The second outdoor location is to be found outside of the East Gate of the camp. This was the most elaborate of the gates, and according to the literary tradition, the main gateway of the base. In front of the doorway there was a 50cm high bench placed against the southern tower (Figure 6.21). In documentary data at several bases (Chapter 3) there appears location of guards at the gates. While the Bu Njem ostraca refer to a single gate (ad porta as opposed to ad portas), this cannot be taken as evidence that guard only at one door was provided. Firstly, the ostraca provide only information about one century out of several present at Bu Njem at any given period of time. Secondly, the system allowing to close and open the four gates at Bu Njem clearly needed a workforce on a daily basis to operate (Section 6.3.6).

A third possible location, in front of the Temple of the Genius Gholensis can be speculated about, based on a parallel entry denoting guard at a temple at Dura-Europos (Chapter 3). The hypothesis cannot be either proved or disproved as the French excavations did not extend into the façade of the temple. The
plan of the two buildings indicates that the façade of the temple is pushed back by around a metre in comparison with the façade of the residence, leaving space for a possible bench.

The orientation of the two outdoor benches discussed below can be explained by the local weather. In both instances the benches lean against a south facing wall. The aerial photography kindly provided to me by Fiery Surveys (Figure 6.4) shows the layout of the principia demarcated in black. On closer inspection, these are actually not the remaining of walls, but shadows cast by them. As we see during daylight, the South Tower of the East Gate would have cast shadow a on the location of the bench, which in the 1970s aerial photo lies beneath the sand.

The benches in front of the principia are located in a similar relation to the wall and would too have been shadowed. Secondly, Q. Avidius Quintianus (IRT 918, 919), in his dedication in the bathhouse referring to the hardships of work at the desert, he specifically refers to southern winds. Winds in the Sahara are not only unpleasant, but also painful when sand carried by wind hits the face and exposed parts of the body. A bench protected by a wall from the south would offer much sought for shelter from the wind. The concern for wind is also consistent with the provision of windbreaks in the entrance to the principia and in the southern end of an alleyway in the raetentura. It is likely that excavation of other parts of the base would provide information about further benches scattered across the base. Until new excavation campaigns are undertaken, little can be said about the possible guard presence in other areas of the base. The guard presence increased security and meant that one could be questioned as to why they want to enter a particular area, for example after dawn. There is no mention of the circitores in the ostraca, but if present their circulation would significantly add to the coverage in the base. Also, as alluded to before, the commander was likely to have guards accompany him and these have been pinned on the map in the vicinity of his residence. Figure 6.25 plots all the suggested areas of presence of guards with the distinction according to the type of data referred to.
Figure 6.25. Bu Njem, suggested guard presence at Bu Njem (adapted from Rebuffat 1989: fig.1).
6.3.2.iii Mobility in the base

Not enough of Bu Njem’s plan is known to apply a formal methodology to investigate the types of traffic within the site. However, it seems that the exercise would be largely pointless, unless some major obstacles on the movement lay underneath the sand. The spaces between the buildings indicate that one-way cart traffic would have been possible everywhere and this is to be expected in a military base. However, without the principia building moving out of the way the passage between the temple of the genius and the principia would have been too small for a cart to pass. This is an alternative to Rebuffat’s (1989: 161) view that the principia was not carefully laid out, which would be surprising in the view of the attention to detail seen in the laying out of the rest of the fort (Rebuffat 1989: 162).

6.3.3. Spaces of social inclusion and spaces of social exclusion

This section interprets the spaces according to whether they were inclusive and open to large number of people; or exclusive places, where access was restricted and/or open to the majority of the garrison only at specific times or in specific context.

6.3.3.1 Spaces of social inclusion

As far as the extent of the excavation allows, two buildings within the base can be seen as facilitating large group social interaction: the principia building and the bathhouse.

The courtyard and the basilica of the principia building

The principia building, as the best excavated one, allows for several observations in terms of how the movement within it could have been structured. The principia building would serve during the day as the offices for the unit’s administration, meeting rooms and with the sacellum placed there, also as a religious focus. On a day-to-day basis, the access to the offices could be gained through the side doors on the frontal façade of the building. The south facing location of the so-called scriptorium was particularly well suited to working there in the morning and afternoon, with the window facing south. The evidence for raised blockades for sand in the courtyard (Rebuffat 1989: 165)
indicates that the main portal to the principia building was likely to be often open. However, as Section 6.3.1.b indicates, the presence of guards would have restricted access to the building, which was perhaps not easily accessible to the milites caligati. With limited evidence available, it is difficult to be certain whether the principia building would have been open to the whole unit. This might have depended on the base and the particular situation.

On special occasions (i.e. the commander’s adlocutio, religious ceremonies or for giving justice), the space would be open to the whole of the garrison for the purpose of assembling together. The two main sites for the presence of large groups in the principia building would have been the courtyard and the basilica, with the central foci varying between the altar in the centres of the courtyard, the sacellum and the tribunal.

Coming through the main portal, the movement of large groups of people within the building was guided by the raised balustrade to gather in the courtyard in front of the altar. The movement was signposted by stone pillars marking the entrance to the building and its central axis. One can imagine that if ceremonies were taking place by the altar, the priest would have faced east making it unlikely for the soldiers to stand between him and the sacellum.

The second location for large group gatherings would have been the basilica. Since the building’s southern range was situated on a naturally elevated area, the commander standing on the tribunal would have been even higher above the soldiers than the 117cm high podium allowed for. The raised wall in the northern gallery also acted as a boundary for movement and so at times the basilica could have been rather full. Rebuffat (1975: 199) gives a figure of around 500 men that could gather in the basilica by allowing for one man to take 0.5m². Rebuffat roughly expected that sort of number of men in the base and not in outpost duties. The central 3.5m wide portal, as opposed to the side doors, would take most of the men coming to the principia for larger gatherings. The gallery/basilica was likely a special place for the regiment during gatherings as it was situated right next door to the unit’s standards, crucial for the regimental identity and the imagines of the Emperor they served. In this sense, the basilica was the social space for reuniting the regiment, and
exclusively under the auspices of the commander and the institution of the army.

The features in the principia building allow partially reconstructing how the rituals were staged and articulated through the movement of the commander, whose social distance was articulated also as spatial distance. The tribunal and the altar could be accessed either through the main gateway to the principia building or through the back corridor in the west range. This allowed for variation and the commander could choose whether he wants to make a public entrance or appear, perhaps unexpectedly through the back door. The back door provided also a convenient access to the residence articulated by the presence of a threshold and paving in the via quintana. The arrangement allowed for controlling the commander’s social presence. Depending on the time of the day, it seems that lighting would play a part in the staging of the activity on the tribunal. During sunlight hours, the unusual feature, reported by Rebuffat to be a window, would have provided light onto the passageway through which the commander accessed the tribunal. The south wall of the principia building would benefit from most light in the mornings, for example for the morning salutatio. It looks as if the gap in the raised wall between the columns of the courtyard was meant to provide access between the tribunal and the altar.

Depending on the base, the morning salutatio might too have taken place in the praetorium building. This certainly could have been the case at Elginhaugh, where a suitable courtyard and an elaborated entrance system allowed the space and appropriate setting (Section 7.4.3.ii). However, in the context of Bu Njem, given the size of the quarters, the principia building seems to be a more likely setting.

The textual sources indicate that the commander would have been accompanied in public by bodyguards, who presumably would have escorted him from his residence. The presence of bodyguards is portrayed by Tacitus’ (Histories III, 10). In his description of the mutiny in A.D. 69, the bodyguards prevent mutinous soldiers from entering the tribunal. At 1.6m width, the passageway in the west wing of the building would allow for the commander
to be followed by two guards, who, judging by Tacitus’ portrayal, may have taken their place down by the two pillars of the tribunal. The presence of bodyguards underlines the social distance between the commander and his men and suggests that during his public appearance, social distance was also articulated as physical distance.

Light seems to have played a role in the orchestrating of the activity on the tribunal. Following the example of Thamusida I, where fragments of clay lamps were discovered in a similar feature, the basin in the north-west corner of the tribunal may have provided artificial light to the tribunal, which otherwise would have been in shadow until afternoon. This hypothesis evokes a theatrical image of the light shining from the ground level on the silhouette of the commander. If the basin was designed to contain liquid, it may have held water to add humidity to the air. The whitewashing (Rebuffat 1970: 116) of the tribunal would add to the effect by reflecting the light.

The second area of presence for the commander was on the central axis of the principia building with the focal point at the altar. An altar in similar central location in the principia building is evidenced at Dura-Europos (Rostovtzeff 1934). The shadow in the centre of the courtyard visible in the Fiery Surveys’ aerial photo (Figure 6.4) shows how prominent the feature was. The preserved remains seem to be the masonry base for the unpreserved altar. The plan of the courtyard indicates a patch of mortar situated behind the altar, which may have been the place from which the priest/commander would have made the sacrifices. Behind the commander there would have been visible the sacellum. As discussed earlier, the floor of the sacellum was raised significantly above the level of the courtyard providing a good visibility over the standards and imagines, even from further away within the courtyard. The narrowing of the threshold to the sacellum, instead of being a sign of the narrowing of the portal, may actually have been designed to increase the visibility onto the room through addition of raised panels, such as those attested in British sites (Johnson 1983), or at Dura-Europos, where the stone panels were made to resemble latticework and being effectively see through (Rostovtzeff 1934: 212 and plate 22.2). During rituals, the doors to the sacellum may have been open evoking an image of the insignia of the army being visible behind the commander making
sacrifices by the altar. The patch of mortar in front of the altar is shifted to one side of the altar. A possibility is that, instead of bad preservation, this allowed for the commander to not to obscure the visibility onto the standards and the imagines for those in the courtyard.

The bathhouse

The bathhouse suite offered relaxation and relief from the sun, but it was also a place to come together. This included both the men on service inside Bu Njem, but also those scattered among the outposts and looking forward to return to the base. Inside the suite there was an ample provision of seating to engage in conversations; the large central circulation space opened onto all other rooms in the suite and as such offered little privacy, the rooms to the west of the large cold room also were provided with seating as well as the second cold room dedicated to Fortuna.

The baths were also a centre for the expression of the communal identity of the regiment as evidenced by the repeated communal venture to fund refurbishments commemorated with dedications. First, after A.D. 238 under the direction of the librarius Iunius Amicus, and later through the communal fund to honour Fortuna through the erection of an altar, addition of the tripartite niche and the provision of a statue of the goddess (Rebuffat 1970: 132), but gives no reference to the inscription providing evidence that the second venture was funded communally).

The bathhouse was also a convenient location for those who were in position to set up individual monuments to gain social exposure. Q. Avidius Quintianus (IRT 918-919), who was the commander of Bu Njem, chose to set up his poem in the main circulation space of the baths. The purpose of the inscription is to acknowledge the hardship of his men and so perhaps gain popularity, but also to be recognised for the effort to provide the community of the soldiers with the bathhouse:

I have given to all the true waters of safety, amid such fires in those always sandy hills of the south wind causing to shimmer the fiery flames of the sun, so that by swimming peacefully they might soothe their
bodies and so you who feel great gratitude for (this) deed, that the spirit of your burning soul is revived do not be reluctant to render genuine praise with your voice (of him) who wanted you to be healthy for your own benefit.  

(Lines 5-17, translation after Adams 1999: 110-1).

Centurion Porcius lasuchtan’s dedication is aimed at praising the effort and virtues of the common soldiers who worked on the repair of the fallen gate he funded. The dedication is made to the Emperor and the divinities of the soldiers (numini eorum in line 5, transcript in Adams 1999: 112) again highlighting the communal aspect of the baths. With soldiers staying for an estimated period of 15 months, both of the dedications by the centurions would be seen by a large number of men, who after they were shifted to another place would carry far the reputation that the centurions strove to create about themselves.

The bathhouse provides also the largest collection of graffiti from the base. The use of red paint on the walls of the Salle de la Fortune was no doubt an official initiative. However, the graffiti in most cases, aside from the depiction of Bu Njem and the charge of soldiers, carry little artistic value and were most likely the personal initiatives of the soldiers. This explains the apparent chaos to their distribution and the occurrence of signatures. They may be seen as an ancient form of vandalism, but can also be seen as symptomatic of a desire to leave mark on a space that one was only in temporarily. The base was one of the southernmost edges of the empire with an estimated 3 month journey to get there from Lambaesis. Since soldiers rotated between the outposts it would have been difficult to know if and when, one would return to Bu Njem. For instance, there are many examples of parallel practices, including modern schools. The 17th century pupils of The King’s School at Grantham would incise their names into a side wall of a hall, creating a hall of fame of a sort (Branson and Golding 1988).
The graffito portraying Bu Njem’s façade (Figure 6.26) is a unique representation of the fort through the eyes of one of the soldiers attending the bathhouse. Two two-storey buildings are clearly visible above the defences. The one in the centre is no doubt the principia building. The presence of a staircase within the building suggests that the building was two storeys tall, likely to be visible over the 5m tall defences. The building to the right of it is very likely a depiction of the bathhouse. The representation of the bathhouse is not very realistic, resembling a column rather than a building. It may be that this is a monument which has not been identified in the excavations. The evidence from the bathhouse itself, aside from one room which may have been a patio, indicates that the building was a single storey construction. As such the bathhouse was not likely to be visible over the defences of the base. I am however, still inclined to interpret the building visible in the graffito as the bathhouse. It seems that the ‘artist’ behind the graffito made sure to portray the buildings which he found the most important to his understanding of what would make Bu Njem recognisable – the bathhouse was no doubt a rarity in the area. The archaeology and epigraphy of both the principia building and the bathhouse suggest that the two buildings were especially important for the social life of the unit and its identity.
In comparison with Dura-Europos, where a palestra was situated nearby the baths (Simon James 2015, pers. comm., 20 January), it may be that the open space in front of the bathhouse was used for training. With the wall of the principia building to the south, this area would have offered shade and also would have been paved. In contrast to Europe, there was no suitable grassy land outside of the base, which inclines to see the training mentioned so widely in the ostraca as taking place within the perimeter. Among the graffiti in the bathhouse and in the principia building there is an interest in gladiators. This may be because of the popularity of the games.

