

A comparative study of Caerleon Legionary Fortress and South Shields Auxiliary Fort between AD c.150 and c. 250.

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Abstract

Few Roman military studies have been concerned with comparing life, and the activities taking place within, different fortresses and forts; despite evidence of variation between sites (Birley 1976: 271, Baker 2004: 61). This dissertation compares and examines, through the use of dimensional data and plans, the adornment of the *principiae* and Caerleon *thermae*, and the activities taking place within them. Many ideas about the function of *principiae* are open to conjecture, being based only on Roman texts and a small number of excavations (Bidwell 2007: 72, Johnson 1983: 111). This study also compares small finds data from each site, and employs the use of functional groupings to analyse this statistically in order to make interpretations about past activity. The results indicate that, perhaps, no two Roman military sites functioned in quite the same way; evidence of the regulation of civilian entrance and heavier patrolling of the ramparts was found at Caerleon, and a distinct absence of items associated with females was found at South Shields. In addition, the barrack blocks were compared and the results illustrate the key organisational role and high status of the legionary centurion. Furthermore, it is supposed that Caerleon *thermae* would have looked similar to the interior of present day York Minster. Overall, the results of this dissertation indicate that in order to better understand life, and the activities taking place within Roman military sites, they need to be studied individually and compared with one another.

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1: Introduction

This dissertation aims to compare daily life and the different activities taking place inside Caerleon legionary fortress, and South Shields auxiliary fort, between AD c.150 and c.250. In the past, the study of Roman military sites has been largely focussed on the Roman army (Webster 1969), Frontiers (Breeze & Dobson 1976, Birley 1961), specific artefacts (Bishop & Coulston 2006), processes of conquest (Millet 1990: 40-65) and establishing site plans. In most cases, archaeologists only started to examine life within Roman fortresses and forts after the discovery of the Vindolanda writing tablets in 1973 (Bowman & Thomas 1983, Bowman 1994, Birley 2002). In addition, despite the large amount of work on these sites, there have been very few studies, if any, that have attempted to compare what activities were going on inside different fortresses and forts. This seems odd, as it is likely that no two Roman military garrisons functioned in quite the same way. In fact, it is probable that many decisions about accommodation, security, routine and healthcare were down to the personal decision of the *legatus legionis* or *praefecti*, if so, then there must have been great variation from site to site (Baker 2004: 61). As a matter of fact, during his extensive work on Hadrian's Wall, Birley suspected large differences between the activities taking place and the quality of life from one site to another, due to discrepancies in finds assemblages, but this idea was not investigated any further (Birley 1976: 271).

There are three objectives in this study that will involve using data from excavation reports published in the last 30 years. Firstly, to compare the monumentality and the function of the *principia* and to compare the living space provided within the barrack blocks; secondly, to examine the size and scale of the *thermae* at Caerleon and thirdly, to compare the artefact assemblages. Examination of the *principia* is vital because it was the religious and administrative heart of a Roman fortress or fort, and for this reason was distinguishable by its size and imposing architecture (Johnson 1983: 104). There have been few studies comparing the living spaces within barrack blocks, yet this is essential if one wants to better understand what life was like for the centurions and regular soldiers. In contrast, there have been many studies of Roman bath houses, both in a civilian and military context (Zienkiewicz 1986a: 22), but not many have focussed on how monumental these buildings were or why they are in legionary fortresses and not auxiliary forts when they provided, for the Roman soldiers, such an important part of their daily routine and social life. Similar to the *thermae*, there has, over the last ten years, been many studies looking at artefact assemblages as a whole for comparative purposes, but not very many looking at finds in this way from a purely military context. Examination and comparison of these aspects of Caerleon and South Shields should highlight some interesting differences in life, and the types of activities taking place at each site.

2: Literature Review

As previously pointed out, few Roman military studies have been concerned with comparing life, and the activities taking place, within different sites (chapter 1), despite the fact that there is now an extensive database of material, for example from Newstead (Curle 1911), Inchtuthil (Pitts & Joseph 1985), York (Cool *et al.* 1995), Vindolanda (Bidwell 1985), Birdoswald (Wilmott 1997), Exeter (Bidwell 1979), Colchester (Crummy 1983) and Usk (Manning 1981).

The overall design and layout of Roman military sites is largely derived from the numerous excavations; one of the best plans of a legionary fortress comes from Inchtuthil (Pitts & Joseph 1985), and for an auxiliary fort comes from Wallsend (Hodgson 2003). This information is useful in ascertaining the functions of different buildings; for identifying the type of fortification; and for working out what type of unit it was built for, for example an auxiliary, legionary or vexillation fortress or fort (Bidwell 2007: 26, Nash-Williams 1969: 10). A large number of studies have tried to establish the types of units that were within forts by using the plans and dimensions of barrack blocks, but few studies have tried to understand what living in them must have been like (Richardson 2004, Nash-Williams 1969: 10, Davison 1989).

Johnson (1983) conducted a large architectural survey of Roman military sites in Britain and Germany, and this included a comparative study of several *principiae*. Based on plans; inscriptions; tablets from Dura-Europos; and the Roman writings of Polybius,

Tacitus and Vegetius, it was concluded that the *principia* served a variety of ceremonial, judicial and administrative functions (Johnson 1983: 111). Johnson states that the courtyard served as a meeting and ceremonial area; that the cross-hall was mainly a judicial area, based on the presence of *tribunalia*; and that the rooms in the rear range were administrative offices and also the *aedes* (shrine) (Johnson 1983: 104-32). However, much of this is speculative because it is only based on a small number of excavations and Roman text (Bidwell 2007: 72). Despite this, it is clear that the *principia* served a variety of important functions, including providing housing for main administration, and a setting for the enforcement of military discipline (Bidwell 2007: 72). However, it is viable to question if they all functioned in exactly the same way, as there can be variation in the plans of these buildings and the levels of architectural elaboration within them (Johnson 1983: 131).

Due to the large number of excavations on Roman military sites, there is now an extensive database of artefacts that can be studied; some of the biggest assemblages in Britain have come from Newstead (Curle 1911) and Vindolanda (Bidwell 1985). A small number of archaeologists have employed similar methods to those being used in this study to examine such finds assemblages (Spradley 2001, Clarke 1994). The method of putting finds into functional categories and then tables, allows one to compare data from separate sites, and sheds light on the different activities taking place (Cool *et al.* 1995). Despite the advantages of such statistical methods, they are rarely used to represent data in the excavation reports of Roman military sites, and this may be one of

the issues causing the 'stagnation' of new methods and theories stressed by Reece (1997: 4, 1988) and James (2002: 46).

Life in Roman fortresses and forts

Over the last 10 years archaeologists have focussed more on trying to understand what life in the Roman army must have been like, by seeing fortresses and forts as individual communities (Goldsworthy & Haynes 1999). Presently across the literature academic opinion appears unified on its understanding of this subject, with the Vindolanda writing tablets providing an additional unique insight (Birley 2002, Bowman 1994).

Military Ranks - Background

The type of life a soldier had largely depended on his social background and rank

2: Literature Review

(Birley 1976). The commander in charge of a legion, the *legatus legionis*, was usually always a senator and so he had great wealth and social status (Bidwell 2007: 56). Many of a legate's officers were from the *equites* social class (Birley 1976: 133, Wilson 1980: 5-21). Auxiliary units were usually commanded by equestrian *praefecti*, who were of similar social status to the legionary tribunes (Birley 1976: 138). Many of these soldiers received their rank through patronage, and were used to a life of 'luxury'. Their high social status and wealth is often reflected in the types of accommodation within fortresses and forts (Bidwell 2007: 56, Birley 1976: 141).

Under these officers was the *centurio* (centurion), the majority of which were probably from the equestrian class (Birley 1976: 105). Each centurion was assisted by an *optio*, *signifier* and *tesserarius*, who were promoted legionaries (Brewer 2000: 25, Wilson 1980: 5-21). The centurion had a key organisational role, and would probably have to be literate in order to deal with the extensive amount of paperwork involved with the administration of a century (Wilson 1980: 6, Bowman 1994: 36). However, it is not known to what extent a legionary and an auxiliary centurion's administrative role differed (Goldsworthy 2003: 72-3). The regular soldiers, by contrast, signed up and were probably from the poorest sections of society (Goldsworthy 2003: 76-77). These people were a world apart socially from the commanders and officers, and unsurprisingly, were rarely mentioned in Roman writings, making knowledge of their ranking system and social status significantly less (Goldsworthy 2003: 69, Birley 1976: 134).

Military Routine

Roman fortresses and forts were, in effect, self running contained towns established in areas for control and administration purposes (Bidwell 2007: 26-82, Watson 1969: 75-80, Elton 1996:62, Davies 1989:33). The number of soldiers in a garrison was usually only a fraction of the unit's nominal strength, as soldiers could be far away on leave or official duties (Breeze & Dobson 1976: 176, Birley 2002: 79, Bowman 1994: 23). Surviving duty rosters from Egypt record the activities and skills of soldiers in the third legion, and provide an insight into the various duties they performed (Bowman 1994: 37). They describe soldiers quarrying stone, digging for and preparing clay, woodworking, cobbling, building and leather working on a regular basis in and around the fortress (Bowman 1994: 37). The Vindolanda writing tablets suggest that auxiliary units were also regularly engaged in similar activities (Bowman 1994: 42-48, Birley 2002: 90). The commanders and officers, by contrast, spent time entertaining important official guests, such as provincial governors, and the plans of their houses often reflect this need for 'social' space (Bidwell 2007: 57). Overall, the activities happening within these places appear to have been highly varied, and revolved heavily around maintaining the garrison and provincial administration.

Administrative 'paperwork' was a large and important element of the Roman military system, and the amount generated by fortresses and forts must have been enormous (Bowman 1994: 36). The Vindolanda tablets suggest that commanders and officers spent a lot of time engaged in such paperwork, including writing out lists of supplies, orders, strength reports and records of cash and commodities (Birley 2002, Bowman 1994, Bowman & Thomas 1983). However, the number of such records in the archaeological record is extremely small, coming mainly from Egypt, Dura-Europos and Vindolanda. It is proposed by Johnson and Bidwell that much of the important paperwork would take place, and be stored, within the *principia*, in addition to orders being given and judicial activities being carried out there, but this is not known with any certainty (Johnson 1983: 112, Bidwell 2007: 72).

Accommodation

There were various types of accommodation in a Roman garrison, and which type a soldier lived in depended primarily on rank. The *legatus legionis* was provided with a grand house, the *praetorium*. The close proximity of the *praetorium* to the *principia* at many Roman military sites supports the idea that the commander performed various ceremonial, ad-

2: Literature Review

ministrative and judicial activities within the headquarters building (Johnson 1983: 127-250). The regular legionaries and auxiliaries lived in barrack blocks, with their centurion's quarters at one end. One barrack block usually housed a century of 80 soldiers and its officers. Each *contubernium* (eight man squad) was given a pair of rooms, one for sleeping and one for storing equipment or cooking (Bidwell 2007: 61). These barrack blocks would have provided cramped living space and the rooms would have been quite gloomy (Goldsworthy 2003: 86, Bidwell 2007: 62, Shirley 2001: 34). This is because despite probably having windows, the blocks were often built back to back (Shirley 2001: 15). However, soldiers were unlikely to have spent a great deal of time in their barracks, either because they were on detached duty, or simply because there was more space outside. Therefore, the barrack blocks may not have acted as such a major focus of activity, as some previous studies seem to suggest (Goldsworthy 2003: 86).

Recreation

The types of recreational activities enjoyed by the Commanders were probably quite different to those enjoyed by the regular soldiers, due to the massive social gulf between them (Breeze & Dobson 1976: 196). The Vindolanda tablets suggest that commanders and officers regularly went hunting and held parties, which their wives often organised (Birley 2002: 147-151, Bowman 1994: 57). Unfortunately, very few of the Vindolanda tablets are known to have been written by centurions, *principales* or regular auxiliaries, and therefore, their recreational activities are more a matter of speculation (Bowman 1994: 59). However, finds of gaming counters and dice suggest that gambling and board games were a common pursuit for Roman soldiers (Cool *et al.* 1995). As well as this, amphitheatres like that at Caerleon would have provided entertainment outside the fortress (Davies 1989: 67, Wheeler & Nash-Williams 1970).

The *thermae* was an important place within a Roman fortress as it provided a social and recreational retreat for almost everyone living inside (Breeze & Dobson 1976: 179, Bidwell 2007: 83). It could be an extremely large and decorative structure, something like a modern sports centre with rooms for exercising, swimming and washing (Zienkiewicz 1986a: 273, Goldsworthy 2003: 87). However, the appearance and monumentality of these buildings has received little attention from archaeologists in modern times (Zienkiewicz 1986a: 96). Despite the possibility that a better understanding of this and the types of activities taking place within them, could provide additional insight into the role the *thermae* played within a Roman fortress and the lives of the soldiers stationed there.

