1. Introduction

This report contains the results of the osteological analysis of human remains recovered during an excavation of land off Swanpool Walk, St. John's, Worcester ahead of its proposed development. The excavation was carried out by Worcestershire Historic Environment and Archaeology Services in 2008, for which a report is under construction (Vaughan et al., forthcoming).

During the course of the excavations, four grave cuts were discovered containing human skeletal remains, referred to as contexts [1440], [1442], [1447] and [1451], each representing an individual inhumation grave. The fills of the graves contained residual pottery sherds dated to the early Roman period and late Iron Age but no dateable small finds were present that were directly associated with the human remains. Stratigraphic evidence from the excavation suggested that the graves dated from the late Roman period. Subsequent radiocarbon dating of the burials from skeletal samples confirmed this inference, giving an overall average date of between 375 and 475 AD.

The osteological analysis aims to provide a detailed inventory of the skeletal and dental material recovered, the condition of the bone present, completeness of the skeletons and to provide, where possible, the age, sex and stature of the individuals recovered. Any evidence of pathological changes is also noted.

2. Methods and Process

The skeletal material was analysed according to the standards laid out in the guidelines recommended by the British Association of Biological Anthropologists and Osteologists in conjunction with the IFA (Guidelines to the Standards for Recording Human Remains, Brickley and McKinley (eds) 2004) as well as by English Heritage (Human Bones from Archaeological Sites: Guidelines for producing assessment documents and analytical reports, Centre for Archaeology Guidelines, 2002).

- Recording of the material was carried out using the recognised descriptions contained in Standards for Data Collection from Human Skeletal Remains by Buikstra and Ubelaker (1994). Full recording forms are supplied separately to be archived with any other archaeological recording forms. All skeletal data has been recorded using an MS-Access database(s) which can be found on the CD-Rom provided.

- The material was analysed macroscopically and where necessary with the aid of a magnifying glass for identification purposes. Where relevant, digital photographs have been used for illustration and a full digital image archive of all pathologies and any other features of interest has been provided on the CD-Rom enclosed with this report.

- The material was analysed without prior knowledge of associated artefacts so that the assessment remained as objective as possible.

2.1. Reasons for the Analysis

Osteological analysis was carried out to ascertain:

- Condition of bone present
- Completeness of the skeleton
- Inventory of the skeletal material
- Sex Determination
- Age Assessment
- Non-metric Traits
- Stature
- Skeletal Pathology
- Dental Pathology

3. Condition of the Bone Present

3.1. Introduction

The condition of the bone was assessed macroscopically and recorded according to the categories and descriptions referred to by McKinley (2004 p15-17).

3.2. Observations

The condition of the bone fragments recovered from all the deposits varied but overall it was clear that the skeletal elements were significantly depleted of organic content, leading in some cases to the cracking and flaking of the bone surfaces. Very few skeletal elements that are high in cancellous bone content were recovered and additionally the spongy bone epiphyses were also poorly represented. The majority of the bone present was extremely friable.

3.3. Results

Two of the contexts were classified as being of 'Poor-Varied' condition, being graded as 3-5 (McKinley 2004). Two contexts ([1440] and [1451]), however, contained some material graded as 2 or 'Fair' but [1440] was classified as 'Varied' overall.

4. Completeness of Skeletons

4.1 Introduction

This is a guide to the overall completeness of the individual's skeletal remains and is calculated according to the percentage of the bones present in relation the total number of bones in a complete human skeleton. This is gauged through an assessment of the amount of material representing different areas of the body. A complete skeleton comprises of:

Skull = 20%

Torso = 40%

Arms = 20%

Legs = 20%

4.2 Observations

All skeletons were observed to be significantly depleted in material content.

4.3 Results

Contexts [1447] and [1451] were represented by less than 25% of the original skeletal elements. Contexts [1440] and [1442] were represented by 25-50% of the skeleton.

5. Inventory of Skeletal Material

5.1 Introduction

An inventory of the skeletal material was recorded in tabular form on Sheet B and as a pictorial schematic on Sheet C (contained in the archive). Each bone has been recorded as being absent or present. The long bones are recorded according to the presence or absence of the proximal, middle and distal sections and also the proximal and distal joint surfaces. The percentage of completeness of the bones of the axial skeleton (with the exception of the spine) is recorded in categories of > 75%, 75-50%, 50-25% and <25%. This detailed recording is necessary to understand the nature of the preservation of the skeletal material and any constraints that the condition of material may put on the ensuing analysis. From the perspective of future research, a detailed inventory also allows an accurate calculation of prevalence rates of pathological conditions such as fractures and joint diseases and should prove more fruitful for future reassessment should the skeletal material be reinterred.