6.3.3.ii Spaces of social exclusion

**Meeting rooms in the principia building**

At the other end of the spectrum of social presence, the principia building provided space for smaller, more private gatherings as indicated by the presence of meeting rooms. Their provision may indicate that the culture of professional associations in Legio III Augusta at Lambaesis was also part of the social landscape of Bu Njem. Where preserved, the details of the door structure provide a clue to how private some of these spaces may have been and to the form the gatherings might have taken on. The least private of these rooms was the one in the corner of the north wing as indicated by the delicate fitting for its door and its estimated very low and light construction, likely in latticework (Rebuffat 1970: 111). With its raised floor and the doors being not much of a sound barrier, the conversation in the room would not be very private and the members of the assembly very visible in the courtyard. Also located nearby is a likely spot or the presence of guards (see below). In contrast, the room termed by Rebuffat as the scriptorium seems to have been more private, as its more substantial door fitting suitable for a heavy door seems to indicate. The arrangement of the room is also indicative of how the activity was structured. The desk is situated too far away for a person sitting on the bench in front of it to be able to write. The desk is also too high and does not provide space for the legs. Instead, it seems more likely that the person standing by the desk was meant to read out loud documents for other people to hear. Since more benches were inserted at some point, which took up all of the available space by the walls, it looks as if it was deemed necessary to increase the size of the
assembly. The readings of the documents were more private than the conversations taking place in the room as far as the structural elements of the doorway indicate. The two meeting rooms sharing a wall with the sacellum may have been significant places.

**The residence of the praepositus**

The residence of the praepositus was likely to be one of the least accessible places in the base, with access for prominent guests, perhaps planned in advance as the kitchen list at Vindolanda may indicate (Tab.Vindol. 581). A provision of bodyguards to the commander is also inferred from literary data (Polyb.VI.33; Tac.Hist.III.10). The side exit in the north range of the building corresponds with a side entrance to the principia building located right next to tribunal giving good support for this being a route of the commander. This would have been convenient for incognito access and allowing him to moderate his social presence: when he would and would not be seen publically, and in what context.

The structure and dimensions of the buildings are interesting in terms of contemplating the status of the commander at Bu Njem. In various periods occupied either by a centurion praepositus or a decurion, who were not commissioned officers, it resembles more the accommodation of legionary centurions than that of the equestrian prefects of auxiliary units. The building is only a quarter of the size of the base’s principia building. By comparison, both size and layout the praetorium is close to the centurions’ houses located at the end of the legionary barracks at Inchtuthil. The praetorium at Bu Njem is around 240m², only minimally smaller than the 250m² centurions’ houses at Inchtuthil (Pitts and Joseph 1985: 156, Fig.40). The buildings are also similar in layout, although the central corridor is wider at Bu Njem.

**The Temple of Genius Gholensis and the Temple of Mars Cannaphar**

Situated right next to the residence, Rebuffat (1975: 503) interprets the temple as evidence for disassociation between official cult of the unit and informal worship by the commander of the unit.
While the building is indeed rather small, the details of the inscription seem to indicate that it may have served a wider audience than only the household of the commander, albeit still an exclusive one. The dedication was set by Iulius Dignus the praepositus of Legio III Augusta. He was most likely the first occupier of the residence as we find out from the inscription. The inscription indicates that ‘on the first day’ when Iulius arrived at Gholaiia to construct a castrum for the emperor he had promised to set up a statue to the genius of the place. The most likely context of when such a vow would have been made is during the ceremony to consecrate the land the base was to be built on. The context of the dedication seems to be that of the commander as the main priest of the base promising to set up the genius during a ceremony in the presence of a congregation including the soldiers building the castra.

‘Genio gholaiae pro salute aug
q. iulius dignus (centurio) leg iii aug p v
qui primo di que ad locum ventum est
ubi dominum castra fieri iusserunt
locum consecravit et exp ---’
(Transcription after Rebuffat 1972: 57
(Bu Njem. Inv.No.72.26))

As noted, the principia building are slightly distorted in its south wing. This is striking as the rest of the base is well measured with Rebuffat (1989: 157) being able to distinguish precise points where the base divided into three segments for the praetentura, latera praetorii and raetentura. It looks as though, after the principia building was laid out, a decision to add the Temple of Genius Gholensis was made. To create the needed space, the principia building was made smaller by realigning its southern gallery. Since the main building in the base was adjusted to accommodate the temple it indicates that it was very important, perhaps as important as the principia building.

A second inscription records a dedication by Iulius Vitalis, a decurion, by Rebuffat thought to be another of the commander in Bu Njem, after Legio III Cyrenaica was dissolved in A.D. 238 (Rebuffat 1972: 58). This dedication to numen presentis (Bu Njem Inv. No. 72.28 - numina praesenti iulius vitalis decur(io)
vsla) was found in the same space as the previous dedication. Numen presentis literally means the ‘the spirit residing here’ and may refer to the genius gholensis.

If it was for personal use, one would expect the shrine to be located either within the residence or at least accessible from it. It seems reasonable that, if not open to the whole of Bu Njem’s garrison, the shrine was at least accessible to the prominent personnel. The seating in the larger room allows for roughly eight people, perhaps suitable for the small number of officers of centuries in the base.

Figure 6.27. Bu Njem, temples in the surroundings of Bu Njem (adapted from Rebuffat 1992: Fig. 1).
A ring of five temples (Figure 6.27) surrounding the base provided an extension of social space in the religious context. Rebuffat considers all of them to be the work of the army (Rebuffat 1975: 217), and three examples have associated dedications by the officers of Bu Njem preserved (Mars Cannaphar, Jupiter Hammon and Vanammon). However, a military dedication does not mean that only the military personnel frequented the temple.

Out of the temples, the Temple of Mars Cannaphar, bears most similarities with the Temple of Genius Gholensis. The temple of Mars is of curia form with two parallel benches and two flights of stairs to enter the raised platforms behind the benches. It is interpreted as one only for invited members of a mystic cult (Rebuffat 2000: 227).

In both instances the pedestal in the shrine at the back is not placed centrally in the apse, but shifted to the right from the perspective of those entering the temple. Since this appears in both temples and there is no evidence reported for a second parallel pedestal in either of the temples, their placement seems to be a purposeful way to stage the hierarchical differences between the worshippers reflected in the visibility onto the rituals and/or the Figure in the shrine.

The view from the bench on the left side would have offered a much better look at the Figure. On the opposite side, the view would have been limited, with the worst view on the religious activities offered from the seat closest to the apse. The recurrence of the pattern in two temples is significant in the context of the dedications in both being made by the higher ranking personnel. It seems that both constituted exclusive social spaces, with the benches situated opposite each other along the walls of the temples, reminiscent of the small meeting rooms in the principia building.

While the Temple of Genius Gholensis was centrally placed along the via principalis, one of the busiest streets of the base, the temple could for the most part be inaccessible to the majority of the community of the garrison – the spatial distance not being equal to the social distance. The layout of the two temples also resembles that of the meeting rooms.
In contrast, some of the other temples around Bu Njem seem to have had a more socially inclusive aspect. The two temples reported on in more detail, the North Temple and the Temple of Jupiter Hammon both consisted of a large peribolos and were not of a curia plan (Rebuffat 1977: 54-56). The Temple of Jupiter Hammon, a local god associated with caravan routes (Rebuffat 1975: 488), is understood to have been open to both city and soldiers. It remained in use after the army had left indicating that not only military personnel visited it. The temple of Jupiter Hammon was a place to gather, with a small cella, a big porticus and a place for roasting sacrificial animals situated outside the temple (Rebuffat 1989: 143). This is situated some four metres away from the main temple and consists of a paved area surrounded on three sides with low walls and with a deposit of ashes within it (Rebuffat 1989: 140). This raises questions concerning the dynamics of participation (Figure 6.28). It may be that only a small number of members of the military and the civilian communities were allowed access inside the temple itself during the celebrations, while the rest of the assembly would be gathered outside, perhaps listening out for the sounds of the rituals taking place within the main temple. The provision of an altar,
situated a few metres outside of the entrance, also suggests some flexibility in terms of which parts of a ceremony, or which ceremonies, would be taking place outside and be available for a wider community to participate in. It is worth noting that both the so called ‘grill’ and the main temple are on the same orientation, suggesting that both were integrated into the ritual practice at the temple.

The North Temple, while in use when the army left, provided 100m² worth of space (Rebuffat 1977: Fig.9) in the enclosure allowing for 300-400 participants inside the peribolos.
6.4 Conclusions

The base at Bu Njem was short-lived, with a garrison consisting of changing legionary detachments and a permanently stationed there numerus, for what we know. The ostraca allow the proposition of areas of increased social presence in the context of work routine, and the archaeology reveals possible differences as to which spaces had the capacity to draw the community together. The bathhouse and the open yard nearby may have been among the busiest in the base as this is where most of the daily workforce in the preserved sample of ostraca would have been concentrated.

The ritual activity in the principia building gave an opportunity for the garrison to come together and as the data show, the space accommodated well to theatrical religious performances. The coming together in the principia building was possibly the only occasion on which the garrison had a chance to be physically in one space inside the base, with the exception of training outside the perimeter, thus allowing for the soldiers to witness the physical size of their community, especially if some men were usually scattered in the outposts. The coming together in the principia building however happened exclusively under the auspices of the institution and with a strong ideological message underlying it as witnessed in the increased visibility of the sacellum.

More informal socialising was possible in the bathhouse, which based on the very high occurrence of graffiti and religious dedication was a semiformal centre for the expression of the identity of the community of soldiers. Even this space had undertones of official presence to it. Through the medium of the inscriptions, the commanders sought social exposure, in what was probably the most vigorous social space of the base. In practical terms the significance of the bathhouse as a social hot-spot is understandable in a garrison situated in the Sahara. If the suggestion about the palestra for exercise being located next door to the bathhouse, the area would have been also a hot spot. This may also likely have happened in a context close to the Greek origin of the word for leisure, but perhaps also on-duty presence in the form of training. The dataset is missing the information on the intervallum, which at Elginhaugh was a major space for social presence. The presence in this area during daytime would
probably be impacted by the heat, especially during summers. As the ostraca indicate (Chapter 4), on special occasions food preparation was centrally organised.

Bu Njem also provides evidence for a range of spaces of social exclusion, to which only a small number of people would have had access. The manipulation of visibility onto the sacred statues in the already very small and closed spaces of the Temples of Genius Gholensis and of Mars Cannaphar, indicates that their assemblies were very small and hierarchically stratified. This effort to highlight membership in religious groups may be related to Bu Njem being effectively an isolated and distant outpost of the much larger community of Legio III Augusta, whose main base at Lambaesis provided the members of the associations with opportunities for professional networking and increase in social standing. It may be that those who were temporarily away from the main scene of social and professional interaction at Lambaesis sought to continue their activity while at Bu Njem. The presence of six temples in total, some of which seem to have been designed for far more inclusive rituals, is not unusual for the military context and indicates that Bu Njem was a religious centre for the soldiers, traders and civilians living in the extramural settlement. Moreover, individuals from all of these groups were buried in the same cemetery to the south of the base (Rebuffat 1992).

Except during celebrations, the principia building and the residence were likely to have been areas of restricted access, demarcated by the presence of guards. Their presence, evidenced in literary and sub-literary data, can be also inferred from the archaeology on the ground. The social distance of the commander from the rest of the community was articulated in the way the different options for access from his residence allowed him to moderate his social presence. The analysis of Bu Njem has allowed connecting the insights gained in Chapter 3 with the evidence from the hiberna. The questions of the role of time in the social construction of space in the context of Bu Njem have been addressed in Chapter 4.
Chapter 7
Elginhaugh

7.1 Introduction

Elginhaugh provides the best preserved plan of a Roman military base in the Roman Empire (Hodgson 2009) and a finds dataset with well dated phasing to match it. It is, however, a difficult case study with no archaeology remaining above the ground level, short occupation phases and demolition processes playing a major part in the deposition of finds.

As an experiment to see how much social relevance can be extracted from the dataset, I will apply formal methods taken from the study of Roman urban spaces in Italy, such as viewsheds on site, mobility through an analysis of the roads, as well as finding probable hotspots of intensified social activity through increased finds deposition. The timber construction of the site and its short term use provide an opportunity identify the most effective methods for short-lived, timber military sites.

Rescue excavation was necessary. As the whole site (4.8ha) was threatened, the excavators machined the entire area, choosing which features to excavate selectively (Hanson 2007: 2). This procedure revealed the entirety of the plan, as such there was no need to make educated guesses based on other sites to reconstruct the missing areas. However, due to modern plough destruction, much of the evidence consists of construction trenches rather than floor levels. The building technique of inserting posts in construction trenches obscured entrances to the buildings, only in several instances gaps in the construction trench indicate an opening.
Figure 7.1 The plan of Elginhaugh (after Hanson 2007a: fig.12.3)
Throughout the site, there is good preservation of the roads, drains and stone lined features. However, most uselife surfaces, crucial for finds distribution are gone. The north-west part of the site, and especially barracks 1&2 were badly destroyed by ploughing, including road surface and drains (Hanson 2007: 5). The northern half of the central range also suffered from plough damage. A great benefit of the dataset is that the whole of the intervallum was area excavated, unparalleled at any other site and completely unknown at my other case study site of Bu Njem - potentially an important social space. A further benefit of the uncovering of the roads is the ability to study the relationship between the roofed and open spaces. Although Elginhaugh is dated earlier than Bu Njem, it is studied second because of the above limitations to quality of the data.

Elginhaugh is a Flavian site located in Midlothian, Scotland, south-east of Edinburgh. The site is associated with the Agricolan conquest of Scotland. Based on the coin evidence, the construction of the principia building took place after A.D. 77/8 and since the coin is only slightly worn, it is unlikely that it was deposited much later. The coin evidence is also consistent with the dating of samian ware (Hanson 2007: 646). The latest coin evidence comes from A.D. 86 and the lack of later, very popular across Britain issues of Domitian suggests that the site was abandoned before the issue reached Britain (Hanson 2007: 649). The demolition of the site is thought to be linked to the Roman withdrawal from Scotland.