Religion

Religion, both official and private, was an important part of a soldier's life whether he was an officer or a regular trooper (Watson 1969: 130, Webster 1969: 268, Birley 1988: 400). Official religion in the Roman Army revolved mainly around the traditional festivals, when military parades, sacrifices and feasts would have taken place (Watson 1969: 130, Webster 1969: 268, Birley 1988: 400). Religious artefacts such as miniature altars, pendants, statues and ceremonial armour have been found at Roman military sites such as, Newstead and Vindolanda (Curle 1911, Bidwell 1985). Furthermore, from the auxiliary fort of Maryport are many examples of stone altars dedicated to various deities, or to the remembrance of an event, such as a personal vow or buildings work (Bidwell 2007: 96).

Ceremonies purely of military significance included *rosaliae signorum*, or the decoration of the standards, and the *honesta missio*, or the demobilisation (Goldsworthy 2003: 92). These ceremonies could well have taken place in or around the *principia*, because of this buildings religious significance and the importance of the *aedes* in military religion (Johnson 1983: 111, Bidwell 2007: 73). However, this has rarely been investigated through archaeological study.

Discussion

2: Literature Review

Overall, research into Roman fortresses and forts has been extensive and varied, with a large number of excavation reports from which to draw data. However, because of earlier excavation methods and publication strategies, much of this data is missing or now incorrect (Hoffman 1995: 10). In addition, few studies have employed the use of statistical methods, and it seems that the use of find distributions in differentiating between the functions of various buildings has been largely dismissed (Cool & Baxter 1999: 73, 2002: 366). In particular, few studies have focussed on the activities within the *principia*, and on understanding what life was like for the soldiers, and how this may have varied from one Roman fortress, or fort, to another (James 2002: 5, Reece 1997: 18).

The *thermae* was often a monumental structure, with a range of activities taking place there, probably on a regular basis (Breeze & Dobson 1976: 179, Bidwell 2007: 83). However, there have been few studies over the past ten years which have examined its monumentality, function and importance within the legionary fortress (Zienkiewicz 1986a: 96). This is one of the objectives of this dissertation and should achieve a better understanding of its appearance within the legionary fortress.

The literature suggests that the *principia* served an important administrative, religious and judicial function, which is emphasised by its imposing architecture and elaborate embellishment (Johnson 1983: 104, Bidwell 2007: 72). Many conclusions reached about its function appear to be a matter of speculation, as it is drawn from Roman text and only a handful of excavations (Johnson 1983: 104-132, Bidwell 2007: 72). It is possible that the activities taking place varied from one site to another based on differences in the plans of these buildings, but this has never been tested (Johnson 1983: 126).

3: Caerleon and South Shields - Background

Caerleon legionary fortress

The legionary fortress of Caerleon (*Isca*) has a history of excavation dating back to 1849. It is situated nine miles upstream from the coast at Newport, just north of the river Usk in Wales (Fig.1). The most recent excavations at Caerleon proposed an occupation from AD c.75 to c.350 (Evans & Metcalf 1992: 57). The fortress itself occupies an area of approximately 20.5 hectares. There is an external bath house, amphitheatre and parade ground, but no large *canabae* as at Chester (ref).

Caerleon has the 'typical' layout of a legionary fortress, and was constructed to house the 2nd *Augusta* (Boon 1972). The nominal strength of a legion was 5,500 heavy infantry, plus 120 cavalry and the command group. The ramparts were laid out in a rectangular shape with four gates, one on each side. The main gate was called the *porta praetoria* and was connected by the *via praetoria* to the *principia*. The two side gates, the *porta principalis sinistra* and the *porta principalis dextra* were connected by the *via principalis*, this led across the frontage of the *principia*, and the *scemnum tribunorum*. The last gate at the back of the fortress was called the *porta decumana* and was connected by the *via decumana*, to the back of the *praetorium*. In addition, a road led all the way around the fortress in between the buildings and the ramparts, this was called the *via sagularis*. The fortress was split into three sections: the *praetentura*, *latera praetorii* and *retentura*, each of which contained particular buildings. The various buildings at Caerleon includes: barrack blocks, a *thermae*, a *valetudinarium*, the *scemnum tribunorum*, a *principia*, a *praetorium*, a *fabrica* and a *basilica exercitatoria* (Boon 1972).

South Shields auxiliary fort

The auxiliary fort of South Shields (*Arbeia*) has a history of excavation dating back to 1875. It lies on a low headland on the south side of the river Tyne on the North east coast, with views across the river mouth to the sea (Fig.1). The river Tyne was the natural entry point into the northern frontier zone of Roman Britain, and so one of the main purposes of the fort in its early life must have been to control and defend the mouth of the Tyne (Bidwell & Speak 1994: 4). It was surrounded by a *vicus* and functioned as a supply base from the Severan period onward (AD c.200). The most recent excavations at South Shields proposed an occupation between the late Hadrianic period to the late 4th century (Bidwell & Speak 1994: table 1.1) and therefore, it has a longer period of occupation than Caerleon. South Shields fort was also much smaller, with an internal area of around 2.1 hectares. This is primarily because it was built for an auxiliary cohort with a nominal strength of 480 light infantry, plus 120 cavalry.

The layout at South Shields is more complex than that at Caerleon because of its change into a supply base in the Severan period. Prior to that it had a similar layout to Caerleon, although on a smaller scale, and had an internal area of 1.67 hectares. The ramparts enclosed a 'playing card' shaped area, with one gate on each side and the fort was split into three sections (the *praetentura*, central range and *retentura*). A road ran all the way around the fort between the buildings and the ramparts (*via sagularis*) and the *principia* was in the centre. There were also infantry and cavalry barracks in the *praetentura* and *retentura* (Bidwell & Speak 1994: 17-18). However, unlike Caerleon there was also a double granary (*horreum*) in the central range, west of the *principia* near the *porta principalis sinistra*.

When South Shields became a supply base around AD c.200, the layout underwent significant changes. The garrison was greatly reduced in this period and several of the barracks in the *praetentura* and *retentura* were changed into 13 granaries. The south wall of the fort was extended southwards, increasing the internal area of the fort to 2.1 hectares (Bidwell and Speak 1994: fig 2.6). The *principia* decreased in size, then around AD 235 was demolished, replaced with a granary, and moved south into the centre of the *praetentura*. The number of granaries also increased to 24 (Bidwell & Speak 1994: 23). It is probable that the reduction of the garrison is connected with the decrease in size and movement of the *prin-*

3: Caerleon and South Shields - Background

cipia. Also, new barracks were built in the south east quadrant of the fort (Bidwell & Speak 1994: fig 2.7). South Shields also underwent further structural changes after AD 250, right up until the end of the Roman occupation.

Discussion

Caerleon and South Shields are two major Roman military sites, a fortress and a fort respectively. The principal reason for choosing these sites is because both have witnessed significant excavation over the past 35 years, much of which has been published (Miket 1983, Bidwell & Speak 1994, Zienkiewicz 1986a, Bidwell & Speak 1994). This dissertation focuses on the period from the mid 2nd to mid 3rd century AD. One point worth making is that South Shields fort becoming a supply base in the Severan period could mark a significant change in the archaeological data, as this change in function probably meant a change in daily routine.



Figure 1: Map of England and Wales showing the locations of Caerleon legionary fortress, South Shields auxiliary fort and Hadrian's Wall (Source: About Geography Images 2010, with additions)

4: Methodology

In order to compare the architecture and finds assemblages from Caerleon and South Shields data will be taken primarily from the four most recently published excavation reports. These reports were chosen because of the use of modern excavation techniques resulting in high-quality publication including site chronologies, contexts and artefact assemblages.

Analysis of the published excavation reports

The use of poor quality datasets has brought into disrepute the results of earlier studies of Roman military sites (Hoffman 1996: 108). Therefore, all of the past excavation reports from Caerleon and South Shields will be reviewed, with a particular focus on the size and location of trenches. The quality of the published reports and the methods of retrieval will be examined in order to determine which data sets are of high enough quality to use for comparative purposes. This will include an analysis of the structure and detail of each report, the size and dates of the excavations, and what data is included within each report.

Particular attention will be paid to the more recently published excavation reports by Zienkiewicz (1986a & 1986b) and Evans and Metcalf (1992) at Caerleon, and Milet (1983) and Bidwell and Speak (1994) at South Shields, because these are the reports from which most data will be taken. This will also include an analysis of the types of data available and how much of it there is, such as environmental material, as this can help illuminate everyday life at each site.

Analysis and Comparison of Architecture

Specific buildings and architectural features at Caerleon legionary fortress, and South Shields auxiliary fort will be examined, and compared in order to gain a better understanding of life at each site between AD c.150 and c.250.

The *Principia*

The *principia* at both Caerleon and South Shields will be compared by tabulating approximate internal areas. These will be calculated from the plans and dimensions in the reports by Boon (1972) and Bidwell and Speak (1994). In addition, in order to better understand the monumentality of the *principia* at each site the internal features will be examined based on the data provided in these reports. The scale and grandeur of the *principia* probably reflects the status of the commander and the administrative, ceremonial, and judicial activities he carried out (Johnson 1983: 111). In addition, the *principia* housed the *aquila*, an item of special veneration in the Roman army, and so the building probably had a great amount of religious significance within the fortress or fort (Webster 1969: 260-70). This may be why monumental features often occur around the *aedes* (Johnson 1983: 112).

Barrack blocks

The approximate internal areas of the sleeping and cooking rooms of each *contubernia* will be calculated from the plans and dimensions contained in the reports by Evans and Metcalf (1992), and Bidwell and Speak (1994). These figures will then be tabulated to facilitate comparison. The same methods will be used for the centurions' quarters, but for Caerleon will be calculated using the plans in the report by Boon (1972). Comparison of the living spaces within the barracks blocks is important because they represent the troops' accommodation, and so probably this area acted as a major focus of activity. They are a stark contrast to the living accommodation of the commander and his officers at both Caerleon, and South Shields.

Caerleon *Thermae*

The approximate internal areas of various rooms within the *thermae* will be calculated from the plans and dimensions within the excavation report (Zienkiewicz 1986a). These fig-

4: Caeleon and South Shields - Background

ures will then be tabulated to illustrate the size of this superstructure. Internal features will also be examined, such as the large vaulted roofs, in order to gain an understanding of the monumentality of Caerleon *thermae*. Photographs of the actual site and reconstructions will also be used to further illustrate this. Like the barrack blocks, the *thermae* probably acted as a major focus of activity, because it was an important and regular social retreat for both the regular legionaries, and their commanders (Breeze & Dobson 1976: 179, Bidwell 2007: 83). In fact, the *palaestra* at Caerleon is even larger than the one at the baths in Pompeii (Zienkiewicz 1986a: table 5). Unfortunately, there are no known internal baths at South Shields with which to compare it.

Analysis and Comparison of Finds Assemblages

Finds data will be taken from the four most recent excavation reports that come from contexts dated between AD c.150 and c.250 (Zienkiewicz 1986b, Evens & Metcalf 1992, Miket 1983, Bidwell & Speak 1994). It is important to remember that finds assemblages do not reflect a single activity at any one point in time, and that the data is going to be largely affected by the size and location of trenches, and the excavators' methods of recovery and their publication strategies. These issues will be addressed prior to analysis in chapter 5.

Small finds

The small finds data from each site will be tabulated before being put into functional groups for comparison using graphs. The use of artefacts in identifying the functions of rooms and external areas has rarely been attempted for Roman military sites in Britain, and involves the creation of find distribution maps. However, the data in most of the reports does not allow for this to be done and therefore, the comparison will be heavily focussed on statistical differences between functional groups (chapter 5). The importance of statistical analysis and representation in Roman artefacts studies has been argued by Cool and Baxter (1999: 73, 2002: 366) and is rarely used in Roman military studies. This is arguably one of the pitfalls of previous studies (James 2002: 34 - 46).

The Vindolanda writing Tablets

The publications by Bowman (1994), Birley (2002), and Bowman and Thomas (1983) will be used to identify those tablets which support the conclusions reached after analysis. Despite the fact that the tablets date to the early 2nd century AD, they are still regarded as important because of the insight they provide into the military routine and social activities of auxiliary commanders, and various others living inside a Roman fort (Bowman 1994: 59, Birley 2002: 135-140).

Discussion

The decision to compare the *principia*, barrack blocks and finds assemblages relates directly to the research objectives, and the tabulating of large amounts of this data should facilitate the comparative process. It was decided to take a statistical approach to the representation of data because few Roman military studies have (James 2002: 33). Furthermore, it is a method that reveals differences and associations between comparative data sets (Cool *et al.* 1995: 1626). Once these methods have been employed, the results should demonstrate to a certain degree that life, daily activities and military routine were either different, or the same, at Caerleon legionary fortress and South Shields auxiliary fort. In this way, the results may relate to the differences described by Birley during his work on the forts along Hadrian's Wall (Birley 1976: 271). Particular aspects of each sites archaeology are not being compared because the data is un-compatible. The reasons for this are explained and discussed in chapter 5.