5.2 Observations

Observations of material present were noted on recording sheets B and on the MS-Access database contained in the archive. The summary sheets in Appendix A provide an outline of the bones and dentition present for each skeleton.

5.3 Results

The inventories indicate the lack of complete long bones and joint surfaces preserved in all the skeletons, reflecting the poor bone condition and lack of completeness noted above.

6. Age Assessment

6.1 Introduction

There are a number of techniques available for assessing the age of both adult and juvenile remains. Juveniles can be accurately assessed by observing the stage of development of skeletal growth, dental eruption and tooth formation. The assessment of adult remains is based on the changes observed in particular joints in the body, namely the auricular surface, pubic symphysis and costal rib ends. These changes are consistent with the ageing of the skeleton but fall into broad age ranges. These categories are Young Adult (20-34 years), Middle Adult (35-49 years) and Old Adult (50+ years) (Buikstra and Ubelaker 1994). Additionally, dental attrition can be used tentatively to estimate age at death using the Miles method (1963). Cranial suture closure, however, is not considered a reliable technique for age estimation. This is due to the high level of individual variation found from the results of analyses using these techniques.

6.2 Observations

All the contexts were observed to contain fully developed skeletal elements. Additionally, elements of permanent dentition were recovered from contexts [1447], [1440] and [1442]. The dentition of two of these contexts ([1447] and [1440]) survived in sufficient condition to allow assessment of dental attrition. None of the contexts contained the skeletal elements required for age estimation using the auricular surface and pubic symphysis.

6.3 Results

The presence of fully developed skeletal elements in all contexts suggested that all the skeletal remains were those of adult individuals. Furthermore, using dental attrition age estimates (after Miles 1963), the relative lack of wear observed on the permanent molars retrieved from context [1447] suggested that this individual was a young adult, aged between 20-25 years at death. The heavier attrition observed of the dentition of context [1440] tentatively suggested that this individual was likely to be a middle aged adult, between 35 and 45 years old at death.

7. Sex Determination

7.1 Introduction

Techniques employed to determine of the biological sex of adult skeletal remains are well established and are largely based upon an assessment of the morphological features exhibited by the skull and the pelvis. These features reflect the sexual dimorphism displayed between males and females and develop as the individual matures. These features are, therefore, not observably marked during adolescence and there are no reliable techniques for determining the sex of juvenile remains, except for DNA analysis. Sex determination is relatively accurate, some researchers reporting a success rate of 95% of known in tests on known sex samples (Phenice 1969). Techniques generally used include descriptive methods, metric analysis and discriminant functions depending on the completeness of the skeletal material.

7.2 Observations

Little skeletal material was present in any of the contexts that would reliably allow sex estimations to be made. Mastoid processes from contexts [1447], [1442] and [1451] were available for observation but this feature alone provides insufficient evidence for an overall sex estimation. Metric assessment of the femoral head was also taken from contexts [1451] and [1440] in order to provide a secondary source of information and compared to the data provided by Bass (1995).

7.3 Results

One individual, from context [1447] was determined very tentatively as a probable female from observations of the mastoid process. Analysis of the remains from contexts [1442] and [1451] resulted in the sex of the individuals being 'indeterminate', the former displaying neither particularly male nor female observable morphological traits and the latter appearing to have a 'probable female' mastoid process in contrast to the metric assessment of the femoral head that indicated the remains to be 'male'. Whilst the metric assessment of contexts [1440] indicated the remains to be male, it was felt that given the contradictory results of the morphological and metric analysis of [1451] that metric assessment alone was not a reliable indicator of sex.

8. Non-Metric Traits

8.1 Introduction

Non-metric traits are morphological features that occur both in bone and dentition. These features have no functional purpose and occur in some individuals and not in others. The origins of non-metric traits have now been shown to be highly complex, each having its own aetiology and each being influenced to differing extents by genetics, the environment, age and sex of the individual and by physical activity. Generally, the analysis of these traits requires a large sample size. Non-metric traits have been recorded for these skeletons in order to allow future comparisons with findings from other late Roman assemblages in the Worcestershire area.