Elginhaugh does not offer any easy answers as to the identification of its garrison and this seems to have been a mixture of at least two units. There is good evidence for the predominance of cavalry on site, in terms of the small finds, the environmental samples and chemical staining in the front rooms of the contubernia attested at least in 6/10 barracks (Hanson 2007: 657). Those without stains may be infantry barracks (7,9,10,11). However, the chemical trace may have faded away since these were constructed on damper soil (Hanson 2007: 657). One possibility in terms of the garrison is a contingent of six turmae of cavalry and four centuries of infantry. Another possibility is that if the four barracks without evidence for soakaways were also cavalry barracks, just badly preserved, the garrison would have consisted of ten turmae of cavalry.
The two possibilities indicate that the site may have been built for anywhere between 539 and 342 men (Hanson 2007: 659). Neither of the configuration corresponds with that of a distinctive unit, instead likely representing a detachment of an ala quingenaria whose other part may have been stationed at Newstead (Hanson 2007: 659). The site was a way point, controlling Dere Street, which ran through the site and overlooked a river crossing over the River North Esk (Hanson 2007: 647). Another road from the Pentland Hills crossed Dere Street at a junction located north of Elginhaugh. The roads going further north led towards campaign sites on the so called terminus.

7.2 Presentation of the data

This section presents the archaeology of Elginhaugh and its provisional interpretation. In the following sections, I draw together the evidence of different buildings to interpret it from the point of view of the three research questions asked; the types of movement/presence; social spaces of inclusion and exclusion and the possible influence of climate on the social use of the space on the site. The interpretation draws on the finds distribution plots to integrate those with the analysis of the structural evidence.

7.2.1 Layout of the site

At 1.32ha Elginhaugh is relatively small (Hanson 2007: 655) and compares well with Bu Njem (Chapter 7). The site is almost square with four centrally placed double portals. There were at least three corner towers and the presence of the fourth one, in the north east corner of the base is strongly suspected. The provision of intermediary towers is less systematic with one missing from the south east perimeter and possibly another one missing from the north east perimeter. Fort faces south with via praetoria leading out onto a steep slope. It has been suggested that the course of Dere Street running through the site was dictated by the narrow plateau (Figure 7.2), not leaving enough space to lead the road beyond the ramparts (Hanson 2007: 653). However, since the Flavian Castledykes (Figure 7.3) has a similar arrangement, it may have been a deliberate choice. Castledykes is also located on much steeper slope: at Elginhaugh the slope percentage is only 2.5% as compared to 16.5% at Favian Castledykes.
Figure 7.2 Plan of Flavian Castledykes (after RCAHMS 1978: fig.75)

Figure 7.3 Elginhaugh and its environs (after Hanson 2007a: fig.1)
(Edina digimap data). Both sites had Dere Street leading along the via principalis and both overlooked a river with Castledykes, too turned south (RCAHMS 1978: 127).

As a square with a gate on each side, to accommodate to Dere Street, Elginhaugh could be rotated in four different ways. With via decumana along Dere Street the principia building would block Dere Street, with vehicles having to manoeuvre around the building, rather than the building being the focal point of the base. The via principalis laid out along Dere Street was much more navigable with straight lines of visibility between the opposite gates. The reason why the site was not rotated by 180 degrees with the porta principalis facing north may be a likely landing stage situated by the river and the bathhouse situated down the slope. Situated along the extension of the via praetoria, this underlined the public association and provided a line connecting functional buildings inside and outside the perimeter. The other possible reason may be the provision of light, with a south facing principia building more light would enter the basilica, accentuating this important building. In general, the fort layout demonstrates a concern for ease of mobility.

The interior of the base is divided into three parts, with the praetentura taking up half of the space, and with the central range and the raetentura the remaining quarter of the space each. In the praetentura, on each side of the via decumana, there are two barracks situated per scamna, likely placed this way because of lack of space (Hanson 2007: 655). In general, the base is very cramped with no open square spaces like those observable at Bu Njem (Chapter 7) and instead with the roads and the intervallum offering only narrow (max 7 m wide) elongated open spaces. An elongated building partly in stone set into the back of the rampart is interpreted as a fabrica building (Hanson 2007).
7.2.2 The principia building

The principia building (Figure 7.4) consisted of a courtyard, a cross hall and a range of offices on the north side of the building. Although the break in the construction trench is rather narrow, the metalling, overlying it and leading out from the principia building onto the via principalis, suggests at least a 3m wide portal.

In the north east corner of the courtyard there was a well, supported by a revetment system and surrounded by three small post pits (494, 1454, 548 blue). These pits were interpreted as support for a tripod system facilitating the extraction of water (Hanson 2007: 34). The wall is thought not to be an original feature of the principia building. Although the well itself is rather small, with the tripod system the construction would have taken up at least 15m² of space. A stone kerb demarcated the edge of the courtyard, but this was preserved only partially (481).

A walkway surrounded the courtyard on all four sides. This was defined by large postholes at roughly 3-3.5m distance from each other on three sides, and a much smaller range of posts on its northern side. This coincided closely with the course of a separate row of large posts defining the southern edge of the cross hall. On this side, the ambulatory was curved as the walkway narrowed to less than a metre as it approached a wide gap directly in front of the sacellum. The features in the walkway included four additional shallow post holes acting as secondary support for the roof (brown on the plan; 544, 546, 1432 and 542) (Hanson 2007: 36). A small, concentrated layer of copper alloy metalworking waste admixed with red fired clay and charcoal with finds of nails and crucibles were recorded in the W corner of the south walkway (1404). The metalworking area was sealed by demolition debris and so belongs to the use-life of the site (Hanson 2007: 40). In the south west corner of the walkway there was a small shallow pit (484) containing a dense deposit of cremated animal bone intermixed with charcoal, interpreted as a votive deposit (Hanson 2007: 35). Further, a coin hoard was placed as a foundation deposit in the construction trench in the south-west corner of the building (Hanson 2007: 268-72).
The cross-hall extended the whole width of the building and was defined by a row of large posts on the southern side with a wider gap between the two central posts. This corresponds with the alignment of the posts in the ambulatory, the entrance to the building and the alignment of the sacellum. At the eastern end of the cross-hall, a group of three post-holes (536, 599, 472) have been interpreted as supports for a raised platform (the tribunal). A slot for a beam (597) abutting the east wall is thought to have provided support for steps leading onto the platform (Hanson 2007: 37). On the opposite side of the cross-hall there were two patches of clay, most likely originally part of a larger spread, but their function is unknown (Hanson 2007: 38). Another feature, not discussed by Hanson is a posthole with a socket (1446), which looks like another roof support. While very awkward, its presence in the cross-hall is understandable. If the cross-hall was higher than the rest of the building its roof and clerestories would have been exposed to rain and rotting.

In the northern range, the three central rooms were accessed through wide portals (2-2.5m), while the two outer rooms were much narrower and accessed only through narrower openings. The extent of the construction trench (Hanson 2007: 38), as in the case of the main portal of the building, does not correspond with the actual width of the doorway. At the back of room E there was a small (45cm) gap in the construction trench, likely remnants of another narrow entrance facilitating private access (Hanson 2007: 38). Centrally placed within the middle of room C, was the sacellum with a carefully lined with timber and clay pit. This was most likely the unit’s strongbox. On abandonment, this was carefully emptied out, filled with sand and sealed with a thin spread of clay (Hanson 2007: 38).

The building is relatively small covering only around 4% of the total area of the base, which is reflected in visible sacrifices in the internal arrangement of features in the courtyard. Likely as the building got older and rotted away, the additional roof props started appearing in the building. This does not fit very well the traditional perception of the principia building as a prestigious space. Similarly, the small size of the building reduced its usability to the minimum necessity of performing the most important social and religious functions.
Figure 7.4 Elginhaugh. The *principia* building. Adapted from Hanson 2007a: fig.4.1
One feature that particularly does not fit with the standard image of the principia building as a sacred space, is the metalworking area (red on figure 7.4). With metalworking evidence also around the west gate (Hanson 2007: 190), in the intervallum and with the provision of annexe, it is unlikely that lack of space was the reason why this activity took place there. Either this was not perceived as a problem, with the sacellum, the basilica and the tribunal conceived of as separate entities, or as it is more likely, the activity dates to a period when the principia building no longer performed its function and became just a large open building. With its dark corners, this would have been suitable to see the colours of the metal being worked. Such period may have extended over a couple of months or a couple of years; between when the administrative and religious focus of the unit, and the people who defined it moved, and when a decision to demolish the base was made. Following Johnson (1983: 108-9), Hanson (2007: 40) suggested that the metalworking area may relate to the armamentaria occupying that side of the walkway. The provision of armamentaria in the open air in Scotland is not very likely due to the negative effect of weather on the rusting of the equipment and with the very prevalent evidence for damp-induced rotting of structural timbers throughout the site. Hanson (2007: 35) also suggested that the well was inserted at a later phase of the use of the building and ceased to exist when the fort was destroyed. This may have been connected with the creation and usage of the metalworking area.

### 7.2.3 The residence
This courtyard house (Figure 7.5) was the largest building in the base. The main entrance consisted of a 5.2 x 3.5m passageway. The passageway restricted access to the building with its three double portals. The post impression in the middle of the passage (1803) is likely to be a centrally located door stop, while others are associated with repairs (Hanson 2007: 43). All the internal doorways of the building were masked by the continuous construction trench. However, the building is likely to have been provided with a back door similar to that at Bu Njem, but also seen in European context at Oberstimm (Schönberger 1978: 81). Further, Hanson suggests access from the passageways to the rooms in the frontal range and that these were more public or, service related. The service function is indicated by the presence of a storage pit in room 1.

The back range is interpreted as hosting a dining room with an attached service room and a range of bedrooms. An outhouse interpreted as rear service access to the building was situated near room 5. Room 5 was furnished with a stone platform with a latrine pit and the room had access to room 6, as seen through a break in the construction trench (Hanson 2007: 46). As such,
Hanson (2007: 46) suggests that the partition in room 7 and 8 was continuous: providing access between rooms 6-7-8 without the need to go out into the courtyard. Hanson sees the rooms as the most private bedrooms. Three large pits were placed immediately outside the outhouse. Pit 111 was provided with an overflow drain which led under via sagularis and was most likely for the liquid waste from the latrine (Hanson 2007: 46). The other two pits are likely to be also latrine related. In the garden, the three-sided feature is most likely to represent a hedge. Pit 1027, because of its silty deposit and its bottom situated below the water table, was most likely a decorative pond (Hanson 2007: 48).

7.2.4 The bathhouse

The bathhouse (Figure 7.2) is known through aerial photography and a short trench across the caldarium. It was situated on a shelf on a steep slope around 50m away from the base (Hanson 2007: 246). Not much is known about the building apart from that it had an apse and very likely, a timber vestibule and changing room on the opposite side. Parchmarks indicate that there was also another small stone building situated 5m down the slope from the bathhouse, likely to be either a hot dry room, or a latrine (Hanson 2007: 249).

7.2.5 The praetentura and the raetentura

As elsewhere, there were no gaps in the construction trenches to indicate entrance ways, but in the case of the barracks these can be suggested based on the position of the urine pits for the horses. None of the buildings had a veranda. In barrack 1, there were hearths by the division wall of the sleeping quarters (Hanson 2007: 64). The officers’ rooms were larger and subdivided into cubicles. The provision of narrow inner partitions indicates either internal corridors, or storage place, convenient for keeping equipment out of sight. Their presence is also important for the finds distribution, as these were likely spots for intensified deposition. Storage pits in centurion’s houses were found in barracks 2,5,6,7,9,10,11,12 (Hanson 2007: 68-109).

In barrack 12, on the via sagularis side of the centurion’s quarters, there were two latrine pits; one inside and one outside of the building. These were connected with a gully and most likely represent an indoor latrine and an outdoor cesspit connected with the via sagularis drainage gully. If the pit was
not covered, it would have affected the passage around the via sagularis and the operation of the cooking ovens nearby (Hanson 2007: 117).

The placement of barrack blocks within the praetentura is asymmetric (Figure 1). The south east quarter of the fort houses 4 barracks. None of these seem to form a pair. Barrack 5, based on the soakaways faces west. Barrack 6 directly to the west seems to face west as well, therefore not adhering to the standard provisioning of barracks in pairs. The soakaways in barrack 6 are not readily distinguishable, but set against the plan of barrack 5, it is possible to discern an oval shape of truncation. Another possibility is that in the case of barrack 6, there were never any soakaways in the front rooms of the contubernia between the far and the centre end of the barrack block - this could potentially be due to a centurion with his horses stationed on one end and the duplicarius and sesquiplicarius stationed on the opposite end of the block. All the other blocks were facing each other with a 5m wide road in between; barracks 11 and 12 are definitely a pair because the narrowing of the via sagularis in the northern end of the barrack would not allow enough room to leave the building. Barracks 9 and 10 are also likely a pair, since 7 and 6 are a pair (the passage between 7 and 8 is too narrow to be functional).

In raetentura, the joint barracks 3 and 4, are very similar to the joint barrack at Bu Njem and occupy the same location within the fort plan. This building had poor drainage and needed much repair due to the rotting of structural timbers (Hanson 2007: 74). Hanson (2007: 74-77) suggests this building hosted higher status personnel as the officers’ quarters occupy around 43% of the total surface of the building and consist of two suites of rooms, rather than a single one like in the other barracks. Building 8 is a presumed workhouse or a storeroom on the basis of the lack of a meridian wall and the lack of evidence for soakaways (Hanson 2007: 105). Based on the presence of soakaways barracks 1 and 2; and 3 and 4 are pairs.

In the praetentura, the rampart recedes back to create more space between the barracks and the rampart. These are exceedingly long and provide open space, otherwise not present in the base. The raetentura is worse preserved, but it is likely that the situation was similar.
7.2.6 Fabrica

The fabrica, a half-timber, half-stone building, reduced the width of the via sagularis and receded into the rampart. The building was provided with a cobble and gravel floor with areas of burning inside, but without internal partitions to the building. The entrance to the building is suggested in the north east corner, which was not exposed in the excavation (Hanson 2007: 88). The area between via sagularis and the rampart provides evidence of heated material related to copper working, albeit without the artefactual evidence (Hanson 2007: 89). The absence of ovens suggests that no cooking was done in this area. The proximity of fabrica to the granaries may have had an impact on keeping the corn dry.