5: Caerleon and South Shields - Excavations

Caerleon Legionary Fortress

In 1972 Boon published, for its time, the most up to date summary of excavations at Caerleon legionary fortress (Boon 1972). According to Boon, prior to 1972 there had been a total of 29 excavations (Nash-Williams 1929 & 1931 & 1932, Grimes 1935, Hawkes 1936, Fox 1940, Murray-Threipland 1959 & 1965 & 1967 & 1969, Bosanquet & King 1963, Boon 1964, Knight 1964), but due to old excavation methods and publication strategies much information was lost, or left unpublished. In total, the excavations covered an area around 84,800m² within the defences of the 20.1 hectare fortress. Therefore, around 41.5% of Caerleon had been trenched prior to 1972. Despite this extensive excavation, the number of finds from a secure context and phase is very small. In addition, Boon's summary of Caerleon is principally concerned with the structural evolution of the fortress and the dating of various phases by archaeology, as is his later publication, and so only finds that were used for the dating of specific features were included in the reports (Boon 1972:116, Boon 1987: 25). For these reasons no finds data will be taken from these earlier excavation reports.

After 1972 there were two more excavations at Caerleon, the first was by Zienkiewicz (1986a), and the second was by Evans and Metcalf (1992) (Table 1). As a result of these and previous excavations, the total area trenched within Caerleons defences now amounts to 42.7%. However, only the 737 finds from their excavations are attributed to secure contexts dated between AD c.150 and c.250. This number of artefacts from just two modern excavations cannot represent the site as a whole when one considers that a large 42.7% of the site has been trenched. As a consequence, any interpretations made using finds analysis are speculative.

Excavation	Date	Location of trench	Approximate area of trench (m ²)
Zienkiewicz (1986a)	1977-81	<i>Thermae</i>	1,310 (or 14% of the <i>thermae</i>)
Evans and Metcalf (1992)	1980-81	c.40m north of <i>porta principalis dextra</i> , exposing part of the rampart, barracks and <i>via sagularis</i> .	1,000

Table 1: Details of excavations at Caerleon legionary fortress (Source: Author)

The information included the excavation reports by Zienkiewicz (1986a, 1986b) and Miket (1983), and the way they are organised is quite different, no doubt resultant of differential publication strategies and excavation methods. The main objective during excavation of the *thermae* was to retrieve as much architectural data as possible, so that a detailed reconstruction of the baths geometry, size, plan and adornment could be undertaken (Zienkiewicz 1986a). Consequently, a considerable amount of the report is about the Flavian phase of the *thermae*, as this is when it was completed and most elaborate. The excavation method involved splitting the *frigidarium* drain, one of the biggest and most securely dated contexts (AD c. 160 to c.230), into 1m sections, numbering each, and then assigning these numbers to the finds. Zienkiewicz published two reports, the buildings (1986a) and the finds (1986b). These are split into separate sections so finding particular information is relatively unproblematic. The Evans and Metcalf report on the excavation at the gates is also well structured, and therefore, it is easy to follow and understand the process of investigation (Evans & Metcalf 1992). However, it is not as detailed as the baths report (Zienkiewicz 1986a) due to a fire in the storage area in 1983 that destroyed most of the pottery, worked bone, antler, shale and environmental samples (Evans & Metcalf 1992: 81). Summaries of

5: Caerleon and South Shields - Excavations

these were included in the report, but for the purposes of this study are regarded as having little use because much of this material is unstratified. This fire is the main reason why only 223 artefacts, including unidentifiable material, are attributed to phase IV (AD c.160-275) (Evans & Metcalf 1992). The excavation methods employed by both Zienkiewicz, and Evans and Metcalf, including sieving of all soils, and therefore, many small artefacts were recovered and published in the reports (Zienkiewicz 1986b: 117, Evans & Metcalf 1992).

However, because of publication strategies it is not possible to construct finds distribution maps from either of the reports. In the Zienkiewicz baths excavation report it is difficult to identify the precise stratigraphic location of artefacts because the list of contexts is hard to relate to the plans (Zienkiewicz 1986a, 1986b). This is most likely a consequence of splitting the data between two separate publications. In the Evans and Metcalf report a context list is not included and is only available in the site archive (Evans & Metcalf 1992: 3).

Overall, for the purposes of this study these reports provide enough data to compare with South Shields. The Evans & Metcalf report (1992) includes plans of phase IV barracks so that dimensional data can be calculated, however, their plans exclude centurion's quarters so this will be taken from the report by Boon (1972). The in-depth examination of the monumentality of Caerleon *thermae* by Zienkiewicz (1986a) includes plans and numerous architectural reconstructions that will help to illuminate this structures appearance. The illustrations in these reports include scales, north arrows, and keys and so are of high enough quality to calculate data from.

However, it is not possible to extract other types of data for comparison. This includes environmental and animal bone material because neither excavation yielded large amounts. In addition, pottery data cannot be extracted and compared with South Shields because all of this material from the gates excavation was destroyed in the fire (Evans & Metcalf 1992).

South Shields Auxiliary Fort

In 1979 Dore and Gilliam (1979) published a summary of archaeological work at South Shields, and according to them there had been around 12 excavations at the site dating back to 1875 (Bruce 1881 & 1884, Richmond 1934, Thornborrow 1961). Despite this extensive trenching, the number of finds from a securely phased context is extremely low, due to the older methods of archaeological excavation and publication. Dore and

Gilliam (1979) included a chronology of South Shields fort in their report; however, this was modified by the later work of Bidwell and Speak (1994: 9). For this reason no data from their report will be used in this study, mainly because finds could be attributed to incorrect periods. Furthermore, many finds were not included in their publication due to poor condition (Dore & Gillam 1979: 71).

Around and after 1979 there were two more excavations at South Shields. The first was by Miket (1983) and exposed an area around 2,881.6m², and the second was by Bidwell and Speak (1994) and covered approximately 6,310m² (Table 2). Together a total of 9,191.6m² of the 2.1 hectare site was trenched, and therefore, along with earlier excavations, around 55.6% of the fort had been excavated. This is 12.9% less than at Caerleon, and therefore, one would expect a larger number of finds from this site, but this is not the case due to extensive trenching in the Victorian period (Bidwell & Speak 1994: 3, Dore & Gillam 1979: 3, Miket 1983: 46).

The excavation report by Miket (1983) is structured quite differently to that by Bidwell and Speak (1994). It is split into three parts; excavation, which in turn is arranged by season; finds, which are catalogued by material then layer or feature number; and lastly sequence and chronology, which contains no tables but just large amounts of text (Miket 1983). As a consequence, when gathering finds data from a particular phase or period, one has to undertake a micro-examination of the text. In contrast, the Bidwell and Speak report (1994) is organised into more conventional sections including aims and methods; history

5: Caerleon and South Shields - Excavations

and chronology; area excavated, and finds, and therefore, it is relatively unproblematic to extract data.

The methods of investigation employed during both excavations appear relatively similar and included sieving of the soils. However, Bidwell and Speak adopted a more thorough policy of total excavation and sieving (Bidwell & Speak 1994: 6). Despite this a total of only 105 finds from both reports are attributed to between AD c.150 and c.250. However, over 5,000 unprovenanced finds come from earlier excavations at South Shields (Allason-Jones & Miket 1984) and therefore, interpretations made based only on finds from recent excavations are a matter of conjecture.

Excavation	Date	Location of trenches	Approximate area of trenches (m ²)
Miket (1983)	1977-81	South east angle tower and adjacent barrack blocks/fort ditches	646
		<i>Porta praetoria</i> and western rampart	640
		Ramparts leading north from the south east angle tower	165.6
		<i>Porta principalis sinistra</i> and northern rampart	1,430
Bidwell and Speak (1994)	1983-88	<i>Porta principalis sinistra</i> and surrounding area	2,375
		<i>Principia</i> and surrounding area of the central range	1,435
		Southeast quadrant	2,500

Table 2: Details of excavations at South Shields auxiliary fort (Source: Author)

In addition, finds distribution maps cannot be used in order to try and ascertain the activities happening at various areas around the site. The cataloguing of finds by layer and feature done by Miket (1983) does allow for one to identify the precise stratigraphic location of artefacts, but it is not possible to do this with the report by Bidwell and Speak as it was intended only as a guide to the original records (Bidwell and Speak 1994: 8). For these reasons a find distribution map for the single excavation by Miket (1983) will not be created.

Overall, the reports do contain enough data to compare with Caerleon. The plans in the Bidwell and Speak report (1994) all have scales, keys and north arrows and the dimensions of barrack blocks and the *principia* can be calculated from these. In contrast, neither report contained any animal bone assemblages or environmental material, but both do contain pottery assemblages which in the Bidwell and Speak report (1994) are largely summarised. Therefore, comparison of the numbers of vessels and their distribution across the fort is not possible.

Discussion

Clearly, differential publication strategies make comparing data from Caerleon and South Shields problematic. The extraction and comparison of animal bone and pottery data, and environmental material, is not possible. Furthermore, because the *praetorium* at Caer-

5: Caerleon and South Shields - Excavations

leon has not been excavated in the past 30 years and because the one at South Shields has not been investigated at all, these will not be compared (Bidwell & Speak 1994, Boon 1972).

Overall, excavations at Caerleon and South Shields have focussed upon different areas and this will undoubtedly affected the types of material and artefacts being recovered. The excavations at Caerleon covered less area and were focussed on the *thermae* and *porta principalis dextra* (Zienkiewicz 1986a, Evans & Metcalf 1992). Those at South Shields covered more area, an extra 6,881.6m² to be more precise, and were focussed on the defences and *principia*. Despite the fact that finds distributions cannot be created and compared between each site, there should still be evidence in the artefact assemblages of differential activities because the excavations focussed on very different areas, where theoretically, different activities should be taking place. Also, the excavations at Caerleon only trenched around a small 1% of the internal area of the fortress, and those at South Shields only 42%. In neither case has even half of the site been excavated, and therefore, interpretations based on this data are a matter of speculation.

In this chapter an attempt has been made to highlight the main differences between the excavation history at both Caerleon, and South Shields, in addition to conducting a more in-depth comparison of those reports from which data is being taken for this study. This is important because excavation methods and publications strategies have a great influence on the structure of excavation reports, and the types of data included within them, and these things very much determine the comparability of archaeological sites. To conclude, excavation methods and publication strategies are heavily influenced by the needs of the audience and the aims of the reporters, and therefore, a complete assessment of this would involve a much more comprehensive examination of not just the excavation reports, but of the reporters themselves (Bidwell & Speak 1994: 8).

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The layout and dates of Caerleon legionary fortress and South Shields auxiliary fort are described in chapter 3. This section is concerned with the comparison of particular architectural features through plans and tables of dimensional data. The problems associated with the use of poor quality data sets in previous studies of the architecture of Roman military sites was highlighted in chapter 2. To avoid this, as much data as possible was taken from the most recent excavation reports for each site (Evans & Metcalf 1992, Zienkiewicz 1986a, Milet 1983, Bidwell & Speak 1994). In addition, all dimensions and plans date to between AD c.150 and c. 250, but as with all archaeological data, secure dating depends on the excavation and this is discussed below where appropriate.

The *Principia*

The *principia* was the central headquarters building, and although no two are exactly alike, most conform to the same general design and layout (see Johnson 1983: 104-32). At Caerleon and South Shields the *principia* has a central position within the garrison, a tripartite plan, and consists of three main elements: the forecourt, cross-hall and rear range (see Appendix 1). However, despite the similarity in plan, there is a substantial difference in the size of these buildings (Table 3).

Area	Caerleon (m ²)	South Shields (m ²)
Whole <i>principia</i>	6064.8	720
Forecourt	3,325.00	408
Cross-hall	1,610	195.9
<i>Aedes</i>	105	16

Table 3: Approximate area covered in the *principia* at Caerleon and South Shields (Source: Author)

The *principia* at Caerleon covers substantial area, for example, it only covers 1,500m² less area than present day York Minster. In contrast, the *principia* at South Shields only covers around one tenth of the area covered by that at Caerleon. Table 3 also illustrates the substantial difference in the size of individual areas. The forecourt, an area believed to function as a meeting place (Johnson 1983: 106), is around 3,000m² smaller at South Shields. However, it probably still served this purpose due to the discovery of the remains of a verandah spanning three of its sides, which would function as an observing or speaking platform (Bidwell & Speak 1994: 62). Unfortunately, Boon was not able to excavate a substantial amount of the same area at Caerleon because it was overlaid by modern buildings, so it is not known if similar communal features were there also (Boon 1972). The precise nature of these gatherings remains unclear, but probably varied from one site to another.