8.2 Observations

The level of preservation of both skeletons prevented observation of many of the non-metric traits. Observations were noted on recording sheet I (contained in the archive).

8.3 Results

Context [1440] exhibited a tibial squatting facet on the right tibia. No other non-metric traits were observed.

9. Stature and Metric Analysis

9.1 Introduction

Stature of adult individuals can be reconstructed from measurements of long bones of the skeleton. Since the long bones of sub-adults have not yet fully developed it is not possible to provide an estimate of stature for immature remains. Stature is the result of many factors including genetics and environmental influences, such as malnutrition and poor health. Height can be used as an indicator of health status and there is a wide range of literature on the relationships between height, health and social status. Estimated stature was calculated by taking the measurements of the individual long bones and using the formula provided by Trotter (1970). Variation in estimated stature can be up to 3cm.

9.2 Observations

One context, [1440], contained an ulna from which stature could be estimated. None of the other contexts contained any complete long bones or long bone fragments that could be reconstructed.

9.3 Results

Estimation of stature for context [1440] was 1.77m.

10. Skeletal Pathology

10.1 Introduction

Palaeopathology is the study of diseases of past peoples and can be used to infer the health status of groups of individuals within a population as well as indicate the overall success of the adaptation of a population to its surrounding environment. Pathologies are categorised according to their aetiologies; e.g. congenital, metabolic, infectious, traumatic, neoplastic etc. Any pathological modifications to the bone are described. The size and location of any lesion is also noted. Distribution of lesions about the skeleton should be noted to allow diagnosis. A differential diagnosis for any pathological lesions should be provided.

10.2 Observations

The poor bone preservation prevented the analysis of pathological changes of most of the elements recovered. However, minor lesions were observed on the tibia of [1442].

10.3 Results

The pathological changes observed in the right tibia of context [1442] consisted of a small area of lamellar bone peroistitis and two small enthesophytes or bony nodules projecting out from the bone surface (Plate 1 and Plate 2).

Plate 1: *Lamellar Bone Periostitis on the right tibia of SK [1442], seen here as a small area of discoloured bone.*

Periostitis is associated with localised inflammation of the periosteum, a layer of soft tissue covering the outer surface of the bone, which can be caused by minor trauma or infection (Roberts and Manchester 1997). Since the lesion, located on the mid-shaft of the tibia on the lateral side, consisted of smooth lamellar bone it can be inferred that the lesion had healed and was not active at the time of death. Enthesophytes are associated with similarly localised soft tissue trauma, usually occurring, as in this case, in the vicinity of muscle attachments (Roberts and Manchester 1997). These lesions were located on the posterior and medial aspects of the tibia on the proximal third of the shaft, subadjacent to the soleal muscle attachment site. The enthesophytes and periostitis may well be linked to a single traumatic event or may represent two separate minor injuries to the tibia.

Plate 2: *Small enthesophytes or projecting bony nodules associated with soft tissue trauma (SK [1442])*

11. Dental Pathology

11.1 Introduction

Dental pathologies recorded can provide a wide range of information. For example, calculus, caries, abscesses and periodontal disease may be indicative of poor oral hygiene, infection or high sugar intake. Enamel hypoplasia is the product of defective enamel growth and is linked to poor nutrition and health status during childhood. Congenital abnormalities can also noted such as those that are genetic in origin or those that are the result of pathologies such as syphilis.

11.2 Observations

Elements of permanent dentition were recovered from contexts [1447], [1440] and [1442]. The preservation of the teeth was generally quite poor, with only the crowns surviving in a fairly fragile state. Most of the dentition that was recovered was loose. Some could not be identified as belonging to a specific side of the mouth and pathological changes could no be observed for many of the teeth present due their fragmented nature.

11.3 Results

Context [1447] presented with the most complete dentition of 26 observable permanent teeth. This individual exhibited minor calculus and minor enamel hypoplastic defects. Context [1440] contained 10 teeth, again demonstrating minor calculus and enamel hypoplastic defects. The minor calculus deposits indicate good standards of oral hygiene, whilst the enamel hypoplastic defects may indicate some stress to health incurred by the individuals during development (i.e. febrile illness).