7.2.7 The gates and towers

With the total presumed high of 7-8m of the gate towers, the height of their ground floor is estimated at 3-3.5 - sufficient for the passage of cavalry and wagons (Hanson 2007: 155). Access to the towers and the top of the rampart was by the means of ramps (ascensus), with one at each gate on the left hand side (as viewed from the interior of the base). The bottom floor of the towers in the gates may have served as guard chambers with the doorway leading onto the passage way (Hanson 2007: 155). Except at North Gate, six posts defined rectangular passages. A threshold beam in the South Gate (Figure 7.7) served to host vertical pivots to hang the doors (Hanson 2007: 156). By the East Gate two roads (feature 1890 and 922, 2.5m wide on Figure 7.6) marked with a kerb, leading into the base and following closely the rampart, most likely served to funnel the traffic in and out of the base. As the pocket hidden behind post 1845 suggest, they also would have served as unloading or waiting areas. It is interesting that these, instead of leading straight through the portals, leave an open space directly in front of the gate. The cobbled areas were added during the use-life of the fort and, as such, perhaps indicate increased traffic entering the site.
Figure 7.6 Elginhaugh, the East Gate. (after Hanson 2007a: Fig.7.16).

Figure 7.7 Elginhaugh, the South Gate (after Hanson 2007a: Fig. 7.9)
The roads around East and West Gate and the east passage of the South Gate were subject to resurfacing with large cobbles. There is also evidence for replacement of posts and major refurbishment in the West Gate (Hanson 2007: 155-8). North and South Gates have an uncomplicated history. However, East Gate and West Gate were blocked during the occupation of the fort, perhaps as part of a realignment of Dere so that it did not pass through the fort (Hanson 2007: 161-2).

7.2.8. Features on the via sagularis

Ovens were preserved in the south via sagularis with 5 in the SW corner, two pairs on either side of the South Gate, two-three in the south east corner of the via sagularis and one north of the group. There was only one group of ovens recovered in the raetentura opposite the west end of Barrack 2, near a metalworking area.

The best preserved group are the ones in the south west corner of the via sagularis (Figure 7.8); each oven had a platform possibly for a hob in front of it. The ash, charcoal and animal bone debris around them (Hanson 2007: 183) suggest these were very busy spaces. Most likely this is why the most outer ovens of the group faced sideways. North of the ovens there was a small drystone wall (Hanson 2007: 187) (2417) and the collapsed remains of a similar wall were also attested near the group in the south east via sagularis (feature 1355 on Figure 7.8). These perhaps can be interpreted as a way to delimitate the area of cooking and prevent the spread of ash. With all the features around the ovens, including the gullies, there was little space for unobstructed movement.

A pair of ovens by the South Gate was situated only 2m beyond the ascensus (Figure 7.10) and it is curious that these was not placed slightly further away. Near oven 2271, there was a line of three small post settings 1.6m apart (2761 brown on Figure 7.10) (Hanson 2007: 188). Outdoor preparation of food at Elginhaugh may not have been either pleasant or, easy in the cold and wet Scottish climate. It may be that such small posts served to create some form of roofing that leant against the rampart and extended to the roof of the nearby barrack to facilitate the preparation of food. This may have been achieved.
through spreading a sheet of canvas or leather, like those used for tents. These sort of small post holes are very unlikely to survive ploughing, difficult to spot and not machining-friendly. I believe there could have been more of those near the ovens.

A slightly less well preserved group of ovens was situated near a metalworking area by the West Gate (Figure 7.9). The metalworking area consisted of a hearth tucked in the corner of the rampart (1060) which was accompanied by two successive sheds (176 and 126 with 138 as its floor). The first wooden structure was replaced by a stone foundation. This is likely due to a fire to the first one (Hanson 2007: 194). This indicates that whilst the activity was on small scale, it lasted for some time. This area was not formally divided from the nearby cooking ovens and was only separated by a large rubbish pit (109). Surprising also is its proximity to the residence. Features 95, 140, 159 and 163 are all remains of ovens. Oven 140 belongs to the use life of the fort (Hanson 2007: 188), but effectively blocked the via sagularis. Next to oven 95 there was an associated open wooden structure, which may have provided cover for those engaged in cooking and meal preparation. Feature 604 resembles the three posts in the south east via sagularis, and if it did not serve to support barrack 1, it
too may have provided support for a canvas or other form of light coverage, which would have been suitably far away from the ovens and the metalworking areas.

Figure 7.9 Ovens by the West Gate (after Hanson 2007a: fig.7.31)
Figure 7.10 Ovens in the SW via sagularis (after Hanson 2007a: fig.7.29)

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7.3 The distribution of finds

The finds are an integral part of the Elginhaugh dataset. They are an especially important source of information since there are no features above the ground level. The analysis of their distribution is intended to identify areas of different activities and secondly, to correlate the findings with the spatial setting of the base.

7.3.1 Phasing, deposition, excavation methods and their variation on site

The assemblage at Elginhaugh was formed during a very short period of occupation. As such, there was little time to accumulate material that would show patterns in the finds distribution. Further, the body of troops on its departure picked up all the valuables and moved to another camp. In this sense few objects of value, and unbroken, remained on site after its destruction – some categories of finds contain only 2-3 examples significantly hampering the ability to make any reasonable judgement about their distribution. It is perhaps no surprise that the most numerous category of finds is pottery, broken during use life of the site, but also because it is heavy and cheap - most likely to be abandoned when the camp relocated.

The short occupation and the comparably small number of finds (406 small finds) has methodological advantages for this study. No constant rebuilding was a feature of the occupation making it relatively easy to assign finds to periods of usage. The cycles of re-use, re-deposition and recycling would also have been relatively short on the site, before the objects were eventually lost, discarded or as in most instances, deposited in the demolition process. A further benefit is that excavation of the whole site was undertaken in the course of one campaign removing problems resulting from different excavation techniques and strategies.

There are clear differences in the deposition process in different parts of the site. The front of the base is situated closer towards a slope of the hill. With ploughing taking place, this means that finds were likely to have rolled down towards the southern via sagularis. Further, the site was quite heavily ploughed in its northern
part. On top of the plough destruction, the finds from the area could also have been lost due to machining - giving another reason for a smaller number of finds appearing in that part of the site.

Indeed, the highest concentration of finds is visible in the southern intervallum area. This pattern is contrasted by a smaller concentration of finds in the northern intervallum. Since there are also no ovens in the northern intervallum, it might be that those, alongside the finds, suffered from ploughing (Hanson 2007: 182). If ovens were found in the northern intervallum, these as likely attractors of social activity, could suggest that the apparent pattern of smaller deposition of finds is real (i.e. through an increased cleaning regime), rather than obscured by the ploughing.

The ramparts were levelled, likely resulting in some displacement of the material originally deposited there. The ditches remained open for a prolonged time with demolition material thrown into the butt end south of the East Gate (Hanson 2007: 139), which is reflected in the intensified distribution of finds there. The finds from the ditches are not discussed because they have no value for addressing the research question. Finds from floor surfaces or from in between cobbles are unlikely to have moved after their original deposition. A proportion of those may have found their way in there during the construction process. Since the site was occupied for a short period of time the resurfacing of the roads was relatively rare in comparison with sites with long occupation, creating less opportunity for finds to be deposited in between of the road surfaces. This is reflected in the small total number of finds associated with road surfaces. Depositional processes may have differed not only from area to area, but also from one category of finds to another (Birley 2010: 120). There are limitations to how much we can estimate the effects of these factors. Vindolanda provides insight into how far pieces of discarded glass can be carried by the drainage system and how ovens can become a re-deposition place for finds trapped in floor bracken re-used as fuel (Birley 2010: 121).

The research design is to compare the distribution of finds from the use life context with the demolition pattern to judge how different the patterns were, and whether demolition resembles the use life distribution of finds. The idea was
prompted by most of the destruction material inside the base being deposited in pits within buildings, perhaps indicating that the material came from the nearby areas. The exercise was possible to carry out only in the case of some of the categories of finds (mainly pottery) due to small finds counts among many categories of finds. Overall, there were only 80 small finds associated with the use life of the site. While pits seem to have been cut locally, the wattle and daub panelling was mostly collected from the site and burnt in one place as opposed to in situ (Hanson 2007: 649). The exceptions include the west side of Barrack 1, where the walls were pushed inwards (more finds are actually visible there as compared to some other barracks), and Barrack 7 burnt in situ. The excavators observed a layer of sand, as if though this was to extinguish the fire (Hanson 2007: 649).

The excavation strategy had its impact for the recovery too (Figure 7.11). In the case of the areas exposed through machining only finds on the surface of the features were collected. Where foundation slots and pits were excavated down to the natural sub-soil, a higher concentration of finds can be observed. The best example is the East Gate, the area of which was excavated to a greater depth than that of the West Gate, as a result giving a false impression of a greater concentration of finds. The artefacts derived from the construction trenches do not correspond with the use life of the base and instead, are more likely to contain material lost or thrown-away during the construction of the base. Surfaces inside the buildings were exposed, and most of the pits at least cross-sectioned. However, the roads were only excavated in sections giving a false appearance of ‘hotspots’. As a consequence of the various factors affecting the deposition at Elginhaugh, particular attention was given when assigning finds to depositional categories (table 7.1). The finds from the period when the fort acted as an enclosure were deleted from the database as they did not pertain to the activity of the fort itself. The finds which come from disturbed contexts are classified separately as a very uncertain source of information. Because there was a fairly good amount of pottery, I could afford not to include courseware shreds from the topsoil, which would have been machined off and displaced.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Layers</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use life</td>
<td>• Road and floor surfaces, cobbled layers.</td>
<td>Although finds in drains reflect use life of sites as this is when the finds would have been dropped, they would have been moved by the water in the drains and therefore are not included in the distribution plots.</td>
</tr>
<tr>
<td></td>
<td>• Copper working areas from the fort use period.</td>
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<td></td>
<td>• Occupation layers as identified by the excavators.</td>
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<tr>
<td></td>
<td>• Material associated with the ramparts on the assumption that finds which are incorporated in the levelled defences would have been lost on the ramparts, before these were levelled.</td>
<td></td>
</tr>
<tr>
<td>Rubbish deposition</td>
<td>• Pit fills identified by excavators as rubbish/cess</td>
<td>Material dislocated from its original deposition location. In the case of small rubbish pits within and near buildings from the use life of the site, it is likely that the material was used in the vicinity of the pit.</td>
</tr>
<tr>
<td></td>
<td>• Rich in organic material fills of pits which otherwise do not feature demolition debris (daub, charcoal)</td>
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<td></td>
<td>• Areas of the ditch where leatherwork was found (on the assumption it was dumped there).</td>
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<td></td>
<td>• Ditches allowed to silt up during use life of the fort.</td>
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<td>• Drains</td>
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</table>
Demolition

- Layers the excavators identified as demolition in the excavation report.
- Pits cutting the construction trenches of buildings within the fort.
- Spreads with the same type of demolition material.
- Layers sealing drains and construction trenches.
- Finds from large general spread of demolition would possibly be swept into the larger pits.

The demolition layers are quite distinctive as they are in comparison with use life deposits much less sterile and usually with a high occurrence of charcoal, daub and burnt clay.

Disturbed

- Layers identified by excavators as disturbed.
- Large demolition spreads.

Analysed separately and compared against the plots with finds from secure context. This allows the opportunity to see how much the finds moved in the destruction process of the fort.

Table 7.1 Classification of contexts for the purpose of the finds distribution analysis.
Figure 7.11 Elginhaugh aerial photograph overlaid with an ArcGIS generated plan the extent of excavation (original aerial photo by RCAHMS). By Anna Walas.
7.3.2 Finds categories and their distribution

The analysis of finds aims to identify the hotspots of activity. I am studying only on the distribution of categories of finds which may relate to activities: armour weaponry, combat dress and jewellery are omitted since they are more informative for forms of identity (Allison 2013: 65-105). In any case, their recovered numbers are very small and they mostly represent destroyed objects from demolition contexts. This is not surprising since these were the items that the soldiers would certainly remove with them. I follow the finds volume of the site report for identification of individual finds (Hanson 2007), and Allison (2013) for association of finds with activities.

7.3.2.i Production activities

Construction

The two construction tools, one in the fort the other in the road in the annexe, are from demolition layers and most likely were thrown away when the fort was being demolished (2 BD 9AA; 1BC 1530 AN). The three woodworking tools (chisels 1AB 1313 AO; 1BB 1534 CW; 1BB 2430 ZZ) all come from demolition layer, and with evidence for structural timbers sawn off (Hanson 2007: 650) are likely to relate to the demolition activity. A similar situation is likely in the case of the two stone working tools (a drill and a mason’s wedge) from topsoil and a rubbish pit.

Unidentifiable tools

There are six finds of unidentifiable tools. Five are from topsoil or disturbed contexts and as such are not secure. The sixth one, from demolition above the fabrica, is quite plausibly associated with the activity taking place there (1AB1701AZ).
Sharpening

Three out of four of the whetstones came from disturbed layers; likely distorted by the plough (1AB1311AB; 1BC 1AX), or as in the case of 1AC 458AB from a post-hole of the North Gate, the find was clearly re-deposited. One complete whetstone comes from demolition above the centurion’s quarter in BK5. Whetstones are likely to be lost or deposited near to the spaces where they were used, as opposed to carried with people (Birley, 2010: 103). As such, it may perhaps be associated with the building (1AB5DV), but one find offers no conclusions.

Figure 7.12 Elginhaugh, the distribution of sharpening tools
Cutting

The cutting tools consist of 8 knives, out of which two from plough soil do not have a secure context (1AC207RY; 1AC606AG). The latter was so small it could be a medical instrument (Hanson 2007: 428), making it a shame that the find was disturbed. Three were associated with the metalworking area in the principia building (demolition: 1AC1427AA; use life: 1AC1404AI; 1AC1404AJ) and one in an area of metalworking activity north of West Gate (demolition: 2BD139AE). These clearly correspond with the area of activity identified during the excavation. Knives would have been likely kept in the soldiers’ accommodation. One find comes from the use life context from the surface of via sagularis and one from a demolition spread over BK9.