As well as the difference in the size of each *principia*, there are variations in monumental architecture. At Caerleon the *aedes* seems to be more embellished than that at South Shields. The crosshall at Caerleon included two arches, one in the centre of each colonnade. Boon discovered that these were supported by 'massive' piers, which created a grand walkway through the crosshall to the *aedes* (Boon 1972: 73). The *aedes* was the central room in the rear range and housed the regimental standards (Fig.2), along with the treasury and the statue of the imperial deity (Johnson 1983: 112). Its special significance is emphasised by its location upon the longitudinal axis of the *principia*, and the aligning of its entrance with the *porta praetoria* (Zienkiewicz 1986a: Fig.1). This suggests that the *aedes* was the main focus of the *principia* at Caerleon fortress. However, this is not unexpected because it would have had great importance within the cult of the *signa*, which was a major part of military religion (Webster 1969: 128, Birley 1988: 40). In contrast, there is significantly less monumental architecture in the *principia* at South Shields. This is probably due to the fort accommodating a much smaller body of men, especially during the mid-Antonine period (Bidwell &

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Speak 1994: Table 1.1). It may be speculated that the types of religious activity taking place within *principiae* varied from site to site. However, through study of the architecture alone it is not possible to investigate this further.

The belief that *principiae* served a judicial function is supported by evidence at both Caerleon, and South Shields. In the cross-halls are *tribunalia*, these are believed to be judicial platforms from which the commander could address his officers, issue orders and perform ceremonies (Johnson 1983: 111). There is one *tribunal* at South Shields, and two at Caerleon that face one another from each end of the cross-hall. Therefore, the two at Caerleon must have either served different purposes, or been used at the same time. If they were used at the same time, then the two speakers must have been addressing each other while being observed by soldiers in the cross-hall. This may suggest some sort of judicial court or debate. This in turn points towards the legionary fortresses having very self contained law and punishment, and this supports Bidwell's idea that the *principia* provided a setting for the enforcement of discipline within the Roman army (Bidwell 2007: 72). However, it is important to remember that the function and meaning of *principiae* probably changed between AD c.150 and c.250.

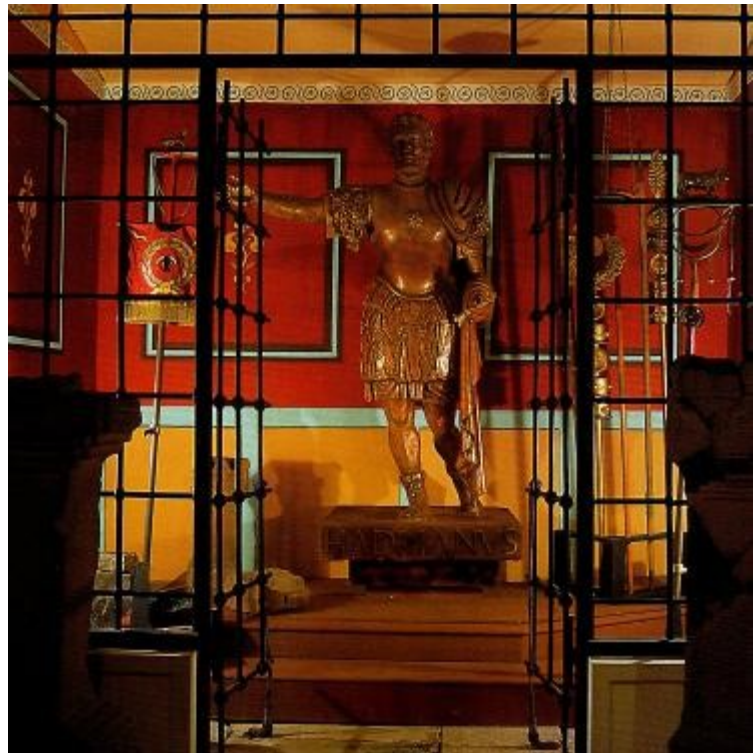


Figure 2: Reconstruction at the Senhouse Museum in Maryport of how the *aedes* may look within a Roman fortress or fort. (Source: Goldsworthy 2003: p.109)

One difference in the plans of the *principia* at Caerleon and South Shields is the number of rooms at each side of the *aedes* in the rear range. Caerleon has four on each side, and South Shields two (Boon 1972, Bidwell & Speak 1994: fig.3.26). Johnson suggests that one set of rooms provided offices for the *cornicularius* (senior clerk) and storage for administrative paperwork, and that the other set of rooms were the offices of the *aquilifer* (eagle carrier), who was responsible for the financial affairs of the garrison (Johnson 1983: 119). Caerleon having a greater number of rooms in the rear range is probably a reflection of the extensive administrative paperwork a legionary fortress would have generated, in comparison to an auxiliary fort. As a matter of fact, the Vindolanda tablets emphasise the intensive, and important, use of written communication in enabling the Roman army to function coherently over big geographical areas (Bowman 1994: 48).

Evidence for how the *principiae* at Caerleon and South Shields looked is small, and because only the foundations remain this has to be speculated from the plans, and architectural and decorative fragments. In 1865 the remains of a mosaic pavement (Fig.3) were discovered in the forecourt at Caerleon (Boon 1972: 74). In addition, the north western archway of the crosshall was adorned with statues, of which only the pedestals survived (Boon 1972: 74). This embellishment of the walkway into the *aedes* further emphasises the importance of the shrine room within the *principia* of Caerleon fortress. At the South Shields *principia* the entrance was flanked by two pier bases which must have been part of an embellishment of the main entrance (Bidwell & Speak 1994: 62). However, due to extensive trenching in the Victorian period large numbers of architectural fragments from South Shields have no context, and therefore, reconstruction of how the *principia* may have looked

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is



ex-

Figure 3: Part of the mosaic found during excavation in the forecourt of Caerleon *principia* in 1865.
(Source: Author)

tremely difficult. However, the remains of a *principia* at Lambaesis in North Africa illustrates the colossal size and height these could be (Fig.4).

The Barrack blocks

There have been few studies comparing living spaces within barrack blocks, but this seems essential if one wants to better understand what life was like within them. The main difference between the barrack blocks at Caerleon and South Shields is the 187.5m² extra space in the centurions' quarters at the legionary fortress (Table 4). This may be due to legionary

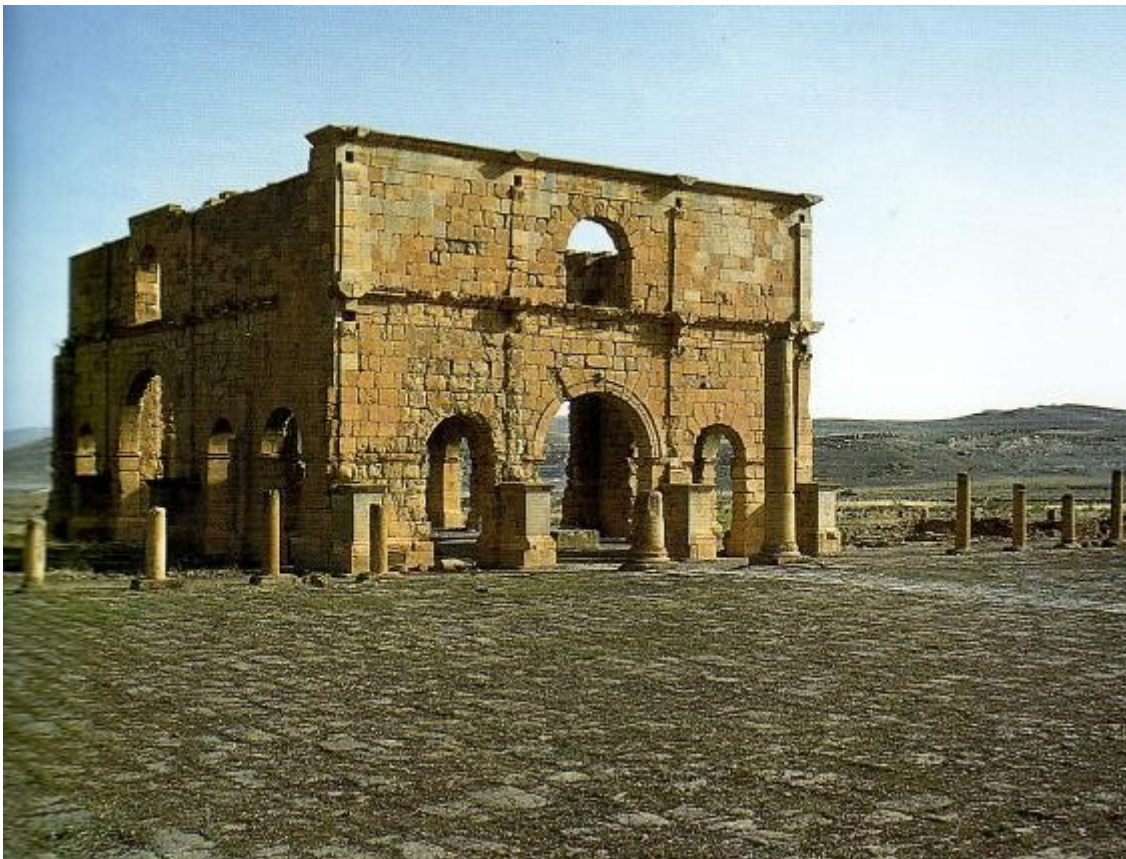


Figure 4: Photograph of the *principia* at Lambaesis in North Africa. This is one of the best preserved examples in the world and shows the possible height of these structures. (Source: Goldsworthy 2003: p.85)

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centurions being equestrians, and so being of higher social status than their auxiliary counterparts (Birley 1976: 105). The large quarters of centurions are also probably a reflection of the seniority and importance of their rank.

Area	Caerleon (m ²)	South Shields (m ²)
Centurions quarters	225	37.5
Inner room of <i>contubernium</i>	12	10
Outer room of <i>contubernium</i>	9.5	7.5

Table 4: Approximate area covered in the barrack blocks at Caerleon and South Shields (Source: Author)

Furthermore, extra space and additional rooms may have been needed for clerks and record storage, so that legionary centuries could have more self contained administration (Boon 1972: 88, Brewer 2000: 35). As well as this, horses and fodder may have been kept in their quarters (Bidwell 2007: 62). These reasons could be why the centurions' quarters at Caerleon are divided up into a larger number of rooms than at South Shields. There is also a difference in the size of the inner and outer rooms at both Caerleon, and South Shields (Table 4). However, this amount is so small that one doubts it would have had a significance difference to the cramped living space provided within the barrack blocks at Caerleon. It is thought that the soldiers slept in the inner room and stored their equipment, ate, and sometimes cooked in the outer room (Brewer 2000: 35, Bidwell 2007: 62, Johnson 1983: 171). However, the reports from which data is being gathered for this study do not allow for a comparison of finds distribution within these rooms as explained in chapter 5. The function of the rooms is, therefore, a matter of speculation.

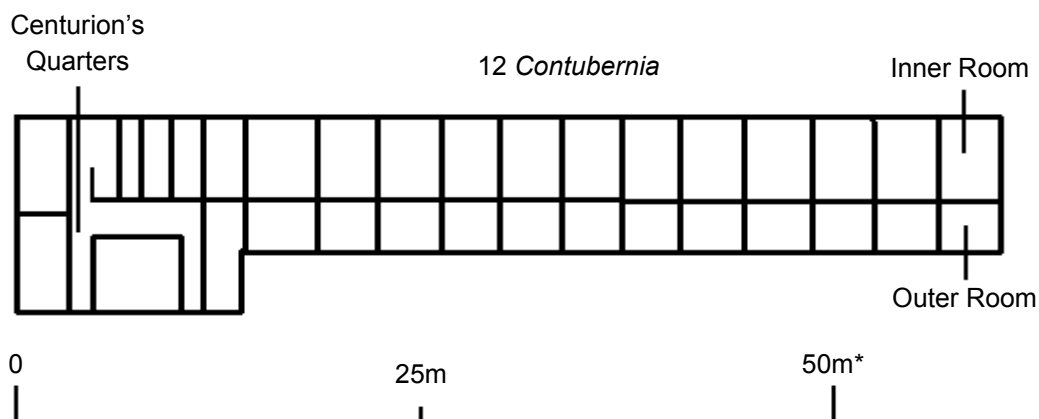


Figure 5: Simplified plan of the barrack blocks at Caerleon excavated by Nash-Williams. (Source: After Nash-Williams 1931) * approximate scale

The barracks at Caerleon and South Shields have similar plans; the only difference is the additional rooms in the centurions' quarters, and the number of *contubernia* (Fig.5). The period 5 barrack blocks at South Shields (AD c.207-c.235) have four *contubernia* and at Caerleon twelve (Bidwell & Speak 1994: Fig.2.9, Nash-Williams 1931: Fig.2). It has been calculated that ten were necessary for a legionary century of 80 men (Richardson 2004). Therefore, this prompts one to question what the function was of the additional two at Caerleon. Johnson suggests they were for armour storage, and Boon believes they were for the *principales* (Johnson 1983: 168, Boon 1972: 87). However, there was a noticeable absence of wall plaster during excavation of the additional *contubernia* at Caerleon, suggesting the

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internal walls may have been bare. Therefore, these rooms were probably for storage (Nash-Williams 1931 139).