Only one complete tooth crown and one partially observable tooth crown were recovered from context [1442]. No changes were observed. No teeth were present in contexts [1451] or [1409].

12. Conclusion

The table below summarises the findings of the osteological analysis of skeletons

	Skeleton [1440]	**Skeleton [1442]**	**Skeleton [1447]**	**Skeleton [1451]**
Condition	2-3 Fair, Varied	4-5 Poor, Varied	5 Poor, Varied	2-3-4, Varied
Completeness	25-50%	25-50%	<25%	<25%
Age	Middle Adult 35-45?	Adult	Young Adult 20-25	Adult
Sex	Male??	Indeterminate	Female?	Indeterminate
Stature	1.77m	Unobservable	Unobservable	Unobservable
Skeletal Pathology	None	Enthesophytes, periostitis	Unobservable	None
Dental Pathology	Minor calculus, Minor Enamel Hypoplasia	None	Minor calculus, Minor Enamel Hypoplasia	Unobservable

The human skeletal remains from the land off Swanpool Walk were significantly depleted of bone content. Although this restricted the potential of data retrieved, the osteological analysis has provided some tentative details of the identity of the incumbents and aided the interpretation of burial practices observed.

12.1 Comparison with General Roman Burial Practices

Skeletons [1440] and [1442] were found with hobnails in the areas of the feet, suggesting that the individuals were wearing hobnailed footwear when they were interred. The provision of footwear for the dead to allow them to undertake their journey to the afterlife appears to have been an important aspect of Roman funerary ritual, with footwear on occasion being placed beside the body as well as more commonly on the feet. The osteological analysis suggests that one of the individuals associated with hobnails was a robust middle-aged possible male of tall stature, possibly 1.77m, well above the average 1.69m reported for males of the Roman period (Roberts and Cox, 2003). The other individual associated with hobnails has suffered minor soft tissue trauma to one lower leg involving damage around the muscle insertion point. It has been noted that hobnailed footwear is recorded more frequently on rural sites (Philpott 1991) and may be associated with a physically demanding agricultural lifestyle (Simmonds et al 2008). Although there are numerous exceptions to the claimed rural:urban dichotomy, Simmonds et al (2008) found that both male and female individuals associated with hobnails at the cemetery serving the *colonia* at Gloucester (120-122, London Road) were all adult and all young or middle-aged adults, suggesting that the choice of footwear worn by the dead may have reflected status or occupation during life. It is unclear, however, to what extent fashion and individual tastes would have influenced choice, which is similarly influenced by age. Nonetheless, the evidence from Swanpool Walk, St. John's suggests that the hobnail footwear found here may have been associated with a physically active lifestyle.

In addition to the inclusion of hobnails, one burial contained the remains of an individual (SK [1442]) laid out in a prone position. This is often observed amongst Roman burials and has been noted to occur at London Road, Gloucester in both 1st-early 2nd century as well as in 3rd-4th century burials (Simmonds et al. 2008). This practice is found in many Roman cemeteries (Philpott 1991) and in some cemeteries (i.e. Bath Gate, Cirencester) occurs in up to 8% of the burials although a figure of around 3% is more commonly reported (i.e. East Cemetery of Roman London, Lankhills School, Winchester) (Simmonds et al 2008). At London Road, Gloucester more females than males appear to have interred in a prone position but due to small sample numbers, this is difficult to substantiate statistically.