Figure 7.13 Elginhaugh, the distribution of cutting tools
Metalworking

The metalworking finds consist of 10 crucibles from the use life of the fort grouped together in the area of on metalworking by West Gate with a further ingot and a crucible from the disturbed context, but in close proximity. Because of the proximity, perhaps also the two crucibles from the demolition layers from pit 75 between the principia building and BK2 are related to the same activity area (1AC76AD; AS). The second visible area is the metalworking area in the principia building with two crucibles (1AC1404AF; AD).

Figure 7.14 Elginhaugh, the distribution of metalworking tools.
Textile working

The textile working tools consist of a group of two spindle whorls located in the centurion’s quarters (Barrack 12) from a demolition spread over the building (1BB1531AO; 1BB1531AD), and a single needle from a disturbed context near the granaries (1AB207AM). The two finds from Barrack 12 are particularly interesting as they were located within the centurion’s quarters, who at the time of the occupation of Elginhaugh would have been allowed to have families with them.

Figure 7.15 Elginhaugh, the distribution of textile working tools
7.3.2.ii Personal care and personal care/medical instruments

Although in total nine finds classified in the finds report as personal care or medical instruments (Hanson 2007: 409-13) with sufficient information about their location were recorded, their distribution presents no clear patterns. Only one pair of tweezers and a razor from the via sagularis are associated with a road surface and may relate to a loss (1AB2661AB: 1BB1534AM). The occurrence of two finds in the residence may relate to this being a higher status building, where more such instruments would have been owned and used (1AA 207 AQ; AR).

Figure 7.16 Elginhaugh, the distribution of personal care objects
7.3.2.iii Leisure

Only eight gaming counters were recovered from the site. Roughly a third of those derive from the residence’s courtyard (1AC1053AA; 1AC802BA; 1AC207HY), which seems to reflect a real activity area, with perhaps the commander or his family relaxing in the garden while playing games. The counters would have been easy to lose since the courtyard was not paved. The single finds from the street areas (1BB1534CA; 1AB920DV) is not enough to make any meaningful observation. The counter in the ditch obviously found its way there as rubbish or as part of the demolition processes (1AB1706BJ).

Figure 7.17 Elginhaugh, the distribution of leisure related artefacts
7.3.2.iv Security

Eight fragments of locks and keys were uncovered from site. These cluster in pairs in the residence (1BC 839 AA; 1AC207BB), barrack 5 (1AB1211BW; 1AB14AL) and barrack 1 (1AC606CB; 1AB1211BW), with one find from the drain near the principia building (1AC492ZZ). However, since finds travel through drains the location may be distorted.

Figure 7.18 Elginhaugh, the distribution of keys and locks
7.3.2.v Writing

There were only four writing related objects. A stylus without its location recorded (1BB1DX) and three inkwells either from a drain or disturbed context, with two found over barrack 6 (1 AB 1211; 1AB14AL) and one near the principia building (1AC492ZZ).

Figure 7.19 Elginhaugh, the distribution of writing tools
7.3.2.6 Food related activities

Food consumption and preparation would have been an important part of daily praxis for both the soldiers and the extended military community (Allison and Sterry 2015). Regardless of the material they were made of; pottery, glass and metal objects would presumably perform similar function and have been used alongside each other during food preparation and consumption activities. While the small find record at Elginhaugh is very poor, the record of pottery is richer and provides more dense distribution plots.

Unlike small finds, with hardly any functional group with a finds count of more than ten, the pottery was much more numerous. For this reason, I could afford to remove from the database the pottery likely to cause distortion of patterns due to the movement of finds in the soil. I removed all finds associated with topsoil and from later, post-Roman layers, out of the disturbed contexts leaving only disturbed demolition material in the plots. This was done in order to compare the distribution of stratified material with the material that is likely to have been subject to post-depositional movement. I divide the material relating to food into three categories as indicative of three activities to do with food storage, preparation and consumption of food and drink.

At the same time, because the terra sigillata count from stratified layers was much smaller than that of coarseware, I left the topsoil layers in the plots, but highlighted them with symbology as disturbed.

Food preparation

**Quernstones**

Grinding corn for the production of bread is a time consuming activity and as such, one can imagine it to be a very important feature of daily life in a military base. As a non-combat related activity, it is also possible, that this was not predominantly carried out by the soldiers, but perhaps by the servants. Unfortunately at Elginhaugh, the quernstones are not a secure category of material. Around 30% of the recorded fragments came from secondary metaling of roads within the base. As such they do not pertain to the activity of grinding corn. Instead, since querns need to be made of suitably hard material,
the stone fragments are ideal material to reuse to harden the surface of roads. An especially high concentration of fragments reused as metalling occurs in the south east corner of the via sagularis. Further 40% of fragments, including all big fragments and almost all complete examples, came from topsoil - as such they are unsuitable for plotting.

**Mortaria**

The highest concentration of mortaria is visible in: the south via sagularis; and the south east via sagularis. Southern via sagularis is an area with increased deposition of all types of pottery, so it is surprising to see that while mortaria appear in the south east via sagularis, they are not accompanied by tableware or storage vessels – perhaps indicating that the use of this side of the via sagularis differed somehow to the use of the rest of the southern part of the via sagularis. There is also a slight concentration near Barrack 3. This does not correspond with a slot cut through the area, and so may reflect a real concentration. A fourth concentration is visible by the East Gate, but as mentioned above, this is due to a slot cut through the area.

Elginhaugh somewhere in the vicinity of the fort hosted mortaria production. Several pottery kilns have been attested in the annexe and others are indicated by the geophysical survey. The fabric is different to the rest of the mortaria on site, the majority of which comes from the continent (Hanson 2007: 326-59).

The Elginhaugh-produced mortaria mostly concentrate in Building 8 and on either ends of Barrack 5. As such these mortaria represent a distinct pattern of distribution as compared to the pattern visible in the via sagularis. The concentration of Elginhaugh-produced mortaria most likely reflects storage, whereas the mixed assemblage of both local and continental mortaria is more likely to mark the areas where they were being used (or discarded).
Hanson (2007: 104-105) proposed that the layout of Building 8 is different from the rest of the barracks and suggested the building could have served as a store. With the results of the study of distribution of finds presented here, we can assign this function with much more certainty. It is also possible to specify that the building served to store locally-produced mortaria at some point during its functioning. The plot spreads outside of the building, but since the fragments come from disturbed demolition layer, the spread is most likely caused by plough. In general, very little of the building remained undisturbed. Also the distribution plot in Barrack 5 is interesting. Here Elginhaugh produced mortaria cluster in the area of centurion’s house and at the opposite end of the barrack. It looks as if though at least part of the building at some stage changed the function from hosting soldiers with their horses (the soakaways) to storage.
Tableware

**Coarse tableware**

As the number of shreds of different forms individually was quite low, they are all presented together. Higher deposition is visible in the southern via sagularis, and to a lesser extent, an increased deposition is visible in the northern via sagularis by Barrack 3. More tableware is deposited by centurion’s houses as compared to other areas within the barracks (barracks 12, 11, 5, 2). There is also a concentration in rubbish pits behind the residence. Perhaps significantly, there is no tableware in other roads than via sagularis.

![Figure 7.21 Elginhaugh, the distribution of coarse tableware](image)

**Decorated samian ware**
The decorated samian clusters around centurions’ house areas in Barracks 12, 11, 9, 1 and 2, especially from not disturbed contexts. Also, in Barracks 1, 7, 12 and Building 8 decorated samian ware appears on the opposite ends of the barrack block, perhaps where the duplicarii and sesquiplicarii would have been stationed. Also Barracks 1 and 2 contain more sherds than other barracks and there are none by Barrack 3. There is hardly any material of this category in the via sagularis, apart from an area with disturbed material by the South West interval tower. The concentration is not matched with concentrations of any other forms of tableware. There is also a rather high concentration visible in the annexe, most of this from disposal of rubbish, perhaps indicating that the rubbish from inside the fort was dumped in the annexe. The distribution of decorated samian ware is in contrast with the distribution of plain samian ware (see below).

Figure 7.22 Elginhaugh, the distribution of decorated samian ware
Plain samian ware

Plain samian ware is more widely distributed in the base as it appears in the via sagularis. Within the barracks, it tends to appear towards the centurions’ quarters (Barracks 1, 2, 12, 11, 9), the presumed accommodation of duplicarii and sesquiplicarii (Barracks 4,5,6,8,9) and in some of the middle contubernia. Other areas of concentration include the corner of the via sagularis by Barrack 3, the South West intervallum tower and in the context of rubbish pits, in association with the residence. There is again a large proportion of the material in the annex and associated with the rubbish deposition.

Figure 7.23 Elginhaugh. the distribution of plain samian ware
Glass and metal tableware (bowls, cups, flagons, beakers)

This concentrates mostly in the southern via sagularis west of the via praetoria and in the centurion's houses in Barracks 12, 9, 5 and in Building 8 and the suspected accommodation of duplicarii and sesquiplicarii (Barracks 4, 11, 12). There are very few fragments in the raetentura.

Glass bottles (possibly for storage rather than tableware)

In praetentura these appear more towards centurions' houses (Barracks 12, 11, 8 5) and in the southern via sagularis west of the via praetoria. There is also a higher concentration near the residence. In raetentura, there are fewer fragments - visible in Barracks 1 and 2 closer towards the centurion’s houses. There are several finds from near Barrack 3 and associated with the same location as the coarse tableware.

Figure 7.24 Elginhaugh, the distribution of non-ceramic tableware
Food storage

The storage vessels show somewhat similar pattern to the tableware’ with the difference that instead of clustering towards centurions’ houses, it appears to be spread more evenly in the barracks in the praetentura. Most of the material is deposited in the southern via sagularis west of the via principalis. In raetentura there is some concentration by the rubbish pits associated with centurions’ houses and in the area of the via sagularis by Barrack 3. The density of the plot is clearly affected by the omission of finds from topsoil.

Figure 7.25 Elginhaugh, the distribution of storage jars
7.3.3 The significance of the patterns of finds distribution

The discussion of the significance of the patterns of distribution of finds at Elginhaugh is limited by the small count of finds of each individual category. However, certain general observations can be made and these are helpful for understanding how different forms of activity and social status played out in the military base. Overall, the finds conform to the general understanding of how individual buildings could have been used based on their category.

The evidence for production activities is the strongest for metalworking. Hearths and metal working areas can be very ephemeral features: as they could be placed anywhere with open space, and quickly destroyed to extract the worked material (Birley 2010: 118). The two metalworking areas, one within the principia building and the other north of the West Gate indicate the flexibility with which open spaces could have been used. As indicated above for the case of the principia building, both its location, and the relatively high concentration of finds, compared with the average object deposition rate, may indicate that this activity dates to after the unit’s headquarters moved on from the site, but predating its destruction. Bearing in mind the high concentration of both metalworking and cutting equipment by the West Gate, and its proximity to the commander’s residence, this may also relate to such later period in the site’s occupation. Most of the cutting equipment can be associated with either of the metalworking areas. Further, there was only one tool recovered from the fabrica, which in comparison to the relative for Elginhaugh abundance of finds by the West Gate, would indicate that the fabrica was emptied out more thoroughly on removal, perhaps a little bit earlier than the postulated change of function to the principia building, for example when the main garrison moved on.

The occurrence of a knife and a whetstone from the surface of the via sagularis and a disturbed demolition layer is very weak evidence, but it may indicate that such activities were taking place in the southern via sagularis. No doubt, the handling of knives would preferably be done in areas with good lighting. The contubernia and the streets between arracks due to shadows cast by the barrack next door, would not have been ideal for this so it is perhaps
understandable that such objects were removed to places, where there was more light available.

With only two spindle whorls it is difficult to extrapolate much. However, perhaps their occurrence so closely together could indicate that either the activity of spinning or storage of related items occurred in Barrack 12. The presence of these objects, associated with the activities of women (Allison 2013: 93-4), is consistent with the centurion’s thought to bring along their wives along on campaigns.

The occurrence of three personal hygiene/medical implements in the via sagularis may also relate either to the availability of light or, to a greater chance of losing such objects when moving around the base. The higher presence of both this category of finds and gaming counters in the residence is perhaps explained by the higher financial capability of its residents, and possibly, the presence of the commander’s family undertaking leisure activities.

Three out of seven locks and keys came from the central range building and to this perhaps another one, located above Barrack 5 in a demolition layer spreading out from the granaries, can be added. The presence of guards is attested in the documentary record by all three of these buildings (Chapter 3), it is understandable that security could be augmented with provision of closed doors or storage. Similar official activity may be related to the inkwells, as it seems likely for the one recovered from the principia building. However the two from Barrack 6 may relate to the activities of soldiers, whom in a prestigious, cavalry unit we can expect to be literate.

The richest information about the social landscape of Elginhaugh is offered by the finds of food related objects. The most striking conclusion is that all categories of both tableware, storage and food preparation cluster in the southern via sagularis, and especially its part west of the via praetoria. The same is true of glass and metal vessels and for storage jars. One can imagine that for food preparation, smaller storage jars could be brought to the via sagularis to carry the flour/corn in it for making bread. The only intaglio from Elginhaugh comes from the oven rake out (1BC160AF). Similar context for
recovery of rings was recorded at Vindolanda, suggesting that men would take off their rings for preparation of bread and end up losing them (Dr. Andrew Birley 2014, pers. comm., 12 March).

The notable exception is the decorated samian ware, and to a lesser extent plain samian ware, which tend to concentrate around centurions’ houses. This may indicate that the soldiers would socialise and perhaps eat in groups in the intervallum. The officers were more likely to use the more expensive samian ware, chose to eat in their accommodation or perhaps accommodation of their peers or, their commander. Consistently across all of the categories of pottery, it is possible to notice some concentration in the centurions’ quarters. The increased presence of coarse tableware and storage jars in the centurions’ accommodation is also triggered by the provision of storage pits, which were not present in the ordinary contubernia – therefore increasing the finds count. However, the visible paucity of especially decorated samian ware from the via sagularis seems to indicate that the pattern of its higher deposition in the centurions’ quarters is not only related to the provision of pits, but reflects a difference in practice and social status. Both decorated and plain samian ware also appear on the opposite ends of the barrack blocks, where the duplicarii and sesquiplicarii may have lived. There is also a difference between the distribution of plain and decorated samian ware, with plain samian ware perhaps being more accessible, and so appearing in the contubernia and the via sagularis.