Figure 6: The foundations of one of the barrack blocks at Caerleon legionary fortress. (Source: Author)

In terms of trying to understand and compare what living inside the barracks at Caerleon and South Shields must have been like, little can be said. This is because often only the foundations survive (Fig.6), so the sleeping arrangements and general appearance of the rooms remains uncertain (Brewer 2000: 35). On the other hand, the reconstructed barrack block at South Shields (Fig.7) supports the view that the living space for each *contubernium* would not have been generous, additionally, there would have been little natural light as they were built back to back (Bidwell 2007: Fig. 29). However, the barracks at Caerleon



Figure 7: The reconstructed barrack blocks at South Shields auxiliary fort. (Source: Author)

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were fronted by verandahs; therefore, the soldiers had extra room which those at South Shields probably did not. Despite the obvious unpleasant accommodation the barracks provided for the regular soldiers, it is important to remember that the number of soldiers present was probably only a fraction of the unit's nominal strength (Bidwell 2007: 62, Birley 2002: 77). Therefore, living space may not have been as cramped as one might suspect. However, this would still be a stark contrast to the accommodation of the centurions (see Appendix 2), whose individual living conditions probably depended more on their tastes and financial means, than on army regulations (Hoffman 1995: 128).

Caerleon *thermae*

As discussed in chapter 2, the baths were a social retreat and principal place of relaxation where soldiers could wash, play games, eat, drink and exercise (Breeze & Dobson 1976: 179, Bidwell 2007: 83, Boon 1972: 82). The *thermae* at Caerleon was constructed around AD 75 and ceased to operate in the mid 3rd century (Zienkiewicz 1986a: 45). It underwent

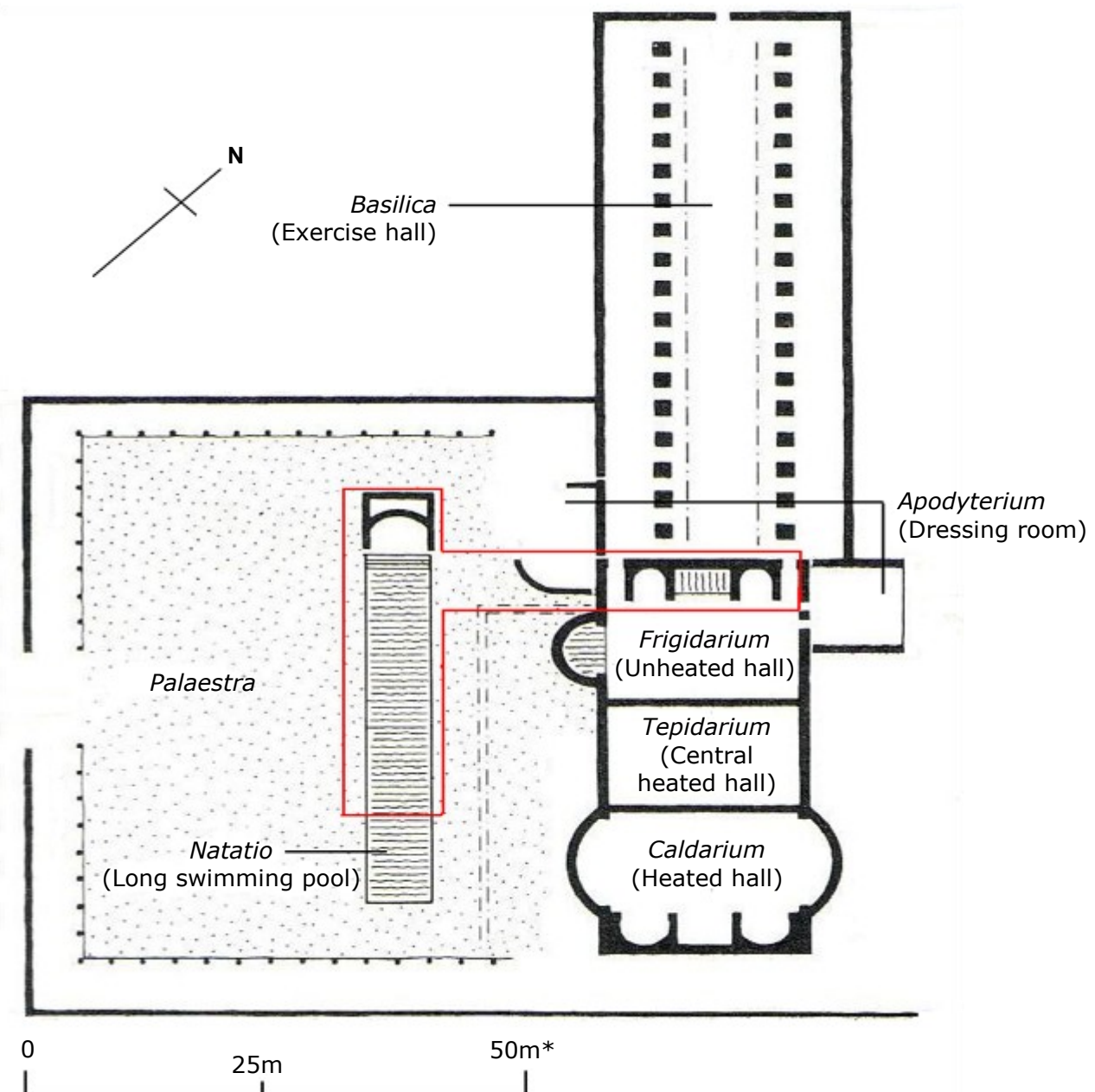


Figure 6: Plan of the late Flavian *thermae* at Caerleon legionary fortress. The red L-shaped plot shows the approximate area excavated from 1977-81 (Source: Zienkiewicz 1986a: Fig.3b, with additions) * approximate scale

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almost constant alteration during its 155-year use but despite this, the actual plan changed little after the *basilica* was added in the late Flavian period. From 1977-81 Zienkiewicz (1986a) excavated approximately 1,310m² of the *thermae* with one L-shaped trench that covered part of the *frigidarium*, *basilica*, *natatio* and *palaestra* (Fig.8). Other areas could not be investigated because they were covered by modern buildings; so consequently, large parts of the plan of the *thermae* in its late Flavian phase are speculative. Despite this, evidence from excavations still demonstrates that it was a multi-functional complex, something similar to a modern sports centre with several rooms for washing, exercising and swimming (Zienkiewicz 1986a, Goldsworthy 2003: 87).

However, the plan (Fig.8) does not illustrate the massive construction, decoration and monumentality of this building. Firstly, it may be wise to examine the scale as a percentage of the overall area of the fortress. The entire *thermae* took up around 5% of the enclosed area, or nearly a twentieth of the 20.1 hectares the fortress covered. A modern comparison would be the cathedral of York Minster (Table 5), which covers roughly 1,000m² less area. Rooms within the *thermae* used for the pursuit of various recreational activities were also colossal (Table 5). The *basilica* covered roughly the same amount of area as the *principia* cross-hall, and this fact illustrates the manpower required to construct the *thermae* at Caerleon, and highlights the importance of these buildings within the Roman legionary fortress and the lives of the soldiers.

Area of <i>thermae</i> Caerleon	Approximate area Caerleon (m ²)	Approximate area York Minster (m ²)
Entire <i>thermae</i>	8,976 (c. 2.5 acres)	7,500 (c. 1.9 acres)
<i>Basilica</i>	1,530	
<i>Palaestra</i>	3,224	
<i>Frigidarium</i>	285	
<i>Tepidarium</i>	237.5	
Largest <i>Apodyterium</i>	112.5	

Table 5: Comparative areas - the *thermae* at Caerleon and York Minster (Source: Author)

However, plans and tables do not illustrate the heights of ceilings or the decorativeness of buildings. As a matter of fact, Zienkiewicz (1986a) discovered that the plan of the *thermae* (Fig.8) hid a carefully calculated geometry and elegant structural design, and the closest modern comparison would be a medieval Cathedral, such as York Minster (Table 5). Many of the architectural features within York Minster bare a resemblance to the reconstructions of the *thermae* in the Zienkiewicz report (1986a), in particular, the vaulted ceiling within the *frigidarium*, and the great columns and aisles in the *basilica* (see Appendix 3).

In brief, the attempt made here to gain a clearer understanding of the monumental appearance of Caerleon *thermae*, by way of comparison with a similar modern structure, has further illustrated the importance of this building within a Roman fortress. Indeed, the soldiers having access to such a social complex would have made life much more bearable, and is a stark contrast to the facilities provided for the auxiliaries at South Shields.

7: Analysis - Finds Assemblages

As explained in chapter 5, all finds data was extracted from the reports by Zienkiewicz (1986b), and Evans and Metcalf (1992) for Caerleon, and from Miket (1983), and Bidwell and Speak (1994) for South Shields. Although there are large numbers of other finds from these sites, it was deemed important for the purposes of comparing the data between AD c.150 and c.250 to only extract finds information from excavations that employed the use of modern investigation techniques (chapter 5). This is so contexts are reliably dated. In addition, many of the archaeological layers should have been sealed by the stone construction used at most Roman military fortresses and forts after the 1st century AD (Johnson 1983: 56, Bidwell 2007: 23).

The main focus of this part of the analysis is on small finds. For the purposes of this study a small find is defined as a single recoverable object which is unproblematic to quantify. The method employed here of dividing artefacts into functional groups and examining the assemblage as a whole should help to distinguish between the different activities happening at each site. However, this method works on the assumption that all artefacts have an equal chance of entering the archaeological record, and are not disposed of in a selective way (Cool *et al.* 1995: 1626). As well as this, some artefacts are never going to be especially common either because the material was recyclable, had limited use, or was valuable to the owner. The materials within the assemblages are typical, including: copper-alloy, iron, bone, ceramic and glass (Fig.9). However, Caerleon contributes a large number of semi-precious stones found in the deposits of the *frigidarium* drain at the *thermae* (Fig.10).

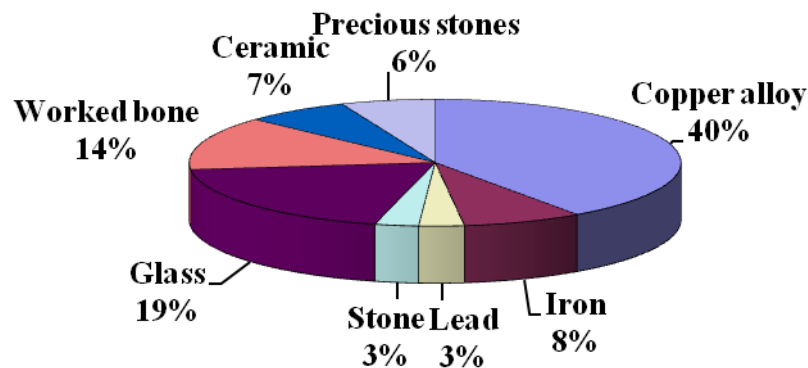


Figure 9: Percentage of different materials within the entire assemblage from Caerleon and South Shields. (Source: Author) * Silver, shale, jet and shell are excluded because the amount is minimal.

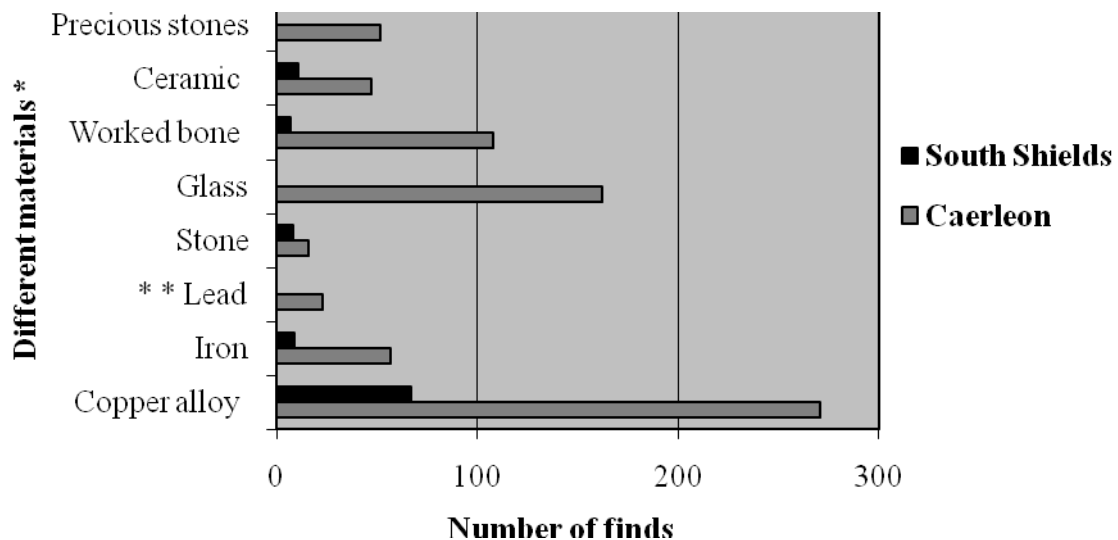


Figure 10: Comparative numbers of finds in different materials. (Source: Author) * Silver, shale, jet and shell are excluded because the amount is minimal. ** Lead finds from South Shields are minimal.