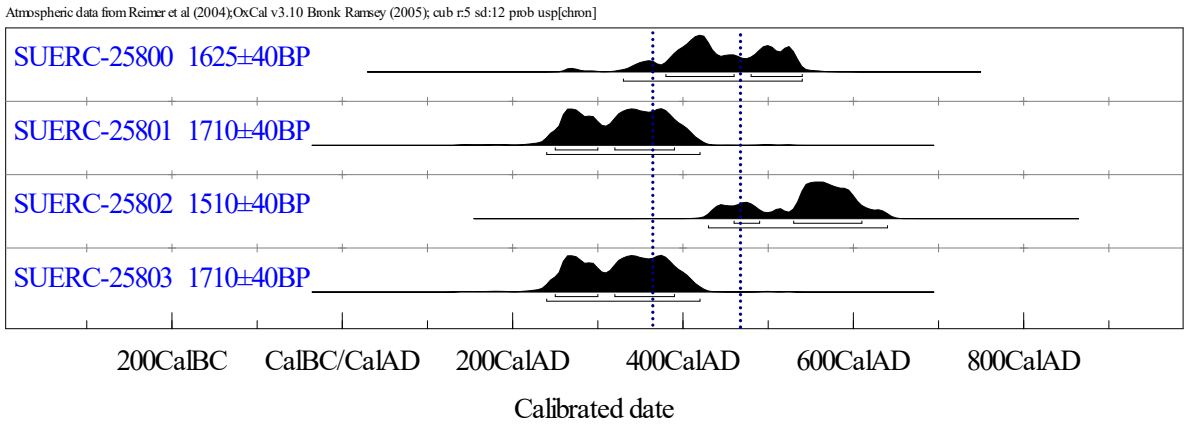
Another aspect of Roman burial rite revealed by the excavations was ritual post-mortem removal of the head. Decapitation burial is a fairly common practice of the period, with an estimate of approximately 2.5% of all Roman burials containing decapitated remains (Watts 1998). Whilst it has been demonstrated by Philpott (1991) that there is an increase in this practice by the 4th century and that it tends to be found in more rural areas, there are again many exceptions to this (i.e. Lankhills, Winchester and East Cemetery of Roman London). Watts (1998, p.88) has observed that decapitations tend to occur in areas that are highly romanised and that where there are decapitations there seems to be little evidence of Christianity. There appears to be no association of the practice with a particular sex or age group but rather than representing a purposeful denigration of the body, it is now believed to have consisted of a carefully carried out procedure requiring some skill. Many decapitated skeletal remains reveal no evidence of cutmarks (i.e. at the East Cemetery of Roman London) but those that do indicate that the head was removed from the front (Simmonds et al. 2008), with the head subsequently being placed back in the grave in a variety of locations. There is little differentiation between decapitated burials and other Roman inhumations regarding the provision of grave goods and the remains themselves appear to have been laid out with equal care. Some authors suggest that the ritual of decapitation may be associated with placating 'ghosts' or 'souls' of the individuals who died in inauspicious circumstances (Simmonds et al.

2008). Skeleton [1447] from the land off Swanpool Walk was found to have been decapitated, with the head having been placed in the grave by the feet. This burial contained the remains of a young adult probable female, which would certainly have represented an untimely demise, although without further osteological data it is difficult to fully understand the context of the use of the rite here.

The implications of these slightly more unusual burial practices in the context of the location of the burial site are interesting. Two of the burials in this small cluster revealed deviant albeit fairly common funerary rituals. Philpott (1991) notes that discrepant burials tend to be located towards the edges of a burial area. The excavations at Swanpool Walk suggest that this small cluster of inhumations were cut into a ditch that forms part of a rectilinear enclosure. The burials, whilst cutting into the ditch, clearly respect its alignment so it is likely that this was filled in with the purpose of creating an area for disposal of the dead. This is frequently observed in Roman cemetery and burial sites associated urban and small town settlements (i.e. Winchester, Ilchester) (Cleary 2000) as is the re-allocation of farming land to cemetery sites (i.e. East Cemetery of Roman London and London Road, Gloucester). The location of Roman burial sites are almost always near boundaries due to the fundamental Roman belief in the existence of 'ghosts' or 'spirits of the dead' that should not be disturbed by the living (Macdonald 1977, Henig 1995), thus making it imperative to physically separate the dead from the living in clearly bounded areas. Although the ditch associated with the burials has been filled in at Swanpool Walk, it appears that this feature still acted as a socially constructed boundary even though its actual construction no longer facilitated this purpose physically, emphasising the phenomenological importance of pre-existing features in the creation of Roman funerary spaces. The area contained by the enclosure ditch does not contain burials. It is also unclear due to the limits of the excavation whether any burials were located outside of the enclosure on the north side of the portion of the ditch associated with burials so it is not possible to confirm Philpott's observation regarding discrepant burials.

12.2 The Burials in their Local Context

Overall, the funerary practices identified from among the individuals from Swanpool Walk are representative of those commonly noted at other cemeteries of known Roman date. Radiocarbon dates, subsequently derived from a bone sample from each skeleton, revealed that although the Late Roman date ascertained through stratigraphic analysis was accurate, there may well have been some variation in date of deposition (See Figure 1).