The contrast between northern and southern via sagularis, with the exception of the corner of via sagularis by Barrack 3, is difficult to interpret. The absence of ovens in the northern intervallum is interpreted by Hanson as a likely result of intense ploughing/truncation in that area, if so it is more than likely that the same is true for the finds. By contrast, the increased deposition in the southern via sagularis can be partially due to plough shadow. Part of it however, seems to be a real pattern with finds protected and preserved from plough in a pocket behind the rampart.

In terms of food preparation, the intensified deposition of fragments of Elginhaugh-produced mortaria in Building 8 and the ends of Barrack 5, is likely
to reflect the storage function of the buildings. The choice of Barrack 5 over another for storage seems to make sense, as the street in front of it was the narrowest, and perhaps as such most inconvenient for manoeuvring horses. The location of storage at either end of the block would also make sense from the point of view of transporting the mortaria. Accessed from wider roads (via principalis and sagularis), wider carts could be used with sufficient space to manoeuvre to turn back around. This would also be convenient for unloading. It is also interesting that, apart from the via sagularis, no other streets yielded much material indicating that they were kept clean and/or that no food consumption and preparation took place there. This seems reasonable since the via principalis lied atop Dere Street, which would have served for vehicular traffic.

The comparison of distribution of pottery between demolition and use life context in most cases was roughly similar, suggesting that the distribution of the material was not drastically altered by the demolition activities (with the exception of tools used for demolition). Further, it seems that the plough in the disturbed layers preserved some of the original distribution of finds. Indeed, recent studies suggest that on flat areas finds tend to circulate up and down in the plough soil, rather than spread (Haselgrove, Millett et al. 2007).

In terms of functions of the buildings, Barracks 3 and 4 have been suggested as housing higher status personnel; this is not evident in the distribution of finds (also of coins and jewellery). There are three possible explanations: that the building was not used for habitation or for higher status habitation, or, as it is preferred here, that the lack of finds actually reflects its higher status through the increased cleaning practices. For this we can recall P.Gen.Lat.1 recording the assignment of soldier’s to individual centurion’s service (repair work, cleaning of equipment). Another possibility is of course, that the area was too truncated to preserve finds.
7.4 Interpretation

This section draws together the presented data to interpret them in the context of the research questions of the thesis about the social use of space.

7.4.1. Character of the garrison

Elginhaugh was a way point located astride Dere Street and as such, important for movement control along the road. Elginhaugh’s far flung location, near a junction between the road leading from the Pentland Hills and the route further north to the terminus (Hanson 2007: 687), emphasise the site’s communication role; both as a destination, a point on an itinerary and an overnight shelter. With its cavalry, the base provided a quick reaction force and one can expect part of the garrison to have been routinely patrolling the roads. With the site overlooking a river, the via praetoria facing south and the presence of the bathhouse further down the slope, it is possible that there existed a landing platform for ships, which would bring supplies. The role of military bases located along the Danube and Rhine in the protection of supply traffic, with the example of Valkenburg (Erik Graafstal paper presented at RAC 2014) suggest the possible importance of the riverine route near Elginhaugh. If a landing platform existed, the cavalry could be deployed to follow transports along the river.

By comparison with the documentary evidence from Bu Njem, Dura-Europos and Vindolanda, it is very likely that a fair proportion of men would be on duty outside of the base, some overnight. Located atop Dere Street and at the back of the Agricolan conquests, the people must have been very much on the move with supplies and detachments going further north travelling through the site – which seems also to be suggested by the structure of the East Gate. As such, the social use of space and the cycles in the life of the community are likely to be largely affected by the seasons of campaign and resting. These are discussed in Chapter 4 with Elginhaugh as an example.
7.4.2. Movement and presence in the base

7.4.2.i On duty presence

A large proportion of the personnel’s activities would have been related to taking care of the horses. In the annexe, the plant remains indicate the presence of fodder for the horses and the finds of horse harness support the idea that horses would have been taken to pasture there (Hanson 2007: 566). One can suggest that the horses would have been led to the annexe during the day and brought back to their stables overnight, with perhaps servants or military personnel watching over them when in pasture. Care for the horses would also have included the removal of waste from the soakaways in the stables, which must have been done when the horses were outside of the stable. This would have been a time consuming and dirty job. With the evidence of open drains and the prevalent presence of horses, the base must have been a very smelly place. As such, how often the soakaways would have been cleaned would likely depend on the perception of the sufficient standard of cleanliness. The cleaning of the stables would need to have been carried out during daylight hours. The barracks would have certainly been important points of presence during duty time, whether cleaned by the cavalrymen themselves, or as it is likely, by their servants or slaves.

A second category of areas inside the base were the metalworking areas and the fabrica. While the metalworking in the open spaces seems to have taken place on a small scale, the fabrica would require more personnel. This long space (30 x 3m), would have been rather awkward to work in and so instead of one, perhaps multiple entrances or a semi-open front can be suggested. With the metalworking hearth by the West Gate taking roughly 10m², one can propose the existence of up to 7-8 work spaces in the building, since there also likely would have been some water tanks in the building.

The presence of pottery kilns in the annexe, and the geophysical signals suggesting further kilns in the surroundings of Elginhaugh, served for the local production of mortaria (Hanson 2007: 674). These were of low standard and instead of being produced for the market, served to compensate for the local lack of supplies with estimated 6-7 potters of suspected civilian origin involved in
the production (Hanson 2007: 359). Aside from the potters, also other men would have been presumably required for the preparation of the clay and to assist with the firing of pottery, some of such work could have been done by the soldiers.

By comparison with Bu Njem, the baths are another important area of social presence both during work time and leisure. Too little is known about the structure of the building to say more. The base would presumably been subject to upkeep practices like those elucidated in Chapter 3. Sweeping (scoparius in Chapter 3.3) can perhaps be inferred from the paucity of finds around Barracks 3 and 4, which may be a result of a more intensive cleaning regime. As suggested above, outside duties (patrolling, convoy of supplies) are likely to be a prominent activity taking place outside the base.

7.4.2.ii Guard presence and security

Unlike at Bu Njem, there are no written documents to help estimate the guard presence at Elginhaugh. With all examples of guard rosters suggesting the presence of guards at the gates (Chapter 3), it is pretty certain that there would have been a check point at the entry to Elginhaugh, especially since it lay atop Dere Street. The large and heavy door to the principia building, if not left open during the day would also require personnel to operate, and the complicated nature of the entrance to the residence would also make the presence of a doorman needed. Most of the locks recovered from the stratified material coincided with the central range. The smaller, 5-6cm large locks and keys are likely to be related to the safekeeping of personal possessions (the three copper alloy fragments 1AC 207bb; 2BC419CV; 1AB14Ac) and these come from the annexe, the praetorium courtyard and Barrack 5, consistent with their personal use. The larger, 8-9cm lever lock and key fragments may be suitable for the locking of doors (1AB1DC; 1AC402AG, 1AB1211BW; 1AC606CB) and these have been recovered from the layer above the granaries, the principia building, the residence and one from Barrack 1. Especially suitable for locking doors would have been the padlock recovered nearby the principia building (1AC492ZZ). This consisted of a U-shaped bar with an oval section projecting from a 6.5 x 4 cm box, with the total length of the object of 22cm (Hanson 2007: 428). Such large iron fragments of locks and keys indicate
restricted access. With the lack of suitable documents and architectural feature, one can only suppose that there would have been similar guard posts as those elucidated in Chapter 3: locations in the granaries, the residence and the principia building could potentially require such large padlocks. This also raises the questions about the practices and appropriate times that regulated the access to these three important buildings.

7.4.2.iii Mobility within the base

Although road surfaces rarely survived throughout the fort, there are patches where the roads were surprisingly well preserved. The knowledge of the whole fort road system alongside a series of features (i.e. wells, drystone walls, sheds, ovens and post-pits) allow mapping the type of movement each road afforded. Elginhaugh does not provide easily measurable paved roads and there is only one short section of wheel ruts attested in the East Gate (Hanson 2007: 180), not depicted on the plans. The plan has been coloured in depending on the width of the road (Figure 7.26) in relation to categories of road widths appropriate for different types of traffic discussed in the methodology section (Chapter 2) (Table 7.2).

<table>
<thead>
<tr>
<th>Road</th>
<th>Suggested width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Via Principalis</td>
<td>6.5m</td>
</tr>
<tr>
<td>Via Praetoria</td>
<td>5.5m</td>
</tr>
<tr>
<td>Via Decumana</td>
<td>6m</td>
</tr>
<tr>
<td>Via Quintana</td>
<td>3m (no metalling)</td>
</tr>
<tr>
<td>Via Sagularis</td>
<td>1.4-7m</td>
</tr>
<tr>
<td>The sides of principia</td>
<td>4m</td>
</tr>
<tr>
<td>Road by BK6</td>
<td>3.2m</td>
</tr>
</tbody>
</table>

Table 7.2 The widths of roads at Elginhaugh.

The two cobbled roads, one with a ‘hard shoulder’ behind the rampart bend, by the East Gate (section 7.2.7) and the sturdy construction of Dere Street indicate its capacity for simultaneous movement in different directions and perhaps queuing, loading or unloading of supplies by the East Gate - the direction of vehicles coming from the south. While there was variation in the width of the portals (with the east portal of the South Gate measuring 2.75m,
the equivalent distance of North Gate measuring 3.4m and the smallest portal being 1.9m wide, Hanson, 2007a: 146). Unsurprisingly for a military site, all gates were suitable for vehicular movement, most likely consisting of slow ox drawn carts. The business of the base is hinted at by the series of repairs to the West and East Gates and the resurfacing of the road in their vicinity (section 7.2.7).

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Figure 7.26 Elginhaugh. Internal roads according to the type of traffic possible (adapted from Hanson 2007a: fig.12.3)

The South Gate was located on a steep slope and as such, was not convenient for vehicular traffic, although it may have led to a landing site by the river. The annexe to the west of the base must have been useful for relieving the pressure on space within the perimeter itself, especially in regard to horses, which would have been one of the largest objects moving on the roads frequently. Leading all the horses out of the stables at the same time could potentially create disruptions. The arrangement of Barracks 5 and 6, with the narrower than usual
street, may have made it more difficult to manoeuvre the horses out of the stables. This may be why parts of the barrack seem to have been taken over for storage at some point (section 7.3.2). Some of the features on the road had no impact on mobility within the base, including two wells near the granaries (Hanson 2007: fig.4.6) and staircases leading to the interval towers. The staircases are inferred from one surviving elongated trench in front of ESE tower (Hanson 2007: 7.22). A free flow of movement was assured around the granaries.

However, in various places the via sagularis was reduced by structures encroaching on it and as a result it was not possible to drive a cart around the perimeter. To the south of the West Gate, the ascensus narrowed the road to 1.4m, to the north of the West Gate the oven 154 overlay the via sagularis effectively blocking it. Similarly, vehicular traffic is difficult to imagine in the passage in the south west corner of the base near the ovens (Figure 7.8). Right next to the ovens there was a dry stone (section 7.2.8) wall and an open gully directly behind the wall. The drainage gullies in the south perimeter were either wood lined or entirely open (Hanson 2007: 177-179). With only 1m between the gullies and the cesspit by Barrack 12, there was not sufficient space for vehicular movement, although it would still have been possible to lead a horse. The via quintana was not paved (Hanson 2007: 173) and its end was blocked by the three pits associated with the residence (Figure 7.5). This, as such, must have been a pedestrian area. With the poorly drained silty clays the site lied on (Hanson 2007: 5), the usability of open spaces would have been much diminished following heavy rain. The blockages around the western via sagularis indicate that in this area the street was in reality more akin to a series of interconnected functional spaces, rather than a road. Overall, vehicular traffic would have been very easy, which is to be expected of a military base.
7.4.2.iv Movement and visibility within the base

To systematise the ‘eyeballing’ of the plan I have created viewshed plots in ArcMap in order to examine how the community was segmented visually. For those living in the base, the experience of Elginhaugh would have been shaped through being within the base, rather than through looking at the 2D plan.

Visibility from the ramparts

Structurally, the fort defences point towards the aim of looking outwards. The gate structure projects to the front of the rampart (Hanson 2007: 141). While necessary for observation of enemies, the gates and interval and gate towers provided good observation points on the activity within the base (Figure 7.27). There were at least three observation points overlooking each stretch of the via sagularis, and one observation point looking onto each street between the barrack blocks with the exception of Barracks 5 & 6 and 6 & 7. The open spaces within the base in general coincided with the areas overlooked by the gates. Areas secluded from the ramparts are very scarce and correspond with the functional passageways around the commander’s house and the back of the principia. In the regard of ramparts, the application of viewsheds does not provide much beyond what can be seen from the plan.
Figure 7.27 Elginhaugh, visibility from the ramparts onto the base
(adapted from Hanson 2007a: fig.12.3).

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Visibility from between the streets

Perhaps more important in the context of Chapter 3, suggesting a grid of official points of presence within the base, is the visibility within the street. On touristic archaeological sites, usually one barrack block is reconstructed (e.g. South Shields, Caerleon) and so it is difficult to imagine how two of such buildings would visually work next to each other. Because the transverse streets in between the barracks were not intervisible, visually the fort community would have been broken up into smaller entities of the facing barracks. When between two barracks, it was not possible to see what was happening in between of other two accommodation blocks. Fifty metre long tunnel-like views from the streets between the barracks ended with restricted vistas. The set-up of the base with its short focused views compartmentalised the visual experience of the base. The praetentura and the raetentura were visually broken up (Figure 7.28). To be able to see the far end of the base from the via sagularis, one would have to stand in very specific points.

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Figure 7.28 Elginhaugh, visibility from the southern via sagularis onto the rest of the base (adapted from Hanson 2007a: fig.12.3).
When between the barracks, one could not see who was approaching, unless the person was already in front. This created an unequal balance of power and allowed for better visual control on the part of those passing down Dere Street or those on the via sagularis. A journey along the via principalis provided a commanding view on the activity within the base, production and storage areas, ovens and the activity between the barracks in the praetentura. The via principalis connected buildings in the central range we can expect that administrative staff and junior officers would often pass through there as they went about their daily business. As such, the figures of authority, whether passing by or performing the role of circitores (Chapter 3), could supervise the activity in the front of the base.