7: Analysis - Finds Assemblages

Eleven functional groups were identified during data collection (see appendix 4), including miscellaneous items which have been included because they make up a significant proportion of the assemblages (see Table 6, appendix 5). Similar groupings have been used in the functional analysis of assemblages from other Roman sites (Crummy 1983, Padley *et al.* 2000, Cool & Baxter 2002). However, objects may well have been multi-functional. For the purposes of this analysis brooches were assigned to the clothing category, despite the fact that could also be items of personal adornment. Objects like hooks and chains were assigned to the tools, industry and craft group because essentially they are tools, but these could serve other purposes, in a household for example. Household equipment includes finds such as locks and keys, which may be associated with security rather than the home.

Functional analysis of the finds from Caerleon and South Shields was carried out by calculating the percentage of artefacts each site contributes to each functional group (Fig.11). It is not unexpected for over 60% of the finds in every functional group to be from Caerleon, considering 86% of the entire assemblage is from here, despite the fact that the excavations at South Shields were much more extensive. However, the large number of finds from Caerleon may be due to the location of the trenches over the *thermae* and *porta principalis dextra*, as these areas may have been major focuses of activity, and therefore, one would expect higher concentrations of artefacts.

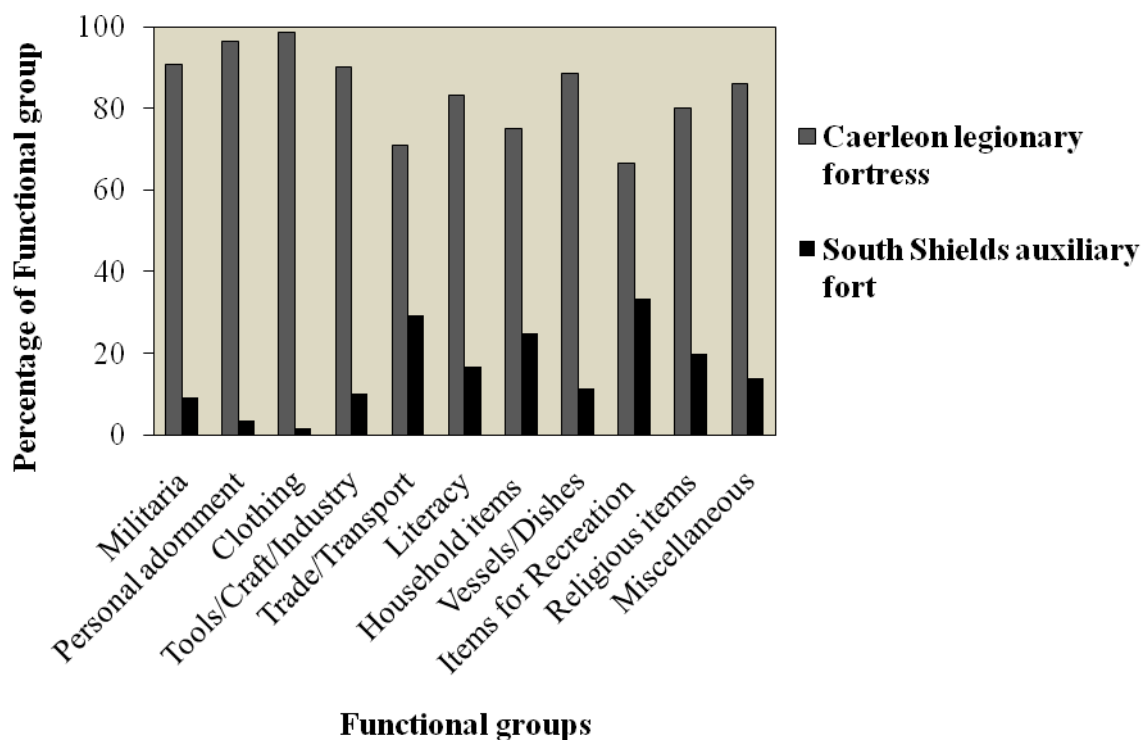


Figure 11: Functional analysis of the finds from Caerleon and South Shields. (Source: Author)

When the same calculations are made for each individual excavation other patterns emerge in the finds data (Fig.12). It is clear that the highest percentage of finds in each functional group are not from Caerleon *thermae*, despite the fact that the largest number of artefacts are. In fact, 70% of the militaria items are from Caerleon gates, including the only lamps in the entire assemblage, five in all. This may be because the excavation was near the *porta principalis dextra*, an area which was undoubtedly patrolled heavily by soldiers both day and night. In addition, 50% of the clothing items are also from Caerleon gates, most of which are brooches that probably belonged to the patrolling soldiers who would wear their army cloaks during the winter months (Bishop & Coulston 2006: 144). In contrast, only 10% are from South Shields despite the fact these excavations covered more rampart area. This may suggest that the ramparts at this site were not as heavily patrolled as at Caerleon, but

7: Analysis - Finds Assemblages

this could also be due to the extensive trenching in the Victorian period resulting in many unprovenanced artefacts.

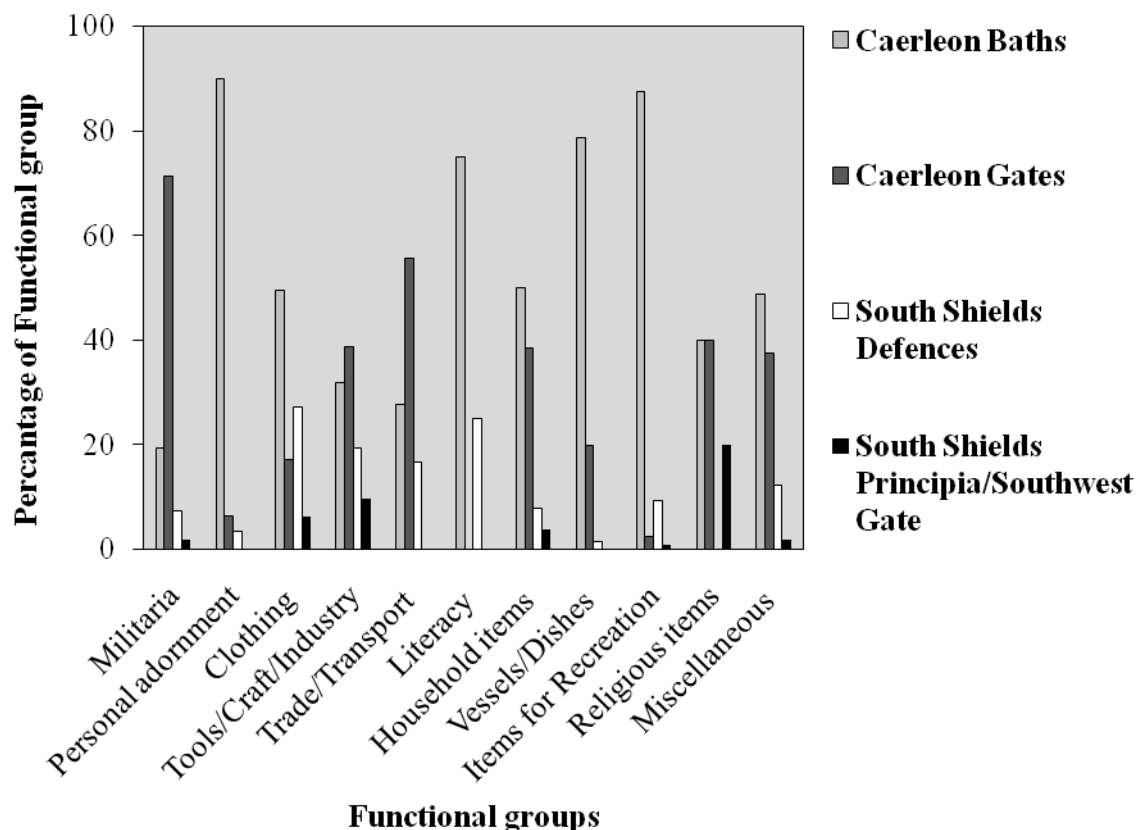


Figure 12: Functional analysis of the finds from the four excavations at Caerleon and South Shields. (Source: Author)

Functional analysis of the finds (Fig.12) also indicates that there was increased trading activity around the *porta principalis dextra* at Caerleon. Over 50% of the finds in the trade and transport functional group are from Caerleon gates, 60% of which are weights. During their excavation Evans and Metcalf (1992) came across two small buildings constructed up against the rampart and turret around 40m north of the *porta principalis dextra* during phase IV of the fortress (AD c.160-c.275). There was little evidence of their function, therefore it was speculated that they were 'cookhouses' (Evans & Metcalf 1992: 67). However, these structures maybe related to the large proportion of trade and transport finds, especially the weights. Traders and soldiers were, perhaps, being diverted to these areas to sign goods and in and out, or to trade directly in this place, rather than being allowed direct admittance into the fortress itself. Indeed, it would make sense for a fortress 20.1 hectares in size to have some sort of system in order to regulate civilian entrance, as undoubtedly there were areas where entrance was not permitted.

The impression gained from the functional groups from Caerleon *thermae* is that it was indeed a social place and a major focus of activity. Almost 90% of both the personal adornment and recreational items come from here, as well as 80% of the vessels and dishes (Fig.12). This indicates that activities here included playing games and dining, as well as bathing, and therefore, an image of the *thermae* as a sort of sports and dining centre emerges. This prompts one to question if similar activities took place within the external baths present at most auxiliary forts (Bidwell & Speak 1994), and if they were as monumental as the one at Caerleon.

There is also evidence for the presence of women in the *thermae* at Caerleon, in the

7: Analysis - Finds Assemblages

form of hairpins and earrings. In contrast, there is a distinct absence of jewellery, both male and female, from Caerleon gates (Fig.12), this is possibly evidence of the regulation of females around the fortress. In other words, they may not have been permitted to spend a lot of time in more heavily guarded military areas, such as the main gates and the barracks. This is also supported by the almost complete absence of female jewellery from the excavations at South Shields, which extensively trenched the defences and *principia*.

In addition to the evidence for little female presence within South Shields, the absence of any confirmed *praetorium* from the first period of the supply base (AD c.205) up until the early 4th century (Bidwell & Speak 1994: Fig.2.6) prompts one to question if the commander and families of high ranking soldiers had residency inside. Indeed, it may have been more efficient for the *prefectii* to live nearby, as he would certainly have manufacturing and trading matters to deal with within the surrounding *vicus*, more so once the fort started to function as a supply base in the Severan period (Bidwell 2007: 86). As a matter of fact, one doubts if the needs of a supply base with a small garrison required the permanent presence of a commander, especially when he had officers under his charge who could deal with the non-urgent matters of the day-to-day running of the fort.

The percentage of finds each site contributes to the tools, craft and industry functional group is similar (Fig.12). This makes sense as both Caerleon, and South Shields, underwent structural changes throughout their entire occupation (Boon 1972, Bidwell & Speak 1994: Table 1.1). The percentages of both household items, and miscellaneous items, seems to correspond to the overall number of finds from each excavation. To be more precise, the largest numbers of such artefacts come from the largest assemblages, this is also the case with the smaller assemblages (see Table 6, Appendix 5).

From both sites there is only a total of four finds associated with literacy, three coming from Caerleon *thermae*, and one from South Shields defences (see Table 6, Appendix 5). The numbers are so minimal that it seems illogical to suggest increased activities associated with written communication at the *thermae*. However, considering the huge amount of paperwork generated from just an auxiliary fort (Bowman 1994: 36), it seems that items associated with literacy are seriously under represented within the data. There could be several reasons for this, including the use of organic or recyclable materials that would have less chance of entering the archaeological record. Furthermore, because of the large size of Roman military sites it is rare that even 50% is excavated and therefore, it may be that they simply have not been found. Also, due to old excavation methods large numbers of finds have no context (Allason-Jones & Milet 1984). This is probably the case with other types of artefacts, and therefore, many interpretations based on finds analysis are speculative.

8: Conclusion

Overall, this comparative study of Caerleon legionary fortress, and South Shields auxiliary fort, suggests that the activities going on at different Roman military sites could vary, as suspected by Birley during his work on Hadrian's Wall (Birley 1976: 271). However, this study has been limited as certain aspects of Caerleon and South Shields could not be compared, mainly because of differential publication strategies. To be more precise, what data is chosen for publication, and the way it is presented, can greatly help or hinder comparative studies between archaeological sites. The exclusion of context lists from some of the reports has prevented a study of finds distributions, and therefore, many conclusions drawn in this study are a matter of speculation.