Key: SUERC-25800 = SK1440
SUERC-25801 = SK1442
SUERC-25802 = SK1447
SUERC-25803 = SK1451

Figure 1: Radiocarbon dates from skeletal samples (after Scottish Universities Environmental Research Centre 2009).

The dates obtained from all the burials overlap and appear to centre upon a range from 375-475AD. It is assumed that the burials are more or less contemporary in date or continuous given that the cut of the graves respect each other and no inter-cutting was observed. It is, however, possible that the interments occurred over a longer period of time, with the total date range lying between 240 and 640 AD. Interestingly, it also appears that burials SK1440 and SK1447 may have been later in date than SK1447 and SK1451, following an east to west progression of interment along the line of the backfilled ditch.

Rural Roman burials excavated to date in Worcestershire share certain characteristics in terms of the overall nature of their deposition, although individual variation is seen. For example, two burials excavated at Upper Moor, thought to be of late Roman date, were located within an enclosure and on a north-south alignment (Western 2003). No further burials were identified within the enclosure and these appear to be isolated graves. Other rural burials are also aligned along a north-south axis and are similarly isolated and dispersed. At Furzen Farm, a single burial was located on the exterior side of a possible boundary ditch to the focus of settlement activity during the Roman period (Western 2004). At George Lane, the alignment of the burials appears to be of paramount importance, since one of the interments cuts across the line of the bank that runs east-west A second interment, interpreted as belonging to the same period as the first, follows the north-south direction of the bank. Clearly, a north-south alignment of interment is an important aspect of funerary ritual during the Roman period in Worcestershire. The isolated nature of the rural burials may represent small household groups or landowners interred in close proximity to the area of their habitation. To date, only adult remains have been identified in rural locations.

Two urban inhumation cemeteries have been excavated in Worcester city, one at Deansgate (Dalwood and Edwards 2002) and another at the King's School, St. Albans (Brown and Wichbold, 1991). A cluster of fourteen inhumation graves were identified at Deansgate at Powick Lane, North, along with two further isolated burials located at the former Ambulance Station Site, one of which was independently dated to the late Roman period. The remains of

nine individuals were recovered from King's School, St. Albans, though this is likely to be an underestimation of the total number of individuals buried there since the site was heavily truncated and disturbed by post-depositional activity. Burials at Deansgate were aligned on a north-south axis whereas those at King's School, St. Albans were aligned east-west, in what would appear to indicate a more traditional Christian burial practice. The date of both cemeteries have been attributed the late Roman period, although no independent dating of the burials of King's School, St. Albans has been undertaken. At least one of the cemetery boundaries at both Deansgate and King's School, St. Albans appears to have been demarcated with a ditch, exemplifying the Roman tradition of strict observance of physically separating the living from the dead in urban spaces. Both sites contained the sub-adult and adult remains.

The inclusion of funerary objects occurs in both the rural and urban graves. Hobnails and artefacts of personal adornment have been excavated from both types of graves. All the graves seem to be at most modestly furnished. Variation on a personal level also is evident from the inclusion of a dog burial at King's School, St. Albans and one female at George Lane apparently being gifted with a neonate sheep/goat joint of meat offering. Decapitation has only been noted at Deansgate and Swanpool Walk, St. John's. The only prone burial recorded is also at Swanpool Walk.

Burials from urban and rural settings reveal that funerary rites in late Roman Worcestershire were a complex of diverse, individual practices within a continuous spectrum of ritual observances. Whilst there are trends within certain areas of burial, i.e. a distinct preference for N-S alignment in rural areas or a higher frequency of discrepant body positioning in urban cemeteries, there are clearly many similarities between the two groups. The location of the graves at Swanpool Walk would appear to mirror more rural burials in the Worcestershire, with a sparse number of graves aligned directly with an enclosure ditch. This may reflect that the St. John's area was a more open and rural environment during the Roman period and that burial practice here followed the norms of a local tradition. Conversely, the deviant prone and decapitated burials present at Swanpool Walk there suggest a greater 'Roman' influence, perhaps due to the proximity of the site to the town itself. Cleary (2000: 129) notes that at the Roman small town of Ilchester, there occurred 'backland burials', where during the 4th century inhumations were located at the rear of plots that were simultaneously occupied along the road frontage. These burials were often located around the edges of or alongside boundary ditches. It can be seen both from the example of 'backland burials' and from those at Swanpool Walk, St. John's, that distinctions regarding rural or major urban burial rites during this period may not be as clear cut in small towns or peripheral urban areas. Whilst there appears to be an inclusion of more 'Romanised' elements or burial practice, there is clearly also an element of emphasising local or familial identity in the positioning of the graves in contrast to the relative displacement of the grave in a collective urban cemetery.