7.4.3. Spaces of social inclusion and spaces of social exclusion

This section interprets the spaces according to whether they were inclusive spaces open to large number of people, or exclusive places, where access was restricted and/or open to the majority of the garrison only at specific times or in specific context.

7.4.3.i Spaces of social inclusion

The courtyard and the basilica of the principia building

Much of the discussion of the principia building at Elginhaugh overlaps with the discussion of its equivalent at Bu Njem, since the buildings are very similar. However, in the case of Elginhaugh it is quite clearly visible that the principia building was not really a place to move through, but a place to gather. The northern walkway was very narrow, 1m wide and with the average with of male shoulders between 50 - 65cm (Samaras 2007: 26), suitable only for one person to walk at a time. In its north east corner it was practically blocked by roof support 542. The tribunal, most likely an original feature, also blocked the ambulatory. On the opposite site, if the patch of clay was a ground for a raised feature, this passage would have been blocked too. The additions of supports to the roof diminished the usability of the walkway for pedestrian circulation also in both of its corners on the south side. The provision of the walkway on the northern side of the courtyard seems to be more symbolic than utilitarian, possibly to demarcate clearly that the basilica was a separate functional space.
The building has two large gathering places. The basilica was probably the more important one of them. Its focal point was the tribunal, and one finds it surprising to see a repair post in front of it some 6m away, effectively blocking the sight line between the commander and the soldiers gathered in the basilica. Excluding the area of the tribunal, the basilica would have been able to hold around 350-400 men (20m x 5m with 0.5m² per person). Its size would be too small to hold the whole of the unit, if it was a mixed cavalry and infantry unit.

The second area for large gatherings would have been the courtyard, at 160m² of space this would have been suitable for a gathering of between 500-550 men, depending if the well was an original feature. There is no surviving evidence for an altar and therefore a ceremonial function of this space can only be speculated about.

The two ritual deposits shed light onto at least two occasions, during which the whole garrison likely gathered. The foundation deposit in the construction trench of the building must have been offered at the beginning of the construction process. As such, it is reminiscent of the circumstances in which the praepositus at Bu Njem promised to set up the statue to the genius gholensis. The contrast between the care taken in the emptying of the sacellum, and the careless treatment of the hoard, disturbed in situ (Hanson 2007: 268) may suggest that the hoard was either forgotten about and accidentally cut through, or that the party demolishing the garrison was different to that building it and was not aware of the hoard. This fits well with Hanson’s (2007: 660) suggestion that adjustments to the accommodation may relate to either a change of the garrison. If the unit indeed changed, the second ritual deposit in the corner of the courtyard (therefore placed after the building was constructed) may relate to a ceremony marking the arrival of a new unit. This deposit was not disturbed during the demolition of the base. The occasions on which both of the deposits were made were likely garrison-wide communal celebrations.
The commander’s presence would have been articulated in a similar way to that at Bu Njem, although Elginhaugh provided less clear evidence. The tribunal is on the opposite side, but the gap in the construction trench of office E suggests a similar flexibility in how public the movement of the commander entering the building was.

The commander could enter publically through the courtyard, presumably walking in between of the men lined to make space for their commander to pass. On the one hand, thanks to the very short distance between room E and the tribunal, the commander also could make a more unexpected appearance and perhaps prepare for his adlocutio in Room E. With the passage of Tacitus (Hist.III.10) discussed in Chapter 6, which provides evidence for the presence of commander’s bodyguards by the tribunal, the provision of a back entrance may also have been for the reasons of safety; with a short distance to walk and the commander’s bodyguards close by.

A standard feature to all principia buildings is a straight linear vista extending from the entrance to the building, through the walkway and the basilica onto the sacellum (Hanson 2007: 41). If the portal was provided with a wooden doorway, each wing would be 1.5m wide and very heavy, which suggests that it either remained open throughout the day, or that the door was manned when access was required. The provision of guards by the gate to the principia building seems to be reasonably certain based on the documentary material reviewed in Chapter 3.

The bathhouse

This building, situated at the extension of the via praetoria, was quite likely a very important social space. However, the lack of excavation does not allow further comments.

The via sagularis
While it is questionable whether the idea of a communal meal existed in the Roman era (Allison and Sterry 2015), the via sagularis near the ovens would have been a place to gather at least in the context of meal preparation. The finds distribution indicates increased deposition of tableware and storage vessels. In terms of actual consumption, depending on the time of the year, the temperature may have been too low to eat outside with the members of the contubernia and the people associated with them returning to the heated barracks for meal consumption. The proximity of drainage gullies with sewage and a cesspit from latrine in Barrack 11 in the direct proximity to the meal preparation areas indicate a very different standard of what people were used to.

The via sagularis, as the widest open space, also provided daylight, which depending on the time of the day would have been limited in the areas between the barracks and in the contubernia. As such, the finds of sharpening and cutting equipment as well as personal care objects may relate to looking for suitably lit areas to perform the activities.

7.4.3.ii Spaces of social exclusion

The commanding officer’s residence and the centurion’s houses

The area of the residence was a social space very likely available only to those at the top end of the military society. The courtyard gave seclusion and light with increasing levels of privacy the further one ventured inside the house. The provision of triple doorways is a strong indication for restricted access with perhaps the presence of guards or doormen in the corridor area. The entranceway itself was a reminder of how strongly hierarchised the society of the unit was with its size equivalent to that of a living quarter for the men (contubernium). If the doors to the residence were to be open in the traditional fashion of the patron relationships (Wallace-Hadrill 1994) the hedge in the middle of the courtyard would block the line of sight from the outside into the heart of the building. The activity of game playing, likely taking place either in the courtyard or in the nearby rooms would have been invisible from the exterior of the building. This suggests a form of control over the social exposure of the commanding officer’s family.
7.5. Conclusion

Elginhaugh was a short-lived military base supporting a military campaign in Scotland. As the comparison with Castledykes suggests, it was purposefully laid out astride Dere Street to control movement along the road. With the site overlooking a river in the valley, it is reasonable to suggest a landing site for ships in the vicinity of the base. With a garrison consisting of cavalry, the majority of the activity of the base would presumably have been to do with patrolling, providing logistic support or protection of travelling supplies. The archaeological evidence of the West and East Gateways indicated that the base was used to accommodate to large wagons, and the remains of two paved ‘hard shoulders’ immediately outside of the East Gate, coinciding with the direction coming in from the south suggest that the base at times could be a busy hub with both people, bulk good and animals moving through. Elginhaugh, in that sense, was a destination point and a place of safety. The cycles of campaign season and of winter elucidated in Chapter 4 were likely to influence both the social landscape of the base (i.e. number of personnel, the atmosphere in the base) and its practical functioning.

At the heart of the base the principia building, although in design largely standard, betrays its provisional nature. With the narrow spacing between the colonnade and the southern edge of the basilica the walkway would have been difficult to move through. Some original features of the building also blocked the passage, most notably the tribunal. With the appearance of roof supports aiming to maintain the usability of the building at least until the unit can move further on, the principia building likely progressively became more and more limited in terms of movement within it, but maintained its most important function as a gathering place.

Similarly to Bu Njem, occasions in the principia courtyard and the basilica (two of which seem to have been marked through ritual deposition) provided an opportunity for the garrison to gather and be physically present all in one space. The unit’s administrative and religious focus seems to have moved on from Elginhaugh and been disassociated with the courtyard building before the base itself was decommissioned. This seems to be suggested by the presence
of the metalworking area in the corner of the courtyard, which otherwise does not readily fit with the perception of the official and religious nature of the principia spaces. The time window may have been very short, between several months to perhaps a year, and as such very difficult to detect archaeologically.

There was no communal large organised space for the soldiers. The most informal social space for gathering seems to have been the via sagularis and the bathhouse, situated outside the perimeter. The finds distribution suggested the importance of the south west via sagularis for meal preparation, and perhaps also seasonally in warmer months and on dry days, consumption. The occurrence of tableware may partially relate to the via sagularis being an area where breakage was more likely to occur and which due to the presence of drainage gullies, cess pits and the bone and charcoal debris surrounding the ovens, was not swept frequently. The south west via sagularis seems not to have been an area for vehicular movement, which may relate to the finds relating to categories of activities needing daylight (i.e. repair of equipment, hair grooming). The GIS generated visibility study suggested also that even within the streets of the base, the community of the garrison would have been visually fragmented with no intervisibility between barrack spaces.

In comparison to Bu Njem, there was also a limited provision of exclusive spaces, not available to the entire garrison. As alluded to in the context of Bu Njem, outside of official celebrations the access to the principia building may have been restricted to those working within it. The elaborated doorway and the provision of a hedge directly on the line of visibility from the outside in the commanding officer’s residence suggested a desire for seclusion. The presence of spinning equipment in one of the centurion’s houses perhaps indicates the likely presence of women associated with the officers at Elginhaugh. Elsewhere, their presence on site is attested in the finds of female and children’s leather shoes in the rubbish layers in the ditches (Hanson 2007: 472). The unique aspect of Bu Njem - its ostraca and stone built architecture are not present at Elginhaugh. This leaves us with no evidence for the practices of official presence and movement discussed in Chapter 3. A faint echo of differentiated hierarchies of access and the provision of security seems to come
through the distribution of locks and keys, with the majority of the iron examples, suitable for securing doors coming from the central range.

The practice of discipline within the camp, which as Chapter 3 indicated was performed mostly through the provision of sentries and patrols moving around the base, leaves no archaeological record. It is however, likely that the practices elucidated in Chapter 3 and signposted in the architecture of Bu Njem through the provision of benches would have taken place at Elginhaugh too. Elements of the power dynamics between the moving patrols and the soldiers may be inferred from the visibility study of the movement along the via principalis. This indicates that the officers and administrative staff moving between the buildings in the central range, or the patrols of circitores, would have a commanding view on most of the praetentura of the base.

The analysis of the distribution of finds proved to be more fruitful than originally expected and suggested that the demolition process did not distort the use life patterns of deposition enough to prevent from making meaningful conclusions. Because of the lack of masonry elements as markers of types of movement (e.g. wheel ruts, kerbs), the analysis of the road network at Elginhaugh was very restricted. Further, it seems that because military roads are meant to be functional and as such wide. This suggests that some of the recent developments in the study of urbanism in Italy will not be easily applicable to datasets from the northern frontier.
Chapter 8
Conclusion: Roman Military Bases as Social Spaces

The aim of this thesis has been to examine a range of archaeological, literary, sub-literary and epigraphic data to pursue the question of how Roman military bases of Early and High Empire functioned as lived, social spaces. This thesis has primarily been concerned with the interiors of the military bases and mostly with the experience of the soldiers. The bases, by no means were only occupied by soldiers and they were also not the only spaces in which the soldiers were present and through which they moved. Nevertheless, it is those spaces that are the basic foundation for exploring the social experience of the Roman army. Similarly, the soldiers formed the primary groups filling those spaces with social interactions.

To aid the process of summarising the many issues that have been raised by the discussion presented in this thesis and arising from both the textual and archaeological evidence, we can return to the questions asked in Chapter 1. The thesis began by defining what is deemed as ‘social use of space’, as one would think that any space used by a group of people is a social space. The premise of the thesis was to recognise that the architecture and the spatial conformation of a military base was not a passive backdrop for human interaction, but instead an active constituent part of the socio-spatio-temporal continuum. The thesis traced how military societies utilised the spaces within their military bases to construct and maintain social behaviours and cultural concepts and how in turn, through repetition, these concepts underpinned the daily praxis of garrisons within their castra. However, the spaces of Roman military bases were structured not only socially, but also temporally, both by the institution of the army and the community living within its bounds.
For these reasons, as the key concepts of the thesis, I chose the presence and movement understood as social practice; time understood as a socially constructed phenomenon and an element giving rhythm to activity within the base; and social networks, stratification and hierarchy as vital elements of the social experience of a given place. Throughout the chapters, the analysis of the evidence aided by the three concepts revealed that the practices had deeper meaning, and so it was possible to discern: normative and disciplinary socio-spatial practices; ideological and hierarchical socio-spatial practices; religious socio-spatial practices; and infrastructural socio-spatial practices. These forms of socio-spatial practices encapsulated cultural concepts, social relationships and the proper spatial and temporal settings for those.

Each of the individual chapters had a conclusion that related the discussion to the argument up to that point. This chapter draws together my conclusions and answers to research questions by providing an overall summary of these common themes arising from different chapters and outlining the importance of the observations.

Chapter 3 articulated spatial concepts by turning to military documentation. The data presented in the chapter allowed outlining the three criteria for defining types of movement within military bases; on-duty movement, off-duty movement and unauthorised practice. Chapter 3 addressed the question of finding the ‘whos’ and the ‘wheres’ of a military base.

Military documents have traditionally been studied for their potential to elucidate the strength of the units and it is somewhat surprising that the basics of the assignment of soldiers that they offer, have not been correlated with the physical plans of military bases. The groups of documents from Vindolanda, Bu Njem, Cyrenaica, Mons Claudianus and Dura-Europos provided a basis for distinguishing a series of categories of tasks the milites caligati were deployed to. I divided those into the upkeep of the base, manual labour inside the base, manning watches and guard duties, manual labour outside the base and policing outside the camp.
Across the documents the tasks forming each category of assignments did not change much. The basic set of facilities within the base was universal to all military installations and so duties related to their upkeep presumably would have been too - regardless of the geographical location, whether it was stabling the horses at Elginhaugh or camels at Bu Njem. The benefit of the documents is that they allow to partially reconstruct the likely numbers of men involved in the task and their organisation. Instead of seeing geographical differences, it seems that the differences were context specific. The evidence from Vindolanda suggests a specialised focus on the production and extraction of resources in the vicinity of the site. Instead, Dura as a garrison located within a city seems to have been primarily busy with policing both the base and the city. However, as has been noted in Chapter 3, these differences may also arise from the partial preservation of the data.

These sorts of mundane activities in reality probably occupied most of the day-to-day time of the ordinary soldiers. As P.Gen.Lat.1 indicated that with a limited pool of tasks the assignments repeated quite frequently. Such repetition was the basis of the daily praxis of the units, especially for ordinary soldiers, who were the primary agents in the military spaces. The locations where these were carried out, people with whom they were carried out and the conditions of supervision, defined how the men experienced their service in the army. A sense of how little is known about the structuring principles behind the daily praxis in the Roman army is underlined by our lack of knowledge when during the day the duties would have been taken up and left aside for the day. My suggestion is that natural rhythms of the day and night defined those.