In addition, there are problems with finds assemblages as sources in comparative studies. This includes the effects of site formation processes, especially when being used to interpret activities going on in different areas around a site. To be more precise, just because one finds artefacts of a particular function in a certain area does not mean that particular activities were going on there. Instead, one may be looking at rubbish disposal patterns or the effects of organic material wasting away and consequently moving objects within layers around (Cool *et al.* 1995). As well as this, there are the effects of the people living there over time, who would probably constantly disturb and move parts of earlier layers causing residual materials, complex stratigraphy, and objects to move around the site.

Findings

The interpretations reached by comparison of the *principiae* support the notion that activities there were ceremonial and judicial in nature (Johnson 1983: 111), but this study has possibly further illustrated the importance of the headquarters building within the Roman fortress and fort. The extensive embellishment of the area around the *aedes* at Caerleon *principia* illustrates the importance of the cult of the *signa* within Roman military religion, but the degree to which this varied between a legionary and auxiliary fort is a matter of speculation. The two *tribunalia* at Caerleon, and the facing positions of these, indicate some kind of ceremony, debate or judicial court activity within the crosshall of the *principia*. These *tribunalia* also appear to be linked by an aisle created by the positions of the colonnades. If all this is indicative of ceremonial and judicial activity, then the close proximity of the *aedes* is worthy of consideration, as anything taking place in the crosshall would be, in effect, under the 'watchful eye' of the imperial deity and the legionary standards. However, as these interpretations are based almost entirely on architectural analysis they are a matter of conjecture.

Although there are variations in the plans, sizes and monumentality of the *principiae*, these differences are probably due to the size of the garrisons. It is not unexpected for South Shields to be much smaller and less adorned, as the fort, especially after the mid-Antonine period, had a significantly reduced garrison. However, the presence of a well and veranda in the forecourt suggests similar communal activities to those at Caerleon were taking place there.

Comparison of the *contubernia* did not suggest a higher standard of living within the barrack blocks at either site, but differences in the centurions' quarters do indicate possible variations in status, wealth and administrative roles. The extra area and additional rooms at Caerleon suggests that they needed more space than those at South Shields; if anything this highlights the key organisational role of the legionary centurion and the importance of his rank within the Roman army. The function of individual rooms within their quarters at both Caerleon, and South Shields, is a matter of conjecture, as other types of data are needed to determine this with any degree of certainty. What is known is that the general plan of the barrack blocks (Fig. 5) is similar to those from numerous other Roman military sites, and therefore, comparative studies of living spaces are challenging (Davison 1989).

Examination of the monumentality of Caerleon *thermae* indicates that this structure would have had a massive impact on the appearance of the fortress, and on life within it, and this further demonstrates the significance of its role within the daily lives of the soldiers.

8: Conclusion

On consideration, it would be like a Medieval Cathedral like leisure centre within the fortress, and it seems probable that the reason these superstructures are not included within auxiliary forts is because space was not allocated to them when the fort was first constructed (Bidwell 2007: 91).

Functional analysis and comparison of the finds assemblages does suggest that life, and the activities at each site, varied, such as the amount of patrolling, the presence of women, and the regulation of civilian entrance. Worthy of note was the evidence of trading activity near the *porta principalis dextra* at Caerleon, possibly suggesting that traders were being diverted away from the main entrance. There was no evidence of this sort from South Shields; therefore, it may be an indication of fortresses and forts functioning in differential ways. Indeed, the regulations associated with the running of a garrison, such as security controls, were probably down to the personal choice of the commander, as Baker suggested was the case with healthcare (Baker 2004:61) However, these interpretations are speculative, because they are only based on a tiny fraction of the artefact data from each site (Allason-Jones & Milet 1984).

The Vindolanda writing Tablets

One of the strongest impressions gained from the Vindolanda writing tablets is of the presence of women in Roman military garrisons, in the form of letters between Lepidina and Severa, the wives of equestrian officers (Bowman 1994: 57). One can deduce that women were inside legionary fortresses between AD c. 150 and c. 250; this is certainly what analysis of the finds assemblage suggests. However, the apparent lack of female jewellery from South Shields indicates that their presence there was significantly less than at Caerleon, and therefore, this may also support the idea of the commanders' families at this supply base having residency in the surrounding *vicus*, rather than in the fort itself.

The Vindolanda tablets indicate the importance of paperwork and literacy among the higher ranks, and additionally support the idea of centuries having more self-contained administration (Birley 2002: 112). Much of the military paperwork at Vindolanda was deposited outside the *praetorium*, barrack block and *fabrica*; therefore, these documents may have been destined for the files of centurions and other individuals (Bowman 1994: 36), rather than for the units record storage office which was in the rear range of the *principia* as Johnson suggests (Johnson 1983: 117). This more self contained administration by individual officers is supported by the large size and multi-rooms of the centurions quarters at Caerleon, therefore perhaps the *principia* was not the administrative centre where all of the paperwork was deposited. Indeed, it would be logical for centuries, especially in a legion, to store their own records such as duty rosters and strength reports, and for the *cornicularius* and *aquilifer* to only deal with paperwork that concerned the garrison as a whole.

In contrast, none of the Vindolanda tablets appear to support any of the other conclusions drawn from this study, but inferences can possibly be made. There is no indication in the tablets about the level of patrolling around the ramparts, or if this may have differed in a legionary fortress. Furthermore, there is no indication of the regulation of civilian entrance into the fort. However, the large numbers of tablets which are concerned with supply, notably with civilian traders, do illustrate the frequency with which soldiers dealt with the civilian populace, and highlights the scrupulous keeping of all financial records by the army (Bowman 1994: 40, Birley 2002: 112). Consequently, these people must have been regulated and their goods recorded somewhere within the fort, logically this would be easiest near the main entrances, and this may be what was happening near the *porta principalis dextra* at Caerleon.

Potential for further work

Research into Roman military sites has been extensive, but there have been few studies that have compared different fortresses and forts with the express focus of trying to establish if life, and activities, varied between sites. It seems, that in order to better under-

8: Conclusion

stand Roman military sites, they need to be broken down into individual studies and compared with one another, not only will this method help to distinguish between life and the different activities happening at separate sites, but this should substantially add to knowledge about how these places functioned, and consequently, increase our understanding of the Roman army as a whole. The methodology employed here of examining the excavation reports, and comparing architectural and finds data through statistics, can be applied to other Roman military sites and can provide an in-depth insight into variations in life, and activities, between different sites; in addition to increasing understanding of the effects of excavation methods and publication strategies on comparing archaeological data. This is important in Roman military archaeology because fortresses and forts may all have similar designs, but that does not mean they all functioned in the same way (Birley 1976: 271).

Lastly, this dissertation has not taken into account the changes that the Roman Empire, and especially the Roman army, underwent between AD c.150 and c.250, such as the spreading of citizenship to all provincials in AD c.212 by the emperor Caracalla (Goldsworthy 2003). In addition, other sources such as the *Duranum Feriale* and *Oxyrynchnus* documentation were not examined and brought into this study. The reason for not including these was because this study did not have the scope to deal with such issues that were not considered as directly relevant. However, in the future this study could indeed be expanded in order to include more sources, and account for changes within the Roman military and wider Empire.

Appendix 1: Plans of the *principia* at Caerleon and South Shields

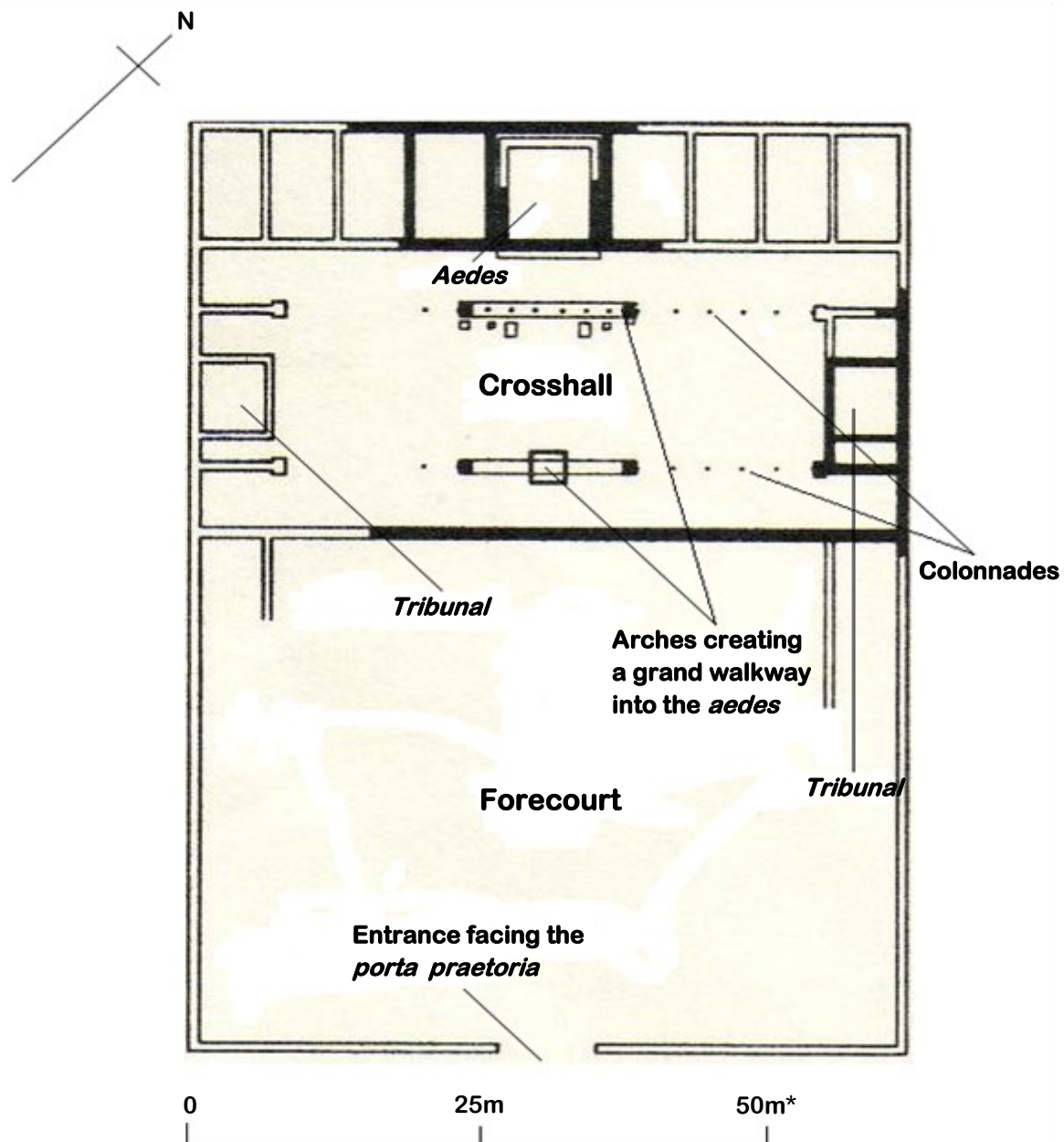


Fig.13: Plan of the *principia* at Caerleon with areas and features labelled (Source: Boon 1972, with additions). * Approximate scale