Of additional note is the late date of the burials and the implications for understanding the continuation of burial rites through the transition period. Generally, there is a paucity of 'Saxon' burials in the west of the country and some, for example, argue that Saxons never directly occupied the neighbouring county of Gloucestershire (see Sermon (2000) for discussion) believing that the local populations merely assimilated facets of Germanic culture. This stands in direct opposition to the traditional interpretation of the presence of overtly Saxon burial grounds in the western counties i.e. such as at the Beckford cemeteries dated to the 5th to 6th century in south Worcestershire (Evison and Hill 1996) and to the lack of continuity in settlement and land-use patterns during the transition period (Montgomery 2002). Recent stable isotope analysis of Saxon cemeteries indicate a chain migration of Anglo-Saxon individuals to family units already settled in the country (Montgomery 2002) so that

individuals of Saxon descent would integrate quickly into local society, generally supporting recent assertions that the 'Anglo-Saxon Invasion' may not have involved a mass movement of people (Hamerow 1997). Analysis of dental non-metrics (epigenetic traits) also suggests that traits are clustered according to locality so that there was more similarity amongst populations traditionally regarded as ethnically distinct in one region compared to populations perceived as ethnically similar that were distant to one another spatially (Lloyd Jones 1997). Whilst a degree of identity within these mixed populations may have been asserted in burial rites through items of personal adornment and inclusion of particular types of grave goods (Montgomery 2002), there has, nonetheless, been no identification of a distinct 'native' burial rite during this period (Dalwood 2003). It is clear that closer dating of 'late Roman' and 'Early Saxon' burials, especially the more isolated rural graves, may help to elucidate the extent and timing of both Roman and Germanic influence in funerary rituals of native populations in Worcestershire during the transition period and that stable isotope analysis would provide a useful means of identifying local and non-local groups.

Osteological analysis of the remains recovered from the excavations at Swanpool Walk St. John's has provided a brief but intriguing insight into funerary rites of Roman Worcestershire. The inclusion of decapitated and prone burials at Swanpool Walk, St. Johns appears to indicate a more 'romanised' influence on funerary practices despite the relatively late date of interment, suggesting a continuation of Roman influence on cultural norms during the early transition period. The combination of attitudes towards the body in death and placement of the graves seen at Swanpool Walk also suggests that there is no clear cut rural:urban dichotomy in burial practices at this time. Future research is required to qualify the information ascertained here to gain a contextualised understanding of these burials, which may make an invaluable contribution to our understanding of the complex nature of burial rites during this period at a regional level. Furthermore, integration of bioarchaeological data and funerary customs within the broader archaeological context of settlement pattern and landscape use may aid our understanding of aspects of human activity, such as migration and cultural adaptation, during the transition period in Worcestershire.

13. Future Recommendations

Further specialist analysis is recommended to enhance the data currently recorded for the human remains:

- Stable isotope analysis of the teeth from this and other late Roman and early Saxon human skeletal assemblages in the area would allow inferences to be drawn regarding origins of the inhabitants of the area and their associated funerary customs. In addition, it may be possible to gain an insight into the diet of the population.

- Further research integrating bioarchaeological, funerary and settlement data from the post-Roman period on a regional scale as highlighted by the West Midlands Regional Research Framework (Dalwood 2003) in order to enhance the paucity of archaeological evidence from this period.

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THE ARCHIVE

Type	No	Type	No
Skeleton Recording Form A	5	Skeleton Recording Form W	1
Skeleton Recording Form B	5	Skeleton Elements Present Form (copies)	5
Skeleton Recording Form C	0	Compact Disc	1
Skeleton Recording Form D	5		
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Skeleton Recording Form J	5		
Skeleton Recording Form K	1		

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Appendix A

Summary Recording Sheets