However, one of the most significant issues to be taken from Chapter 3 was the recognition that the patterns in official movement and presence had deeper, ideological, hierarchical and disciplinary meanings. Later in Chapter 4 the same array of meanings was found in the construction of socially regulated time. These types of meanings also surfaced again in the analysis of case study archaeological sites.
8.1 Hierarchical, inclusive and exclusive socio-spatial practices

Within the base the tasks of many milites gregarii were fixed in a location and many were physically tiresome. The image obtained from the documents suggests that most milites gregarii did not work within the central range. Their situation seems to have been in contrast with that of the immunes, as seen in the roster of Legio III Cyrenaica. This is also very visible at Vindolanda, with most milites gregarii assigned to construction or production activities and the centurions largely on assignments outside the base. Presence in the central range is likely to have depended on the rank/military hierarchy, specialisation and skills (writing). Both the evidence from Bu Njem and the roster of Legio III Cyrenaica suggests that the immunes were more likely to work either in the central range or to be on the move in and around the base. As such they had easier access to social networks formed of higher ranking personnel, which were less accessible to the ordinary soldiers.

As the letters of Apollinarius indicated (P.Mich VIII 465 and 466), a promotion within a military hierarchy could potentially completely alter the areas in which one would be present on day-to-day basis; from quarries to offices. Presence within the administrative core of a unit naturally also provided an opportunity for social exposure. In this sense space and social standing went hand in hand for Apollinarius. In the discussion of Chapter 3 this example, among others, allowed making associations between tasks considered as demeaning for the soldiers and locations within the base associated with them.

A very good glimpse into how places and presence within them were tied to the display of one’s social standing within the military hierarchy proved to be the duty ad signum. At Dura, the majority of men carried a military title, implying that they were immunes. The guard provided an opportunity for social display within what was a very competitive professional community.

The socio-spatial differences represented by the assignments of duties were part of a much larger landscape. The military base as a socially dense environment, necessitated that even though places would have been very
close in physical terms, it was the social distance that made them far apart. This was also true outside of the realm of official assignments of the men on rosters.

This is best visible at the top of the military hierarchy with the commanding officer and his household. Within the civilian Roman society, the senators expected large social exposure often surrounded by their clients, escorted by them to the forum and having the doors to their residence, if only proverbially, open. Elements of this are also visible in the commanding officer’s presence and movements were staged within the military base. The commander made a point to be seen by his soldiers, which was crucial for the morale and unit bonding. At both case study sites the commanding officer’s house and the principia building constituted a connected complex. The case study of Bu Njem provided a good insight into how the presence and movements of the commander were articulated within the space of the principia building, as both the commander addressing his soldiers and the main priest performing sacrifices by the altar.

At the same time the provision of back passages connecting the residence and the principia building and the literary evidence suggesting the presence of bodyguards accompanying the commander in public, indicate that as a Figure of authority the commander would moderate his presence, from overt display to withdrawal from the public eye. This is very well seen in the control of access to the residence at Elginhaugh. With a triple double doorway access to the commander’s residence and family was modulated by several levels of accessibility, especially, if as Hanson argued, the frontal range of the rooms was accessible from the central passageway. The likely provision of a hedge would provide a further visual barrier preventing the outsiders from looking inside the house.

The case study sites of Bu Njem and Elginhaugh also gave us a glimpse into flexibility as to what was considered appropriate space for such highly hierarchically structured interactions. While at Elginhaugh the praetorium building allowed for sufficient space and setting for hosting the morning salutatio, at Bu Njem the very small size of the quarters precluded such a
possibility also indicating that the salutatio was more likely to take place within the principia building.

Spatial practices underlying hierarchical and social differences on the level of officers within the unit came to the fore in the analysis of the finds distribution at Elginhaugh. The distribution of samian ware further pointed towards the centurion’s houses as potentially a category of socially exclusive space as indicated through the differentiated deposition of decorated samian ware, as opposed to the more common, plain forms. This suggested that officers likely ate their meals separately from the ordinary soldiers. In the case of the households of the commanders or the officers, a position higher up the hierarchy may not have implied freedom of movement. For example, very likely high status women like Sulpicia Lepidina, in real terms faced more restrictions on movement than other women, such as the Vindonissa’s innkeeper Belica.

At the same time there were also areas of the base likely to have been frequented by the vast majority of both military personnel and the dependants at one point or the other, such as the baths, the central range or the areas around gateways leading onto the extramural settlement. A military base would have been thus an array of interconnected networks with people overlapping between them. Bu Njem and Elginhaugh highlighted that such potential spaces of social inclusion would have likely been the baths and the open areas of the via sagularis.

The bathhouse at Bu Njem with its rich collection of graffiti, inscribed unofficially by the soldiers, and formal inscriptions dedicated by the commander is a prime example of such socially inclusive space. The space was used by the ordinary soldiers to place their mark in a far flung desert outpost by scratching their name on the walls. Through the medium of the inscriptions, also the commanders sought social exposure in the main circulation space of the baths, in what was probably the most vigorous social space of the base. In practical terms the significance of the bathhouse as a social hot-spot is understandable in a garrison situated in the Sahara. If the palestra for exercise was located next door to the bathhouse, the area would have been also a hot spot for activity.
The evidence of the via sagularis at Elginhaugh is more difficult to interpret as the increased social presence in there is inferred from the distribution of finds, which may have been influenced by post depositional processes. The finds distribution suggested the importance of SW via sagularis for meal preparation and perhaps also seasonally in warmer months and on dry days, consumption. The occurrence of tableware may partially relate to via sagularis being an area where breakage was more likely and which due to the presence of drainage gullies, cess pits and the bone and charcoal debris surrounding the ovens, was not swept frequently. The SW via sagularis seems not to have been an area for vehicular movement which may relate to the finds relating to categories of activities needing daylight (i.e. repair of equipment, hair grooming). The GIS generated visibility study suggested also that even within the streets of the base, the community of the garrison would have been visually fragmented with no intervisibility between barrack spaces. This indicates that even within spaces where the members of the community likely gathered for meal preparation, it would be difficult for the soldiers and their dependants to fully appreciate the size of their community.

8.2 Disciplinary and normative socio-spatial and temporal practices

Second important theme in this study has been the way military bases as institutionalised complexes created regularised disciplined environment. This occurred both through the practices of movement, but also through the way time and repetitive routines regulated the activities and whereabouts of the soldiers. Chapter 3 investigated in details the practices related to the distribution of guards and the policing of soldiers while they were in camp.

The provision of guards created a set of points of presence within a military base. Chapter 3 analysed the documentary data and proposed which locations were likely to be universal points of presence across different military bases and highlighted the increased necessity for guards’ presence at Dura-Europos as a garrison stationed within a city. With the example of Bu Njem it
was possible to suggest that the provision of some of the benches on the site coincided with sentry posts.

The movement of circitores performed a policing role on the soldiers. As a by-product, discipline-induced movement filled the base with predictable patterns and assigned rhythm to places and tasks. Chapter 3 illustrated how soldiers developed a dependency on the systems, which in the first place were implemented to control their behaviour.

The control over soldiers was expressed through the control over their bodies in space. Through daily record keeping at the principia, the documentation of soldiers leave and practices requiring for the men to be present at a particular time in a particular place –such as the Vindolanda’s renuntio - the institution of the army left a lasting mark on the men. The dominant role of functioning for a soldier is that of a part in a larger system, outside of which the men in Tacitus’ story were left not knowing what to do.

When the men were inside the base, it was a duty of the commander to contain the soldiers in the camp (milites in castris continere Dig. Xlix 16,12 ). Centurions’ housing is an example of socially aimed design with a strategy of control at its heart. James notes that the houses were always placed at the far ends of the barrack blocks forming a circle around the perimeter of the base. James suggested that one of the reasons for this was very likely to prevent desertion (James 2011, 171). Justinian’s code indeed stipulates specific punishment for soldiers attempting to desert the base over its ramparts or jump the fosse (Justinian and Watson 1998, 410). The centurions’ houses were also strategically connected with the headquarters’ building. One would need to walk in between two facing barracks to get to the headquarters building with control over the barracks exerted at all times as a by-product of this movement. As the centurions could reasonably be expected to be seen in and around their houses, they could casually retain visual control over the area with their presence not necessarily being oppressive. Since their houses were dispersed, the centurions could not control their relation as a group without controlling their subordinates in the barracks, which was organisationally their main function. On the other hand, there were no visibility lines between any two
pairs of barracks. The visibility study of Elginhaugh indicated that there was also an inherent element of surprise for the soldiers present in between of two barrack blocks as to whom and when they could expect to see someone walk down the Via Principalis, which at its various points offered unobstructed views on the spaces in between of facing barracks.

Apart from giving the rhythm to communal living and engraining military lifestyle into the soldiers, the repetitive cycles of days filled with tasks, routines and checks also provided the soldiers with boundaries that helped keeping them under control. As Haynes (2015: 118) observes, structured, repetitive routines served to keep men occupied and directed and as a prevention method against disobedience in what was a large, armed community. As we have seen in theory soldiers had no time they could truly call their own (Cicero Leg. II 29), minimising the time and energy the soldiers had to conspire and rebel (Vegetius 3.2).

8.3 Religious socio-spatial and temporal practices

The third type of socio-spatial practice revealed by the three key concepts of the thesis is that of religious nature. In Chapter 4 we have seen how the structuring principles behind time in the Roman army can be looked for in macro-cycles of the year and the seasons and micro-cycles of watches and diurnal cycles, but above all, the official versions of time set by the commander and the institution of the army (e.g. rhythms of daily duties).

Chapters 6-7 provided evidence for religious spatial practices within and in the immediate surroundings of military bases. Among these good examples are the two temples at Bu Njem with a curia layout. With a small capacity, and what seems to have been a purposeful differentiation between the members of the gathering in terms of the visibility on the Figures in the shrine. The ritual activity in the principia building gave an opportunity for the garrison to come together and as the data show, the space accommodated well to theatrical religious performances. The coming together in the principia building was possibly the only occasion on which the garrison had a chance to be physically in one space inside the base, with the exception of training outside the perimeter, thus
allowing for the soldiers to witness the physical size of their community, especially if some men were usually scattered in the outposts. The coming together in the principia building however happened exclusively under the auspices of the institution and with a strong ideological message underlying it as witnessed in the increased visibility of the sacellum.

Bu Njem provides also evidence for a range of exclusive ritual practices, which only a small number of people would have access to. The manipulation of visibility onto the sacred statues in the already very small and closed spaces of the temples of Genius Gholensis and of Mars Cannaphar, indicates that their assemblies were very small and hierarchically stratified. The presence of six temples in total, some of which seem to have been designed for far more inclusive rituals, is not unusual for the military context and indicates that Bu Njem, was a religious centre for the soldiers, the traders and the civilians living in the extramural settlement.

In contrast, at Elginhaugh, the base the principia building, although in design largely standard, betrays its provisional nature. With the narrow spacing between the colonnade and the southern edge of the basilica the walkway would have been difficult to move through. Some original features of the building blocked the passage too, most notably the tribunal. With the appearance of roof supports aiming to maintain the usability of the building at least until the unit can move further on, the principia likely progressively became more and more limited in terms of movement within it, but maintained its most important function as a place to gather.

Similarly to Bu Njem, occasions in the principia courtyard and the basilica provided an opportunity for the garrison to gather and be physically present all in one space. The unit’s administrative and religious focus seems to have moved on from Elginhaugh and been disassociated with the courtyard building before the base itself was decommissioned. This seems to be suggested by the presence of the metalworking area in the corner of the courtyard, which otherwise does not readily fit with the perception of the official and religious nature of the principia spaces. The time window may have been very short,
between several months to perhaps a year, and as such very difficult to detect archaeologically.

8.4 Directions for further study

The contribution made by the thesis was to recognise that the architecture and the spatial conformation of a military base were not passive backdrops for human interaction, but instead active constituent parts of a socio-spatio-temporal continuum. The thesis traced how military societies utilised the spaces within their military bases to construct and maintain social behaviours and cultural concepts and how in turn, through repetition, these concepts underpinned the daily praxis of garrisons within their castra. The thesis also contributes to the field by presenting time as an important social construct and pointing towards the repetition embedded in the micro and macro cycles of activity as important factors in the creation and maintenance of social meanings attached to appropriate spaces. The thesis has also revisited two archaeological sites and shed new light on the interpretation of the sites of Bu Njem and Elginhaugh and placed them within a contemporary theoretical framework. Such analysis, primarily addressing the spatial underpinning of relations within the military communities in the Early and High Empire has not been attempted as a primary research agenda incorporating both documentary and archaeological evidence. The lack of such studies has been recognised as a significant gap (James and Millett 2001, Gardner 2007).

The most natural trajectory to build up on this study would be to apply the approach to plans of legionary bases. These are much bigger and more complex than the auxiliary examples and so could potentially offer interesting insights. However, at present the plans of legionary bases are much less understood than the plans of auxiliary bases and so choosing appropriate case study could prove difficult. As work of Prof. Allison (2013) on the finds assemblage from Vetera I indicated, even partial legionary datasets can lead to useful conclusions. A suggested case study for the application of methodology developed in this thesis could be the legionary base at Carnuntum, due to the long history of research, relatively well known plan and with the archaeology in places standing above the ground level.
A second possibility would be to apply the methodology and approach developed in this thesis to the context of Roman imperial quarries at Mons Claudianus (Bingen 1997) and Mons Porphyritis (Maxfield and Peacock 1999). The site of Mons Claudianus offers a rich archive of ostraca, including private letters, lists and rosters. Both sites have been excavated using modern excavation techniques and at sites some of the original archaeology was discovered still standing above the ground level. Above all, as imperial quarries, the sites consist both of a garrison and an attached village, thus providing potentially complex case studies. The spatial setting of the two complexes, situated in an elevated areas with the evidence f watch towers, could also offer interesting observations in terms of visibility studies. The complexes, furthermore, have been studies from the point of view of the economics of production (Maxfield 2001), but so far not with the agenda of investigating the use of social space.
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