Appendix 1: Plans of the *principia* at Caerleon and South Shields

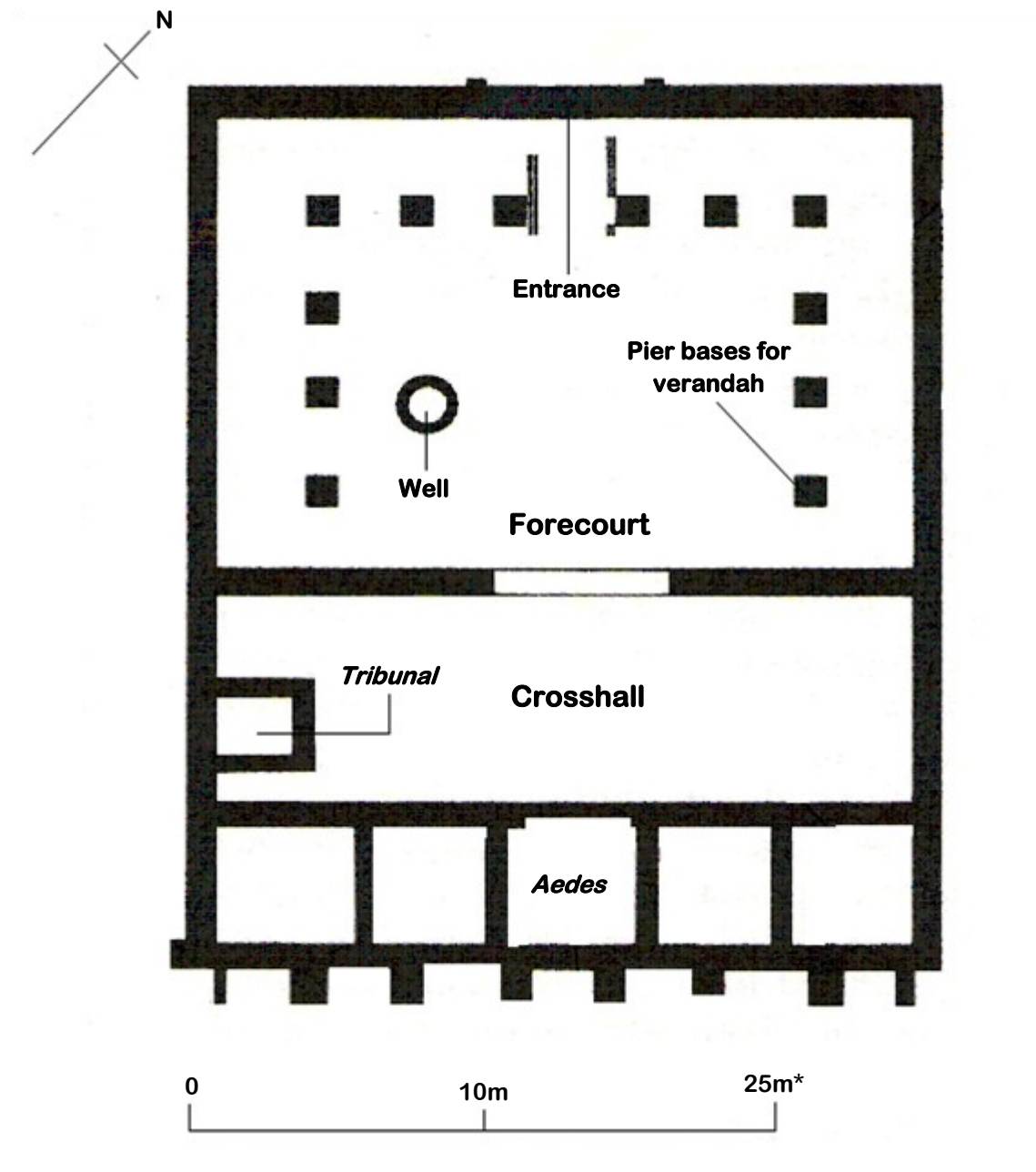


Fig.14: Plan of the period 4 *principia* at South Shields (mid-Antonine to AD c. 207), with areas and features labelled (Source: Bidwell & Speak 1994: Fig. 3.26, with additions). * Approximate scale

Appendix 2: The Reconstructed Barrack Block at South Shields



Fig.15: Reconstructed centurion's sleeping quarters at South Shields
(Source: Author).



Fig.16: A window within the reconstructed
barrack block at South Shields
(Source: Author).

Appendix 2: The Reconstructed Barrack Block at South Shields



Fig.17: An example of a *contubernium* inner room used for cooking, eating, storage and so on, in the reconstructed barrack block at South Shields. This was shared between eight regular soldiers. (Source: Author)

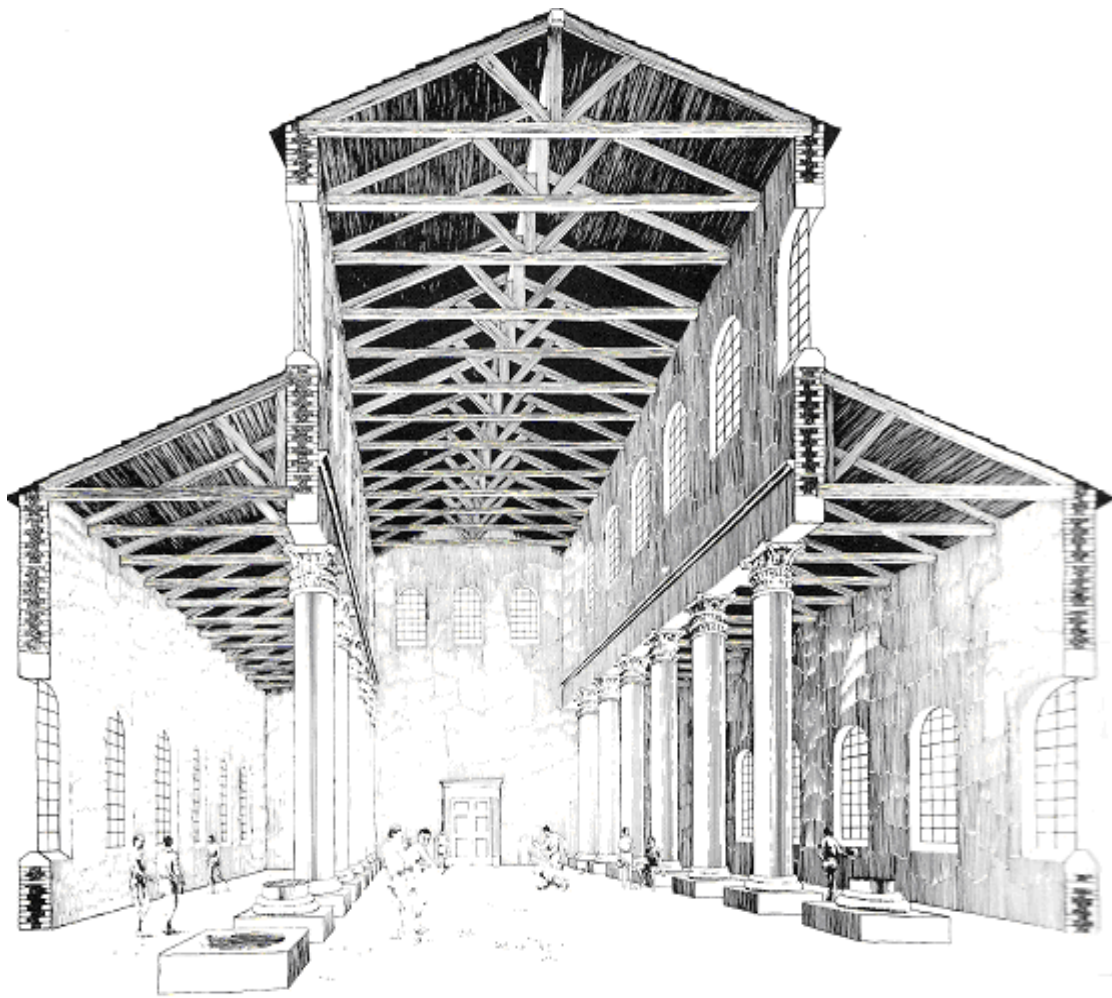


Fig.18: Reconstruction of the *basilica* at Caerleon *thermae* (Source: Zienkiewicz 1986a: Fig. 62).



Fig.19: Interior of the North transept in York Minster, looking North. The size of this area, its columns and the vaulted style ceiling are similar to reconstructions of the *frigidarium* and *basilica* at Caerleon *thermae* in the Zienkiewicz report (1986a) (Source: Brown 2003: Plate 1.1).

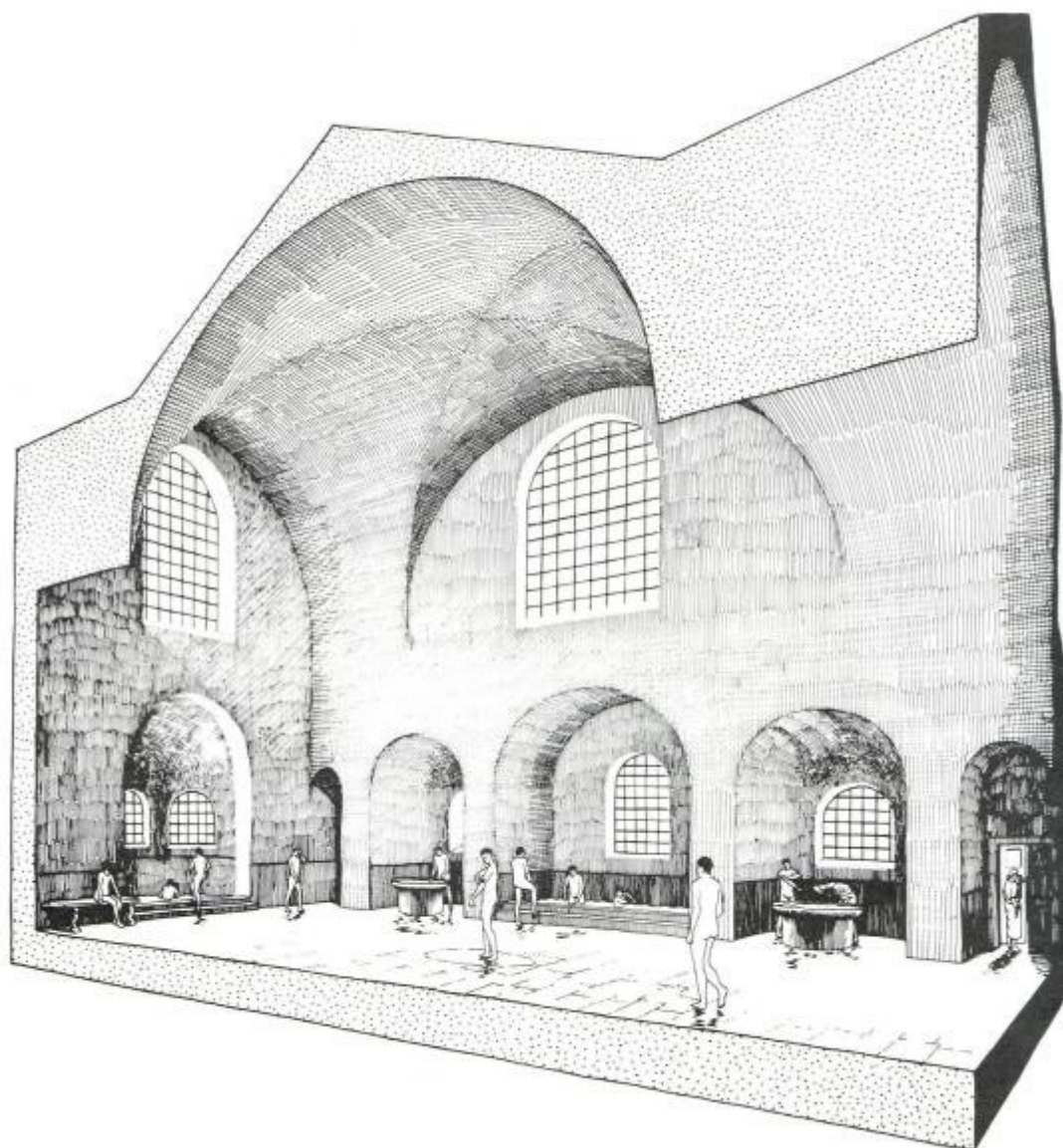


Fig.20: Artist's reconstruction of the *frigidarium*. The vaulted style ceiling is similar to the ceiling in the North transept of York Minster (Source: Zienkiewicz 1986a: Fig. 5).

Appendix 4: List of which finds went into which functional groups

Militaria: Lorica fittings; furrels; rings from armour; chainmail; helmet fittings; apron fittings and pendants; button and loop fasteners; scabbard belt slides; scabbard chapes; studs from armour; apron mounts; armour scales; strap terminals; ballista shot, and sling shot.

Personal Adornment: Gemstones; finger rings; beads; strigil; nail cleaners; toilet implements; hairpins; bracelets; cosmetic tools; silver military studs (as these are made from silver they were assigned to this functional group); tweezers, and earrings.

Clothing: Brooches; belts; buckles; dress hooks; hobnails, and toggles.

Tools/Craft/Industry: Fish hooks; needles; chisels; weaving plates; spindles whorls; whetstones; burnishers; chain; pins; knives and knife handles; hooks and hook fittings; survey equipment; reaping hooks; stamps; sockets; wire; moulds; traction hooks, and antler tine off cuts.

Trade/Transport: Harness ornaments; weights; harness fittings; hipposandals; vehicle fittings; steelyard, and purse clip.

Literacy: Styli and seal boxes.

Household Items: Keys; upholstery tacks; upholstery studs; nails; washers; spoons; locks; lamps, and tacks.

Vessels and Dishes: All quantified fragments of vessels and dishes, made out of all materials excluding ceramic.

Items for Recreation: Dice and counters.

Religious Items: Bells and miniature altars.

Miscellaneous: All unidentifiable finds (excluding unquantifiable fragments).

Appendix 5: Finds Assemblages

Functional group	Site				Total number of finds in each functional group:
	1	2	3	4	
Militaria	21	77	8	2	108
Personal adornment	181	13	7	0	201
Clothing	40	14	22	5	81
Tools/Craft/Industry	23	28	14	7	72
Trade/Transport	5	10	3	0	18
Literacy	3	0	1	0	4
Household items	26	20	4	2	52
Vessels/Dishes	52	13	1	0	66
Items for Recreation	105	3	11	1	120
Religious items	2	2	0	1	5
Miscellaneous	56	43	14	2	115
Total number of finds from each site:	514	223	85	20	Total number of finds from all sites: 842

Key:

- 1 Caerleon Baths
- 2 Caerleon Gates
- 3 South Shields Defences
- 4 South Shields *Principia* and *Southwest Gate/Ditches*

Table 6: The finds assemblages from the excavations at Caerleon and South Shields divided into functional groups (Source: Author).

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